

*Vintage Postcard, Bathing Beach in Beachwood. COURTESY OF THE OCEAN COUNTY HISTORICAL SOCIETY.*

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**N**ever doubt that a small group of thoughtful,  
concerned citizens can change the world.  
Indeed it is the only thing that ever has.

*—Margaret Mead*

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## BBNEP GOALS THAT ARE SUPPORTED THROUGH THIS ACTION PLAN

**PRIMARY:** All citizens and visitors will understand how they influence the natural resources of the estuary, its watershed, and the water cycle within it, and their role in the estuary's conservation and improvement.

**SECONDARY:** The diverse users of the estuary and watershed will cooperate in the stewardship of resources.

### 8.1 INTRODUCTION

The Public Participation and Education Action Plan supports and enforces the idea that, to be successful, the BBNEP must involve the public in any solution to the watershed's issues. The Action Items presented in this Action Plan support all of the BBNEP's priority issues: water quality and water supply, habitat loss and alteration, fisheries decline, and human activities and competing uses. In light of this, Table 8-1 does not contain the "Other Action Plan Supported" column.

This Action Plan is largely a product of the Citizen's Advisory Committee (CAC). The CAC is designed to allow representatives from all stakeholder groups to have a voice in the planning process. Stakeholders may include any individual or group with an economic, recreational, environmental, or other stake in the health and viability of the estuary. Representatives from marine trades, the business community, recreational and commercial fishermen, the educational community, cultural and environmental organizations, citizens, and others were invited to participate in the development of the management plan for the watershed.

The CAC is a diverse group, offering a wide perspective of opinions, knowledge, and vision. This group has made strides in working together to pursue a common goal. The issues of the watershed require both planning ahead and working together. They require the input of local government, businesses, groups, agencies, and citizens. It is the cumulative

effect of everyone's individual actions that threaten the estuary, and it will likewise take collective action to effect positive change. Planned growth must take into account all that is valued, balancing values and thoughts and beliefs to find a commonsense middle ground.

The CAC's role in the development of the CCMP is to provide a public voice in the decision-making process. The CAC was established early in the planning process so that it was given the opportunity to develop management actions rather than merely comment on the prepared document at the end of the process. The CAC also developed a Public Outreach Strategy to reach and teach people and move them to action. During implementation, the CAC will be part of the Barnegat Bay Watershed and Estuary Foundation. The primary objective of the CAC's outreach plan was awakening the public's pride and love of Barnegat Bay's resources, developing an understanding of the issues that threaten them, and ultimately assigning people their share of responsibility for maintaining the health of the bay and its watershed.

Change quite often occurs in the wake of legislation and regulation. The change that ensues is one of compliance and enforcement. This level of change happens most often on the governmental/agency level and is dealt with extensively in other chapters. Significant changes, however, often happen in daily life without regulation. These changes happen when a situation is created that encourages them to occur.

# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

**TABLE 8-1. Public Participation and Education Action Items.**

Action Item No.	Action Item Title and Status	Priority	Lead	Tentative Schedule	Approx. Cost	CCMP Goals Supported
8.1	Post the Pinelands Curriculum Guide Lessons for Grades 4-6 & 7-8 on the World Wide Web. - R	L	Pinelands Commission	Beta testing October 1999  Lessons completed.	\$20,000	1, 5
8.2	Conduct two, two-day summer teacher workshops through the Ocean County Vocational-Technical School (OCVTS) that focus on the Barnegat Bay estuary and watershed. - PC	M	OCVTS	Summer months (July and August)	\$5,100	5
8.3	Revise & reprint the Barnegat Bay Watershed Educational Resource Guide. - R	M	Barnegat Bay Environmental Education Roundtable	First revisions, 2002-2003 school year	\$5,000 each round of revisions	5
8.4	Conduct an annual Environmental Educators Roundtable. - R	M	Barnegat Bay Environmental Educators Roundtable	Each spring upon availability of funding	\$2,500 per year	5
8.5	Support the <i>Sea Grasses for Classes</i> Project - Institute of Marine & Coastal Sciences (IMCS), Rutgers University. - PC	H	IMCS	Upon availability of funding (Pilot already conducted)	\$15,000 to implement Web site & purchase equipment  \$40,000 to scientifically monitor the project	5
8.6	Develop the Forest Resource Education Center (FREC) as a resource and interpretive center that promotes an understanding of the human & resource connections & a stewardship ethic among students, scouts, & the general public. - PC	M	NJDEP, Division of Parks & Forestry, State Forest Service	Ongoing	Enhanced program funding of \$20,000 per year	6

**TABLE 8-1. (continued)**

Action Item No.	Action Item Title and Status	Priority	Lead	Tentative Schedule	Approx. Cost	CCMP Goals Supported
8.7	Develop a Barnegat Bay Watershed Education Campaign, to be implemented in elementary schools via a mascot, "Barnie the Crab." - R	M	BBWEF	Six months for program development.	\$60,000 for start up and first- year implementation	5
8.8	Develop a Barnegat Bay watershed-specific activity guide. - PC	H	Barnegat Bay Environmental Education Roundtable Steering Committee	Activity guide completion by the 2002-2003 school year.	\$60,000, initial implementation	5, 6
8.9	Continue the Alliance for a Living Ocean (ALO) Ecotour of a Barrier Island for schoolchildren and the general public. - R	M	ALO	Student tours during the school year  Summer tours weekly in July & August	\$5,000	5
8.10	Promote the development & use of outdoor classrooms. - R	M	OCSCD	Implementation as soon as funding secured	\$5,000 per year	3, 5
8.11	Establish a Bay Keeper Program as a public watchdog for the protection of Barnegat Bay. - R	L	Water Keeper Program	Upon availability of funding	\$60,000 per year	1, 2, 5
8.12	Create a Barnegat Bay-specific Educational Guide outlining the natural and cultural ecotourism opportunities in Central New Jersey, with an emphasis on the Barnegat Bay watershed region. - C	L	NJMSC	Upon availability of funding	\$20,000 for 45,000 copies	5
8.13	Establish one waterway cleanup per year within the Barnegat Bay watershed. - R	M	BBWEF	Annually in early spring beginning 2002-2003	\$5,000 per year	5

## PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

**TABLE 8-1. (continued)**

Action Item No.	Action Item Title and Status	Priority	Lead	Tentative Schedule	Approx. Cost	CCMP Goals Supported
8.14	Provide interpretive exhibits, programs, and activities focusing on the historical human uses of the environmental resources within the Barnegat Bay watershed. - C	H	BBDBM	Ongoing	\$1.29 million	5
8.15	Provide education and technical training to local government officials & other coastal decision makers in the Barnegat Bay watershed. - C	H	JCNERR	Ongoing	\$848,000 start up \$45,000 annually	5
8.16	Revise and reprint the "Low-Maintenance Landscaping Homeowners' Guide." - R	M	OCSCD RCE	First revision/ reprint in 2002-2003	\$35,000 every three years	3, 5, 6
8.17	Educate professional landscapers, municipal grounds personnel, and facility managers on more efficient and environmentally sensitive use of pesticides. - R	M	RCE	Upon availability of funding	\$20,000- \$30,000/year	1, 5, 6
8.18	Promote the use of IPM methods. - R	M	RCE	Implement upon funding	\$24,000- \$29,000/year	1, 3, 5, 6
8.19	Incorporate BBEP outreach and education displays and programs at the Environmental Learning Center of Ocean County. - PC	L	ELC of Ocean County	Opening of the ELC to the public 2004- 2005	\$40,000	5
8.20	Experience Barnegat Bay, a project of YES. - PC	M	Youth Environmental Society (YES)	Upon availability of funding	Minimum \$150,000	5

For example, when recycling programs were created, people were provided information on the importance of recycling, plus given the opportunity to recycle. Most people understood and gladly complied.

For unregulated change to occur in the Barnegat Bay watershed, three things need to happen:

- **Awareness** — People need to be informed about the issues facing the watershed. Many people understand that they live in a watershed, but they are not quite sure what it is or which one they live in. Awareness of the interconnectedness of estuaries and waterways must be fostered.
- **Motivation** — People need to understand how their behavior impacts, positively or negatively, the watershed and its resources. For example, many people are genuinely surprised to learn that stormwater is a major source of pollution and that residential areas in watersheds are significant sources of stormwater pollution.
- **Action** — People need to be given an opportunity to change their behaviors (increase the positive, decrease the negative) that play a role in watershed issues, such as stormwater pollution.

## 8.2 THE DIVERSITY OF STAKEHOLDERS

The stakeholders in Barnegat Bay and its watershed are a diverse group. There are those people who live on the southern barrier island (Long Beach Island), and those that live on the northern barrier island. Logistically they do not generally mix. There are mainland residents who live in the northern, more developed bayshore of the watershed and those that live along the southern bayshore. There are the people who live inland up to 25 miles away from the coast. There are full-time residents, part-time residents, and a large population of senior residents and seasonal visitors. These geographic and residency distinctions exist and directly influence how people respond to the issues and determine the practicality of coordinating efforts.

