

# The Masthead

Winter, 2004



Mid-Atlantic Marine Education Association

## From the Captain's Quarters



Over the last 12 months MAMEA has been celebrating the first 25 years of delivering excellence in marine education and improving education about all aspects of the Marine Environment. As with many celebrations, we are reminded that anniversaries are good opportunities to reflect on the past and plan for the future.

MAMEA began reflecting on the last 25 years at the 2003 annual fall conference held in Chincoteague, Virginia. While members got together to exchange ideas, establish new partnerships, and renew old friendships, this annual conference was radically different. The conference focused on **Environmental Scanning in Marine Education**, a strategic planning tool that empowers MAMEA to examine marine education based on collective experiences and ideas of member educators.

The strategic planning initiative revealed many new opportunities for improving the delivery of marine education, both formally and informally, and new avenues for coalition and consensus building. The initiative also identified institutional weaknesses that present new opportunities for creating a roadmap to the future.

As MAMEA prepares to embark on the next 25 years, a strong strategic plan will prepare the Association for addressing changes in the social, technological, economic, environmental, and political sectors that affect the delivery of marine education.

Over the next few months MAMEA members will have the opportunity to comment on the draft strategic plan. Based on your comments, the MAMEA board will consider adopting the strategic plan and chart a course for the future direction of the Association.

I welcome the opportunity to guide the Association into the next 25 years and encourage all members to be active and vocal. MAMEA is your Association and I work at your pleasure. It is an honor to represent MAMEA.



Lewis L Lawrence - President

## MAMEA 2004

October 29-30 Corolla, North Carolina

### *Biodiversity and Aquatic Ghosts*

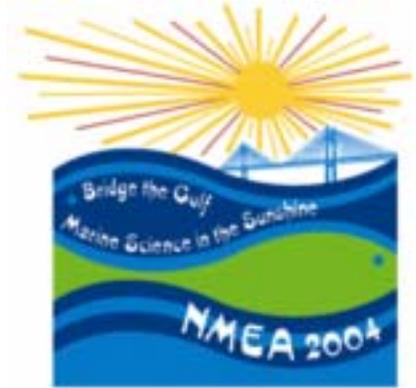
An annual

Marine Science Education Professional Development Weekend

Mark your calendars and start planning your costume now! Keep an eye on our website for more information at [www.mamea.org](http://www.mamea.org).

Hope to see you all there!

## NMEA 2004 Get on Board!



Start your planning immediately! Be thinking: the best beaches in the world, outstanding fishing and diving, world-class attractions and, oh yes, **the National Marine Educators Association annual conference in sunny St. Petersburg, Florida on July 18-22, 2004.** From our keynote address by Dr. Sylvia Earle to partying with Jimmy Buffett's Land Sharks Band, this will be the place to be next July! For more information, go to: [www.floridamarine.org/nmea2004](http://www.floridamarine.org/nmea2004).

We'll be adding more information to the web site soon so please continue to check back often. **The deadline for workshop proposal submission is February 20, 2004.** The conference will be limited to about 400 attendees this year so please consider registering as early as possible. The "Amazing Adventure of SuperPike," the NMEA's own superhero, will soon be posted on this site.

If you need more information immediately, please contact Scott Willis at [nmea2004@fwc.state.fl.us](mailto:nmea2004@fwc.state.fl.us).

See you in Florida!!





**Earth Expeditions** is a grant-funded program from Miami University and the Cincinnati Zoo that provides tuition-free graduate courses overseas. Teachers and other educators can join cheetah conservation efforts in Namibia, explore Neotropical ecology in Costa Rica, and help reintroduce blue-and-gold macaws in Trinidad. Application deadline: February 1, 2004. Contact Debbie Shelley: [shelledl@muohio.edu](mailto:shelledl@muohio.edu) or visit <http://dragonfly.wcp.muohio.edu/EEprogram/>.

