



# estuary news

Newsletter of the Delaware Estuary Program

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## WATERSHED-WIDE CONFERENCE CULMINATES FLOWING TOWARD THE FUTURE PROCESS

The "Flowing Toward the Future" process began with a series of workshops this past April and May. They were designed to help build a shared vision for the future of the Delaware River Basin, which drains portions of Pennsylvania, New Jersey, New York, and Delaware. Information and insights flowing from the workshops were used to develop a "21st Century Visions and Directions" report.

The Governors' Summit, held on September 29, 1999, at the New Jersey State Aquarium, was the second step in the process. Its goal was to highlight basinwide planning efforts and to reaffirm the commitment by the four states, key agencies, and organizations to continue work to protect the waters of the basin.

In the resolution signed at the Summit, the governors challenged the basin community to play an active role in drawing up the visionary blueprint for the watershed's future. They also called for the Delaware River Basin Commission (DRBC) to develop a new comprehensive water resources plan for the basin and to establish a DRBC watershed advisory council. The governors also asked for status reports of goals and indicators in order to track progress.

At the Summit, each of the basin states presented a "Flowing Toward the Future" award to recognize a person or persons who had made significant efforts to benefit the Delaware River Basin. The award winners included Peg and Hal Haskin (New Jersey); John C. Bryson (Delaware); Ruth M. Jones (Pennsylvania); and Raymond M. Christensen (New York).

The afternoon session included a panel discussion featuring New Jersey Department of Environment Protection Commissioner Robert C. Shinn, Jr., Pennsylvania DRBC Commissioner Irene Brooks, Delaware Department of Natural Resources and Environmental Control Secretary Nicholas A. DiPasquale, EPA Region II Administrator Jeanne Fox, EPA Region III Administrator Michael McCabe, and NPS Northeast Regional Director Marie Rust.

The day concluded with the "Experience the Estuary" Reception & Silent Auction, hosted by the Partnership for the Delaware Estuary. More than 100 local businesses and artists donated estuary-related items to the event.

For more information about the "Flowing Toward The Future" Governors' Summit, access the Delaware River Basin Commission's website [www.state.nj.us/drbc/summit.htm](http://www.state.nj.us/drbc/summit.htm) or contact Forsyth Kineon, Delaware Estuary Program Coordinator, at (609) 883-9500 x 217. Her e-mail address is [fkineon@drbc.state.nj.us](mailto:fkineon@drbc.state.nj.us).

The final "Flowing Toward the Future" event is a watershed-wide conference to be held November 15 - 17, 1999, at the Adams Mark Hotel in Philadelphia. This conference will build upon the first two events and, by focusing on consensus building, will help to establish directions and models for cooperative action that will sustain the river, its tributaries, and its watersheds into the next century and beyond.

### Editors Note

#### To Dredge or Not to Dredge . . .

We have received many calls from our readers wanting to know where things stand with the dredging of the Delaware River. To address this controversial project, we invited two organizations with differing views on the issue to write articles for inclusion in Estuary News. These articles can be found on pages 3 and 5. The opinions expressed are those of the authors and the organizations they represent.

plus workshops aimed at propelling implementation of specific suggestions.

Registration is required. For more information or to register, access the conference's websites at [www.delep.org](http://www.delep.org) or [www.heritageconservancy.org](http://www.heritageconservancy.org). You may also call the conference hotline at (215) 345-7020 ext. 122.

### PARTNERSHIP ANNOUNCES 2000 MINIGRANTS

Since 1991, the Delaware Estuary Program has awarded 60 minigrants, totaling approximately \$205,000, and averaging \$3,900 each. Since 1997, the Partnership has been administering the minigrant program. These minigrants, of up to \$5,000 each, have helped to increase public awareness of the estuary and participation in projects to protect it through local initiatives that address environmental problems in the region. The goal of the 2000 minigrant program is to promote activities that advance the implementation of the actions recommended by the Delaware Estuary Management Plan.

To obtain the 2000 Delaware Estuary Minigrant Request For Proposals and/or a copy of the Program's Management Plan, call the Partnership at 1-800-445-4935. The deadline for submitting proposals is Friday, December 17, 1999.

# Estuary events

## IMPORTANT UPCOMING DELAWARE ESTUARY EVENTS

**Cape May Ferry Special  
Foot Passenger Excursion  
Through Fall 1999  
Lewes Ferry Terminal  
Lewes, Delaware**

Depart on any ferry sailing from Lewes, Delaware and once you arrive in Cape May, the Mid-Atlantic Center for the Arts will take you on a guided, 30-minute trolley tour of Cape May's Historic District. For foot passenger tour information, call the Lewes Terminal at (302) 644-6030 or the Cape May Terminal at (609) 889-7200, or access [www.cape-may-lewesferry.com](http://www.cape-may-lewesferry.com).

**Continuing through September 30, 2000  
Exhibit: "Life of a Sailor: A Collector's Vision"  
Independence Seaport Museum, Penn's Landing  
211 S. Columbus Boulevard & Walnut Street  
Philadelphia, Pennsylvania**

Expect to see items from life aboard ship from the mid-18th century to the early 20th century, including logbooks, journals, tattoo designs, carvings, and scrimshaw. For more information, call (215) 925-5439.

**Growing Native  
Ongoing  
Pennypack Ecological Trust  
2955 Edge Hill Road  
Huntingdon Valley, Pennsylvania**

If you have a green thumb and you are interested in helping the Pennypack Ecological Trust propagate, plant, and sell native wildflowers, consider this volunteer opportunity. Under the auspices of the Pennypack Senior Environment Corps, the Trust is organizing a group of dedicated volunteers who will collect seeds of plants native to the area. For more information, call Brad Nyholm at (215) 657-0830.

