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## **Information About Estuaries and Near Coastal Waters Spring 1995, Volume 5, Number 2**

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# **Whole Farm Planning in New York City Watersheds**

## **"A Better Way" to Attain Watershed Protection**

On one side of the issue is clean, safe drinking water for nine million people in New York City. On the other side is a rural watershed in the Catskill Mountains where dairy farming and small town living has existed for generations.

The federal Surface Water Treatment Rule of 1989 set the stage for this conflict by requiring the City to prove that its water supply is adequately protected without filtration. Although the water is presently disinfected with chlorine, microbial pathogens (especially the protozoans *Giardia* and *Cryptosporidium*) are more resistant to chlorination than bacteria and viruses.

New York City's water supply system is the largest surface storage and supply complex in the world, covering more than 1,900 square miles of land and having a system of 18 reservoirs and three controlled lakes that are as far away as 120 miles from the City.

Filtration of the water carries an estimated price tag of \$5 to \$8 billion for construction, and \$200 to \$500 million annual operating costs. The City responded to the Rule's requirements by devising a traditional watershed protection program through a strict regulation and land acquisition program to try and protect the water supply.

"The proposed regulations, if strictly enforced, doomed agriculture as a land use in the New York City's watersheds," said Richard I. Coombe, Chair of the New York City Watershed Agricultural Council, Inc. "Agriculture was singled out as a source of nonpoint pollution and blamed as a major source of *Giardia*

and *Cryptosporidium* ."

However, according to Coombe, water from the Catskill/Delaware Watershed is so clean that it presently meets avoidance criteria. "The current low density land use patterns based on agriculture, forestry, and tourism are desired land uses, as demonstrated by the quality of the water today," he said.

In contrast, if the regulations were imposed, agriculture and forestry interests would be forced to sell to the highest bidder, resulting in subdivision of the land and degradation of the City's water supply and assuring filtration, said Coombe.

## **An Alternative**

The City had an alternative to filtration under the Surface Water Treatment Rule development of a comprehensive watershed management program. The challenge was to craft regulations and/or programs that protect the water supply while also sustaining the long-term viability of agriculture. An inter-agency/farmer task force was convened by the New York State Department of Agriculture, and it quickly acknowledged agriculture as a preferred land use.

The task force developed a consensus on the major environmental management issues involved. First, farm practices were acknowledged as a potentially significant source of nonpoint source pollution and also present a risk of pathogen introduction. Second, farm practice pollution control was deemed critical for meeting the City's anti-degradation objectives, as well as the avoidance criteria of the Federal Surface Water Treatment Rule and the State Filtration Rule. Third, farming was acknowledged as a preferred land use with significant long-term environmental benefits.

The conclusion was that everyone would be far better off if the City withdrew the proposed regulations and implemented a voluntary, locally developed and administered program of Best Management Practices (BMPs).

## **Demonstration**

### **Whole Farm Plans**

In late 1992, a major planning effort to develop and implement "Whole Farm Plans" for ten pioneering farms in five counties began. The plans apply and test practices such as barnyard runoff control, manure storage, stream fencing, and obvious soil control measures (see sidebars).

Implementation of the ten plans is being funded by New York City up to a total of \$1 million. Total funding for this planning phase is \$5 million, including the training of project teams in each of the eight

counties; development, testing, and demonstration on at least ten farms; implementation of several portions of the plans on all of the farms; and total implementation of structural and management practices on at least one farm.

The next phase of the plan, funded at \$35 million, is an ambitious program to sign up 85% of the 500 farms to voluntarily develop Whole Farm Plans and prioritize BMPs.

In order to respond to the decentralized leadership and the need to empower those being affected, the Watershed Agricultural Council, Inc. (WAC) was formed as the program's governing body and policy maker. A not-for-profit corporation, the WAC consists of 19 farmers and agribusiness leaders, the commissioner of the NYC Department of Environmental Protection, and 11 ex-officio advisory members drawn from government and private organizations.

"This partnership between watershed residents and New York City sends a signal that continued economic stability for watershed dairy and livestock farmers and watershed protection are not exclusive and can benefit everyone through voluntary means and common understanding," said Coombe.

The Regional Whole Farm Planning Design and Engineering Teams and the local BMPs, Construction and Outreach Teams, consisting of personnel from local Soil and Water Conservation Districts, Cornell Cooperative Extension, and the USDA Natural Resources Conservation Service (formerly SCS), represent still another partnership, a traditional one that is especially important to the development of Whole Farm Plans. These organizations have long-standing, positive working relationships with individual farmers.

Behind this hands-on team are all the resources available to the Scientific Support Team from Cornell University, the New York State Water Resources Institute, and others. This group of farm economists, agricultural engineers, soil scientists, veterinarians, hydrologists, and other specialists conducts research to improve farm plans, does monitoring, provides engineering support, and develops tools and materials for implementing the plans.