#### **Environmental Learning Institute - Summer 2004**

The Environmental Learning Institute and Woodrow Wilson National Fellowship Foundation are fielding professional development workshops in Quintana Roo, Belize, British Columbia, Yukon and Alaska. Intermediate/secondary science educators can learn more about threatened North American ecosystems of global significance. Each course has a dual tract structure in biology and geology. Re-certification and graduate science credits and partial course fee fellowships are available. Contact [silverberg@alum.mit.edu](mailto:silverberg@alum.mit.edu) or visit: [http://www.environmentallearning.org/2004\\_TORCH\\_index.htm](http://www.environmentallearning.org/2004_TORCH_index.htm).

#### **Best Education Practices for Water Outreach Professionals Symposium, June 3-4, 2004**

##### **Call for Papers Deadline: January 30, 2004**

The University of Wisconsin - Environmental Resources Center invites educators and researchers from all regions of the United States to submit proposals for papers and posters to be presented at a *June 2004 Symposium on Best Education Practices (BEPs)* for water outreach and education. Submission details are available on-line at <http://www.uwex.edu/erc/waterbeps>. If you are a water outreach educator, natural resource professional, or researcher, please help build the national water quality BEP resource by sharing your knowledge. Conference organizers are looking for papers and posters that relate to one of the following content areas:

- Papers that review and summarize multiple studies of audience-specific Best Education practices.
- Papers or posters that report on research about audience-specific Best Education Practices.
- Posters that describe a case study where Best Education Practices have been applied.

**Research Learning Centers' Clearinghouse:** <http://www.nature.nps.gov/learningcenters/index.shtm>. There are 13 funded Research Learning Centers, which facilitate research efforts and provide educational opportunities about our national parks. In addition, the International Coral Reef Information Network's website includes a link to the Research Learning Center web page where the National Marine Protection Area Center's education email is highlighted: <http://www.coralreef.org/tools/teachers.html>.

*A Field Guide to Environmental Literacy: Making Strategic Investments in Environmental Education* by J. L. Elder. A real heightening of our nation's environmental literacy will require momentous educational reforms both inside schools and out. The purpose of this book is to highlight the need for, and potential benefit of, foundation seed funding to promote these reforms. An NAAEE member discount and online ordering are available. <http://www.naaee.org/publications/>

*Journey to Planet Earth* - Funded by the National Science Foundation, and re-edited for grades 6-12, this series of six 25-minute episodes help students understand the most critical and timely issues facing the natural sciences in the 21st century. Through an interdisciplinary approach, these programs reach beyond the physical sciences and draw connections to politics, economics, sociology, and history. Teacher guides and other educational support materials are also available. <http://www.pbs.org/journeytoplanetearth/>

**Recycled Hardware:** The EPA estimates that by 2005, 250 million computers will be thrown away in the U.S., most of them ending up in landfills. If you or your organization is thinking of donating a used computer or looking to receive refurbished equipment, check TechSoup's listing of almost 900 recyclers and refurbishers. On both lists you can see if the recycler is commercial (resells the equipment) or non-commercial (donates to schools and nonprofits). It is recommended that working equipment less than five years old be donated to non-commercial recyclers. Equipment that is non-working or older is best sent to a commercial recycler - <http://www.techsoup.org/recycle>.

The *Masthead* is the official newsletter of the Mid-Atlantic Marine Educators Association (MAMEA) and produced quarterly. The Association is an affiliate of the National Marine Educators Association and dedicated to the advancement of marine and freshwater education curricula, programs, and events that foster effective instruction, learning and environmental stewardship. Annual dues are \$10.00. For membership application, send your name, institutional affiliation, address, telephone/Fax numbers and e-mail address with payment to **Karen Fuss, 3008 Chelsford Way, Williamsburg, VA 23185, [karendave@widowmaker.com](mailto:karendave@widowmaker.com) 757-564-9629**, or contact any Board member.