**Delaware Valley Regional Planning Commission  
Public Workshop  
Monday, November 15, 1999, 6 pm - 8:30 pm  
Burlington Meeting House  
340 High Street  
Burlington, New Jersey**

This free public workshop, sponsored by the Delaware Valley Regional Planning Commission (DVRPC), will help develop Horizons 2025, a long-range land use and transportation plan, which updates and extends the Direction 2020 Plan. Pre-registration is required. A light dinner will be provided. A link to the full invitation and background about the Plan is available at [www.dvrpc.org/2025/invite.htm](http://www.dvrpc.org/2025/invite.htm). For more information or to make reservations, call DVRPC's Public Affairs Office at (215) 238-2871, or e-mail [jjenson@dvrpc.org](mailto:jjenson@dvrpc.org) or [csnyder@dvrpc.org](mailto:csnyder@dvrpc.org).

**Delaware River Watershed-Wide Conference!  
"Flowing Toward the Future: 21st Century Decisions  
for the Delaware River and Its Watersheds"**

**November 15 - 17, 1999  
Adam's Mark Hotel  
Philadelphia, Pennsylvania**

This will be the first ever basin-wide conference for the Delaware River watershed. The conference is the culmination of a four-part process to establish a unified vision and sense of direction for all watershed stakeholders and to begin developing a framework to enhance whole-basin watershed planning and management and developing sustainable and livable communities. Early check-in, registration, and the opening reception for this conference is Monday, November 15, 1999. For more information or for a full brochure, contact Russ Johnson, Heritage Conservancy, [rjohnson@heritageconservancy.org](mailto:rjohnson@heritageconservancy.org), or call the conference hotline at (215) 345-7020 x 122.

**Interagency Wetland Training: Winter Plant Identification  
December 6 - 8, 1999**

**Eastern Neck Wildlife Refuge  
Eastern Neck Island, Maryland**

This free course, structured with classroom lecture and field practice, covers topics relating to winter plant identification for use in on-site wetland ID and delineation. Heavy emphasis is placed on the use of botanical manuals and features. Wetland functions and values will also be discussed. For more information, contact Ralph Spagnolo at (215) 814-2718.

**New Year Marsh Party  
Saturday, January 8, 2000, 1 pm - 4 pm  
St. Jones Center for Estuarine Studies  
818 Kitts Hummock Road  
Dover, Delaware**

Join the St. Jones Reserve staff for an afternoon of storytelling, games and crafts to celebrate the New Year. Enjoy a beautiful winter walk through the estuary. Dress appropriately. All ages are welcome. Pre-registration is due by Wednesday, January 5. For more information or to register, call (302) 739-3436.

**2000 Annual Parks and Recreation Conference of Delaware  
"Changing Tides for Changing Times"**

**February 1 - 2, 2000  
Ruddertown Conference Center  
Dewey Beach, Delaware**

Sponsored by the Delaware Recreation and Parks Society, this conference will focus on the importance of recreation for youth and teens. Nationally acclaimed speaker, Charles Jordon, Director of Parks and Recreation for Portland, Oregon, will deliver the keynote address and propose alternatives to crime, drugs, and delinquency for children through recreational and after-school programs. A dual theme for the conference will be resource carrying capacity with several workshop sessions devoted to the science of balancing resource stewardship with a wide range of recreational opportunities. For more information, call Kyle Gulbranson at (302) 739-5285.

### Research at the Reserve

Wednesdays, February 2, 9, 16, & 23, 2000, 7 pm - 8:30 pm  
St. Jones Center for Estuarine Studies  
818 Kitts Hummock Road  
Dover, Delaware

Here is an opportunity for adults to learn what the St. Jones Center for Estuarine Studies is all about. Through this interactive seminar series, you can experience the research and other activities that go on at the Reserve. February 2 - Delaware Coastal Management Program; February 9 - St. Jones Reserve's Education Program; February 16 - Pfiesteria; and February 23 - Horseshoe Crabs and Shorebirds. Light refreshments will be served at the conclusion of each session. For more information, call (302) 739-3436.

### Volunteer Party and Potluck Dinner

Saturday, February 5, 2000, 4 pm - 6 pm  
St. Jones Center for Estuarine Studies  
818 Kitts Hummock Road  
Dover, Delaware

If you are interested in becoming a volunteer for the St. Jones Reserve, join the staff for a tour of the Reserve and new Center for Estuarine Studies building. Expectations and plans for a volunteer program will be discussed. Bring your favorite covered dish and the staff will provide hot dogs, hamburgers and drinks. Pre-register by January 28. For more information or to register, call (302) 739-3436.

## DELAWARE RIVER MAIN CHANNEL DEEPENING PROJECT

BY EDWARD VOIGT, PUBLIC AFFAIRS, PHILADELPHIA DISTRICT, ARMY CORPS OF ENGINEERS

Deepening the Delaware is both economically and environmentally sound.

### Why does the Delaware River need to be deepened?

Since the last deepening to 40 feet (during World War II), ships have become bigger and the needs of the port community have grown accordingly. As a result, the shipping channel needs to be modernized for improved efficiency and cost-competitiveness. In light of this, the port community, represented by the Delaware River Port Authority, asked the Corps in the 1980s to study modifying the 103-mile Delaware River Federal Navigation Channel.