In order to develop outreach strategies to correspond with their attitudes, these subgroups and communities can be categorized more clearly based upon their relationship and attitudes towards Barnegat Bay and its watershed:

- People who live next to the bay (or its water bodies).
- People who use the bay (or its water bodies) for work or recreation.
- People who don't use the bay (or its water bodies), but like knowing it's there. By virtue of living in the watershed, these people have an impact on it.
- People who don't think about the bay (or its water bodies) at all, but by virtue of living in the watershed, have an impact on it.

For example, boaters and operators of personal watercraft rely on the bay, but may be unaware of their impacts on sensitive SAV or waterfowl nesting areas. Seasonal visitors, who may have a significant impact in a limited time frame, need to be made aware of these impacts and their consequences with a message that is simple and painless.

Those who, while not directly using the bay or its tributaries, still appreciate its existence, might be motivated to support initiatives if reminded of the overall positive effects on the quality of life in a healthy watershed. Air quality, drinking water, and the potential opportunity to take direct advantage of the resources some time in the near future are quality of life issues.

For those people who don't usually think about the bay at all, an approach that reminds them of the overall economic and health benefits of a balanced environment might arouse not only their consciousness but also a fondness for their pocketbook or well-being. Drinking water issues, property values, and a healthy economy might be the motivating factors for these residents.

Nearly a third of the resident population of Ocean County are seniors, many of whom head south in the winter. In the summer, Ocean County population swells to nearly one million people. The composition of the community, with so many part-time residents, newcomers, and diverse interests, presents a challenge for environmental outreach and protection efforts. However, working with existing organized groups, some with memberships that expand dramatically during the summer, enables a far-reaching extension for outreach awareness efforts. Establishing an understanding and a connection to the watershed is an important goal.



# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

## 8.3 THE OUTREACH STRATEGY

The CAC's public outreach strategy has evolved to maximize its impact. Present efforts target three main networks:

- **Media** — Efforts to maximize media coverage will bring the largest exposure.
- **Partnerships** — Partnering with existing organizations helps disseminate the messages to an expanded network.
- **Municipal outreach** — Involvement of local governments is critical to the success of the CCMP.

## 8.4 PUBLIC OUTREACH ACCOMPLISHMENTS TO DATE

The CAC has already made a number of public outreach accomplishments. A Public Outreach Workgroup was formed, which works with a staff Public Outreach Coordinator. Public workshops for stakeholders began in the fall of 1998, and additional stakeholder outreach has been conducted with educational brochures, press releases, promotional materials, and a mini-newsletter. Other outreach approaches include development of a Web site, participation in the Barnegat Bay Festival, partnerships with organizations interested in watershed protection, speaking at various clubs and organizations, and public service announcements. See Appendix D for further discussion.

A focal point of the public outreach effort to date has been the Minigrant Program. Over the past few years, approximately \$50,000 has been distributed to environmental and civic organizations, schools, municipalities, and business interests to reach out to the public on issues relevant to protecting the bay and its watershed. These grants focus on increasing public awareness for major environmental problems facing the bay in one of the following subject areas:

- Nonpoint source pollution prevention/water quality control;
- Estuarine awareness;
- Habitat enhancement and preservation;

- Citizen monitoring; and
- Public participation.

Appendix D contains a summary of the Minigrant Awards to date.

## 8.5 CITIZEN INVOLVEMENT IN THE DEVELOPMENT OF THE CCMP AND THE PUBLIC OUTREACH STRATEGY FOR IMPLEMENTATION

Community involvement in the development of the CCMP began during the earliest efforts of the Estuary Program in 1996, and has been enhanced during the last year in preparation for release of the Draft CCMP for public review and comment. It was community interest that initiated the earlier Barnegat Bay Study that led to the nomination and entry of Barnegat Bay into the NEP. The formal establishment of the CAC and the monthly meetings, attended regularly by the Public Outreach Coordinator, Program Director and EPA Coordinator, have ensured that the lines of communication between the public and the Advisory Committees remained open. The CAC developed workplans and budgets, reviewed and approved significant documents and had a regular voice at the Management and Policy Committees, particularly as the CCMP began to take shape.

In 1998 and 1999 the BBNEP initiated a series of Environmental Roundtables in the Barnegat Bay watershed to engage the public, the communities and the local governments in Ocean County in a dialogue on issues of concern that should be included in the CCMP. As has been done in preparing for the Draft CCMP, public education will continue to be an essential element of the Plan in its implementation phase. The Program office will support and work with the BBWEF to educate citizens on bay/watershed issues and publicize the Program's progress. The Program and the BBWEF will continue to network with existing resources to maximize its reach and work with organizations to bring hands-on educational resources to the public.



The following existing public outreach vehicles will continue:

- Annual minigrants;
- Quarterly newsletter;
- Coordination with other educational organizations;
- Visible presence at festivals with printed materials and Program display;
- Education of school children through continued support of the Educational Roundtables and Activity Guide;
- Regular press releases and media contacts on relevant events;
- Annual Barnegat Bay Festival;
- Ongoing updating of the Program Web site;
- Production and distribution of the Barnegat Bay watershed video;
- Coordinate with the Barnegat Bay Watershed and Estuary Foundation on field trips, cleanups, seminars, fund raisers, etc.; and
- Support of the implementation of education-related Action Items.

Targeted mailings to specific audiences: new home buyers, landscapers, educators, civic organizations, the governmental sector, recreation and tourism, business/commercial interests, environmental groups, senior citizens communities and organizations, summer residents and visitors, media and geographical subsets of the above-mentioned groups (such as inland communities).

Support of public involvement and education is the best long-term investment Ocean County can make to guarantee the successful protection of the Barnegat Bay watershed. Public stewardship of the ecosystem is crucial to continued support and funding of government improvement projects and for the lifestyle changes that must occur to ensure a healthy ecosystem for future generations. The Public Outreach Coordinator will continue to maximize results by working with three main networks: media, partnerships and municipal outreach.

The Draft CCMP was also presented and made available to the communities and citizens of Ocean and Monmouth counties through the Program Web site ([www.bbnep.org](http://www.bbnep.org)), a series of six daytime and evening public meetings in three different municipalities (Stafford Township, Jackson Township, and Brick Township), and at all 21 local libraries in the Barnegat Bay watershed. Summaries were made available through newspaper supplements and a series of press releases.

### **BBNEP PUBLIC PARTICIPATION and EDUCATION**

- Build community awareness, appreciation, and understanding of the ecosystem and its importance; and encourage action at the community level.
- Promote increased communication and foster cooperation between groups and organizations involved in watershed resources.
- Involve government, specifically local governments, for sustained effectiveness in managing watershed resources and securing funding for CCMP recommendations.

As in the previous chapters, Table 8-2 and Figure 8-1 present measures to determine the achievement of objectives, monitoring methods to be used, and an expected timeline for action implementation.



