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Information About Estuaries and Near Coastal Waters October 2000 - Issue 10.5

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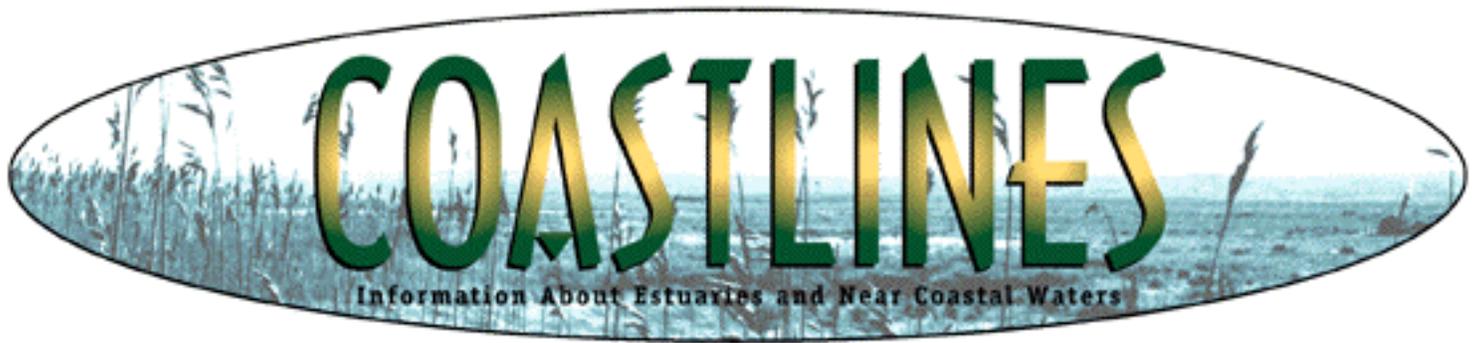
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Chesapeake Bay: A Blueprint for The 21ST Century

Chesapeake 2000, an historic agreement was signed by the Chesapeake Bay Program partners on June 28th. The agreement lays the foundation and sets the course for the bay's restoration and protection for the next decade and beyond.

The new agreement was signed by the governors of Maryland, Virginia, and Pennsylvania, the mayor of the District of Columbia, the Chesapeake Bay Commission chair, and the administrator of the US EPA. The intergovernmental partnership that created the Chesapeake Bay Program was formed in 1983 with the signing of the original Chesapeake Bay Agreement. The second Chesapeake Bay Agreement was signed in 1987, creating the infrastructure and policy vision for the program that is known throughout the world today. The centerpiece of the 1987 Agreement was a goal to reduce nutrients entering the bay by 40% by the year 2000. This history of setting strong numerical goals within a set timeframe has become a hallmark of the Bay Program, and is repeated in the new Chesapeake 2000 agreement.

The Chesapeake Bay Program is also known for encouraging all stakeholders to be part of the policy-making process and for soliciting the greatest diversity of views. The Chesapeake 2000 development process is a classic example. Though long and involved, it ultimately was inclusive and productive. The private non-profit Alliance for the Chesapeake Bay began with a public outreach project in the spring of 1999 to determine what the public wanted addressed in a new Chesapeake Bay agreement. The Alliance's three-pronged Chesapeake Renewal Project included interviewing 95 stakeholders, holding 22 focus

group sessions, and analyzing 750 survey questionnaires from people within the bay watershed.

Many of the results of the Chesapeake Renewal Project were reflected in the draft Chesapeake 2000 agreement. During the public comment period, approximately 1,000 detailed public comments were received and synthesized into the final development of the agreement. By all accounts the final agreement was strengthened considerably by the program's solicitation, review and response to public input. Negotiations continued for several months and the final agreement contained a number of far-reaching and innovative provisions.

The highlights of the Chesapeake 2000 agreement are summarized as follows:

Chesapeake Bay Watershed

Chesapeake Bay Watershed



1. Water Quality -- In order to get well ahead of the timetable for implementing Total Maximum Daily Loads (TMDLs), the Chesapeake Bay Program partners have agreed to "...correct the nutrient and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove [them] from the list of impaired waters under the Clean Water Act," by 2010. There is a detailed timetable and milestones to meet this goal, and if it is not met by 2010, then TMDLs will be imposed in 2011. This is the first comprehensive commitment of its kind in the U.S.

2. Sprawl and Growth Commitments -- The sprawl and livability issues that have become a national issue are addressed in the agreement with specific numerical goals and a timetable. The states have agreed to reduce the rate of harmful sprawl and the development of forests and farms by 30% by the year 2012 and to permanently preserve 20% of the bay watershed by 2010 (currently about 16.4% is preserved). These are real commitments that, again, have not been made anywhere else in the nation.

3. Chemical Contaminants and Mixing Zone Elimination -- The Great Lakes states were the first to agree to a phase-out of mixing zones, but only for bioaccumulative chemicals. The Chesapeake 2000 agreement commits to a voluntary elimination of mixing zones for both bioaccumulative and persistent chemicals by 2010. The "persistent chemical" inclusion allows the bay watershed states to also include

metals such as copper, cadmium, arsenic, chromium and lead that would not be included in a "bioaccumulative only" phase out. The agreement also commits to "...strive for zero release of chemical contaminants from point sources, including air sources."

4. Wetlands -- Commits to no net loss of existing wetlands, a net gain of 25,000 acres by 2010 and a commitment to develop and implement locally-generated wetlands preservation plans on 25% of the land area of the Chesapeake Bay watershed by 2010.

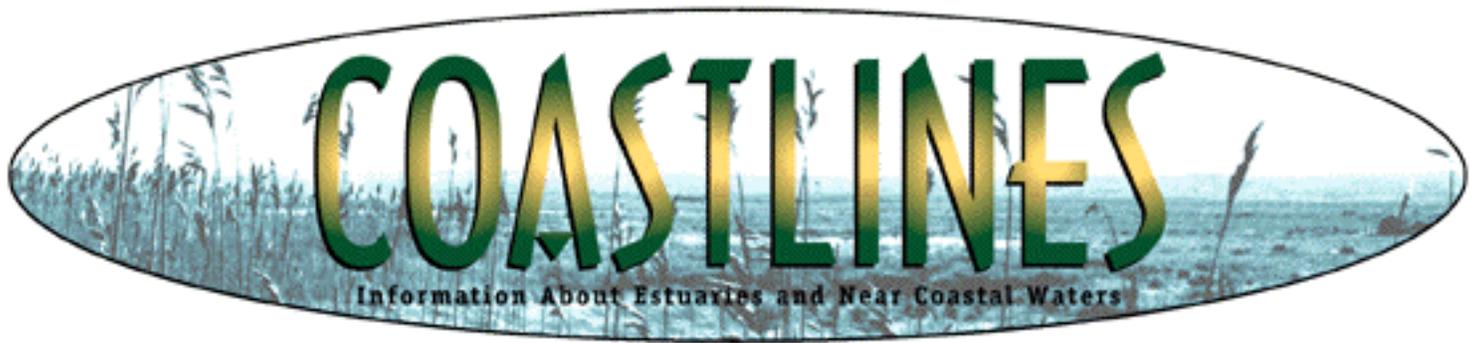
5. Air Pollution -- Air deposition accounts for about a quarter of the nitrogen entering the bay system, and much of it originates from outside of the bay watershed. The Chesapeake 2000 agreement commits the states and EPA to establish, by 2003, reduction goals for airborne nitrogen and other chemical contaminants.

6. Education and Public Access -- The agreement also addresses people. There is a commitment to provide every school student in the Chesapeake Bay watershed with an outdoor bay or stream experience by the time they graduate from high school, beginning with today's eighth grade students. There are also goals for increasing public access to the bay and its tributaries (30% increase in public access points by 2010) and an increase in water trails by 500 miles by 2005.

7. Oysters and Crabs -- The Chesapeake 2000 agreement continues the Bay Program's long history of dealing with the restoration of the bay's living resources. In keeping with the Program's tradition of setting numerical goals, the new agreement commits to a tenfold increase in the oyster population by 2010, and to the setting of new bay-wide harvest targets for blue crabs in 2001.