In 1992, Congress authorized design and construction of a project to deepen the channel from 40 to 45 feet from Philadelphia and Camden to the Atlantic Ocean. The Corps will dredge 33 million cubic yards from the channel over four years, then 6 million every year to maintain the new depth. The \$311 million project could start as early as mid-2000, pending an agreement with the non-federal sponsor, the Delaware River Port Authority, for its \$100 million share.

Based on benefits to the nation as a whole (excluding local, regional or company-specific factors), the Corps identified annual transportation savings of \$40 million for a project benefit-cost ratio of 1.4. The savings come from more efficient vessel loading, reduced lightering in the Delaware Bay, and attraction of more efficient container and dry bulk vessels.

### Will the dredging stir up toxins that will contaminate drinking water and kill fish and aquatic life?

No. In close coordination with the Environmental Protection Agency, U.S. Fish & Wildlife Service, National Marine Fisheries Service and the states of Delaware, New Jersey and Pennsylvania, the Corps has spent more than \$7 million

on environmental assessment with all tests conducted by independent, EPA-certified labs.

The tests included chemical and biological analysis of sediments at the new 45-foot depth, both in the main channel (including bends) and in feeder berths used by the port community, showing no levels of concern according to applicable federal or state standards. These same environmental agencies have concurred with the Corps' findings of no significant impact, and all three states have approved the deepening project as consistent with their coastal zone management programs.

The EPA stated it "continues to believe that there will be no adverse impacts associated with the disposal of sediments generated by the project." The Fish and Wildlife Service added, "Results of chemical analyses provided within the biological assessment indicated that contaminant loads in the sediments tested are low."

### What will the Corps do with the dredged material?

The mix of silt, clay, sand and gravel from upriver will be pumped to existing federal sites in New Jersey and Delaware and to additional sites in New Jersey that were selected from an extensive screening process. Each site is contained by an underlying clay layer, and an independent U.S. Geological Survey study confirmed no significant groundwater impact due to this project. Sand removed from the Delaware Bay will be placed at "beneficial use" sites at Kelly Island, DE, and Egg Island Point, NJ (wetland restoration and protection) and along Delaware's bay coastline (beachfill).

*For more detailed information on these issues, see the Philadelphia District's Delaware River Main Channel Deepening Project web page at [www.nap.usace.army.mil/cenap-pl/drmc.htm](http://www.nap.usace.army.mil/cenap-pl/drmc.htm).*



# DUMP THE DELAWARE DEEPENING

BY MAYA VAN ROSSUM, DELAWARE RIVERKEEPERS

The United States Army Corps of Engineers (the “Corps”) and the Delaware River Port Authority (DRPA) are proposing to deepen the Delaware River’s shipping channel from 40 to 45 feet for 102 miles from Philadelphia/Camden to the sea. The \$300 million project poses serious threats to the Delaware River system including the human, aquatic and wildlife communities it supports. In addition, it will not have the economic benefits the Corps is claiming.

The Deepening Project poses a number of environmental threats to drinking water, aquatic species, wildlife and threats of toxic contamination. The Delaware Riverkeeper Network in partnership with the Sierra Club (New Jersey and Delaware Chapters), Delaware Wildlands and 20 other civic, environmental and health organizations from throughout the region have joined forces as the Alliance to Dump the Delaware Deepening in order to challenge this project and raise awareness about the environmental impacts and economic losses it represents.

## **The Deepening Project poses a serious threat to our environment and communities.**

Independent review has shown that the Corps’ data masked toxic “hot spots” which will be hit by the project. Muck pulled from the River bottom will go to 8 existing and 4 new disposal sites along the River, most in NJ, subjecting some communities to 75-foot-high dredge spoil piles. Two currently used dredge spoil disposal facilities already discharge copper, cadmium, lead, zinc, PCBs and DDX to the River. The corps has failed to consider the toxic impacts to wildlife that will inevitably visit the disposal areas.

Plans to import dredge spoils from outside the region (from areas like New York where spoils are highly toxic) and dumping them along the Delaware to help pay for the project appear to continue moving forward despite DRPA claims to the contrary. And the Corps continues to refuse to study the toxic impacts of deepening private side channels which must also be dredged for the project to be useful.

Confined disposal facilities may threaten drinking water supplies with toxic contamination. According to scientists, toxins from the confined disposal facilities may leach through the soil, polluting groundwater supplies below. Further study is needed to confirm the existence of this risk — studies the Corps will not be undertaking before the project goes forward.

Representations by the Corps that confined disposal facilities will quickly become pristine wildlife areas are unsubstantiated. The Corps plans to use the disposal facilities for at least 50 years, disturbing and redisturbing them every three years with

spoils mounting up to 75 feet high. There will be little opportunity for pristine wildlife refuges.

The deepening project threatens New Jersey’s recovering oyster populations with a moving salt line that can bring with it predators such as MSX and dermo, and with sediment which will cover oyster seed beds smothering spat, preventing the setting of spat, and/or smothering viable oyster populations.

Other threats glossed over by the Corps include: threats to the River’s federally endangered short-nosed sturgeon; salt water intrusion to drinking water supplies; blasting that could threaten drinking water aquifers; and impacts to wetlands and wildlife.

## **Economically the project also doesn’t make sense.**

According to the Corps, over 80% of the benefit from the Deepening Project will accrue to six oil facilities — lowering operating costs, thereby increasing their profit margin. None of the oil companies are being asked to contribute anything to the taxpayer funded project. Worse, none of the oil companies have committed to spending the \$20 to \$50 million they would have to spend to deepen their private channels and berths in order to take advantage of the project. One oil company is on record saying “they see no advantage to a 45 foot deepening at their facility at this time and the tanker berths will remain ‘as is’.”