"A particularly important responsibility is conducting research to determine the sources and fate of pathogens and their significance for water quality," said Keith Porter, Director of the Water Resources Institute. "The toughest challenge is to determine through research the risks posed by parasitic protozoas to water supplies."

Members of the WAC believe that the Whole Farm Plan Program has the potential to become a national model for watershed protection based on local decision-making, scientific evidence, and shared responsibility.

"This experiment in home rule and self-government is a far better alternative than the traditional regulation and land acquisition approach to protecting water quality," said Coombe. "Farmers have never before been challenged to prevent pollution to secure such a high quality water supply."

# The Ten-Step Planning Process

1. Inventory of farm's current land, livestock, equipment, and management;
2. Setting of long-term management goals and objectives;
3. Inventory of pollution problems;
4. Prioritization of problems;
5. Development and evaluation of conservation and management alternatives;
6. Setting of goals for BMP implementation;
7. Development of implementation plan;
8. Implementation;
9. Annual progress review; and
10. Evaluation and update of plan.

*For further information, contact the New York City Watershed Council, Inc., (607) 865-7090.*



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# Corpus Christi Bay Takes on Texas Brown Tide

The Corpus Christi Bay National Estuary Program (CCBNEP) has completed its start-up year activities and is embarking on the characterization phase of its 550-square mile study area in preparation for developing a Comprehensive Conservation and Management Plan. Six issues have been identified as priority problems for the estuarine system:

- € Decline of aquatic and wildlife populations
- € Loss of wetlands and estuarine habitats
- € Degradation of water quality
- € Altered estuarine circulation
- € Fresh water inflows
- € Marine and bay debris

Texas Brown Tide, an algal bloom that began in the winter of 1989-90 and which persists in about one-third of the study area today, is a contributing factor to the first three priority problems. Since the onset of this bloom, the zooplankton community has been drastically altered, as has the benthos (bottom-dwelling organisms). Seagrasses have been shaded out in deeper portions of the affected bays, and recent work has shown that the algae also reduces the survival rate of fish larvae. Recreational fishing and other aspects of the tourist industry have also been affected.

In an effort to address this problem, the CCBNEP co-sponsored a meeting for representatives of federal and state agencies and researchers to hear summaries of research on the alga, develop possible solutions, and form a steering committee to pursue development of an action plan.

One of the CCBNEP's first-year characterization studies is largely devoted to compiling and

summarizing all brown tide-related data. The Program is currently evaluating a demonstration project proposal to control brown tide by enhancing the population of a zooplanktonic grazer known to eat the alga.

*Contact: Hudson DeYoe at the CCBNEP, (512) 985-6767. For general information about the CCBNEP, contact Richard Volk, Director, at the same number.*





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# Coastal Watershed Protection

and the

## National Estuary Program

by Suzanne Schwartz, Acting Director of EPA's Oceans and Coastal Protection Division

As all of us who are concerned about coastal watersheds know, coastal protection is an extremely important component of overall environmental protection. Our coastal waters are the ultimate destination for many pollutants that originate inland from both point and nonpoint sources. Environmentally, coastal watersheds provide some of the most diverse and biologically productive species habitat in the country.

Coastal watersheds are also valued by most people in the United States, as is shown by the number of people that live in coastal areas. As of 1990, an estimated 45% of the U.S. population lived in estuarine and coastal areas, an increase of 30 million people over the last three decades (NOAA, 1990). Coastal areas are also a favorite recreational destination for many vacationers. Commercially, large segments of the U.S. economy are dependent, at least partially, on coastal resources: tourism, agriculture, fisheries, shellfishing, mineral extraction, and shipping, to name a few. It is precisely because so many people are drawn to, or dependent on, coastal watersheds that they are under considerable environmental stress. And this is what makes protecting our coastal resources so important.

It is apparent that many people, in many ways, have a stake in keeping coastal watersheds clean, healthy, and productive. The Environmental Protection Agency (EPA) recognizes that, often, those in the best position to protect coastal resources are the people whose livelihoods and quality of life are dependent on them-coastal communities. As a result, EPA is now moving toward a community-based

environmental protection approach in its coastal programs. In a few cases, EPA may still take the lead in designing and implementing watershed protection programs. In many more cases, EPA will be a partner with other federal, state, and local agencies, tribal governments, the general public, and other interested parties in undertaking watershed protection efforts. In the majority of cases, however, EPA will focus on empowering stakeholders in local coastal communities to develop and implement their own watershed protection programs.