These are just some of the highlights of the Chesapeake 2000 agreement. The agreement also makes clear that all of the previous goals and commitments made by the bay Program still must be met. The Program has begun the difficult and complex task of drawing the roadmap for implementation and completion of all these goals. That process will be nearly as difficult as the drafting of an agreement that had to be agreed to by three states, the Federal government, the District of Columbia and a tri-state legislative commission.

For further information, contact Peter J. Marx, Associate Director for Communications, Chesapeake Bay Program, US EPA, 410 Severn Avenue, Suite 109, Annapolis, Maryland 21403; Phone: 1-(800) YOUR BAY. To view the document on-line visit the website: www.chesapeakebay.net 



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National Estuary Program Finance Workshops

The National Estuary Programs play a critical role in implementing coastal management and water protection efforts. The cost of implementing actions to protect coastal areas, however, is staggering. For the New York-New Jersey Harbor Estuary Program alone, combined sewer overflow, sewage treatment upgrades and other measures will amount to more than \$5 billion in expenditures. While EPA's Office of Water and others have already published several documents providing an overview of basic public finance principles and federal and non-federal funding sources, there remains a critical need to provide information and technical assistance to states/tribes and localities so they can more effectively identify and evaluate innovative financing strategies.

To address this need, EPA's Coastal Management Program is currently sponsoring a series of ten regional workshops for the 28 National Estuary Programs around the country. The purpose of the workshops is to provide diverse, comprehensive, and practical funding solutions for both National Estuary Programs' (NEPs) operating expenses and NEP Comprehensive Conservation Management Plan (CCMP) implementation, as well as to build capacity to address long-term funding challenges, such as staff expertise, and finance committees. The workshops provide successful funding tools, case studies and resources that will help NEP decision-makers develop funding solutions for their programs.

Four of the ten planned workshops have already been held, including a workshop held in May for the Delaware and Maryland NEPs, a workshop in July for New York-New Jersey Harbor, San Juan,

Barneget Bay, Peconic and Long Island NEPs, a workshop in August for EPA Headquarters' employees, and a workshop for New Hampshire and Maine NEPs was held in September. Several upcoming workshops are in the planning stages and include:

When	Where	Who
October 19-20	Providence, RI	Massachusetts Bay Buzzards Bay Narragansett Bay
November	San Francisco, CA	Santa Monica Bay San Francisco Estuary Morro Bay
December	TBD	Tampa Bay/Sarasota Bay/Charlotte Harbor
January	TBD	Galveston Bay Barataria-Terrebonne Estuarine Complex Corpus Christi Bay (Coastal Bend Bays) Mobile Bay
February	TBD	Indian River Lagoon Albemarle-Pamlico Sounds
March	TBD	Lower Columbia River Estuary/Puget Sound/Tillamook Bay

Each workshop is designed and scheduled by a team of Coastal Management Branch staff, Regional Coordinators and NEP Directors, and targets specific financing needs of the attending NEPs. The workshop includes invited speakers from other NEPs, nonprofit organizations, and the State Revolving Fund, which can provide advice on obtaining financing.

Several topics aimed at assisting NEPs with finance development are covered in the workshop and include:

- **An Overview of Finance Tools and Administrative Mechanisms**, including grants (public and foundation), debt financing, fines, public-private partnerships, utilities and districts, cost reduction, tax incentives, and a summary of mechanisms used by NEPs.
- **Non-profit Fund-raising Techniques** such as establishing a non-profit, planned giving, grant writing, foundation research, and hiring fund raisers.

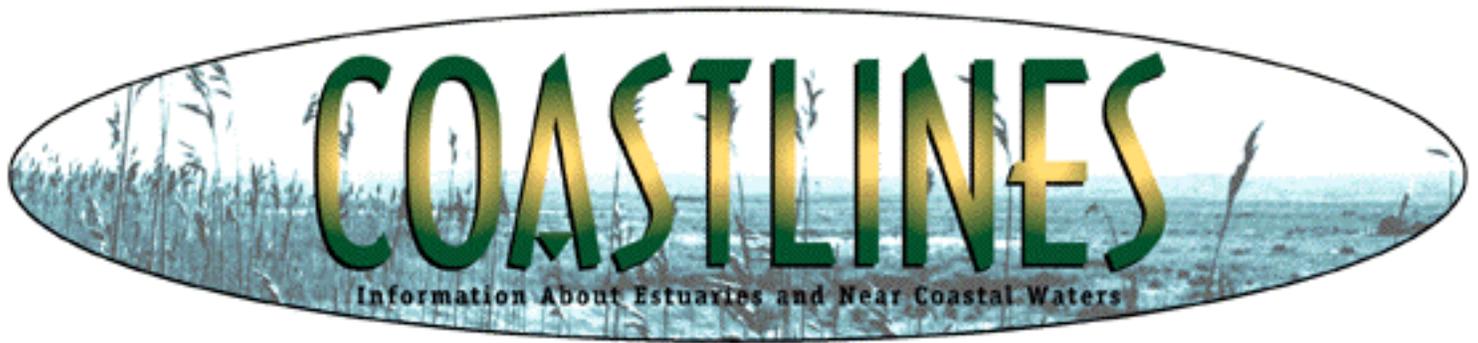
- **Case Studies**, including funding levels achieved, obstacles faced and overcome, the role of NEPs in developing a finance tool or strategy, and time and effort required to develop a tool or strategy.
- **Breakout Sessions** where NEPs and other participants develop a plan of action to address local NEP-specific funding needs.
- **Invited Guest Speakers** who work with NEPs to identify and evaluate possible finance tools based on revenue potential and administrative ease, and specify next steps.
- **Follow-up** with technical support to help NEPs overcome obstacles and measure success.

The workshop also offers a "Finance Toolkit," which includes a notebook of resources to build the capacity of the NEPs and others stakeholders to identify, design, implement, and evaluate mechanisms to finance the implementation of their programs. A finance handbook, under development, will provide case studies and worksheets and will be posted on the Internet. The audience for the workshops is the NEPs and their stakeholders, while the handbook is designed for a wider audience, including the NEPs, federal, state/tribal, and local government agencies, as well as community, civic, business, environmental, and estuary or other resource user groups.



The workshops are free and open to NEPs and their stakeholders who are interested in exploring how critical NEP activities might be financed. The workshops provide an excellent opportunity to share local ideas and concerns and enhance local networking, cooperation and coordination. Additional information about the workshop schedule, content or registration process is available through the contact information given below.

For further information, contact Tim Jones, US EPA (4504 F) Office of Wetlands, Oceans, and Watersheds Washington, DC 20460, Phone: (202) 260-6059; Fax: (202) 260-8742/9960 e-mail: jones.tim@epa.gov



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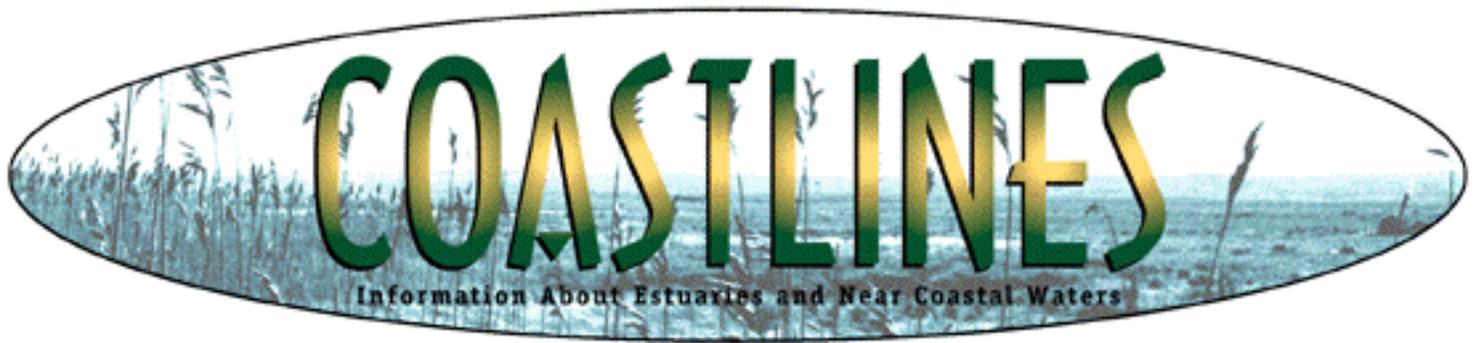
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"Explorations from an Aerial Perspective"

"Explorations from an Aerial Perspective" is an educational package written for educators working in a diversity of settings, aimed at incorporating aerial photographs and maps into investigations of local environments and land use history. Students and adults in classrooms, nature centers, after-school programs, 4-H clubs, camps, and other settings are expected to conduct these investigations. Included in the package are:

- Instructions for setting up a "train-the-trainers" program;
- Background information on interpreting aerial photographs and topographic maps;
- Hands-on activities designed to develop air photo and map interpretation skills;
- Case studies of "Aerial Perspectives" community investigations conducted in rural, suburban and urban settings; and
- Resource packets for educators and students, including activity pages and worksheets, air photos, and maps.