The DRPA claims the dredging is needed to keep the Delaware River ports competitive with other East Coast ports by accommodating new deep draft ships. The truth is these ships need at least a 50-foot channel. Forty-five simply won’t do it. And according to consultants hired by the DRPA for a 1996 study, the new mega container ships will choose only one East Coast hub port — one with special new multi-million-dollar piers and rail terminals. Philadelphia/Camden — 100 miles up river from the sea — is not in the running for many reasons having nothing to do with the channel.

According to DRPA’s own consultants, at 40 feet the Delaware ports “can accommodate the majority of the existing and newly-constructed container ships that are in service today and for the foreseeable future.” These consultants go on to state, “[T]he growing importance of feeder ports is a role that is emerging for the ports of Philadelphia and Camden. The vessels that are becoming available for the feeder trade require less than 40 foot draft.”

*To learn how you can get involved or to join the Alliance to Dump the Delaware Deepening, contact the Delaware Riverkeeper, Maya van Rossum at 215-369-1188.*

# TIDINGS: News from around the region



## "Flowing Toward The Future" Workshop Results on DRBC Web-site

The results of the ten "Flowing Toward The Future" workshops have been posted on the Delaware River Basin Commission's web-site at [www.state.nj.us/drbc/drbc.htm](http://www.state.nj.us/drbc/drbc.htm).

## Kevin Donnelly Named DNREC's Director of Water Resources

Delaware Department of Natural Resources and Environmental Control Secretary Nicholas A. DiPasquale named Kevin C. Donnelly as the new director of the Division of Water Resources effective September 16, 1999.

Donnelly has served as an environmental program administrator in DNREC's Division of Soil and Water Conservation since 1991. In that capacity, he administered the Delaware Nonpoint Source Management Program under the Clean Water Act and the Sediment and Stormwater Management Program. Donnelly replaces Sergio Huerta, who returned to his position as administrator of the Department's environmental laboratory after serving as acting director for the past several months.

## New Jersey Conservation Magazine and Media Outreach

Receive a complimentary copy of the New Jersey Conservation Foundation's (NJCFs) magazine, recently named the nation's best for non-profits of its size, by sending your address to NJCF. The Foundation's staff includes more than a dozen of the state's most prominent experts on land conservation-related issues. If you are a reporter and need a quote about open space, statewide or regional planning, flora or fauna habitat, farmland preservation, urban parks, the Highlands, the Pine Barrens, the Delaware Bayshore, greenway planning, GIS or other conservation issues, call NJCF's Director of Communications, David Yaskulka, at (908) 234-1225, or e-mail [davidy@njconservation.org](mailto:davidy@njconservation.org).

## Wetlands Web Talk

Wetlands Web Talk is a new web-site by the League of Women Voters Fund to encourage local environmental protection. It contains valuable information on finding partners, identifying needs, fundraising, community outreach, and an overview of wetlands education projects by local Leagues across the country. The web-site address is [www.lwv.org/webwalk/index.html](http://www.lwv.org/webwalk/index.html).

## WWW.BVA-RCVA.ORG

The Brandywine Valley and Red Clay Valley Associations announce the launch of a new joint web-site. The front page links directly to sub-pages for each watershed. It also contains quick links to events. *For more information, contact Robert G. Struble Jr. at (610) 793-1090, or e-mail [water@bva-rcva.org](mailto:water@bva-rcva.org).*

## Delaware River Channels

The mission of Delaware River Channels, a bi-weekly electronic newsletter from the Delaware River Watershed Initiative, a program of Heritage Conservancy, is to promote the exchange of information and to encourage a dialog among the numerous groups working to improve the Delaware River Watershed. It is the place for sharing news, success stories, opinions, analysis, project information, event listings, job opportunities and questions.

For more information, call Russ Johnson, Director, Delaware River Watershed Initiative, Heritage Conservancy, at (215) 345-7020 x107. To subscribe to the Delaware River Channels distribution list or to post news items, send an e-mail to [rjohnson@heritageconservancy.org](mailto:rjohnson@heritageconservancy.org). *For nationwide river news, subscribe to American Rivers "River Currents On-line" by sending an e-mail to [jlowe@amrivers.org](mailto:jlowe@amrivers.org).*

## Conservation Reserve Enhancement Program

An agreement was made on June 2, 1999 between the USDA and Delaware to implement the Conservation Reserve Enhancement Program. This program makes available nearly \$10 million in State and Federal funds available as incentive and cost share payment to farmers for installing water quality improvement practices such as buffer strips that help filter nutrients from runoff of agricultural lands. *For more information, contact the Delaware Farm Service Agency at (302) 678-2547.*

## "Volunteering for the Coast"

NOAA's National Ocean Service (NOS) has produced a "Volunteering for the Coast" web-site that showcases coastal volunteer opportunities and highlights model volunteer programs. The web-site address is <http://volunteer.nos.noaa.gov/>. If you have developed any written materials to support your volunteer program, such as training curricula, volunteer interview questions, vision statements and guiding principles, or "how to" lists that you would be willing to share, send a copy to Aimee David, SC Sea Grant Intern, NOAA Coastal Services Center, 2234 South Hobson Avenue, Charleston, SC 29405-2413 or fax (843) 740-1313, and it will be included in the web-site. Your organization will be fully credited. *For more information, call (843) 740-1246, or e-mail [adavid@csc.noaa.gov](mailto:adavid@csc.noaa.gov).*