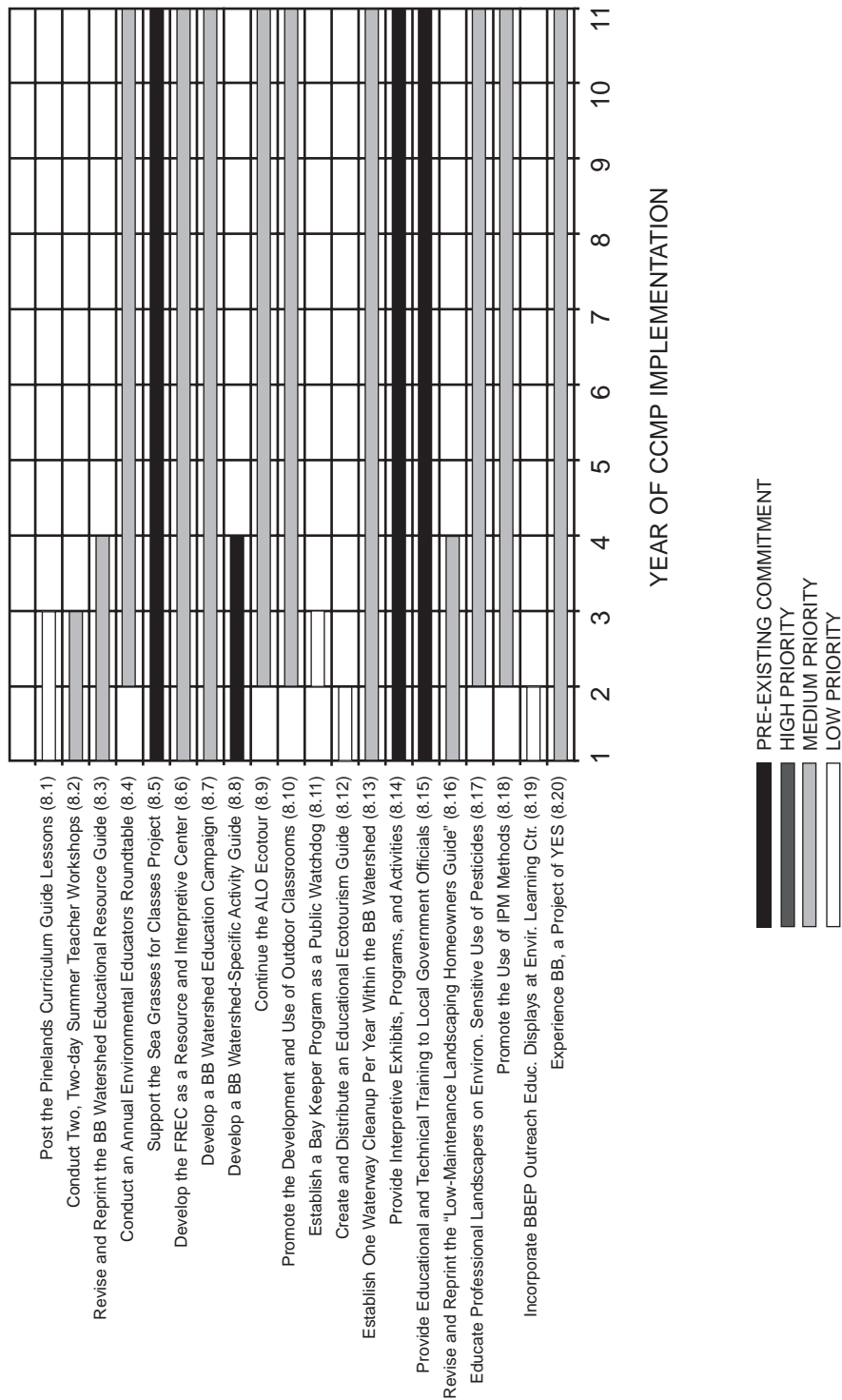
## PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

**TABLE 8-2. Indicators and Monitoring Programs for Measuring Progress Toward Public Participation and Education Action Plan Objectives.**

Public Participation and Education Objectives of the Barnegat Bay Estuary Program	Environmental Indicators of the BBEP	Monitoring Programs for Indicators
Build community awareness, appreciation, and understanding of the ecosystem and its importance; and encourage action at the community level.	The measure of success for this objective will be the number of schools across the watershed that have included an environmental education program in their curriculum. The Program will periodically compare the baseline number against new numbers to see if the management actions are effective in increasing awareness and understanding of the ecosystem in the Barnegat Bay watershed.	Statistical data about school systems programs will be collected by the BBWEF and evaluated by the BBEP.
Promote increased communication and foster cooperation between groups and organizations involved in watershed resources.	The measure of success in this objective will be evaluated first by the level of volunteer participation at conflict resolution seminars. The program goal is for diverse users of the estuary and watershed to cooperate in the stewardship of resources. Later measures of success could include: a) Level of volunteer participation in the citizens baywatch monitoring program; b) Catalog of complaints by bay users, e.g., for PWC noise or disturbance; c) Trends in successful shorebird nesting; and d) Refuge staff time devoted to enforcing refuge restrictions.	Seminar and participation information will be collected from appropriate management conference partners. Monitoring will be the responsibility of the BBEP.
Involve government, specifically local governments, for sustained effectiveness in managing watershed resources and securing funding for CCMP recommendations.	The objective will be measured by determining the level of action and/or funding obtained by local governments for environmental projects. Furthermore, changes in environmental ordinances by local governments will be monitored to evaluate the impact of the management actions on this objective.	Funding levels, sources and recipients, as well as ordinance information, will be collected from appropriate management conference partners, including local governments. The BBEP will monitor the status of these indicators.



FIGURE 8-1. Public Participation and Education Actions.



# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

## 8.6 ACTION ITEMS

### ACTION 8.1

Post the “Pinelands Curriculum Lessons Guides” for grades four to eight on the World Wide Web.

**SIGNIFICANCE OF ACTION:** This pair of curriculum guides is designed to accompany the Pinelands video, “The New Jersey Pinelands, Our Country’s First National Reserve,” which is currently available from New Jersey Network (<http://www.njn.njnsecure.com/njnvideo/pinelands.html>). Adapted from an 80-slide Pinelands audio-visual program, nine percent of the program specifically addresses the connection between Pinelands waterways and New Jersey’s coastal bays and marshes, such as the Barnegat Bay watershed. Curriculum lessons—particularly those dealing with soil, water, plants, and animals—reinforce the interconnectedness between the Pinelands and coastal areas like the Barnegat Bay estuary. These are lessons teachers have shared with students throughout New Jersey and in neighboring states. Their adaptation for the New Jersey Pinelands Commission (NJPC) Website will expand their use.

**STATUS AND PRIORITY:** Recommendation, Low Priority.

**WHO:** The NJPC’s Public Programs Supervisor (Lead) is working with the Education Specialist to convert these “hard copy” lessons into a format for Web use. Assistance in achieving this objective is provided by the NJPC’s Management Information Systems and Cartography staff members. Outside assistance will come from educators who have agreed to Beta-test the product and, ultimately, from teachers who incorporate these lessons into their curriculae.

**HOW:** The NJPC has developed a lesson, “Habitat, Sweet Habitat,” which is included in the curriculum for grades four to six, to serve as the model for future Web site lessons. It has been added to the NJPC’s Web site for Beta-testing by approximately 20 New Jersey

teacher volunteers. Teachers are asked to respond to the lesson’s online evaluation. The revised format will reflect educators’ recommendations and will serve as the model for adaptation of the remaining lessons.

Staff of the BBNEP will be able to significantly contribute to the long-range implementation of this project by (a) viewing the Web site and sharing insights for format enhancement, and (b) sharing information about the Web site with educators in the BBNEP’s geographic area. The latter may be encouraged by cooperating with NJPC staff to present teacher workshops. Additionally, a link can be established between the BBNEP’s Web site and the NJPC’s Web site.

**WHEN:** Project will commence upon the availability of funds, with a target date of 2002. The Beta-test of the model lesson will last one week. It is anticipated that one new lesson can be added to the Web site every two weeks.

There are 22 lessons in the curriculum guide for grades 4 to 6 and 18 lessons in the curriculum guide for grades 7 and 8. Theoretically, 40 lessons can be completed in 80 weeks (two lessons per month). It is anticipated that the entire package can be on the Pinelands Commission Website within six months after funding, currently targeted for 2002.

**WHERE:** The Beta-testing effort will be undertaken by educators in schools throughout New Jersey.

**MEASUREMENT OF EFFECTIVENESS:** The on-line evaluation included in the Beta-test will serve as a qualitative measure of the product. The number of “hits” on the NJPC’s Web site can serve as a general quantitative measure. Effectiveness will also be measured by ancillary requests for other teaching materials, including the Pinelands Speakers Directory; Pinelands Guide to Recreational Opportunities, Historic Sites, Nature Centers, and Field Trips; the Pinelands poster; and Pinelands Information Packets.

**COST ESTIMATE:** Cost to the NJPC for a part-time Education Specialist’s monthly pay is currently \$1,491.60 per month. Estimated cost of continued service for one year, based on previous funding, is \$20,000.

**FUNDING SOURCES:** The NJPC has been underwriting the cost of curriculum lesson reformatting for website use; however, funding has not been budgeted for this project since June 30, 2000. It is estimated that approximately 40 percent of the lessons (16 lessons) will be on the website by this time. At the same reformatting rate, the remaining 60 percent of the lessons (24 lessons) should be completed by mid-2001. However, completion depends on funding capability. Potential sources include joint NJPC and NJDEP watershed funding recently awarded by the State of New Jersey.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None are anticipated.

### ACTION 8.2

Conduct two, two-day summer teacher workshops that focus on the Barnegat Bay estuary and watershed, through the Ocean County Vocational-Technical School (OCVTS) .

**SIGNIFICANCE OF ACTION:** Educating teachers about the environment in which they live can have lasting effects. The focus of the workshop is on the Barnegat Bay watershed, with clear, well-developed activities that work in a classroom. All of the materials and strategies can be incorporated into many disciplines. Historical, ecological, biological, chemical, physical, and economic aspects of the bay and watershed will be discussed. The teachers will then incorporate the material gathered into a lesson for their classes. The workshops provide a common focus on all groups involved in watershed education, protection, and usage.

**STATUS AND PRIORITY:** Partial Commitment, Medium Priority.

**WHO:** OCVTS (Lead) has a wealth of resources, including some curriculum from the Marine Science program. In addition, that school works with each school district within the Ocean County area. Therefore, the school could utilize its contacts to attract teachers to the free workshops.