An example of a program that employs this approach is the National Estuary Program (NEP). The NEP currently consists of 21 estuaries of national significance, with 6-8 new estuaries to be added to the program in the near future. The intent of the program is to bring together stakeholders from the surrounding local communities, empower them to reach consensus on the key environmental problems affecting their estuary, and support them to develop a plan for protecting and restoring the estuary. With many of the estuary programs having reached, or entering into, the implementation phase, EPA is now concentrating on taking the successes and lessons learned in these first NEPs and transferring them to other areas with the goal of expanding the NEP approach.

Another project designed to assist local coastal communities is a workshop EPA offers entitled "Management and Protection of Estuaries and Coastal Waters: Tools for Local Government". These workshops present to local government officials, planners, environmental groups, and citizens an array of tools, both regulatory and non-regulatory, available to help protect coastal resources. While the course framework is uniform from location to location, each workshop is tailored to local circumstances through presentations by local speakers involved in coastal watershed protection projects. To date, EPA has held 20 of these workshops, reaching over 1,600 participants.

These programs are merely examples of EPA efforts to help build and support local coastal watershed initiatives. With your continued interest and involvement, EPA will be helping to move coastal watershed protection into a successful new era, one of partnership and empowerment with coastal communities.



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# **Saving Bays and Estuaries: Sharing Tactics**

## **A National Estuary Program Coastal Technology Transfer Conference**

EPA's Oceans and Coastal Protection Division, Coastal Management Branch, conducted the fourth National Technology Transfer Conference for coastal programs in New Orleans, Louisiana, from February 13-16, 1995. Hosted by Director Steve Mathies and the staff of the Barataria-Terrebonne National Estuary Program (NEP), the conference attracted over 180 participants for a week of presentations on innovative management of coastal environmental issues.

Keynote speakers included Don Davis of Louisiana Applied Oil Spill Research and Development Program, who spoke on the BTNEP: New Perspectives, New Directions, and New Partnerships program, and Bill Klesh of the U.S. Army Corps of Engineers, who spoke on lessons learned from the Coastal America program. Participants represented the NEPs, citizens groups, and key federal, state, and local resource agencies. In addition to technical presentations, there were interactive computer demonstrations and consensus-building exercises.

Following are abstract summaries of a sampling of papers presented at the meeting. Further information can be obtained by contacting Betsy Tam of U.S. EPA at (202) 260-1956.

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# Using Citizen-Based Monitoring to Identify and Characterize Environmental Problems in the South San Francisco Bay Watershed

by Chris Fischer, Coyote Creek Riparian Station, Alviso, California

At the southern end of San Francisco Bay, poor circulation of waters and heavy urbanization of the watershed have contributed to habitat loss, fresh water diversion, and point and non-point pollution. Little funding is available to effectively inventory wildlife and habitat or to document impacts to the streams flowing through highly urbanized areas to the south bay.

In 1992, an EPA-sponsored effort resulted in development of Community Creek Watch, a comprehensive volunteer monitoring program among the citizens and communities of the south bay. Participants include volunteer groups, universities, homeowners associations, and all levels of government.

Well into its second year, Community Creek Watch over one hundred volunteers weekly into specialized teams collecting data on wildlife and habitat parameters, and documenting evidence of pollution and other impacts to the streams.

Staff from the Santa Clara Valley Water District, the Regional Water Quality Control Board, and the California Department of Fish and Game serve as field leaders, trainers, and quality assurance consultants for the teams. Additionally, some volunteers are trained to be long-term stewards of the streams near their homes. These citizens, who are encouraged to become involved in the existing regulatory process addressing non-point source pollution issues, have been very successful in reporting pollution incidents and increasing community awareness and involvement in pollution prevention.

Due to the many myths and misconceptions about volunteer monitoring, it has been necessary to devote significant resources to educate public officials, agency staff, landowners, business operators, and the general public on the benefits of having an informed and dedicated citizenry take interest in the welfare of urban streams. By including all of these people in the project design and incorporating existing regulatory processes into the pollution reporting methods of the program, many potential problems were avoided or addressed at the outset.

The collected information has been entered into a database and Geographic Information System (GIS) in a series of layered maps designed to make the information easily available to the planners and managers who can use it. By using state-of-the-art technology, including GIS and satellite signals, the program has attracted students and entry level professionals interested in acquiring job skills, a practice mutually beneficial to the program and the volunteers.

The availability of watershed information on habitat and wildlife in urban streams, as well as the development of an educated, interested, and involved citizenry, has already contributed to many short- and long-term benefits to area streams and the San Francisco Bay Estuary.

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# Data and Information Strategies in the Indian River Lagoon

by Melissa Black, St. Johns River Water Management District, Palatka, Florida

A variety of projects in the Indian River Lagoon National Estuary Program (IRLNEP) that require assembly and analysis of multiple databases have been set in motion during the past three years. Biological, chemical, and physical parameters, as well as bibliographic information, have been kept in different formats and structures utilizing separate coding systems by the various agencies involved in study of the Lagoon.