## Governor Ridge Releases \$2.18 Million for Flat Rock Dam

Governor Tom Ridge recently released \$2.18 million in capital budget funds for the design and construction of a fish ladder on the Schuylkill River at Flat Rock Dam between Philadelphia and Montgomery Counties. The Flat Rock Dam project is the critical domino to opening additional spawning habitat to fish species throughout the Schuylkill River. "The construction of this fish ladder will mean fish such as shad, striped bass and other species will be able to migrate even further up the Schuylkill River. It's another step in opening up this waterway to historic migratory species," said Robert Yowell, Pennsylvania Department of Environmental Protection (DEP) Acting Deputy Secretary for Water Management. *For more information on the project, contact Community Relations Coordinator John Gerdemann at (610) 832-6228, or e-mail [gerdemann.john@dep.state.pa.us](mailto:gerdemann.john@dep.state.pa.us).*

## Delaware Bay Oyster Transplant Project Begins

New Jersey fisheries officials are transplanting 75,000 bushels of Delaware Bay oysters in hopes of boosting a century-old industry, according to an Associated Press Earth Watch article. Commercial oyster harvests have slowly increased in recent years after parasites and other problems forced a decline dating to the 1950s. Now the New Jersey Department of Environmental Protection is promoting an effort to move healthy baby oysters, known as "spat," thriving in the upper bay to seed beds in the saltier lower bay, where they can grow to market size.

"This summer's drought may deal the oysters a setback because higher salt levels inching northward can carry more parasites to the upper oyster beds," said Susan Ford, a research professor at Rutgers University's Haskin Shellfish Research Laboratory in Bivalve. "But the surviving shellfish will breed hardier offspring," Ford said.

## Western Atlantic Shorebird Association Web Site [www.vex.net/~hopscotc/shorebirds/](http://www.vex.net/~hopscotc/shorebirds/)

WASA is a partnership of researchers, wildlife managers, government people and concerned naturalists dedicated to the study and conservation of shorebirds and their habitats. It was formed in September, 1998, after a meeting of experts from Federal, State and non-profit organizations concluded that, while there were numerous efforts underway to research and monitor shorebirds and to manage human impacts on their habitat, there was a lot of data but little information. WASA's aim is to facilitate and integrate monitoring and research efforts in a meaningful way that can be used for management purposes. WASA is funded and run jointly by the National Oceanic and Atmospheric Administration (NOAA), the National Estuarine Research Reserves (NERRS) Program, and the United States Fish and Wildlife Service. *The web-site address for this initiative is [www.vex.net/~hopscotc/shorebirds/](http://www.vex.net/~hopscotc/shorebirds/).*

## Ecological Research & Development Group (ERDG)

The Ecological Research & Development Group, a 501 (c) 3 non-profit organization from Milton, Delaware, has been an active participant in the development of oil and chemical spill contingency plans for the Delaware and Chesapeake Bays. However, their most exciting contribution and one with far reaching implications was conducted recently at the Regional Response Team meeting for Federal Region III (RRT III), according to Glenn Gauvry, President of ERDG.

The RRT III is made up of representatives from West Virginia, Maryland, Delaware, the District of Columbia, the Commonwealths of Pennsylvania and Virginia, and 16 federal departments and agencies. It is co-chaired by the Chief of the Removal Branch from the EPA and the Chief, Marine Safety Division, of the US Coast Guard. During the 3-day session, ERDG made several presentations to various workgroups and ultimately to the executive committee on the value of the regional horseshoe crab population. In attendance was Gregory Hogue from the Department of the Interior Regions III and IV.

ERDG recommended that the global biomedical and pharmaceutical value of the horseshoe crab be factored into the region's social and economic assessment. This would provide a more accurate indicator of the resource value and the need for contingency planning to protect or mitigate damage from a petroleum or chemical discharge during spawning season. *For more information, contact Glenn Gauvry at (302) 684-3373, or e-mail [ERDG@dmv.com](mailto:ERDG@dmv.com).*



## Stroud Water Research Center Becomes An Independent Not-For-Profit

On April 22, 1999, the Trustees of the Academy of Natural Sciences authorized the Stroud Water Research Center to become an independent not-for-profit corporation. Nurtured by the Academy for almost 33 years, the Stroud Center has evolved from

a small rural outpost above the Stroud family's garage into a major research and education facility with a full-time staff of 23, an annual budget approaching \$2 million, a world-wide reputation for scientific excellence, and a rural outpost of its own in Costa Rica.

The mission of the Stroud Water Research Center is to advance knowledge of stream and river ecosystems through interdisciplinary research; to develop and communicate new ecological ideas; to provide solutions for water resource problems world-wide; and to promote public understanding of freshwater ecology through education programs, conservation leadership, and professional service. *For more information, access Stroud's web-site at [www.stroudcenter.org](http://www.stroudcenter.org).*

## Ocean Facts Sheets

Ocean Facts Sheets, produced by EPA's Marine Pollution Control Branch, provide general information on the components, functions and impacts to coastal watersheds. Also included are tips on how you can help protect your coastal watershed. Topics include:

Your Coastal Watershed (Doc # EPA 842-F-98-006); Nearshore Waters and Your Coastal Watershed (Doc # EPA 842-F-98-007); Coral Reefs and Your Coastal Watershed (Doc # EPA 842-F-98-008); Estuaries and Your Coastal Watershed (Doc # EPA 842-F-98-009); The Beach and Your Coastal Watershed (Doc # EPA 842-F-98-010).