Workshop personnel include educators and experts within the Barnegat Bay Estuary. Christine Raabe has a wealth of information for teacher training and is willing to work with the program. Terry O'Leary also has a great deal of information on species within the bay. Others possibly involved include John Wnek, Instructor, Marine Academy of Technology and Environmental Science (OCVTS); Lisa Koch (OCVTS); Lynda Aue; Bob MacMaster; and Darren Dorris (GPS activities).

**HOW:** There will be two workshops that will be two days in duration. The focus of the workshop, which will target all teachers in grades K-12, will be specific activities designed for elementary (K-5), middle (6-8), and high school (9-12). The teachers will receive a binder with the agenda, activities, and guides featuring the Barnegat Bay estuary that can be used in the classroom, as well as resource materials from the BBNEP.

**WHEN:** The workshops will take place in the months of July and August, typical vacation months for teachers. Two sessions were selected to accommodate teachers' summer vacation. The target year is 2002.

**WHERE:** OCVTS has the facilities to host the teacher training sessions. The first workshops would be held at the Bishop Building of the Ocean County Library/OCVTS. Field trips to the bay may also be included in the workshops.

### MEASUREMENT OF EFFECTIVENESS:

- The teachers must submit one lesson based upon the resources given. The lesson must be completed during the first semester of the school year and returned to the BBNEP.
- In addition, immediately after the lesson is presented to students, teachers will be asked to complete an evaluation of the lesson. This is an important aspect of the program.

**COST ESTIMATE:** \$5,100.

**FUNDING SOURCES:** OCVTS will provide land-based transportation where necessary. Other organizations have committed to providing resources to the program in the form of promotional items and learning materials.

# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.3

Revise and reprint the Barnegat Bay Watershed Educational Resource Guide.

**SIGNIFICANCE OF ACTION:** The Resource Guide provides valuable information about the resources available to environmental educators within the Barnegat Bay watershed. Initially designed to be an interim resource during the development of the Activity Guide, it will continue to serve as a supplemental resource once the Activity Guide is completed. It will, therefore, need to be periodically updated.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** Barnegat Bay Environmental Education Roundtable (Lead), a project of the Barnegat Bay Watershed Association, now known as the BBWEF. This action will be coordinated by the OCSCD.

**HOW:** Revise and reprint once every three years. This could be a project for an intern.

**WHEN:** Provided the funds are available, first revisions will be made for the 2002–2003 school year in conjunction with the release of the Activity Guide.

**WHERE:** The Resource Guide is relevant to the whole watershed.

**MEASUREMENT OF EFFECTIVENESS:** Number of requests for the Resource Guide will be used to gauge effectiveness of this action.

**COST:** \$5,000 for each round of revisions.

**FUNDING SOURCES:** No firm commitments. See potential funding sources in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.4

Conduct an annual Environmental Educators Roundtable.

**SIGNIFICANCE OF ACTION:** This annual event provides a mechanism for environmental educators to share resources and information related to the watershed. The enthusiasm instilled in teachers is carried back to their schools and colleagues and will help to promote environmental education opportunities within the watershed.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** Barnegat Bay Environmental Education Roundtable (Lead).

**HOW:** Sponsor an annual Environmental Educators Roundtable to facilitate the sharing of resource information and ideas and provide hands-on opportunities that can be carried back to the classroom.

**WHEN:** Upon availability of funds, the Roundtables will occur during the spring of each year. The target year for initiation is 2002.

**WHERE:** The Roundtables should be conducted throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Number of Roundtables conducted and attendance at each will measure effectiveness.

**COST:** \$2,500 per year.

**FUNDING SOURCES:** BBWEF or other potential sources identified in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None identified.



### ACTION 8.5

Support the Sea Grasses for Classes Project—  
Institute of Marine & Coastal Sciences (IMCS)—  
Rutgers University.

**SIGNIFICANCE OF THE ACTION:** This program will create partnerships with schools through the Marine Activities Resources & Education (MARE) program of IMCS to restore eelgrass (*Zostera* spp.) in New Jersey waters. The project will not only be scientifically significant, but will also provide hands-on opportunities for students in grades 4 to 12 to study the importance of eelgrass as one of the sensitive habitats of Barnegat Bay.

During 1998, a dramatic reduction in eelgrass coverage and biomass occurred in Little Egg Harbor. Due to the importance of this habitat for local species, it is the goal of this Action Item to restore portions of this habitat, determine the best planting techniques for eelgrass beds in New Jersey, and create long-term monitoring goals for assessment of restoration and habitat value.

**STATUS AND PRIORITY:** Partial Commitment, Medium Priority.

**WHO:** The IMCS (Lead) will be responsible for program implementation. The BBNEP will serve as a consultant to the project and might assist in promoting the project through public outreach.

**HOW:** With increasing pressure on K-12 educators in New Jersey to meet the New Jersey State Core Curriculum Standards without concomitant increases in school budgets, programs such as MARE are in increasing demand. The scientific community has a responsibility to support teachers and assist schools in seeking outside funding for science education reform. IMCS is committed to making its faculty and staff resources and advanced technology available to educators and their students through programs like this one.

There are currently approximately 12,000 school children participating in the MARE program.

**WHEN:** The 1999–2000 school year was the pilot year for the “Sea Grasses for Classes” project, which is targeted for continuation in 2001 with funding from the Dodge Foundation.

**WHERE:** Schools participating in the MARE program are somewhat focused within the boundaries of the Jacques Cousteau National Estuarine Research Reserve (JCNERR) at Mullica River/Great Bay, which has overlapping boundaries with the BBNEP. Four pilot schools in Toms River and Lacey Township have been selected to participate in the “Sea Grasses for Classes” project.

**MEASUREMENT OF EFFECTIVENESS:** IMCS has hired a professional evaluator to develop pre- and post-project surveys and focus group protocols to assess the success of the community-based project. The MARE program is currently in year two of a professional evaluation program.

**COST ESTIMATE:** \$15,000 is required to implement a website and purchase classroom curriculum and equipment. Additional funding would be required (\$40,000) to scientifically monitor the project and assess its scientific value.

**FUNDING SOURCES:** Seed money for the 1999–2000 school year was secured from the Geraldine R. Dodge Foundation. Additional sources of funding for scaling up of the program may come from other non-profit sources.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.





# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

## ACTION 8.6

Develop the Forest Resource Education Center (FREC) as a resource and interpretive center that promotes an understanding of the human/natural resource connection and a stewardship ethic among students, scouts, and the general public.

**SIGNIFICANCE OF ACTION:** Trees provide many benefits to ensure a healthy environment and high quality of life. The FREC is dedicated to enhancing awareness, knowledge, and understanding of forest resources as one means to development of a conservation ethic. The FREC provides a range of products and services and promotes values that contribute to community well-being and ecological health through active participation in projects and programs. The FREC will establish partnerships to strengthen environmental education programs throughout the Barnegat Bay watershed and across the state.

**STATUS AND PRIORITY:** Partial Commitment, Medium Priority.

**WHO:** The FREC is a property of the NJDEP Division of Parks and Forestry, state Forest Service (Lead). Partners with the FREC include OCSCD, Boy and Girl Scouts of Ocean County, Jackson School District, Ocean County 4-H, New Jersey Society of American Foresters, Project Learning Tree, New Jersey Tree Farm Committee, Alliance for New Jersey Environmental Educators (ANJEE), and others.

**HOW:** The FREC has the unique opportunity to model positive land-use practices that can be implemented by homeowners in an “up-watershed” location. The FREC is striving to be a model for land-use practices that communities, residents, visitors, and landowners can learn about and later implement at home. Such practices could include but are not limited to: tree plantings for energy conservation, water gardens to reduce runoff and increase water re-entry into aquifers, habitat plantings for wildlife, riparian buffer plantings, and many more.

The NJDEP Division of Parks and Forestry has committed to distributing BBNEP’s watershed outreach materials and will provide agency facilities (i.e., FREC) for joint presentations. Parks and Forestry has also agreed to incorporate educational materials about watersheds into their presentations.

**WHEN:** Ongoing.

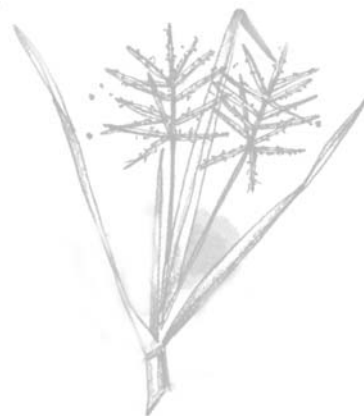
**WHERE:** The FREC is located on Route 527 in Jackson, with more than 450 acres near the headwaters of the Toms River. Outreach efforts extend throughout the county and the watershed, as well as across the state.