For further information, contact Tammy Young, Media and Technology Services, Cornell Business and Technology Park, Ithaca, New York 14850, E-mail: tjy1@cornell.edu



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Five Perspectives on Participation in Watershed Management Planning by Local Governmental Officials

Local governmental officials (LGOs) are key to the success of coastal management planning. However, it is frequently difficult to gain their involvement. To find out more about their participation in watershed planning, our team of social scientists from the non-profit Social and Environmental Research Institute, with funding from the National Science Foundation, interviewed LGOs from three National Estuary Projects. We inquired into their reasons for deciding whether or not to get involved with the project and identified over fifty items that played a role in individuals' decisions to participate or not. Those results were published in the April issue of Coastlines.

Here we present results from the second phase of this study, in which LGOs were asked to rank the items in order of importance to them. Each item was a statement that described some aspect of possible importance to the LGO. For example, one statement is: "my ability to make a strong contribution." Individuals ranked each of these statements according to how much it influenced his or her decision to get involved in a watershed planning process.

By using a statistical process called inverted factor analysis, we were able to identify patterns of beliefs that could be translated into general perspectives. Any individual LGO could ascribe to one or more of these perspectives, to varying degrees.

Perspective A: Influencing outcomes through engaged, effective interaction with others.

When making a decision to participate or not, some individuals cared greatly about features of the project that would help accomplish relevant and tangible results. The six most highly ranked statements in this perspective all addressed key features of the watershed management project. These included capability of the project to accomplish its goals, relevance and clarity of the project's objectives, scope of the project, productivity of meetings, ability to produce tangible results, and competence of project leadership.

In addition to concern about the capability of the project to achieve results, this perspective emphasized working relationships with others in the project. Statements about who is involved, being part of a group that works closely together, the clarity of roles and responsibilities, the way the group makes decisions, and the character of interactions with staff and other participants, were all rated important.

Perspective B: Finding time in a busy schedule.

This perspective highlights the costs and difficulties of participating. Statements about the time required to participate and the impact that participating would have on other voluntary activities were ranked at the top for this perspective, much higher than for any other perspective. The supervisor's attitude toward participation was not important.

Combined with the above is also a concern that the project be relevant to the town. From this perspective, the project should address the problems facing the community and the watershed and provide direct benefits to the town.

Professional and personal interests were ranked higher in this perspective than in any other. We learned that people who fell into this category tended to be less interested in watershed planning than in other aspects of community governance. Strong and active participants rarely ranked these statements high.

Perspective C: Solving problems and serving community.

Perspective C reflects a problem-driven approach to deciding whether or not to participate that is very much locally grounded. People invoking this perspective based decisions about their participation on the degree to which they felt the project would help to solve watershed-related problems in their town and bring specific benefits to their town. The presence of a water supply or water quantity problem in their town was the top-ranked item. The second and fourth items addressed local financial benefits and local benefits from information sharing. Community support for involvement in the process was also emphasized. Together, these comprise a perspective grounded in concern for one's community.

Perspective D: Moral compulsion, power and effectiveness.

Perspective D is characteristic of a morally-driven individual who does not mind acting independently,

but who decides to act if his or her input will have a positive effect. These individuals were not concerned about how participation related to their professional work. They were not bothered by the amount of time required to participate. Instead, they are solution-oriented. Individuals with this perspective want to see concrete positive change happen quickly. To them, it is the results that matter, not the quality of the process.

Perspective E: Matching skills, experiences, and position with the project.

Perspective E represents a point of view that is rooted in determining whether there is a match between the individual LGO and the watershed management project. Unlike perspective D, it does not place strong emphasis on the effectiveness of the project. It poses concerns about the effects of participation on the local community, but unlike perspective B, there is very little concern about the time demands of participating. The statement about time out of one's personal life was ranked lower in this perspective than all others.

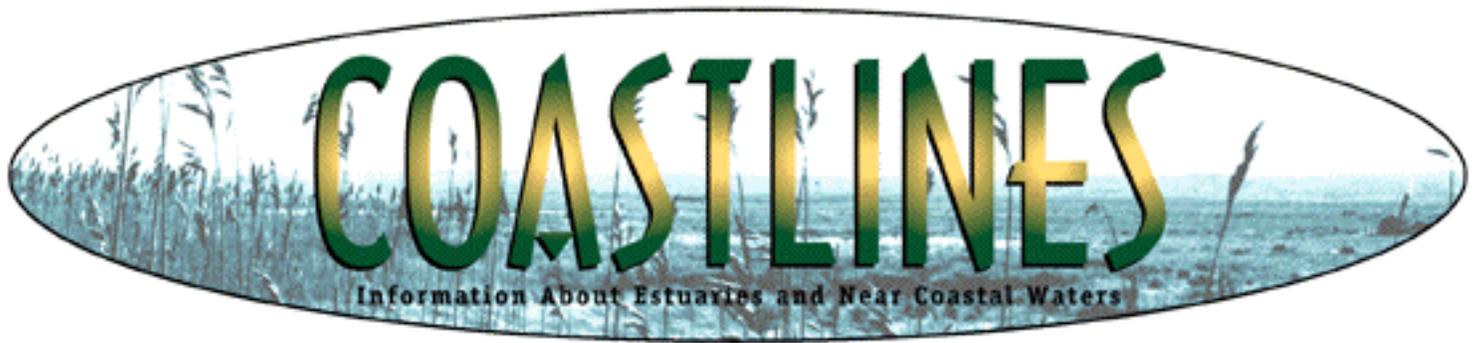
Such people reflect upon their environmental ethics, their past experiences with similar projects, and personal interests before deciding what to do. Professional interests and responsibilities matter much less. This perspective is grounded in self and community. There may be little that a watershed management project could do to entice a person with this perspective to participate.

These results suggest that people examine the opportunity to participate in fundamentally different ways. We conclude that it is incorrect to approach LGOs as a homogeneous body. Planners and organizers of collaborative processes should think of LGOs as individuals with different experiences, needs, values and beliefs. To maximize LGO participation, it may be wise to design a process that contains a variety of ways and levels for LGOs to become involved.

Five perspectives LGOs take when deciding whether to participate in a watershed planning process.

Perspective A:	Influencing outcomes through engaged, effective interaction with others.
Perspective B:	Finding the time in a busy schedule.
Perspective C:	Solving problems and serving community.
Perspective D:	Moral compulsion, power, and effectiveness.
Perspective E:	Matching skills, experiences, and position with the project.

For further information, contact Thomas Webler, Social and Environmental Research Institute, P.O. Box 253, Leverett, MA, 01054; Phone: (413) 625-9046 or E-mail: twebler@crocker.com



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EMAP Symposium 2001: Coastal Monitoring Through Partnerships

The EMAP Coastal Symposium 2001 is a free, four-day symposium, jointly sponsored by the US EPA's Office of Research and Development and the Council of State Governments (CSG). The symposium will be held in Pensacola, Florida, April 24 - 27, 2001. The symposium will provide a forum to present and discuss the results of successful programs and develop new partnerships among federal, state, tribal, and academic scientists and managers to advance the science of monitoring and assessment of coastal resources.