*To request a free printed copy, call (800) 490-9198, or download the fact sheets from the internet at [www.ea.gov/owow.oceans/factsheets/index.html](http://www.ea.gov/owow.oceans/factsheets/index.html).*

## Livable Communities - A Tools and Resources Kit

Livable Communities - <http://tis.eh.doe.gov/livablecommunity/index2.html> - is an electronic source of federal expertise to help you and your neighbors ensure a high quality of life and a strong local economy. Livable Communities streamlines information on federal grant and technical assistance programs, provides examples of how to use these programs to achieve your goals, and contact information for key individuals.

## Boater Voter Coalition Wins Buoy Marks at Dredge Harbor

The Boater Voter Coalition (BVC) won approval from New Jersey's Department of Environmental Protection (DEP) Navigation Aids Department in Toms River to install at least four finger type channel buoys to guide boaters from the main channel past the dangerous shoal area to Dredge Harbor's no wake zone. Over the past years, a shoaling tidal island has developed at the entrance to Dredge Harbor in Delran, New Jersey, in part due to the intake water pipe south of the entrance, which creates violent eddy currents at flood tide and silt deposits from the Rancocas Creek at ebb tide.

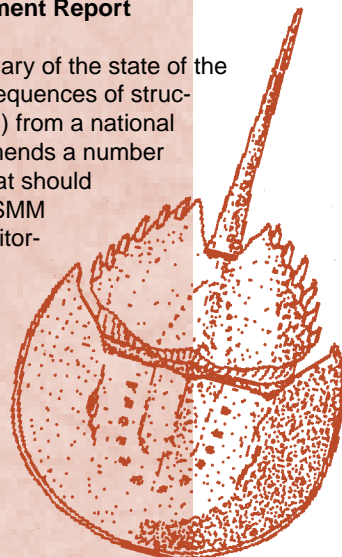
In addition, it was agreed to extend the no wake area with an additional buoy to help control erosion and improve safety. The BVC will maintain the placement of the entrance buoys until other arrangements can be made. If anyone knows of other areas where a danger exists, call Jerry Donofrio, BVC Chair, at (609) 877-2561. *For information on boating in New Jersey and Pennsylvania, access BVC's web-site at [boatervoter@public.usa.com](mailto:boatervoter@public.usa.com).*

## Grants Open: Wetland Conservation Programs

U.S. Fish and Wildlife, together with the North American Wetlands Conservation Council Grant, are accepting proposals until Friday, December 3, 1999, for wetland conservation projects. *For more information, contact Dr. Keith A. Morehouse at (703) 358-1784.*

## Ecological Impacts and Evaluation Criteria For The Use of Structures In Marsh Management Report

In addition to providing a summary of the state of the science on the ecological consequences of structural marsh management (SSM) from a national perspective, this report recommends a number of scientific/technical criteria that should be used to evaluate proposed SMM projects, highlights priority monitoring and research issues, and discusses SMM issues that are relevant in various regions of the country. *Refer to EPA-SAB-EPEC-98-003, January, 1998, when ordering this document or accessing [www.epa.gov/sab](http://www.epa.gov/sab).*



## Watershed Awareness Signs

This fall, people driving through New Jersey will learn what watershed they are driving through when they see five-foot by five-foot brown and white signs depicting a heron in flight with a cityscape to the left and suburbia with trees to the right that alerts them to the watershed they are entering. These watershed awareness signs mark the

boundaries of New Jersey's watershed management areas as part of a statewide campaign to increase public awareness about watersheds and the need to protect water quality.

The Department's initiative, to place watershed awareness signs at the boundaries of the 20 watershed management areas, can be transferred and used on a regional or local level. The sign logo is available for use by local governments and other organizations through the New Jersey Department of Environmental Protection Division of Watershed Management.

The Department has compiled a how-to guide, complete with tools and resources needed to coordinate a watershed awareness sign program for county and municipal roads. It plans to utilize the sign design with other educational initiatives, including a statewide watershed awareness campaign. The sign's logo and its slogan are also available for use. *To receive the guide and the watershed sign logo (on disk or hard copy), call Colleen Gould at (609) 633-1179, or e-mail [cgould@dep.state.nj.us](mailto:cgould@dep.state.nj.us).*

## Additional Public Comment Period on the Proposed TMDL Rule

In response to requests from a variety of stakeholders, EPA has agreed to extend the public comment period on the proposed Total Maximum Daily Load (TMDL) rules by 60 days. The comment period will now end on December 22, 1999. To view the rules, see WaterNews from August 19, 1999, or access [www.epa.gov/owow/tmdl](http://www.epa.gov/owow/tmdl).

## 24 Great Rail-Trails of New Jersey: The Essential Outdoor Guide to The Garden State's Best Multi-use Recreational Trails Built on Abandoned Railroad Grades

**Great Rail-Trails** by Craig Della Penna lists and describes in exacting detail 24 linear parks in New Jersey that were created from abandoned railroads. Each chapter tells how to get there, who to contact for local information, how long each trail is, and what kind of surface is encountered, as well as allowed uses. There is additional information on local bike shops, the closest bed & breakfasts, as well as a detailed odometer-based mileage guide describing over 150 miles of trails and local points of interest along the way. *Find it at your favorite bookstore, or call New England Cartographics at (413) 549-4124.*

# Teachers Page

## PROFESSIONAL DEVELOPMENT

It's time to start thinking about the 2000 Delaware Estuary Teacher Education Institute, a week-long residential summer program for K-12 public and private school classroom teachers to be held in July, 2000. Is your school in a county within the Delaware Estuary? Then call the Partnership for the Delaware Estuary Program at 1-800-445-4935 for an application.