**MEASUREMENT OF EFFECTIVENESS:** The education and outreach efforts of the FREC will be measured by an increase in visitation by students, scouts, visitors, and area residents, and by the increased promotion of forest tree seedlings for plantings throughout the Barnegat Bay watershed by residents and landowners. In succeeding years, the measure of effectiveness will include the annually increasing number of tree seedlings planted.

**COST ESTIMATE:** Supplemental expenditures of \$20,000 per year would enhance the public outreach and education value of this action.

**FUNDING SOURCES:** The FREC has allocated funds to construct an interpretive center over the next few years. Additional funds are sought to enhance interpretive and visitor services to better aid information dissemination regarding the Barnegat Bay watershed.

**Required Regulatory, Ordinance, or Policy Changes:** None.



### ACTION 8.7

Develop a Barnegat Bay Watershed Education Campaign, to be implemented in all elementary schools via a mascot, “Barnie the Crab.” This character would address kindergarten through third or fourth grades with a watershed awareness message. In addition, the program would be available to scout and other youth groups throughout the watershed.

**SIGNIFICANCE OF ACTION:** Education is key to effecting social change. Educating school-age children about the bay and its natural resources could influence the development of positive environmental behavior and habits. Such behavior changes in children may influence changes in parents’ attitudes toward the bay, thus fostering an environmental ethic in the citizens of the watershed. This action will help all citizens and visitors know how they positively and negatively influence the watershed environment and their role in its conservation and improvement.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** Barnegat Bay Watershed and Estuary Foundation (BBWEF) (Lead).

**HOW:** Develop a program featuring an educator in a “Barnie the Crab” costume who will conduct presentations in individual classrooms at all elementary schools in the watershed. Lesson plans and grade-specific handouts will be developed which are compatible with New Jersey State Core Curriculum Standards. The content of these materials will focus on building awareness and appreciation for the watershed’s natural resources. The “Barnie the Crab” costume will build on the existing signage program sponsored by the BBWEF (formerly BBWA). During the summer, a college student intern would utilize the costume and educational materials to expand the program to public beaches and boardwalk.

**WHEN:** It is envisioned that development of this project would take an education consultant approximately six months upon the availability of funds, the target date being 2002. The organization, development, and scheduling of the 60 public elementary schools and private school presentations could take a full year or more. In addition, there are numerous opportunities to schedule public appearances of “Barnie the Crab” at special events throughout the year.

**WHERE:** The presentations will be conducted at schools, libraries, and public facilities within the Barnegat Bay watershed.

**MEASUREMENT OF EFFECTIVENESS:** This program will foster a personal connection and sense of responsibility for managing watershed resources. One measure of success will be the number of youngsters reached by this program and their geographic distribution in Ocean County. Another measure may be new participants drawn to the ongoing baywatch monitoring program.

**COST ESTIMATE:** Start-up cost for development of the character and program as well as first-year implementation will be in the \$60,000 range. The costs for the multiple components for this project will each have to be estimated when funding sources become available. Continued funding sources must be identified for long-term engagements and program management.

**FUNDING SOURCES:** Potential funding sources include the NJDEP, New Jersey Department of Education, private foundations, and the National Fish & Wildlife Foundation.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.



# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

## ACTION 8.8

Develop a Barnegat Bay watershed-specific activity guide.

**SIGNIFICANCE OF ACTION:** Environmental education provides meaningful connections to the surrounding environment and leads the student (whether a child or an adult) through a process from awareness to action.

Once completed, the activity guide will enable teachers to integrate and apply lessons and activities directly related to the watershed in which they teach. Thus, the guide will help to develop an environmental ethic and responsible citizens.

**STATUS AND PRIORITY:** Partial Commitment, High Priority.

**WHO:** Barnegat Bay Environmental Education Roundtable Steering Committee (Lead), coordinated by OCSCD.

**HOW:** Initially, provide facilitator training so the activity guide is implemented in a consistent fashion. Coordinate a series of workshops for school districts throughout the watershed to introduce the activity guide. Showcase and highlight a number of successful stewardship projects in order to make the program action-oriented.

**WHEN:** The activity guide should be completed for the 2002–2003 school year. Initial implementation will take three years.

**WHERE:** The activity guide will be available for use throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Effectiveness will be gauged by an increased awareness about and action to control and reduce nonpoint source pollution. A numerical measure would be the number of educators making use of the guide. Another measure would be the number of guides distributed.

**COST ESTIMATE:** Initial implementation will cost \$60,000 (over three years) for printing and a facilitator. Subsequent funding will be needed to revise and reprint the guide and to continue the teacher-training program.

**FUNDING SOURCES:** CWA Section 320 – Program Funding and other contributing sources to be identified.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** Not yet determined.

## ACTION 8.9

Continue the Alliance for a Living Ocean (ALO) Ecotour of a Barrier Island for school children and the general public.

**SIGNIFICANCE OF ACTION:** The main purpose of the ecotours is to educate the public about the Barnegat Bay Estuary – what it is, its ecological importance, and how it can be protected and restored. Each participant is sent home with the educational tools needed to improve not only the Barnegat Bay Estuary, but also any environment near his or her home. Many participants come from the Tri-state area. Their actions impact the Barnegat Bay Estuary and its barrier islands. If, by taking the ecotours, people learn to be good stewards of the natural resources of a barrier island and estuary, it is hoped that they will extend their knowledge to protecting other estuarine environments.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** ALO (Lead).

**HOW:** The ALO school trips are held on a reservation basis and are tailored to the grade level of the students, as well as the time constraints of the school. Each ecotour stops at points of environmental interest along the entire length of Long Beach Island. Some of the topics discussed are water quality and water monitoring, dune preservation, indigenous species, nonpoint source pollution, beach debris, and estuarine preservation. Many schools require their students to write papers or do a project about something learned on the ecotour.

The summer version of the ecotour is split into two parts, northern and southern, because of traffic problems. A trolley is rented to provide transportation, and

a guide speaks to the participants as the trolley proceeds from stop to stop. The same lessons provided to students during the school year are used during the summer.

**WHEN:** The ALO offers ecotours to schoolchildren throughout the school year. The summer version of the ecotour takes place once a week in July and August.

**WHERE:** The ecotour takes place on Long Beach Island.

**MEASUREMENT OF EFFECTIVENESS:** The program's effectiveness has been measured historically by the repeat participation of many schools, i.e., many schools bring their students back each year. As an example, Medford Memorial School has integrated the ecotour into its seventh-grade coastal studies. In addition, many summer participants have chosen to take both the northern and southern tours.

**COST ESTIMATE:** Approximately \$3,000 to continue the existing program and an additional \$5,000 to update the curriculum with new information.

**FUNDING SOURCES:** Funding is anticipated from an Ocean County Freeholders Tourism Grant. No other funding source is pending.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.10

Promote the development and use of outdoor classrooms.

**SIGNIFICANCE OF ACTION:** Outdoor classrooms offer a realistic way to provide students with meaningful hands-on learning experiences and to demonstrate how the subjects and skills taught in the classroom relate to the world around them. Outdoor classrooms also offer an opportunity for parents and the entire community to become involved in conservation efforts. Outdoor classrooms can demonstrate to homeowners and residents how to take positive actions and make improvements to their home landscapes that will be beneficial to wildlife, promote water conservation, and reduce the runoff of nonpoint source pollution from their yards. This will help improve

the water quality of area lakes, streams, and rivers that flow into Barnegat Bay.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** OCSCD (Lead), USDA- NRCS, and NJDEP.

**HOW:** Provide technical and financial assistance to public schools to promote the development and use of outdoor classrooms. Technical assistance will be provided through a series of teacher training workshops such as Project WILD/WILD School Sites and Project Learning Tree/Project WET. The New Jersey Forestry Service is an active participant in Project Learning Tree, and has agreed to provide information about the Barnegat Bay watershed as part of this project. Financial assistance will be provided through a competitive mini-grant program for local schools.

**WHEN:** The program is targeted to begin in 2002.

**WHERE:** Outdoor classrooms will be encouraged throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Number of outdoor classrooms developed will serve as a measure of effectiveness.

**COST:** \$5,000 per year.

**FUNDING SOURCES:** No firm commitments. See discussion of potential funding sources in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.11

Establish a BayKeeper Program as a public watchdog for the protection of Barnegat Bay.

**SIGNIFICANCE OF ACTION:** The "BayKeeper Program" is a program of public environmental advocacy that acts as the eyes of the public to guard against environmental insults and unlawful pollution. In nearby regions, Bay Keepers or River Keepers operate in Long Island Sound, the Hudson River, and the New York/New Jersey Harbor. These programs serve to educate the public,

## PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

businesses, and local agencies, press for enforcement of existing environmental regulations, and initiate litigation when necessary. They can serve an effective role in forestalling degradation of the estuarine environment and in promoting its restoration.