The **Maryland Ornithological Society (MOS)** is accepting scholarship applications from educators to attend summer ecology workshops offered by state Maine and Wisconsin Audubon Societies. Each grant covers the cost of tuition, room and board for a six-day field study and instruction in ecology, conservation and ornithology. MOS requires that each scholarship recipient work with young people. Applicants must be endorsed by a MOS member or chapter. Travel expenses are the responsibility of the recipient. **Applications are due Jan. 31.** For information, or an application, visit the MOS web site: <http://www.mdbirds.org>, click on activities, then scholarships. For more information, contact Jean L. Fry, 1202 Ridge Road, Pylesville, MD 21132-1407, 410-452-8539 or [ffryjl@aol.com](mailto:ffryjl@aol.com)

***Invasive Species: The Good, the Bad and the Prolific*** - A Professional Development Workshop at the Brighton Suites Hotel, Rehoboth Beach, DE January 16-18, 2004 (K-5<sup>th</sup> grade teachers) & March 5-7, 2004 (6-12<sup>th</sup> grade teachers)  
Meet scientists working on problematic invasive species, gain the content needed to teach about invasives and receive and experience relevant curricular materials on invasive species. Course participants will learn new and exciting ways to promote inquiry-based science in the classroom and integrate science, history, economics and geography. This is a one-credit (15 hour) professional development workshop. For more information contact:  
In DE: Bill Hall, 302-645-4253, [bhall@udel.edu](mailto:bhall@udel.edu), in MD: Adam Frederick, 410-234-8850, [Frederic@mdsg.umd.edu](mailto:Frederic@mdsg.umd.edu) and in PA: Ann Faulds, 215-471-2216, [afaulds@psu.edu](mailto:afaulds@psu.edu). Fee: \$25.00 per person double occupancy. This includes hotel room, meals and supplies.

**2004 Maryland Mini-conference and Teacher Overnight at the National Aquarium in Baltimore March 12-13, 2004**

The Conservation Education Department invites educators to spend an evening exploring the sights, sounds, and

behaviors of Aquarium inhabitants. Attend hands-on workshops, take a behind the scenes tour, meet our divers to witness a night dive, and, after a night's rest, observe early-morning behavior of animals and staff in our Tropical Rain Forest. You bring the sleeping gear, and we'll provide teaching materials, snacks, beverages and breakfast. Call Kathy Siegfried at 410-576-3888 or email [ksiegfried@aquaria.org](mailto:ksiegfried@aquaria.org) for registration materials. Registration deadline is March 8, 2004. Fee: \$50.00

**Fort McHenry Wetland Clean-Up 2004**

The National Aquarium in Baltimore invites the public to participate in a hands-on wetland restoration project in partnership with the National Park Service to restore, monitor and maintain a tidal wetland adjacent to the Fort McHenry National Monument and Historic Shrine: April 17, June 5, September 18 and December 11, 2004. Each day is scheduled from 9:00 am to 1:00 pm. Data will be collected to track the function of this created tidal wetland and monitor the amount and type of debris in our waterways. Please notify us in advance if any special accommodations are needed, as access to the wetland is limited. The minimum age for this program is 14 years. Contact the Conservation Department at 410-659-4274 or [conserve@aquaria.org](mailto:conserve@aquaria.org).

**Maryland Department of Natural Resources *Hooked on Fishing, Not on Drugs Program***

The Maryland Department of Natural Resources is taking on a new challenge; teaching teenagers how to fly fish! Donna Fahres, state coordinator of the *Hooked on Fishing, Not on Drugs*, will help participants learn important knots, casting styles, fly tying, how to read the water to find fish, and spend hours fishing. For 2004, the clinics will be offered on weekends in the spring and fall throughout the state. Details will be posted by February at [www.dnr.state.md.us/education/hofnod.html](http://www.dnr.state.md.us/education/hofnod.html). You can also contact Donna Fahres at 410-260-8721 or by email at [dfahres@dnr.state.md.us](mailto:dfahres@dnr.state.md.us).

**NORTH CAROLINA (Amy Sauls)**

Calling all North Carolina Marine Educators! The **NC MAMEA mini-conference** will be held on February 7th – 8th, 2004 at the Fort Fischer NC Aquarium. This sleep over event will include speakers from our state's many educational facilities, demonstrations of classroom and outside activities, nature crafts, food, fun and a chance to mingle with other outstanding educators. The fee is \$35.00 and includes membership to MAMEA and all meals. Space is limited and registration is required. Please call 910-458-7468 for more information and to reserve your

spot. Folks that have already paid their 2004 membership will receive a discounted fee for the mini-conference. Teacher renewal credit will be offered.