## FIELD TRIP PLANNING

### Cape May-Lewes Ferry

Take your class on a field trip to the Cape May-Lewes Ferry Terminal and join them as they learn about the people and operations of the ferries as well as the marine life of the Delaware Bay. The Delaware River and Bay Authority's (DRBAs) School Outreach Program encompasses an interactive field trip of ferry facilities, an instructional video, and an exciting session with a Ferry Information Specialist. Crew members, including the Captain, join your class to answer questions. Your students will receive a study guide, Rand McNally book about the Bay, and a 'First Time Sailor' certificate that commemorates their visit. Sign up on-line at

[http://www.capemay-lewesferry.com/school\\_outreach.html](http://www.capemay-lewesferry.com/school_outreach.html), or call (609) 889-7255 for Cape May terminal tours or (302) 644-6018 for Lewes terminal tours. Schedule at least two weeks in advance for a great, educational visit.

### Isles, Inc.

Isles, Inc. is a non-profit community-development organization with a mission to foster self-sufficient families in sustainable communities through programs such as environmental education, community gardening, affordable housing, environmental health, community outreach, and job training. Based in Trenton, New Jersey, the organization offers educational programs, which include The Mighty Delaware, People and the Assunpink, The Delaware and Raritan Canal: Past, Present and Future and

more! In addition, Isles environmental education field trips meet the New Jersey State Department of Education core curriculum standards. For more information and to register, call Isles at (609) 393-5656 x 19 or x 15.

fall 1999



## Biden Environmental Training Center

Thinking ahead to Spring and need an environmental education overnight facility? Consider the Biden Environmental Training Center, which sits atop Hamburger Hill in Cape Henlopen State Park in Lewes, Delaware. The Center features a broad view of the Atlantic Ocean and the sand dunes that make up the park.

The facility may be reserved for events which have the purpose of improving the quality of life in Delaware through environmental education, charitable, social, or cultural activities, as well as corporate training sessions, meetings, and conferences. It offers three large multi-purpose conference rooms, a small conference room/lounge, a dining room, and overnight accommodations for 55 people.

Reservations for the Biden Center may be made on a first-come, first-serve basis, year-round, by calling Donna Wilson, Facility Manager, at (302) 644-5005.

## RESOURCE MATERIALS

### The Songbird Connection

"The Songbird Connection" is a K-12 curriculum package available from the New Jersey Conservation Foundation. It offers teachers a way to make the connections between North and Central American forest habitats of migratory songbirds using lessons designed and tested by teachers. The package includes five components: 3 posters, 25 bird and habitat flashcards, a video, 16 lessons and a teacher's guide.

Teachers who use "The Songbird Connection" find it useful to have baseball-size versions of the bird flashcards so that each student can be given a picture of the bird that they represent during classroom activities. Since the smaller versions are not included in the original package, teachers can use the web-site [www.eirc.org/birds.html](http://www.eirc.org/birds.html) as a way to reproduce them. The pages can be downloaded then printed on a color printer, laminated, and cut apart to make multiple copies of the smaller cards.

The cost of the entire package is \$50 plus \$3 tax plus \$7 postage/handling. Packages must be ordered directly from the New Jersey Conservation Foundation. They can be contacted at [info@njconservation.org](mailto:info@njconservation.org).

### Delaware Bay Shorebirds - Nancy Carol Willis

This poster is part of a campaign to help Delawareans [and others] appreciate the magnitude of the annual spring stopover of millions of migrating shorebirds through the Delaware Bay,

the role of horseshoe crabs and efforts to make sure the ecological balance is preserved. For more information, or to obtain this piece as a brochure, contact DNREC's Information and Education Office at (302) 739-4506.

### **The Robins in Your Backyard - Nancy Carol Willis**

This 32-page hardcover book, published by Birdsong Books in 1998, is now available at your local bookstore for \$15.95. The book describes the activities that occur during a breeding season, including how robins establish a nesting territory, court a mate, build a nest, and raise and protect their young. The illustrations are exceptional. The suggested reading level is ages 4 - 8.

## **WEB-SITES**

### **Water**

<http://water.usgs.gov/droplet>

The U.S. Geological Survey's Water Science for Schools web-site is designed for all students, ages 9-90, who want to learn about the many aspects of water. Topics include water basics; earth's water; special topics, such as acid rain; water use; an interactive activity center; and a photo gallery.

### **Bugs!**

[www.seanet.com/~leska](http://www.seanet.com/~leska) and <http://imc.lisd.k12.mi.us/msc1/invert/inverts.html>

Both web-sites offer macroinvertebrate descriptions and drawings specifically aimed at volunteer monitors. Volunteer groups are welcome to "steal" these materials for use in their own manuals and brochures. The Field Guide to Freshwater Invertebrates, prepared by Leska S. Fore and illustrated by Annabel Wildrick is at [www.seanet.com/~leska](http://www.seanet.com/~leska). Drawings can be downloaded in GIF format and opened in a word processing or drawing program. Visit the second site for more bugs.

### **Butterfly Gardening**

[www.wow.pages.com/nga/edu/NGA-EDUG.HTM](http://www.wow.pages.com/nga/edu/NGA-EDUG.HTM)

This is the National Gardening Association's web-site. It includes on-line application forms for Youth Garden Grants.