In order to increase information coordination and availability, a Data Management Strategies Council (DMSC) was formed. Consisting of local, state, and federal agencies as well as private groups, DMSC meets quarterly to discuss and vote on standard protocol of information dissemination, various bulletin board systems, general information management issues, and a series of periodically updated information items about the Lagoon.

A recently released IRL Fact Sheet, distributed via the IRLNEP newsletter, local libraries, and universities, has been well received. Information on new projects, graphs of common parameter averages, bibliographical information, and IRL news are included in the fact sheet.

Another communication tool being implemented is the Lagoon-Net Bulletin Board System, used to announce meetings, increase general awareness of projects, increase the transfer speed of documents, and assist in the import of water quality data to EPA's on-line Storage and Retrieval data base (STORET).

Conferences and workshops are being held to establish networks of other technologies. For example, two annual Geographic Information System (GIS) conferences have been held to date, as well as workshops to begin setting base standards for GIS information transfer.

Finally, the St. Johns River Water Management District, sponsors of the IRLNEP, has established the IRL Water Quality Monitoring Network (WQMN) to address data management issues and data gathering. An information needs report is being developed to reach a consensus on WQMN design regarding issues such as sampling locations and frequencies.

These projects have been extremely useful to many agencies at several levels. Information coordination and general communications have increased during the past three years at both the technical and management level of various groups involved.

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# Examining Linkages Between Sediment Contaminants and Acute Sediment Toxicity in the Delaware Estuary

by Helder J. Costa, Theodor C. Sauer, Timothy J. Ward, Robert L. Boeri, and Robert M. Nyman

In support of the Delaware Estuary Program's Comprehensive Conservation and Management Plan, a study was performed to assess the spatial distribution of sediment toxicity in the Delaware Estuary and to investigate potential causative contaminants. Twelve stations were sampled along the Delaware River, with four additional stations in the mid-bay portion of Delaware Bay.

Data collected from the sampling stations have shown that acute sediment toxicity appears to be more widespread throughout the Estuary than previously indicated. Statistically significant acute toxicity was measured at four stations along the most highly urbanized and industrialized portion of the Delaware River. Contaminant concentrations in sediments were compared with sediment effects levels that have been shown to adversely affect benthic marine organisms, resulting in, among others, the following observations:

€ PCB concentrations exceeded sediment effects levels at 14 of 16 stations

€ Concentrations of DDT and its related DDE and DDD metabolites exceeded sediment effects levels at 15 stations

€ PAH concentrations (i.e., highly toxic and bioavailable components of petroleum), which correlated strongly with toxicity across the 16 stations, exceeded sediment effects levels at 10 stations

€ Chromium, copper, mercury, lead, and zinc all exceeded sediment effects levels in portions of the River

Note: Highest concentrations for all of the parameters listed above were located in a 35-mile stretch of the Delaware River from just north of Philadelphia, through Camden, New Jersey, to Chester, Pennsylvania.

The study also expanded the Delaware Estuary Program's database of high quality data for toxic chemical contaminants in sediments throughout the Estuary. Several important conclusions pertain to distributions of contaminants and their bioavailability:

€ PCBs are far more widespread than previously indicated in sediments throughout the Estuary

€ PAHs in the Philadelphia to Chester reach of the Delaware River indicate considerable input from

spills and/or industrial sources (e.g., refinery discharges).

€ Evidence of PAHs associated with atmospheric fallout (i.e., rain) from vehicular and industrial sources are ubiquitous in the Estuary

The results of this study confirm the importance of employing suitable analytical strategies to provide measurements of toxic contaminants at the ultra-trace levels needed to support meaningful ecological assessments.

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## **Implementing Actions: CCMP Consensus Building Within the Barataria-Terrebonne National Estuary Program**

by Kirk Cheramie and Kay Radlauer, Barataria-Terrebonne NEP

The Barataria-Terrebonne National Estuary Program (BTNEP) is in its final program year of the planning phase of the development of its Comprehensive Conservation and Management Plan (CCMP). From its inception, the planning process has been managed by third party, non-aligned, professional facilitators, utilizing the Technologies of Participation methodology of bottom-up decision making and consensus building.

A conference of local, state, and federal governmental decision-makers, along with estuarine stakeholders, users, and the general public was convened for the entire five-year planning phase of the CCMP. It is anticipated that the CCMP will be successfully implemented primarily as a result of the decision making process used in its development.