Focus

The EMAP Symposium 2001 will provide a venue to present and discuss:

- EPA's National Coastal Assessment (Coastal 2000), and how it is targeted to meet state and tribal needs;
- Successful partnerships between federal, state, tribal, and academic organizations in coastal research and monitoring;
- Examples of research and technology transfer that have led to more efficient, less expensive, and

more scientifically rigorous monitoring and assessment;

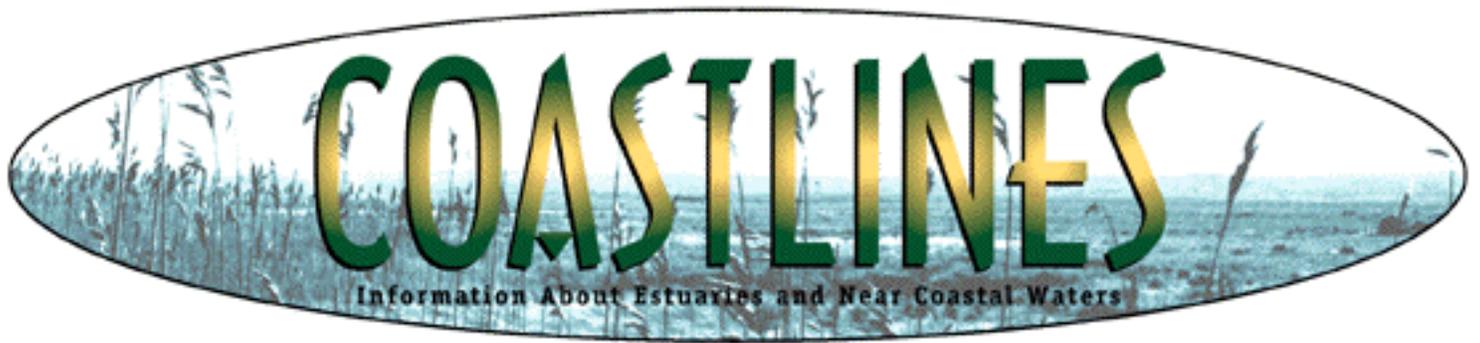
- How research can lead to a better understanding of the roles of monitoring, assessment, and research in identifying, diagnosing, and solving coastal problems; and
- How academic research supported through the Science to Achieve Results (STAR) program has promoted the development of new ecological indicators for monitoring and assessing the condition of the coastal environment.

Format

The Symposium will include invited and contributed platform presentations, poster sessions, and small workgroup discussions on topics of interest to federal and state agencies, tribal nations, and academic institutions regarding coastal monitoring, assessment, and research. Proceedings will be published.

Further information on the EMAP Coastal Symposium 2001 can be obtained from Virginia Engle, US EPA; Phone: (850) 934-9354; Fax: (850) 934-2403; E-mail:engle.virginia@epa.gov or Malissa McAlister, CSG; Phone: (859) 244-8243; Fax: (859) 244-8001; E-mail:mcalister@csg.org

Please visit the EMAP website for additional information: <http://www.epa.gov/emap/>



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Low Powered Radio Provides High Powered Coastal Education Tool

Michigan

Just before crossing the Mackinac Bridge connecting Michigan's upper and lower peninsulas, most drivers notice a large, green sign advising motorists to "tune to AM radio 530 or 1610 for Mackinac Bridge updates." The broadcast, which provides current weather conditions and other bridge information, is an example of low power radio (LPR), a micro radio system capable of broadcasting special information over a limited range.

In Michigan, coastal visitors and boaters could be the next group of people to benefit from this technology. For example, low powered radio might be set up to inform boaters about what kinds of services are available as they approach a harbor. Great Lakes ecological information is a likely topic for broadcast, informing boaters on issues such as exotic species and how they can play a role in reducing the spread of these organisms. LPR systems could also be used in coastal environments to warn people about high water, dangerous currents or storms.

In Michigan, one of the most recent applications of low power radio has been the Big Sable Lighthouse in Ludington. An LPR system was established for the lighthouse to provide travelers with interpretive information on lighthouse history, current activities and directions to the station. LPR messages can be

recorded and changed frequently to provide new or seasonal information. The typical broadcast range is three to five miles, and travelers can tune in as they approach Ludington.

New Hampshire Drivers Tune In to Great Bay Radio

New Hampshire is already tuned in to the use of low powered radio as a means of educating motorists about coastal resources. Since the spring of 1999, people driving by the Great Bay Reserve have been listening to Great Bay Area Radio, 1610 AM, to hear about the ecology of the Bay, research being conducted on the reserve, and associated educational programs.

The program was begun as an outreach activity associated with the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), a partnership between the University of New Hampshire and the National Oceanographic and Atmospheric Administration. CICEET provided a grant that enabled the Sea Grant program to purchase the electronic equipment that repeats a five-minute broadcast within about a five-mile radius.

Sea Grant partnered with the New Hampshire Department of Transportation (DOT) to place signs along the highway inviting passersby to tune in. In addition, the DOT provided the land where the broadcasting equipment was installed in exchange for access to the radio at any time to broadcast information about roadway emergencies.

Once a month, broadcast messages are changed by either Sea Grant Extensions specialist Julia Peterson, or a volunteer. Staff from Sea Grant, the state coastal program, Great Bay Reserve, and other organizations are often asked to serve as "guest DJs." Recording the broadcast is as simple as dialing a telephone number, entering a code, and speaking into the phone.

To evaluate the broadcasts' effectiveness, Peterson developed an on-line evaluation, which can be seen at www.seagrants.unh.edu. Both survey and anecdotal responses to the broadcast have been positive.

Oregon

The Oregon State University (OSU) Sea Grant program has made the most extensive use of low powered radio as an education tool along the coast:

- At the mouth of the Columbia River, to improve navigational information about tides and cargo ship traffic;
- In Newport, Gold Beach and Salem, where Chambers of Commerce use LPR to inform tourists of events, activities, recreational opportunities, and traffic flow;
- At Boiler Bay State Park, where visitors can tune in and get tips on how to spot migrating whales, and information about the park's natural history;

- At Seal Rock, where a summer-long pilot project taught people about fragile tidepool ecosystems and how to keep from damaging them;
- At the Port of Newport, where LPR informs passersby about the history, economics and sights of a working fishing port;
- At OSU's Hatfield Marine Science Center, where visitors can find out about Visitor Center hours, activities, history and other information before they step out of their cars.

Other LPR Initiatives....

In New York State, Cornell University faculty have established a Low Power Radio to provide outreach education to Hudson River boaters and nearby motorists. Likewise, the University of Florida Sea Grant Program is proposing to create a network of Low Power Radio stations throughout the Florida Keys to convey outreach education to boaters and motorists.

How To Implement an LPR Program

Some advice on implementing a low powered radio program in your area:

- Find a suitable location to mount and place the electronic equipment and have it transmit well. Hills, tall buildings, or very tall trees can obscure a broadcast;
- Consider sign placement carefully;
- Identify major routes and average speeds to ensure listeners have enough time to hear the message;
- Apply for an FCC [Federal Communications Commission Highway Advisory Radio] license;
- Work with the equipment vendors to ensure that power and telephone lines are available.

Use of the system in coastal environments may seem ideal, but there's one catch: people have to tune in.

Is Anyone Listening?