**STATUS AND PRIORITY:** Recommendation, Low Priority.

**WHO:** BayKeeper Program (Lead), American Littoral Society, and other interested citizens and groups.

**HOW:** Public interest within the watershed and active support by the BBWEF will determine the viability of establishing a “BayKeeper” Program within Barnegat Bay.

**WHEN:** Given the interest and a source of funding, the program could be in operation within a relatively short period of time, upon the availability of funds.

**WHERE:** The program should be implemented throughout the tidal portion of Barnegat Bay.

**MEASUREMENT OF EFFECTIVENESS:** Success of the program will be measured through the number of pollution events prevented, minimized, or corrected, and by the level of compliance with applicable regulatory standards.

**COST ESTIMATE:** Approximately \$60,000 per year.

**FUNDING SOURCES:** No firm commitments. See discussion of potential funding sources in Chapter 12.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None identified.

### ACTION 8.12

Create a Barnegat Bay-specific Educational Guide outlining the natural and cultural ecotourism opportunities in central New Jersey, with an emphasis on the Barnegat Bay watershed region. Produce and distribute the guide to target audiences.

**SIGNIFICANCE OF ACTION:** Ecotourism promotes the non-consumptive or sustainable use of resources to conserve environments and maintain the well-being of local people. While there are excellent examples of local and some regional publications, most are highly fragmented and limited to specific activities. Prior to June 2000, there were no readily available, comprehensive resources to assist New Jersey residents and visitors in identifying and locating ecotourism opportunities. The Ecotourism Guides developed by the New Jersey Marine Sciences Consortium (NJMSC) represent a precedent-setting pilot project for this type of publication. This guide is the second in the series. The first guide is entitled, “Ecotourism Guide for Southern New Jersey,” and a third will include the coastal area between the Manasquan Inlet and the Palisades.

**STATUS AND PRIORITY:** Commitment, Low Priority.

**WHO:** The NJMSC (Lead) and its New Jersey Sea Grant College Program were directly responsible for the actual design and production of the guide. Content of the guide was determined by the Steering Committee, which consists of key contributors from the target region and agencies representing the public and private sectors.

**HOW:** The “Ecotourism Guide for Central New Jersey,” focusing on the Barnegat Bay watershed, contains a detailed map with pertinent and useful information about ecotourism, including selected “showcase” natural and cultural sites, activities, and events within the Barnegat Bay watershed. It directs users to the bounty of attractions in this region and is developed on a temporal and spatial scale that promotes one-day trips, weekend trips, and potentially longer ecotourism vacations.

**WHEN:** The project’s Steering Committee was identified and confirmed in June 1999. The original guide was printed and ready for distribution during the first six months of 2000.





**WHERE:** The geographical setting for this guide encompasses Ocean County, with an emphasis on areas in and around the Barnegat Bay estuary. It will be marketed and distributed statewide and regionally, by request.

**MEASUREMENT OF EFFECTIVENESS:** Several survey and monitoring mechanisms such as contact phone numbers and Internet websites are included in the guide. These will allow the Project Coordinator to assess the number of “hits” and phone inquiries received by sites as a result of the guide’s publication. Requests for the publication generated by marketing approaches (determined by the Steering Committee) will help determine the popularity and demand of the product.

**COST ESTIMATE:** The cost (including design and marketing expenses) for 45,000 copies is \$20,000. Depending on the number of additional funding sources, an increased print run will be considered.

**FUNDING SOURCES:** To date, funding commitments for the series of Ecotourism Guides include \$10,000 from the New Jersey Commerce and Economic Growth Commission, \$5,000 from Cumberland County, and \$20,000 from the New Jersey Sea Grant College Program.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

### **ACTION 8.13**

Establish one waterway cleanup per year within the watershed of Barnegat Bay. The cleanup will coincide with the Municipal Recognition Project awards ceremony, which is held in May during the statewide Watershed Awareness Month.

**SIGNIFICANCE OF ACTION:** Barnegat Bay is a popular vacation destination known for its valuable fishing, crabbing, and clamming. There is much activity along its nine tributaries, such as residential and commercial development, recreational uses, golf courses, and roadways, which produce nonpoint source pollution and litter.

Establishing river cleanups throughout the watershed will enable the BBWEF to actively engage watershed-wide participation in community stewardship. This project will become an effective outreach tool for watershed education, spark watershed stewardship among Ocean County citizens, and result in cleanup of the waterways.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** The BBWEF (Lead) would be the primary organizer for this activity. The organizational members of the BBWEF as well as other affiliated groups (such as AmeriCorps) would be partners. BBWA will also work with local civic groups and community leaders in the cleanup.

**HOW:** This action would be coordinated with the ALO Volunteer Barnegat Bay monitoring program. The cleanups will handle debris and litter.

**WHEN:** The cleanups will be conducted annually in early spring beginning in the year 2001.

**WHERE:** Cleanups will be conducted throughout the Barnegat Bay watershed.

**MEASUREMENT OF EFFECTIVENESS:** A “Watershed Quiz” will be designed and disseminated pre- and post-cleanup to quantifiably measure the participants’ knowledge of watershed and nonpoint source pollution concepts.

**COST ESTIMATE:** The cost for supplies and miscellaneous materials will total \$5,000 per year.

**FUNDING SOURCES:** Possible funding support includes public outreach funding from Section 320 (NEP) and private funding sources.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

## ACTION 8.14

Provide interpretive exhibits, programs, and activities focusing on the historical human uses of the environmental resources within the Barnegat Bay watershed.

**SIGNIFICANCE OF ACTION:** This action will develop an understanding and appreciation of the rich heritage and cultural traditions of the Barnegat Bay and Pine-land regions' early settlers and families, whose way of life was almost entirely natural resource based. The knowledge and understanding and dependence on the resources of the bay, ocean, and forest as a way of life have been greatly diminished since the 1960s and 1970s, with the tremendous influx of tourism and suburban development within the watershed. In order to keep the older traditions alive, to better understand the natural and cultural resources of the watershed, and to promote a sense of place and belonging, the Barnegat Bay Decoy and Baymen's Museum (BBDBM) is constructing a working maritime cultural village, the Tuckerton Seaport.

**STATUS AND PRIORITY:** Commitment, High Priority.

**WHO:** The BBDBM (Lead) has worked cooperatively with a number of partners on a variety of projects to achieve its current level of programming. These partners include schools, universities, and county, state, and federal agencies.

**HOW:** The BBDBM has established the Tuckerton Seaport, and is using existing historical buildings or building replicas of once-existing structures from towns along the bay to provide exhibits and interpretive programs for a significant number of the traditional folkways of the Barnegat Bay region. Traditional resource-based occupations of the Baymen and their families that will be interpreted include: shellfishing, waterfowling, boat building, decoy carving, salt hay and eelgrass industries, whaling, charter boat fishing, production of baymen's tools, lighthouse and lifesaving, harvesting and milling cedar and other forest products, and trapping and hunting. Baymen's preservation of the bay culture through festivals, including programs enhanced by crafts, writing, poetry, music, recipes and social activities, will also be featured.

**WHEN:** Many activities are currently available. Others, such as development of a research library, will be scheduled according to the availability of funds, expected to begin in 2002.

**WHERE:** The BBDBM's Tuckerton Seaport is located on a 40-acre waterfront site in Tuckerton, New Jersey.

**MEASUREMENT OF EFFECTIVENESS:** All groups and programs are evaluated by way of internal review among the staff, follow-up interviews, and questionnaires, and also by unsolicited letters from participants commenting on programs. If visitation increases and the need arises, further evaluation techniques will be employed.

### PROGRAM SPECIFICS:

Site Size . . . . .	.40 acres
Stage One Improvements . . . . .	.16 acres
Building Size (11 structures) . . . . .	.27,700 sq ft.
Projected Annual Visitation . . . . .	.125,000
Average Visitors Per Day . . . . .	.344
Peak Visitors Per Day . . . . .	.727
School Students . . . . .	.10,000
Days Open Per Year . . . . .	.Seasonal hours
Open Hours (in season) . . . . .	.10 a.m. – 5 p.m.
Auto Parking Spaces . . . . .	.185
Bus Parking Spaces . . . . .	.5

Note: Construction of Stage One (the first 14 buildings) is near completion, Stage Two (the remaining 16 of the 30-structure maritime village) is in design stage and will be constructed as funding is secured.