Sequential steps in the process are described as follows:

1. Produce a vision and mission statement
2. Discover underlying blocks to accomplishing the mission
3. Determine catalytic actions that dissolve blocks and move towards assurance of the goals outlined in the mission
4. List individual action items within the catalytic actions that can be implemented successfully
5. Develop alliances between Conference members who will be responsible for implementing the CCMP

6. Form an over-arching management group, non-regulatory in nature, that will track implementation successes and provide the vehicle and process through which implementation conflicts can be resolved

7. Deliver an implementable CCMP to the Governor and EPA

While it is not possible to guarantee success at this point in the process, it is clear that the traditional top-down planning and decision making methodologies used in the past have not been highly successful in guaranteeing implementation. The BTNEP

has gambled that the alternative techniques used in its CCMP development will produce a more implementable plan because the regulators of environmental policies and the regulated community are building consensus from the beginning.

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More than sixty papers were presented at the Coastal Technology Transfer Conference. Titles and authors of several more of the presentations are listed to the right to show the breadth of topics discussed.

- *Forests: Solutions for Estuary Protection and Restoration* , Albert H. Todd, Chesapeake Bay Program
  - *Nitrogen Loads, Water Quality, Seagrasses, and Dissolved Oxygen* , David A. Tomasko, Ph.D., Sarasota Bay NEP
  - *Evaluating the Effectiveness of Your Program* *Mid-Course Corrections* , Betsy McEvoy, Massachusetts Bays Program
  - *Successful Implementation of a User Fee Based Toxic Substances Monitoring Program*, Margaret Johnston, San Francisco Estuary Institute
  - *Dispute Resolution and the National Estuary Program: Innovative Management for Sustainable Development*, Jim Blackburn, Esq., Galveston Bay NEP
  - *Ecosystem Degradation, Valuation, and Potential Restoration at Lower Cape May Meadows, New Jersey*, Carmen G. Zappile and Beth Brandeth, U.S. Army Corps of Engineers
  - *Thousand Acre Marsh Watershed Protection and Wetland Rehabilitation Project*, David B. Carter and Elaine A. Logothetis, Delaware Coastal Management Program
  - *Development of Geographic Targets for Nitrogen Reductions Within the Long Island Sound Watershed*, Mark A. Tedesco, Long Island Sound NEP
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## **Ballast Water Management in the Chesapeake Bay**

"Nonindigenous species are having dramatic effects on marine, estuarine and fresh water ecosystems throughout the world." So says a January 1995 Chesapeake Bay Commission (CBC) Report, "The Introduction of Nonindigenous Species to the Chesapeake Bay Via Ballast Water."

The most famous of these invaders is the zebra mussel, which has clogged municipal and industrial water intake pipes and outcompeted native mussel populations in several major water bodies across North America during recent years. Other species have been responsible for paralytic shellfish poisoning, declining commercial and sport fisheries, and possibly human disease (e.g., a strain of cholera was found in ballast water in Mobile, Alabama, in 1991).

The U.S. Fish and Wildlife Service, in a 1993 report, determined that these species contributed significantly to the listing of 160 native species as endangered or threatened under the Endangered Species Act. In the Great Lakes (zebra mussel) and San Francisco Bay (an Asian clam), nonindigenous bivalve species are replacing other benthic organisms and clearing plankton communities that provide food and larvae for resident populations from overlying waters.

Congress estimated in 1993 that total nationwide costs to prevent clogging of water supplies from zebra mussels will exceed three billion dollars over the next decade. This estimate does not include other segments of the economy such as commercial shipping and recreational boating, nor ecological impacts from changes to estuarine communities.

Ballast water, used to ensure a vessel's stability and balance during a voyage, is pumped on board and discharged in ports of call across the globe. An ongoing study by the Smithsonian Environmental Research Center has shown that 90% of the vessels arriving at Chesapeake Bay ports carry live organisms in ballast, including barnacles, clams, mussels, copepods, diatoms, and juvenile fish.

"The Chesapeake Bay is the largest single recipient of ballast water on the East Coast," said Ann Pesiri Swanson, Executive Director of the Chesapeake Bay Commission. "And with the discharge comes an assemblage of organisms capable of breeding in North American waters."

"Both international and Great Lakes efforts represent good interim steps in reducing the risks of ballast water organisms," said Swanson, "but it is increasingly recognized that a technological solution or improved ballast management practices may provide eventual answers to prevent these invasions."

In order to achieve a cooperative and coordinated effort, the CBC is working with the U.S. Biological Survey, U.S. Coast Guard, the governors and port administrators of coastal states, Congress, and others to ensure that authorities of other Mid-Atlantic estuaries implement compatible and comparable ballast water management programs.

"The General Assemblies of Virginia, Maryland, and Pennsylvania are now considering resolutions memorializing the U.S. Congress and the U.S. Coast Guard to implement programs and fund research that will prevent the introduction of nonindigenous species via ballast water," said Swanson. "We have also encouraged the governors of other coastal states with active ports to introduce similar resolutions."