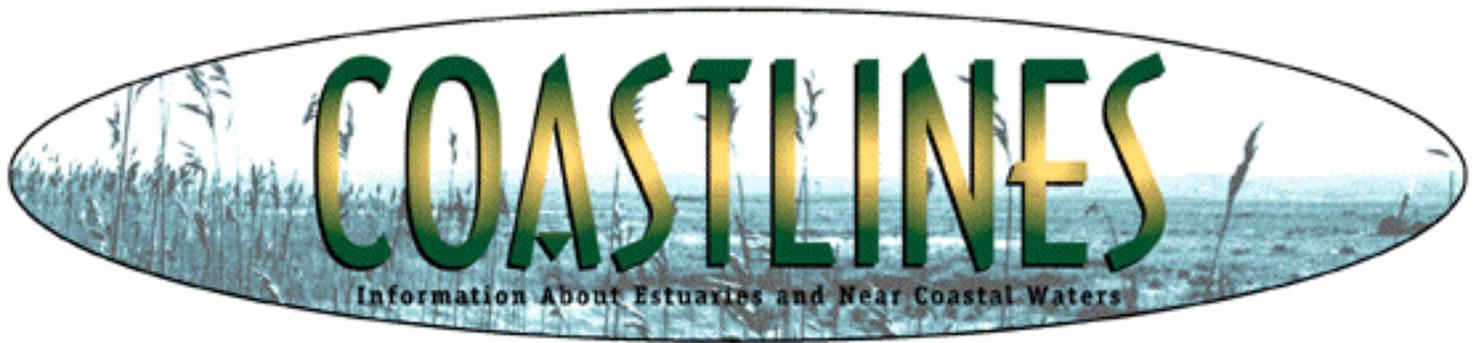
Work by Oregon Sea Grant in recent years has provided some insights regarding listenership to low power radio broadcasts. In studies done in 1998 at Boiler Bay State Park, researchers interviewed 800 people over a five-week period to find out whether they tuned in to the park's broadcast, which was promoted on signs inside and outside of the park. The broadcast provided information on Boiler Bay

points of interest, gray whale natural history and migration, and the weather.

So far, results have been encouraging. Approximately twenty percent of people interviewed said they had tuned in to the broadcasts as a result of signs posted outside the park. If the broadcast continued all year, this amount translates into approximately 20,000 listeners per year. Another 40 percent of people interviewed said they had noticed the signs inside the park and planned to tune in before leaving. All told, more than 85 percent of listening park visitors interviewed during the study liked the idea of using localized radio broadcasts to receive park information.

For further information about Great Bay Area Radio, contact Julia Peterson, New Hampshire Sea Grant Extension, Phone: (603) 749-1565 or E-mail: julia.peterson@unh.edu. For further information on Oregon's LPR Program, contact Dr. Bruce DeYoung, Extension Sea Grant Specialist Oregon State University, Phone: 541-737-0695 or E-mail: deyoungb@bus.orst.edu. For further information on use of LPR in Michigan, contact Joyce Daniels, Sea Grant Extension Specialist, Phone: (734) 647-07566; E-mail: joydan@engin.umich.edu

Original information and text were compiled from recently published articles on the use of LPR, including: Upwellings, Winter 1999 Issue, the newsletter of the Michigan Sea Grant College Program, the Coastal Services Newsletter May/June 2000 Issue.



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New Maps of Sea Level Rise Available On-line

A forthcoming article in the journal "Climate Research," entitled "Maps of Lands Vulnerable to Sea Level Rise: Modeled Elevations along the U.S. Atlantic and Gulf Coasts," will publish maps that illustrate the land below the 1.5 and 3.5 contours along the U.S. Atlantic and Gulf Coasts. The article and maps can be obtained from the EPA web site at:

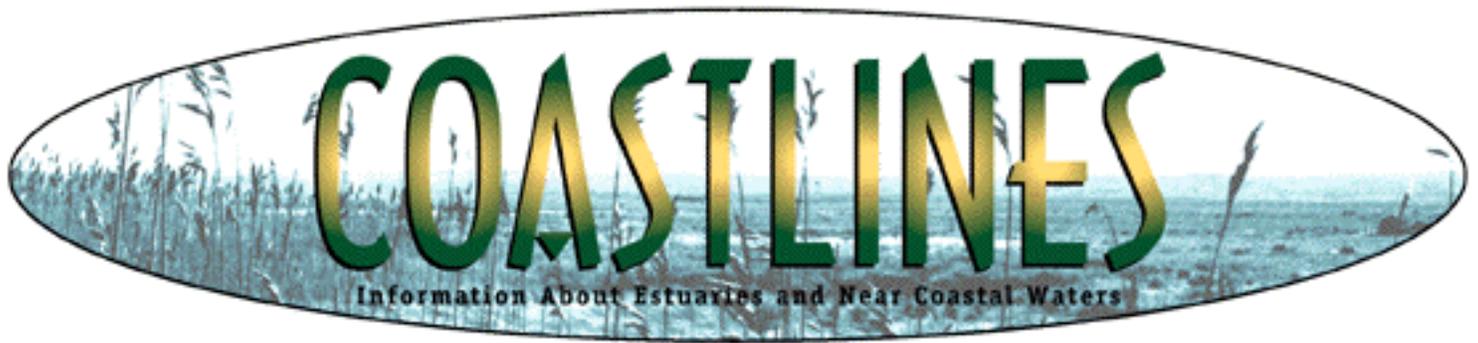
<http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsSLRMaps.html>

Possible uses of these maps include:

- A first order examination of your state's vulnerability to the rise in sea level expected to result from global warming;
- Predicting lands vulnerable to coastal storm surge;
- As a graphic in a presentation on global warming and sea level rise impacts;
- For research in the implications of rising sea;
- State or local planning considerations of long-term sea level rise in the coastal zone.

Technical details and data limitations of the maps:

- The 1.5-meter contour is the lowest elevation that can be reliably and consistently depicted throughout the Atlantic and Gulf Coasts.
- USGS 1-degree digital elevation model data was used to depict the 1.5- and 3.5-meter contours. In many areas, this data series has serious errors. These errors were corrected by cross checking the output from the digital data with USGS printed topographic maps, which often have 5-ft contours and usually have 10-ft contours.
- The 1.5-meter elevation is generally about 1.3 meters above mean sea level, because the sea has risen 20 cm or so since the reference elevation was established in 1920. In some locations, this divergence is more or less because the reference plane was at sea level only at selected coastal cities. The 1.5-meter contour is typically about 70 cm above the high water mark, but because tide ranges vary from about 20 cm in some back bay areas, to several meters along the Gulf of Maine, the relationship between these maps and the land inundated by a 70-cm rise in sea level is very site-specific. In the next year, a companion map is to be developed that illustrates the land within (for example) 50 or 100 cm of mean high water, so that the national map has a uniform meaning with respect to sea level rise.
- Maps are being developed that illustrate the land that local planners can expect will be protected as sea level rises and should be available within the next year.
- These maps are appropriate at the scale of entire states, but better data will be needed for county and community-level maps. Finer- resolution elevation data and wetland maps for a limited number of areas should be available within the next year.
- Plans are underway to make the data GIS compatible.



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The Cost of Living on the Coast: Coastal Erosion - Evaluating the Risk

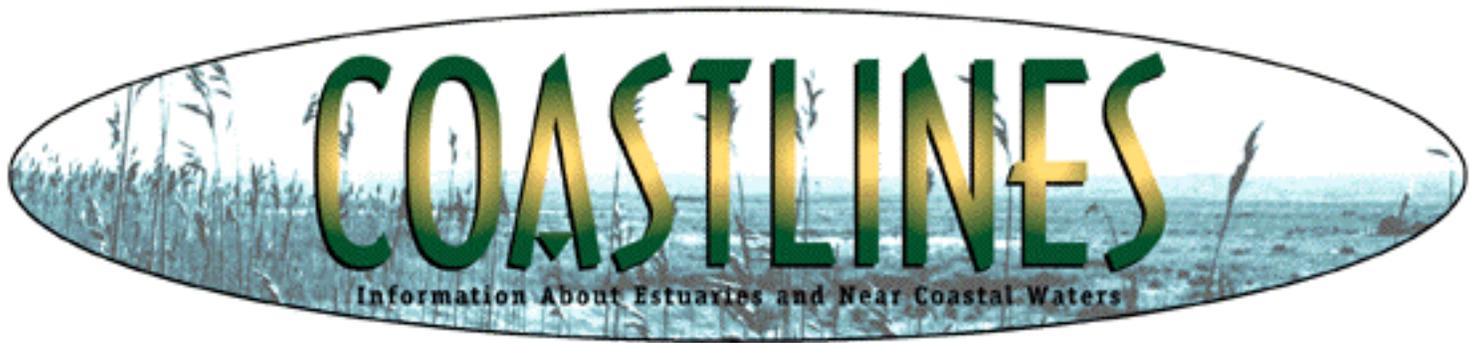
The report, *Evaluation of Erosion Hazards* was released in June and documents the results of a nationwide study on coastal erosion and the impacts of coastal erosion on coastal communities and the National Flood Insurance Program. The study examines the economic impacts of coastal erosion and the impact of potential policy changes on the National Flood Insurance Fund, NFIP policyholders and coastal communities. Congress mandated the study in the 1994 National Flood Insurance Reform Act. The final report evaluates the effectiveness of a range of policy options in reducing erosion losses and makes two recommendations. Based on the reports findings, recommendations for the following two changes to the National Flood Insurance Program were made:

- 1) The Federal Emergency Management Agency should develop erosion hazard maps that display the location and extent of coastal areas subject to erosion. The erosion maps should be made widely available, along with existing flood maps, in both print and electronic formats, and
- 2) The expected cost of erosion losses should be incorporated into insurance rates along the coast.