## COST ESTIMATES

### PROGRAM BUDGET:

Exhibits . . . . .	\$1,125,000
Staff . . . . .	\$125,000
Library and Archives . . . . .	\$40,000
TOTAL . . . . .	\$1,290,000

### FUNDING SOURCES:

*Funds have been received as follows:*

New Jersey Green Acres Program . . . . .	\$527,375
Tuckerton Borough . . . . .	\$62,500
Little Egg Harbor . . . . .	\$62,500
Ocean County . . . . .	\$62,500
Casino Reinvestment Development Authority . . . . .	\$1,000,000
NJDOT – ISTE A Grant . . . . .	\$661,570
Museum Fund Raising . . . . .	\$324,375
E.J. Grassmann Trust . . . . .	\$5,000
Gannet Foundation . . . . .	\$20,000
Ocean Federal Foundation . . . . .	\$30,000
Atlantic Electric . . . . .	\$10,000
First Union Foundation . . . . .	\$25,000
Other Business and Individual Donators . . .	\$129,000
TOTAL . . . . .	\$2,919,820

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** All environmental and regulatory permits have been obtained.

### ACTION 8.15

Provide education and technical training to local government officials and other coastal decision makers in the Barnegat Bay watershed.

**SIGNIFICANCE OF ACTION:** Decisions made by local governments can have profound, long-term consequences for estuarine and coastal environments. Elected and appointed local officials, land-use planners, and other decision makers often do not have access to timely, science-based information that is available in a user-friendly format. With significant development pressures on coastal communities and the resulting impacts on coastal resources, there is a strong need to develop an efficient means of providing local

governments with the background information they need to make informed decisions affecting the coast.

**STATUS AND PRIORITY:** Commitment, High Priority.

**WHO:** JCNERR (Lead) and its partners propose implementing the Coastal Institute Initiative in New Jersey. The JCNERR can utilize the research and education strengths of the IMCS at Rutgers University, which will administer the program, along with National Oceanic and Atmospheric Administration (NOAA) and many other organizations in New Jersey. Partners include BBNEP, USFWS, NJDEP, New Jersey Pinelands Commission, and Richard Stockton College.

**HOW:** A number of outreach tools are needed to effectively reach all segments of this diverse audience. A new Coastal Institute that will provide a training center for local governments will be constructed in Tuckerton, New Jersey. The Coastal Institute will house a Coastal Repository that was funded initially through an Action Plan/Demonstration Project (APDP) grant from the BBNEP. This repository provides local governments with access to geographic information system (GIS) spatial information on the Barnegat Bay and Mullica River watersheds. It also serves as a clearinghouse for model environmental ordinances, watershed planning strategies, protective site design principles, and best management practices. A number of workshops are being planned to disseminate this information. A minimum of three coastal decision-maker workshops will be held per year.

**WHERE:** Although many of the Coastal Institute programs are statewide in scope, several programs have been developed specifically for the Barnegat Bay and Mullica River watersheds. A workshop, “Land-Use Strategies for Coastal Decision-Makers,” is being targeted to municipalities in these two watersheds. The Coastal Repository and PAGIS (GIS) programs have also been developed primarily for local governments within the two watersheds.

**MEASUREMENT OF EFFECTIVENESS:** Coastal decision-maker programs will be evaluated to determine the success of the initiative. Metric guidelines will be established to ensure documentation and consistent

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## WHEN:

TASK	DESCRIPTION	SCHEDULE
Needs Assessment	Assess the information and training needs of decision-makers.	Ongoing
Conduct Workshops	Design and conduct technical training programs for coastal decision-makers ranging from seminars and workshops to field-based courses.	Ongoing
Construct a Coastal Institute	Coastal Institute facility will include an auditorium, library, and offices.	Completed in 2000; Ongoing
PAGIS	GIS system will house all relevant Barnegat Bay spatial data.	Ongoing
Coastal Repository	Clearinghouse for coastal management information.	Ongoing
Newsletter	"Community Connections," published quarterly for Barnegat Bay municipalities in partnership with BBWEF.	Ongoing

reporting. Long-term funding will be pursued to assess the impact of the program on coastal management.

Evaluations will include:

- Assessments that measure the outputs (what the program is producing).
- Assessments that measure the outcomes (what happens as a result of the program being implemented).
- Both internal and external reviews by skilled evaluators.



## Cost Estimate:

### START-UP COSTS - FACILITY

Construction	\$800,000 NOAA and IMCS
Workshops	\$20,000 NOAA, IMCS, and NJDEP
Repository	\$18,000 BBNEP (completed)
PAGIS	\$10,000 NOAA and IMCS
<i>Total</i>	<i>\$848,000</i>

### ANNUAL COSTS

Workshops	\$20,000 NJDEP
Repository	\$10,000 NOAA and IMCS
PAGIS	\$15,000 NOAA and IMCS
<i>Total</i>	<i>\$45,000</i>

**FUNDING SOURCES:** Commitments in place with NOAA, IMCS, NJDEP, and BBNEP (as indicated above).

**Required Regulatory, Ordinance, or Policy Changes:** None required.

### ACTION 8.16

Revise and reprint the “Low-Maintenance Landscaping Homeowners’ Guide.”

**SIGNIFICANCE OF ACTION:** The guide shows Ocean County homeowners how to save time and money on landscaping by using effective horticultural practices. At the same time, the use of these landscaping techniques will also reduce nonpoint source pollutants such as fertilizers and pesticides that are transported by stormwater runoff. These pollutants enter lakes, rivers, and streams that eventually drain into Barnegat Bay. Low-maintenance landscaping techniques also reduce water consumption, helping to preserve the aquifers that sustain Barnegat Bay and Ocean County’s wetlands, native plants, and wildlife.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** OCSCD and RCE.

**HOW:** The guide will be revised and reprinted approximately every three years. Appendices, in particular, must be periodically updated to provide the most up-to-date information available.

**WHEN:** The first revision/reprint will be conducted in 2002–2003, depending on availability of funds.

**WHERE:** The guide will be designed for use throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Number of requests received for the guide will measure this action’s effectiveness.

**COST ESTIMATE:** \$35,000 (every three years).

**FUNDING SOURCES:** No firm commitments. See discussion of potential funding sources in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** Not yet determined.

### ACTION 8.17

Educate professional landscapers, municipal grounds personnel, and facility managers on more efficient and environmentally sensitive use of pesticides.

**SIGNIFICANCE OF ACTION:** Pesticides are traditionally applied by commercial landscapers on a calendar basis to cover all plants and lawn surfaces at the typical residence. Pesticides are simple to use and provide a quick kill of pests, but unnecessary and haphazard pesticide use contributes to nonpoint source pollution. An alternative is the use of Integrated Pest Management (IPM) methods, which promote monitoring and identification of plant pest problems prior to making decisions about treatment. Alternatives to traditional pesticide treatments are utilized as a first resort.

The RCE IPM program has demonstrated an average 42 percent decrease in pesticide use and a 70 percent reduction in the number of plants sprayed utilizing IPM techniques.

Many landscapers do not adopt IPM techniques because of lack of knowledge. The goal of this program is to provide practical IPM information in a timely, clear-cut, practical format, delivered directly to landscapers when pests are active. Otherwise, landscapers are less apt to follow IPM methods because of time constraints and lack of knowledge. Such a “bottom line” source of diagnostic and control information should encourage adoption of IPM tactics and proper pest control tactics, and reduce haphazard spraying, which in turn reduces nonpoint source pollution.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** RCE, through a horticulture consultant.

**HOW:** A brief, bi-weekly newsletter will be offered at no charge (or minimal charge) to encourage use and adoption of IPM techniques. It will alert all watershed landscapers of currently active pests and the proper IPM treatment and timing. Pesticide recommendations will

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be made in conjunction with RCE and label recommendations.

The newsletter will be available by mail or fax (and possibly by posting on a Web site in the future).

The newsletter could also be modified for garden centers, utilizing recommendations appropriate for their home gardener audiences. Likewise, this version of the newsletter could be sent to homeowner associations for printing in their association newspapers and newsletters.

An annual landscape IPM maintenance symposium will be held for watershed landscapers to increase knowledge in IPM methods.

**WHEN:** Implement upon receipt of funding. The target date is 2002.

**WHERE:** Information will be distributed throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Success will be measured by newsletter and program evaluations through participant surveys. Change in pesticide use and renewals will be highlighted.

**COST ESTIMATE:** \$20,000–\$30,000 for staff support.

**FUNDING SOURCE:** No firm commitments. See discussion of potential funding sources in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.



### ACTION 8.18

Promote the use of Integrated Pest Management (IPM) methods.

**SIGNIFICANCE OF ACTION:** Homeowners routinely apply pesticides for control of insects, diseases, and weeds on home lawns and landscapes. These pesticides are typically applied as a crisis response to long-standing or unobserved problems, many of which are a result of poor planning, poor plant selection, and improper maintenance techniques, i.e., maintenance becomes routine and over-reliance on pesticides occurs. Pesticides are often selected based on availability, price, and the recommendations of neighbors, local garden center, or mass merchandise store. Unnecessary and haphazard pesticide use contributes to nonpoint source pollution.