*For further information, or for a copy of the CBC report, contact Ann Pesiri Swanson, Executive Director of the Chesapeake Bay Commission, (410) 263-3420; fax (410) 263-9338.*

*Leaders of the Chesapeake Bay Program have developed a policy that addresses both intentional and unintentional introductions of aquatic nonindigenous species, and lays out a framework of cooperative management approaches and public outreach efforts for both. Recommendations are as follows:*

1. The General Assemblies of Virginia, Maryland, and Pennsylvania enact resolutions calling for increased federal involvement in ballast water management.
2. Encourage federal support for the development of ballast water management technologies and practices through financial support and other incentives.
3. Using conventional routes of contact, launch an aggressive, multi-lingual education campaign to raise awareness among the crews and agents of foreign- and U.S.-flagged ships.
4. Encourage both governmental and non-governmental organizations to fully incorporate concerns of biological introductions into their respective programs.
5. Cooperate and coordinate with authorities of other mid-Atlantic estuaries, and national and international interests, to ensure compatible and comparable management programs.
6. Encourage the Chesapeake Executive Council to adopt these recommendations as a sequel to the adopted policies of 1992. In addition, conduct an annual review to ensure that progress is being made to minimize the risk of ballast-mediated exotic species introduction.



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## Getting the NEPs On-Line

A prototype National Estuary Program Information Network (NEPIN; Network) is now available on-line. The Network began as an EPA initiative with the Gulf of Mexico Program to explore new approaches for getting information from multiple sources to local, state, and national decision-makers and the public via the Internet.

The Internet enables partners and the public to take action to address their own environmental and resource management needs by providing the infrastructure by which information flows from those who have it to those who need it.

"This system offers NEPs a solution to connecting with partners dealing with related but often fragmented interests," said Karen Klima of USEPA. "Some see it as one of the answers to carrying out implementation efforts."

The network continues to grow in locations and information holdings. Information directories (known as homepages) have been established for the Gulf of Mexico Program, Florida, and the five NEPs located in the Gulf of Mexico, all allowing access to fact sheets, brochures, publications, slides, and other program information and data.

## How to Get On-Line:

To access these networks on the Internet via the World Wide Web, enter the Universal Resource Locator (URL): <http://www.epa.gov> and click on the Gulf of Mexico or NEP icon. Users need an Internet provider, an Internet Protocol address, at least a 386 or comparable personal computer, four megabytes of RAM, and tools for viewing the graphics.

*To share comments or get more information, contact Karen Klima, (703) 235-5590, or e-mail at [Klima.Karen@EPAMAIL.EPA.GOV](mailto:Klima.Karen@EPAMAIL.EPA.GOV).*

Note: Because the system is evolving rapidly, an update will appear in the next issue of *Coastlines*.



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## **Dates Set for Upcoming Local Government Workshops on Coastal and Resource Protection**

U.S. EPA's Office of Wetlands, Oceans, and Watersheds, Oceans and Coastal Protection Division, has scheduled the next round of coastal resource protection tools workshops. The workshops are intended to familiarize government officials, managers, and state and local technical experts with watershed protection techniques and specific successes of the National Estuary Program and other restoration and protection efforts. Dates and contacts for the workshops are as follows:

€ Corpus Christi, TX, May 18 & 19, 1995 Contact: Mari Brennan Barrera, Corpus Christi NEP, (512) 985-6767.

€ Puget Sound Tribal Workshop, Marysville, WA, June 13 & 14, 1995

Contact: John Armstrong, U.S. EPA Region 10, (206) 553-1368.

Additional workshops for Coos Bay, Oregon, and Tom's River, New Jersey, are being scheduled for June 1995. Contact: Ellen Barros, Horsley & Witten, Inc., (508) 362-5570.



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## **Great Water Bodies Report Submitted to Congress**

PA's strategy for linking the resources and expertise of EPA's geographic initiatives (the National Estuary Program (NEP), Great Lakes Program, Chesapeake Bay Program, and Gulf of Mexico Program), was recently transmitted to Congress in a report entitled "Linking EPA's Geographic Initiatives, Including the Great Water Bodies Programs and the National Estuary Program."

As pioneers of EPA's ecosystem approach, the Great Water Bodies Program and NEP serve as laboratories and models for other geographic initiatives. These major watershed programs have valuable lessons to share, including experience with the management of a collaborative process, development of goals and measures of progress, and the implementation of specific management solutions.