The report was completed by FEMA and the H. John Heinz III Center for Science, Economics and the Environment. For further information, contact Steve Dunn, Deputy Project Manager, The H. John Heinz

III Center for Science, Economics and the Environment, 1001 Pennsylvania Avenue, NW Suite 735 South, Washington DC, 20004; Phone: (202) 737-6307; Fax: (202) 737-410 or E-mail:

sdunn@heinzctr.org. To view the report online visit the website: www.heinzcenter.org 



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Chill on Thrillcraft

The chainsaw-style din of personal watercraft (PWCs), the innocuous label of those machines bearing trade names such as Jet Ski, Waterbike and Sea Doo, won't spook a flock of birds or wake waterfront residents from their afternoon naps for long if Marin County, California, has its way. The county banned these "thrillcraft" from its waters last November, following in the footsteps of its Golden Gate neighbor San Francisco, but has since found itself facing enforcement problems, threats to shoreline improvement grants, coastal permit issues and a lawsuit.

Since the ordinance banning PWCs went into effect on November 25, 1999, the personal watercraft industry has been mounting legal challenges to the ban. Banned from Lake Tahoe, San Francisco, and San Juan County, Washington, in the late 1990s, not to mention assorted reservoirs and lakes, West Coast jet ski enthusiasts have been forced to pull back that throttle. The ban- passed by the voters of Marin County and the strictest countywide ban on the California books-was followed this spring by the creation of the largest jet ski-free area in the USA when the federal National Oceanic and Atmospheric Administration announced a ban in its 948-square mile Gulf of the Farallones National Marine Sanctuary, to begin after public hearings later this year.

Each challenge to its watery playgrounds has inspired the personal watercraft industry to new legal acrobatics not unlike the weaving between vessels, jumping wakes, spinning and radical course changing so popular with users of its products. Early legal maneuvers centered on the rights of all anglers and

boaters to use public boat launch ramps. A key case involved the City of Redding's attempt at a ban on the grounds that the craft disturbed endangered salmon migrating along the Sacramento River. The industry succeeded in overturning the ban by arguing that ramps built with federal funds are governed by a law (Wallop-Breaux) saying that they must be open to all users. More recent bans have been upheld, however. In a similar Florida case, a judge ruled that Wallop-Breaux does not grant personal watercraft users a federal right to public launch ramps, and allows them to be "singled out" from other boaters and banned. So the new Marin lawsuit, filed by several industry groups and private businesses, is being brought under the broad grounds that it denies riders their constitutional rights to public waterways. While the lawsuit percolates, Marin County is dealing with other bits of politics and paperwork. This August, the county obtained a new permit from the California Coastal Commission (a state agency) because it has changed the use of and access to its waters with the ordinance. It must also resolve the final details of a grant application for funds to renovate a boat launching facility at Miller Park on Tomales Bay. When Marin County applied to the California Department of Boating and Waterways for the grant, the state mandated a special corridor to take jet skis out of the area as a condition of the grant. In the end, however, the county may be spared this condition, because Miller Park fronts on federal waters controlled by national parks with an existing jet ski ban that supersedes the county's ordinance. As a result, any such corridor would have to go for miles out into the ocean, beyond the areas practically accessible to PWCs. However, such conditions could be imposed for any future grant applications in other locations.

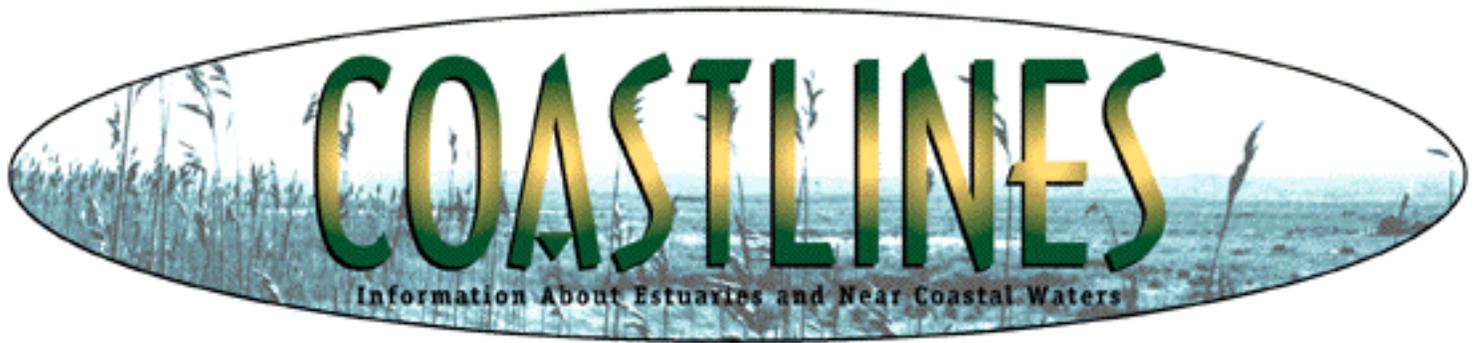
Marin's most immediate problem is enforcement of the ban. In Marin County, PWCs are currently prohibited from the coastline and estuaries, as well as seven miles inland from the mouth of rivers and navigable creeks. The sheriff must cover two coasts (the shoreline of the Pacific Ocean from the Sonoma County line to the Golden Gate Bridge, and the San Francisco Bay shoreline from the Golden Gate Bridge to the Petaluma River) with one patrol boat, and the county only recently installed signs to educate jet skiers about the ban. But boundaries are the nightmare issue, especially on the bay coast. The county only controls some waters, while cities like Sausalito, Belvedere, Mill Valley and Tiburon control others. Though the cities are generally supportive of the county's ban, none of them want to pass their own regulations until the lawsuit is settled. One local official likened the waters of Richardson Bay to a "jigsaw puzzle," pointing out that there are no signs out in the middle of the waterbodies indicating boundaries.

Now that the ban has gone into effect, skiers have been heading up to Sonoma launch sites. Wherever they launch and range, today's thrillcraft leave pollution in their wake. California's Air Resources Board recently placed tough new emissions controls on personal watercraft, which can emit as much air pollution in a single day of riding as driving 139,000 miles in a 1998 passenger car. A two-hour ride also dumps about three gallons of gas and oil (not to mention methyl tertiary butyl ether, or MTBE) into the water unburned (adding up to a national volume equivalent to four Exxon Valdez spills per year). Experts say that although the source of pollution and noise is the same carbureted two stroke engine that powers the majority of outboard motors; it's the size and handling of the craft that make them so damaging.

For more information, contact Katy Rexford, Public Lands Program Associate, Bluewater Network, 300

Broadway, Suite 28, San Francisco, CA 94133; Phone: (415) 788-3666; E-mail: katy@earthisland.org, or Dave Johnson, California Department of Boating and Waterways, Phone: (916) 263-0780 or visit the websites at www.bluewaternetnetwork.org  or www.dbw.ca.gov 

Reprinted from the June, 2000, issue of Estuary, vol. 9, No. 3. Estuary is a publication of the San Francisco Estuary Project.