[www.butterflyworld.com/campaign.html](http://www.butterflyworld.com/campaign.html)

Butterfly World's BRING BACK THE BUTTERFLIES campaign is a North American effort to help people bring large numbers of butterflies back to our landscape. It is a call for people across the Continental United States and Canada to build small gardens in an effort to reverse the on-going destruction of butterfly habitat.

[www.butterflyworld.com/region7.html](http://www.butterflyworld.com/region7.html)

Visit this address for Butterfly World's Regional Guide to Butterfly Gardening. *Note: we live in region 7.*

## **"YO!!! NO DUMPING!"**

Are you a teacher in the City of Philadelphia and in need of an Earth Day 2000 activity for your class? Consider stormdrain stenciling, an environmental project designed to educate students about stormwater runoff pollution prevention and its role in the urban water cycle. Call the Partnership for the Delaware Estuary at 1-800-445-4935 for more information about the stenciling program.

[www.monarchwatch.org/](http://www.monarchwatch.org/)

Monarch Watch, created by the University of Kansas's Department of Entomology and the University of Minnesota's Department of Ecology, is dedicated to education, conservation, and research. It includes information about monarch butterfly biology, rearing, migration and tagging, conservation, research projects, articles and bibliographies, butterfly gardening, milkweed in the classroom, and more.

<http://aggie-horticulture.tamu.edu/wildseed/>

Wildflowers in Bloom is a cooperative project between Wildseed Farms and the Texas Horticulture Program. This page could easily serve as an online field guide with its lavish images, distribution range map, and growing information.

[www.mgfx.com/butterfly/](http://www.mgfx.com/butterfly/)

The Butterfly Web-site includes butterfly gardening, farming, ecology and education, Rick Mikula's "Spread Your Wings and Fly" seminar, The Nature Store, and more.

### **Resource Center**

[www.eirc.org/tour.html](http://www.eirc.org/tour.html)

The Educational Information and Resource Center (EIRC) is located in Sewell, NJ. It is a public agency specializing in education-related programs and services for parents, schools, communities and nonprofit organizations throughout New Jersey. Programs also reach into more than 36 states and 8 foreign countries. The EIRC is open on Mondays and Thursdays from 9:00 am - 6:00 pm; on Tuesdays and Wednesdays from 9:00 am - 8:00 pm; and on Fridays from 9:00 am - 5:00 pm. For more information, call (609) 582-7000, or access [www.eirc.org/tour.html](http://www.eirc.org/tour.html).

### **Virtual Libraries**

<http://ericir.syr.edu>

More than 700 lesson plans are available in the Educational Resources Information Center's (ERIC's) virtual library. Lesson plans are evaluated on the basis of organization, educational objectives, content, strategies, activities, absence of stereotypes, suitability of materials, and completeness. Plans are continually updated. Take advantage of the wonderful interface for ERIC searching.

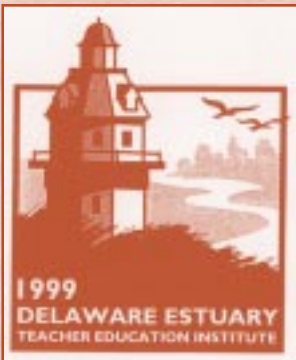
<http://discoveryschool.com/schrockguide>

Kathy Schrock's Guide for Educators offers a wealth of resources in all major subject areas, in-service resources, web evaluation tools, and search engines for kids.

**Check out  
these websites  
to learn  
more about  
the Delaware  
estuary:**

[www.del.ep.org](http://www.del.ep.org)  
[www.udel.edu/pde](http://www.udel.edu/pde)





**Memories from  
the Summer 1999  
Delaware Estuary  
Teacher Education  
Institute**

**July 19 - 23, 1999**

For information about the  
2000 Institute, call Lisa Wool  
at 1-800-445-4935



## students Page

**Teen Naturalists (12 - 16 year olds)**  
**Preview Meeting for Parents and Participants**  
**Thursday, January 20, 2000, 7:00 pm**  
**Ashland Nature Center**  
**Junction of Brackenville and Barley Mill Roads**  
**Near Hockessin, Delaware**

The Teen Naturalists, a club for teens who have a strong interest in nature and adventure, will begin in January. The club meets one day/month for environmentally-oriented field trips and excursions including canoeing, hiking, and nature adventure, and one extended wilderness trip. Participants will complete an independent nature project and learn from professionals in the environmental field. Delaware Nature Society members only. The cost is \$50/year. Scholarships are available. For more information, call Joe Sebastiani, School Program Coordinator, at (302) 239-2334 x 22.

**Fly Fishing (12 - 16 year olds)**  
**Ashland Nature Center**  
**Junction of Brackenville and Barley Mill Roads**  
**Near Hockessin, Delaware**

This new program combines the excitement of fly fishing with the understanding of aquatic ecology and conservation. The six-session program will cover care and selection of equipment, identification of fish and their aquatic insect prey, safety, fishing ethics and fly tying techniques as well as two freshwater fly casting excursions and a trip to a fish hatchery to study breeding techniques. Delaware Nature Society members only. See more details in the upcoming issue of *Estuary News*.



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## Estuary News

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Address Correction Requested

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## WHO IS THE PARTNERSHIP?

The Partnership for the Delaware Estuary, Inc., is a private, non-profit organization established in 1996. The Partnership promotes the estuary as a regional resource through public outreach and education.

To find out how you can become a member, call the Partnership at 1-800-445-4935, or visit our new website at [www.udel.edu/PDE](http://www.udel.edu/PDE).

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