Transfer of the lessons from these early programs to newer geographic initiatives can give other programs a head start and avoid duplicating work that has already been done elsewhere. Moreover, the Great Water Bodies Program and NEP have many problems in common with one another and can mobilize their resources to address those issues in a coordinated fashion. Shared problems include those manifested on a local scale, such as nutrients, toxics, pathogens, and habitat loss or modification, as well as problems that cross watersheds, such as atmospheric deposition, fisheries, or flyways.

EPA's strategy will include:

1. An ongoing, active mechanism for the transfer of specialized and general information among such programs;
2. An identification of potential geographic and programmatic overlap among such programs and a means for delineating or otherwise managing shared programmatic or geographic jurisdictions; and
3. A mechanism for such programs to cooperate on localized issues that occur within several program

jurisdictions as well as on broader scope concerns that span ecosystem boundaries.

As EPA continues to expand the ecosystem approach nationwide, this strategy will serve as the basis for a more comprehensive strategy for coordination among all "community-based" efforts within EPA.

*For further information, contact Jill Abelson, U.S. EPA Oceans and Coastal Protection Division, (202) 260-9799.*





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## **PUBLICATIONS**

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### **Development and Water Quality: A Decisionmaker's Guide to Protecting the Urban Environment. (1994, 52pp.).**

Written for local government officials, planners, and decisionmakers in small to medium-sized communities (1,000-100,000), this guide explains the scope of urban nonpoint source pollution and provides a basic approach to developing a community program for managing pollution. Advises on organizing, implementing, financing, and publicizing a nonpoint source program for NPDES stormwater permit requirements. Lists contacts and additional resources. Prepared in cooperation with U.S. EPA. Available for \$12.95 from the Terrene Institute, 1717 K Street, NW, Suite 801, Washington, DC 20006; (202) 833 -8317. Ask for publication H9.

### **Integrated Mapping and Database System for Coastal Monitoring. (1994, 9 pp.).**

Information on and analyses of coastal processes were generated by integration between satellite remote sensing, measurements from aerial photo graphs, local beach profiles, and wave refraction studies. GIS was used for data management. The basic project was designed to produce scientific data and solutions for particular coastal programs. Available free of charge from Puerto Rico Sea Grant Program Communications Office, RUM-UPR P.O. Box 5000, Mayaguez, PR 00681-5000; (809) 834-4726. Ask for publication PRU-R-94-001 (T-92-002).

**Lessons from the States, Strengthening Land Conservation Programs through Grants to Nonprofit Land Trusts . (1992, 75 pp.).**  
**by Phyllis Myers.**

State governments are increasingly turning to land trusts as conservation partners, establishing a variety of programs and funding mechanisms. This study is the first detailed, comprehensive examination of these public-private partnerships: where they are, how they're structured, what works. Includes case studies and model approaches. Available for \$17 from the Land Trust Alliance, 1319 F Street, NW, Suite 501, Washington, DC 20004-1106; (202) 638-4725.

**Water Watch, What Boaters Can Do to Be Environmentally Friendly.**  
**(1994, 15 pp.).**

Simple reminders, precautions and recommended practices have been combined into a brochure that encourages recreational boaters to be environmentally friendly. Information centers on boat operation, maintenance, and preventive actions individuals can take to maintain clean water and minimize the on- and near-shore impact of water based recreation. Provided by the National Marine Manufacturers Association, the text was adapted from "Your Boat & the Bay" by the Chesapeake Bay Foundation and augmented by material provided by The Izaak Walton League of America. Request a free copy by writing NMMA Water Watch, 401 N. Michigan Ave., #1150, Chicago, IL 60611.



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# CALENDAR

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## May 21-24

*Opening the Toolbox: Strategies for Successful Watershed Management.* Charleston, West Virginia. The fourth National Watershed Conference, sponsored by the National Watershed Coalition, will examine current watershed and floodplain management programs and ecosystem planning strategies, their commonalities and constraints, with a view toward using an integrated approach to water resources management. Major topics include: flood prevention while protecting natural resources, on-farm and watershed-wide water quality protection, riparian corridor management and restoration, and partnership approaches to meeting watershed needs and opportunities. Contact: James R. Fisher, (303) 988-1810; fax (303) 988-1896.

## May 28-June 1

*38th Annual Conference on Great Lakes Research.* Michigan State University, East Lansing, Michigan. The purpose of the conference is to exchange information on all aspects of research applicable to the understanding of large lakes of the world and to the human societies surrounding them. At least 25 symposia are scheduled, with topics including such issues as physical dynamics, causality and risk assessment, atmosphere process, combined sewer overflow, wetlands research, and contaminated sediments. Contact David T. Long, (517) 353 9618; fax (517) 353-8787; e-mail 14790dtl@msu.edu

## July 16-21

*Coastal Zone 95: Spotlight on Solutions.* Tampa, Florida. CZ 95 will provide an opportunity to exchange ideas and techniques for successful solutions to ocean and coastal management issues. There will be three days of plenary and technical sessions and three days of other meetings and workshops. In addition to the permanent theme of "Spotlight on Solutions," there will be three broad themes: Managing

Ecosystems, Exploring the Human Dimension, and Building Partnerships. Contact Matt Menashes, (301) 713-3086x105; fax (301) 713-4370; e-mail [mmenashes@coasts.nos.noaa.gov](mailto:mmenashes@coasts.nos.noaa.gov).