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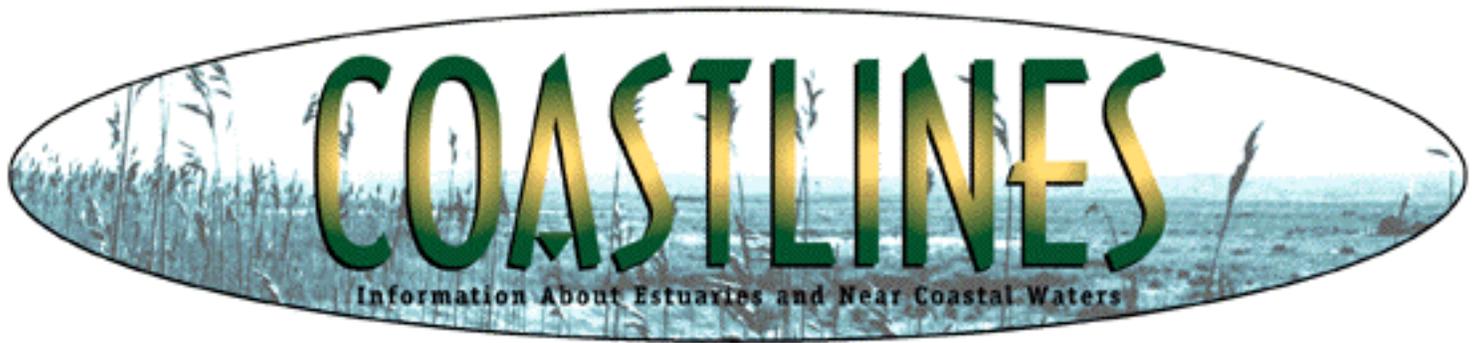
And In Other Areas of the Country...

Marin County, California, is just one of many communities taking steps to reduce personal watercraft traffic and conflicts between these "thrillcraft" and other shoreline users, both human and animal, along beaches and in lakes and rivers. Some examples of other ordinances and regulations that are being enforced include:

- **State of Alabama:** Because of increases in conflicts between PWC users and beachgoers, the Alabama Department of Conservation Commissioner has issued an emergency regulation that bans any watercraft (including PWCs) from operating above an idle speed between the first sandbar and the beach for each of the last three years. Violation of the regulation incurs a \$100 fine; with court fees, the violator actually pays over \$200. In general, first-time offenders are let off with a warning; if they are caught again, they are cited. The regulation has been effective at reducing conflicts in Baldwin County, but is harder to apply in Mobile County, where there is no visible first sandbar. At this point, placing markers in the water for boater notification is cost-prohibitive, although the restricted area has been delineated. State officials are considering making the regulation permanent through legislative approval.
- **State of Maryland:** Personal watercraft may not be operated between the hours of sunset and sunrise. In addition, on Maryland waters of the Atlantic Ocean, personal watercraft may not be operated within 300 feet of people in the water. On all Maryland state waters, personal watercraft

may not be operated at a speed above six knots within 100 feet of any other vessel (except in a crossing or overtaking situation), shore, wharf, pier, bridge abutment, or person in the water. Violations of these regulations are subject to fines up to \$500.

- State of Michigan: Personal watercraft may not be operated between one hour before sunset and 8 a.m. Unless traveling at slow-no wake speed perpendicular to the shoreline, a person operating a personal watercraft on one of the Great Lakes must maintain a distance of 200 feet from the shoreline. Unless operating in a navigable channel, canal, river, or stream, a person operating a personal watercraft may not operate within 100 feet of a dock, raft, buoyed or occupied swimming area, person in the water, an anchored or moored vessel, or a vessel that is drifting or sitting dead in the water.
- Thurston County, Washington: Personal watercraft are classified as Class "A" inboard boats and are thereby subject to the same regulations as other motorboats. All watercraft operating above 5 MPH are required to stay 200 feet from all shorelines, all public boat launches, and all swim area buoy lines, and 100 feet from all other vessels. Vessels may not travel faster than 5 MPH between 8 p.m. or sunset (whichever comes first) and 11 a.m.



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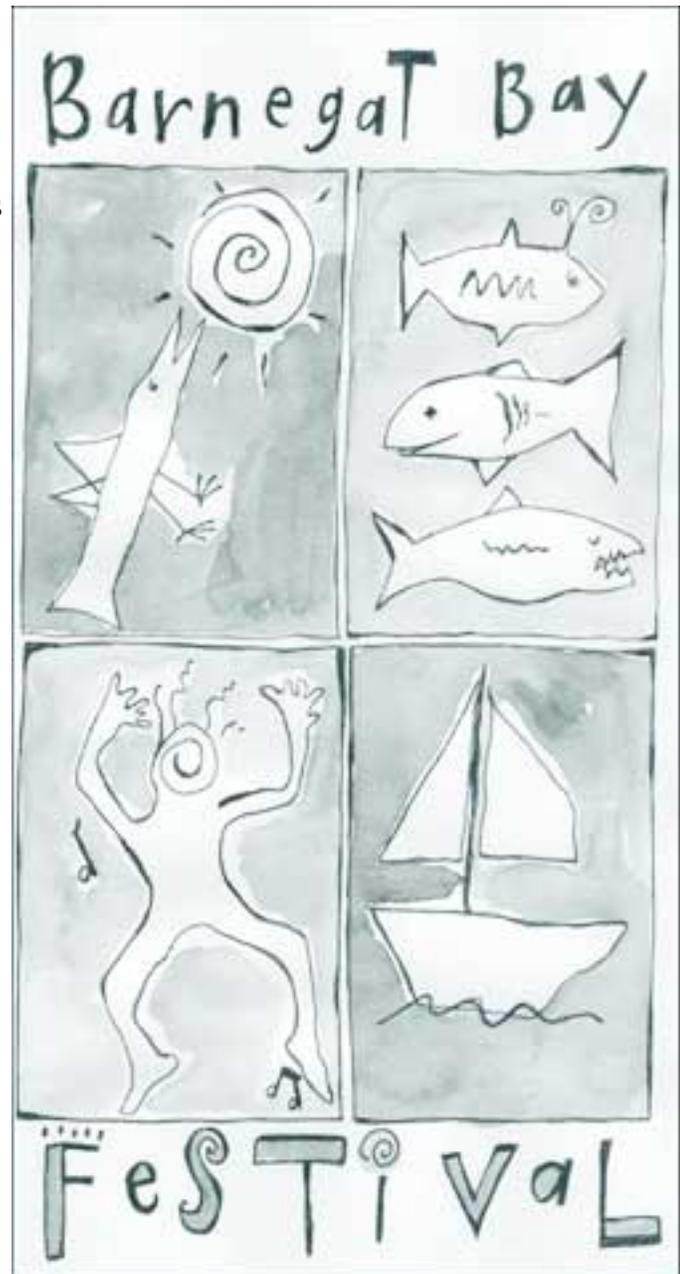
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Fourth Annual Barnegat Bay Festival Promotes Environmental Awareness

For the fourth year, the Barnegat Bay Festival in New Jersey brought together federal, state and local agencies, environmental organizations, businesses, artists, scientists, schools and colleges, volunteers, and the public to promote awareness of the beauty and threats to Barnegat Bay and its watershed. Surrounded by water on three sides, Berkeley Island County Park was an ideal location for bay festivities; it hosted the main event tent and band shell and was the jumping-off point for hiking trips and canoe excursions. Despite high winds and lashing rains, the excitement of all participants was clearly apparent, and the day was a great way to kick off the summer season and get people out to enjoy the bay. The great success of the festival was the product of months of event planning, activity selection, inter-agency cooperation, and careful budgeting by the Barnegat Bay National Estuary Program (BBNEP) staff, which organized the day in cooperation with the Ocean County Board of Chosen Freeholders.

The May 20th festivities featured musical entertainment, environmental tours, food vendors and informational booths, where volunteers offered details about the environment and the watershed. Congressman James Saxton (R-3rd District) and New Jersey Department of Environmental Protection Commissioner Robert Shinn braved the inclement weather to emphasize the importance of the National Estuary Program and the recently released Draft Management Plan for Barnegat Bay. A wide variety of engaging exhibits and performances were carefully selected to interest visitors of all ages. For example, the Ocean County Mosquito Commission exhibit featured a giant replica of a mosquito oblivious to the raging weather outside, which encouraged visitors to examine a tiny mosquito in detail under a microscope inside the exhibit tent. Members of the Alliance for a Living Ocean delighted children by painting blue crabs on their little faces, and Ocean County Park naturalists gave tours, answered questions, led canoe trips and hikes, and manned seining nets. In addition, a slide show of Barnegat Bay's breathtaking scenery was accompanied by a local author's narration from his most recent book.