Another factor relevant to Ocean County is that it has the largest percentage of adult communities in the state. Common-ground property is often maintained via a low-bid approach to contracting, and individual residents are removed from the day-to-day decision-making that determines what chemicals are applied to the property.

An alternative approach to lawn and landscape maintenance is the use of IPM methods. IPM promotes proper plant selection (with a focus on resistant plant varieties) and monitoring and identification of plant pest problems early on, prior to decisions on treatment. The least toxic alternative treatments to traditional pesticides, i.e., botanical, biorational and biological pest control products, are utilized as a first resort for maximum control with minimum environmental impact.

**STATUS AND PRIORITY:** Recommendation, Medium Priority.

**WHO:** RCE (Lead) will coordinate activities.

**HOW:** A newspaper column will be written for a local newspaper. A bi-weekly column such as this will receive wide exposure and be able to most economically disseminate research-based information to

homeowners. Pest identification (prior to any control tactic) and IPM maintenance methods will be stressed. The column should become a trusted source of good advice for pesticide/fertilization recommendations.

Master Gardeners are volunteer homeowners trained in gardening/horticulture through RCE. Program volunteers receive a ten-week class covering plant biology, plant selection and identification, insects and diseases (both indoors and outdoors), vegetable gardening, lawn care, etc. Master Gardeners are trained in IPM methodology and can help implement this action.

Plant clinics or walk-in clinics where homeowners can bring in insects/sick plants for identification and control will be offered at local libraries or community events throughout the watershed via the RCE's Master Gardener program. Advertising the clinics will be carried out in cooperation with the Ocean County Library system and/or events coordinators.

A seminar series will be held in conjunction with the Master Gardener program's seminars. Seminars will be held monthly at different locations around the county and promoted via newspaper, newsletter, and other media outlets. Soil pH testing will be offered to all landowners at a minimal charge. Tests will be performed on a weekly basis and include information about lime requirements. To promote better plant selection and reduce pesticide use, an IPM slide series with script will be written and made available to the speakers bureau as well as to area garden clubs that wish to borrow it at no charge.

**WHEN:** The program will begin upon funding.

**WHERE:** Information will be distributed throughout the watershed.

**MEASUREMENT OF EFFECTIVENESS:** Success will be measured by program evaluations and requests for information. Changes in pesticide use and renewals of licenses will be highlighted.

**COST ESTIMATE:**

- \$24,000–\$29,000 annually
- \$20,000–25,000 (personnel/consultant)
- \$2,500 supplies (paper, stickers, labels, computer ink, travel, etc.)
- \$1,500 signs and promotion

**FUNDING SOURCES:** No firm commitments. See discussion of potential funding sources in Chapter 12, Section 12.8.1.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.19

Incorporate BBNEP outreach and education displays and programs at the Environmental Learning Center (ELC) of Ocean County.

**SIGNIFICANCE OF ACTION:** The Environmental Learning Center (ELC) of Ocean County is a not-for-profit organization that will construct a learning center on the Toms River on property owned by the Dover Township Utilities Authority (DMUA) in Toms River. The facility will be located on the grounds of the DMUA and bus station on Highland Parkway.

The mission of the ELC is to provide visitors, students, educators, and residents with information and hands-on activities promoting the Barnegat Bay watershed. The ELC will feature standing displays, computer interactive lessons, and hands-on activities. Conservation and protection of our natural resources will be a focal point of the ELC.

**STATUS AND PRIORITY:** Partial Commitment, Low Priority.

**WHO:** ELC of Ocean County.

**HOW:** The ELC will establish a Barnegat Bay Estuary display that reflects the major aspects of the BBNEP. The target audience will include all visitors to the ELC.





# PUBLIC PARTICIPATION and EDUCATION ACTION PLAN

The following will be included in the display:

- A brief chronology of the BBNEP.
- Key agencies, professionals, and personnel.
- Main goals of the program.
- Suggestions about how people could become more estuary and watershed friendly.

**WHEN:** The display will be present upon opening of the ELC to the public. The target date is 2005.

**WHERE:** The display will include selected scenes from around the entire Barnegat Bay Estuary and watershed. A computer display about the BBNEP will be exhibited either at the display area or in a separate technology area, and will be linked to the BBNEP Web site. The display will be exhibited in the main center of the ELC. Presentations about the Barnegat Bay estuary and watershed will be made available at the theater, including the Dynamics of the Barnegat Bay slide show. A copy of this slide show is currently available at the Ocean County Parks and Library. The slide show will be available periodically, changing each season to reflect the unique seasonal aspects of the Barnegat Bay estuary and watershed.

**MEASUREMENT OF EFFECTIVENESS:** Success of this effort will be gauged by the number of visitors to the ELC.

**COST ESTIMATE:** The ELC has commitments for development (\$300,000 plus land value of \$1,000,000). The display would include hardware, professional layout, design, and production at a cost of \$40,000 (break-down listed below):

Professional display for the BBNEP	\$25,000
Computer with interactive features, including links to the BBNEP and its partners in the program to promote the CCMP	\$15,000
<i>Total Project</i>	\$40,000

**FUNDING SOURCES:** The ELC has received a number of commitments from various organizations for funding, including Ocean Federal Foundation and the Citta Foundation. The Ocean County/Toms River Chamber of Commerce also conducts fund-raising to support the cost of developing the ELC.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** None.

## ACTION 8.20

Initiate "Experience Barnegat Bay," a project of YES (The Youth Environmental Society).

**SIGNIFICANCE OF ACTION:** The Lighthouse Camp (95 acres) and the adjacent Bowker Property (96 acres) comprise one of the last parcels of open space in central Ocean Township not currently developed for housing between Route 9 and Barnegat Bay. These contiguous tracts contain substantial maritime forest, salt marshes, and two small freshwater streams that feed into the bay. The habitat diversity here is noteworthy. These sites have the potential to be excellent outdoor laboratories providing opportunities for field investigations, research and interpretive programs for students, teachers, decision-makers, as well as the public at large. The property, formerly known as the Lighthouse Camp for the Blind, Inc. has been sold to the Trust for Public Land (TPL) and will be transferred to the NJDEP Division of Fish and Wildlife.

Implementation of this action will provide interpretative and educational opportunities to educators, visitors, academia, and the general public by providing a natural resource conservation facility to serve the needs of this diverse audience. This site and existing facilities can be used as a conference center, a teacher training facility, an outdoor classroom, and a residential environmental education center. No other such facility exists within the Barnegat Bay watershed.

**STATUS AND PRIORITY:** Partial Commitment, Medium Priority.

**WHO:** YES has a 23-year history of commitment to promoting environmental education throughout New

Jersey. YES has recently undergone a reorganization and is now focused on the leasing of the 95-acre parcel known as the Lighthouse Camp. The main purpose of the facility is to provide overnight accommodations and conference support to organizations sponsoring environmental and natural resource educational activities, programs and conferences. The facility will be named "Experience Barnegat Bay."

**HOW:** YES plans to lease the property and facility from the NJDEP Division of Fish and Wildlife and offer a variety of educational opportunities focusing on the Barnegat Bay watershed and estuarine ecosystems. YES will operate the Experience Barnegat Bay facility as a federal tax 501(c)(3) organization, and will seek funding from a variety of sources, including grants, endowments, gifts, memberships, facility fees, and others.

**WHEN:** Through the efforts of TPL, purchase of the property was recently completed using Green Acres (state environmental open space) funding, and a cooperative agreement with the NJDEP Division of Fish and Wildlife, which will own the property. The existing facility and building infrastructure will then be leased to YES by the NJDEP Division of Fish and Wildlife and operated as "Experience Barnegat Bay."

**MEASUREMENT OF EFFECTIVENESS:** It is anticipated that numerous groups, organizations, and agencies will utilize the facility due to the unique amenities and educational opportunities that it offers. Attendance records and evaluations solicited from participants will be utilized to determine the effectiveness of the facility.

**COST ESTIMATES:** It is estimated that a minimum of \$150,000 will be required for annual operating expenses, including salaries, upgrading of facilities to meet code requirements and maintenance. This is only an estimate based on the best information presently available.

**FUNDING SOURCES:** TPL and the Green Acres program provided funds for the purchase of the property. Additional operating funds will have to be solicited by YES and from the non-profit, educational sector. The seller has provided an initial start-up fund of \$10,000 to help defray the cost of necessary repairs and maintenance to the buildings and facility. Additional grants from foundations and government agencies, endowments, donations, etc. will be actively solicited to cover the cost(s) of operation and maintenance of this unique, high-quality educational facility.

**REQUIRED REGULATORY, ORDINANCE, OR POLICY CHANGES:** No changes are anticipated because the buildings and facility infrastructure are pre-existing. No new construction is anticipated.





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**T**he real conflict of the beach  
is not between sea and shore,  
for theirs is only a lover's quarrel,  
but between man and nature.

—G. Soucie, *Smithsonian* 1973

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