## **August 6-9**

*50th Anniversary Meeting of the Soil and Water Conservation Society*. Des Moines, Iowa. The meeting will be an international forum for the debate and discussion of critical resource management issues including: the future of agriculture, water quality and quantity, wetlands, property rights, sustainable development, and others. Contact: Tim Kautza, (800) 843-7645x12.



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## **Tele-Video Link-Up**

### **An NEP Conference From Home**

When staff of the Corpus Christi Bay National Estuary Program (CCBNEP) contacted Nancy McKay, Executive Director of the Puget Sound Water Quality Authority (PSWQA, or, the Authority), to ask if she would be interested in traveling to Corpus Christi to meet with staff and committee members, they quickly learned that costs would be prohibitive.

Air fare alone was going to be about \$1,300, plus hotel, rental car, and other expenses. Instead, they decided to try a tele-video conference, which was figured at about \$400 for a one-and-a-half hour meeting.

A panel of eight people, four each from the CCBNEP's Citizen's Advisory Committee and Local Governments Advisory Committee, met in a small conference room to participate directly in the conference. A larger group was assembled in an adjoining classroom where they could also see, hear, and speak with the PSWQA group.

Meanwhile, McKay and two staff members of the Authority assembled in Seattle. The PSWQA has been involved in EPA's National Estuary Program (NEP) since 1988, while CCBNEP is still in the early phases of program development; therefore, CCBNEP staff and committee members were interested in learning about PSWQA's experience as an NEP.

"The link-up provided our committee members the chance to hear some of the similar struggles that others before have already been through," said Richard Volk, Program Director of the CCBNEP.

McKay explained the history of the Authority and its relationship to the NEP, and then responded to questions. CCBNEP committee members were particularly interested in how local governments were involved in developing the Comprehensive Conservation and Management Plan, how their public participation efforts worked, and how their continuing education efforts were funded.

Committee members and staff felt that the session was very useful, and that the ability to talk directly with other NEPs in such a personal way was appealing. "It was a highly interactive meeting that has helped some members understand that we in south Texas are not the only ones to attempt such a mammoth undertaking, and, more importantly...that our efforts really can and will make a difference," said Volk.

The experience was also beneficial to the PSWQA staff. "It was extremely helpful to meet without taking the time to fly from Seattle to south Texas...and I was impressed with how easy it was for my staff to communicate with over 60 people in Corpus Christi," said McKay.

According to Mari Brennan Barrera, Outreach Coordinator of the CCBNEP, several members are already looking forward to future use of this conference format. "It was suggested that we use this format in the future to do link-ups with specific user groups," she said. "Perhaps we could get a group of farmers in Texas to meet this way with farmers in California or North Carolina to talk about their experiences in working with the NEPs."

*For further information, contact Mari Brennan Barrera at (512) 985-6767.*



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## **Shellfish Beds Reclassified**

*Editor's Note: In the Summer 1994 (Vol. 4, No. 3) issue of Coastlines, we reported on the reopening of shellfish beds in at least four areas of Puget Sound due to successful efforts in reducing pollution to several watersheds. Following is an update of shellfish bed status around the Sound.*

Improvements to the Coupeville and Penn Cove Park sewage treatment plants, local farming practices, and on-site sewage treatment systems have resulted in the reopening of 450 acres of shellfish beds in Penn Cove. The Washington State Department of Health (DOH) classified the recreational and commercial shellfish beds as "conditionally approved," which means that they will remain open unless there is an upset at either of the two area sewage treatment plants. An additional 1,330 acres in Penn Cove are also classified as conditionally approved.

Drayton Harbor did not fare so well when the DOH recently prohibited shell fish harvesting in 1,630 acres of the Harbor and restricted an additional 30 acres. The Drayton Harbor downgrade came in response to poor water quality resulting from a variety of pollution sources.

*For further information, contact Frank Meriwether, (360) 753-3517.*



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**Coastlines** is a publication of the Alliance for the Chesapeake Bay, Inc. It is produced in cooperation with the U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds, under grant #CX-816-857-913. The contents of this document do not necessarily reflect the views and policies of EPA, nor does mention of trade names or commercial products constitute endorsements or recommendations of use. The Executive Director of the Alliance is Frances H. Flanigan.

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