BBNEP festival organizers enlisted the help of many contributing organizations, including municipal governments and county agencies. Stafford Township provided a band shell, Berkeley Township assisted with permits and traffic safety, the Ocean County Tourism Department managed the phone system during the festival, and the Ocean County Transportation Department loaned their buses for the day. The Ocean County Planning Department provided general assistance wherever needed.



In addition to the contributions by multiple agencies and organizations, planning for the festival required great preparation and attention to detail by the Barnegat Bay NEP staff. Permits, insurance and festival staffing required months of advance planning and budgeting of associated costs:

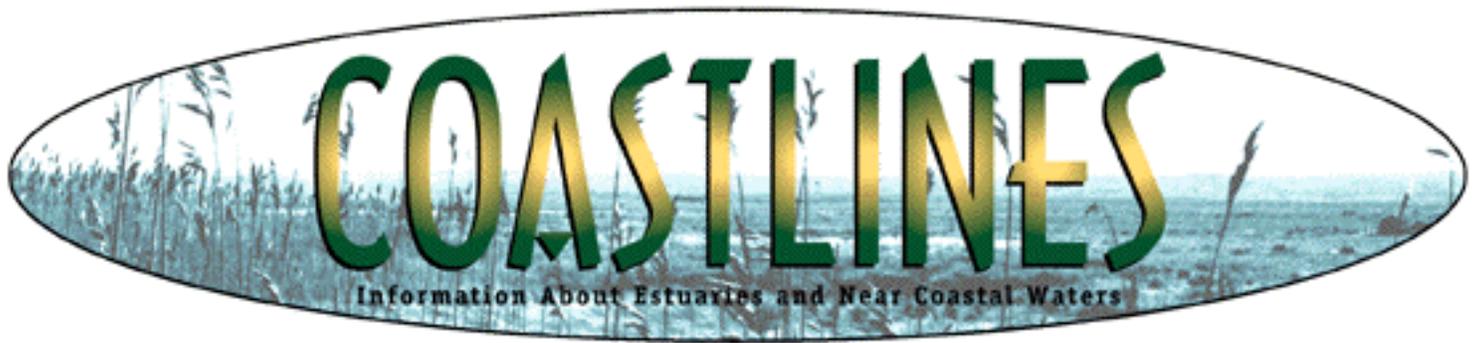
- Because of the location of the Berkeley Island County Park and its associated easy water access, insurance liability was a necessary component. Coverage for the one-day festival cost \$2,800.
- One 30' x 90' tent to shelter exhibits and information booths cost \$2,500.
- Musical entertainment, despite reduced rates, cost \$2,000.
- Printing of brochures and posters cost approximately \$2,000.
- Public service placement of media cost \$2,000.
- Berkeley Township required fire inspection permits.
- The New Jersey Department of Transportation required permits for banners across state roads.

The total budget for the festival approached nearly \$15,000, which was appropriated by The Citizens Advisory Committee of the BBNEP as an important aspect of its public outreach strategy.

Through the annual one-day festival, the BBNEP hopes to inspire public stewardship of Barnegat Bay among citizens who may or may not have an interest or background in environmental issues. Additionally, the festival provides an opportunity for the press and other media to focus on a single event to disseminate environmental information. In the weeks prior to the festival, local newspapers, radio, cable and other broadcast media, with the support of press releases from the BBNEP office, used this event as a vehicle to discuss environmental issues that are facing the area. The sum total of the outreach that surrounds the Festival includes the positive individual experiences of the people who attend as well as the media-generated awareness that positive steps are being taken to protect and maintain the natural resources that make this area a desirable place to live.



For further information, contact Heidi D'Ascoli, Barnegat Bay NEP Public Outreach Coordinator, P.O. Box 2191, 129 Hooper Avenue, Toms River, New Jersey 08753, Phone: (732) 506-5313, E-mail: hdascoli@dep.state.nj.us.



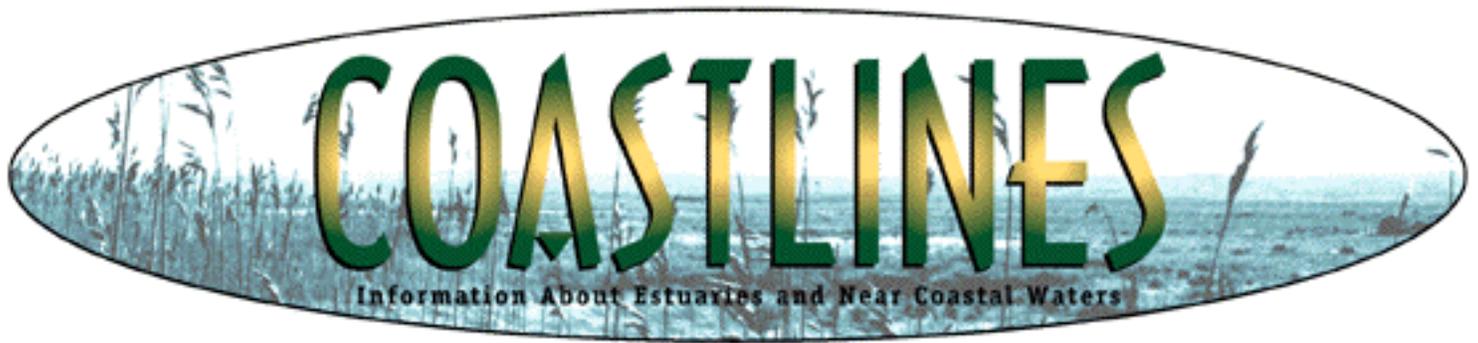
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Atlas of America's Polluted Waters

The Atlas of America's Polluted Waters (EPA publication number 840-B-00-002), referred to as the "TMDL Atlas," was released on May 22. TMDL refers to Total Maximum Daily Loading, an approach to setting water quality standards. The TMDL Atlas includes maps showing waters within each state that do not meet state water quality standards. States listed these waters in their most recent submission to EPA, generally in 1998, as required by section 303(d) of the Clean Water Act. A key feature of the 1998 lists of polluted waters is that, for the first time, all states provided computer-based "geo-referencing" data that allow consistent mapping of the polluted waters. EPA prepared the TMDL Atlas to illustrate the extent and seriousness of water pollution problems around the country.

Copies of the TMDL Atlas are available from EPA's clearinghouse, the National Service Center for Environmental Publications, in Cincinnati, OH, Phone: (513) 489-8190 or Fax: (513) 489-8695 or visit the website at <http://www.epa.gov/owow/tmdl/atlas/>



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New U.S. Oceans Commission

The President signed legislation on August 7, 2000, to create a national Oceans Commission to bring together ocean and coastal experts, policy makers, environmental groups and industry representatives to take a comprehensive look at America's ocean and coastal policies. Like its predecessor, the Stratton Commission, which recommended the establishment of the National Oceanic and Atmospheric Administration, the Coastal Zone Management Act and the National Estuarine Research Reserve system, the Oceans Commission could prompt the revamping of U.S. fisheries management and marine protection laws.

The Act establishes a Commission on Ocean Policy with 16 members, including representatives of state and local government, academia, ocean-related industries, and the conservation and scientific communities. Members will be appointed by the President, with 12 members drawn from nominees submitted by Congress. Within 18 months of its appointment, the Commission must submit recommendations to Congress and the President.

Public hearings across the country and consultations with the Governors of coastal states will provide input for the Commission's recommendations. A draft report of those recommendations will be released for public review.

The President must submit proposals to Congress for the responsible use and stewardship of ocean and coastal resources within 120 days of receiving the Commission's report. Beginning in September, 2001, the President must report to Congress every other year on federal ocean programs and projected funding over the coming five years. The Oceans Act of 2000 takes effect on January 20, 2001.