**The North Carolina Aquarium at Fort Fisher** will host a **Marine and Aquatic Careers Day** for middle and high school students on Thursday, Jan. 22, 2004. The event will give students an opportunity to meet with professionals from a wide variety of marine and aquatic careers, including underwater photography, fisheries, reef

science, animal husbandry, and maritime history, as well as with representatives from area colleges. Divers from the N.C. Underwater Archaeology Branch (UAB) will give a demonstration in the Aquarium's 235,000-gallon Cape Fear Shoals exhibit. UAB Director Richard Lawrence will give a presentation entitled "Blackbeard and Other Pirates." Jack Hall, director of the Environmental Sciences program at UNC - Wilmington, will help students explore the role of a paleontologist in the reconstruction of a large fossilized whale skeleton. Bill Ross, secretary of the N.C. Department of Natural Resources, will conclude the day with closing thoughts and a poetry reading.

### North Carolina Maritime Museum

- Visitors to the **Museum's Watercraft Center** will observe the construction of a periauger; a historic vessel of split log dugout design, used by settlers in the southeast during the 18th and 19th centuries. No examples of these vessels exist. Upon completion in the spring, the vessel will interpret the state's maritime heritage at the historic 1730 Newbold-White House in Historic Hertford and at special events.
- A **scrimshaw exhibit** featuring whale teeth and baleen carved with scenes of ships and whaling is showing January-April. Family Day on February 28 will focus on Sailor's Arts & Skills activities.
- **Boating enthusiasts** may participate in classes in boat building, model making, adult sailing, and sea kayaking. The annual Wooden Boat Show (May 3) brings wooden boats together for sailing, rowing, and demonstrations. The **Junior Sailing Program and Summer Science School** offer children's classes in sailing, seashore life, kayaking, fishing, fossils, pirates, maritime archaeology and camps at Cape Lookout. Contact the museum for registration or applications.
- The **Lecture Series** features the books, *Hugh Morton's North Carolina* by the President of Grandfather Mountain (Dec. 3), and *Mariner's Menu, 30 Years of Fresh Seafood Ideas* by Joyce Taylor, retired NC Sea Grant seafood specialist (Jan. 30). Doug Wolfe, retired fisheries biologist with National Marine Fisheries tells "A South African Adventure" (Feb. 13). "Microbes: Canaries of the Sea" is presented by Dr. Hans Pearl, Kenan Professor of Marine and Environmental Sciences at the UNC-Chapel Hill Institute of Marine Sciences (Jan. 23). David Cecelski, Joint Professor of Documentary and American Studies at Duke and UNC, Chapel Hill presents "The Oyster Shucker's Song" (Mar. 19).
- **Museum-sponsored environmental field trips** feature waterfowl watching, carnivorous plants in

coastal forests, marine life collecting cruises, fossil hunts, and NC State Port tours. **The Cape Lookout Studies Program** uses the museum field station at Cape Lookout National Seashore for overnight programs to study barrier islands, dolphins, sea turtles, photography, and kayaking.

- For those interested in **Blackbeard and the Queen Anne's Revenge shipwreck**, the museum offers weekly tours of the Repository and narrated Maritime History Cruises around Beaufort.
- Exciting international travel opportunities are planned to Trinidad and Tobago on May 18-26 and a cruise to London aboard the *Queen Mary 2* on June 19-29.
- The branch museums of the North Carolina Maritime Museum at Roanoke Island and Southport are open for tours. Call NCMM at Roanoke Island (boat shop) at Festival Park 252-475-1500 and NCMM at Southport (museum) at 910-457-0003. For program information, view the Calendar of Events and the Education Services Guide at: [www.ah.dcr.state.nc.us/sections/maritime](http://www.ah.dcr.state.nc.us/sections/maritime) and [www.ncmm-friends.org](http://www.ncmm-friends.org). E-mail [maritime@ncmail.net](mailto:maritime@ncmail.net) or telephone 252-728-7317 for information. Teachers should call the museum to make reservations for school group tours, programs and field trips.

### North Carolina National Estuarine Research Reserve/North Carolina Coastal Reserve News

The Reserve Education office will soon have additional resources for teachers on the lesson plan page (<http://www.ncnerr.org/education/lessons/index.html>) that will include storm water runoff, microbial source tracking and water quality for use in the classroom. Look for these additions by spring '04.

*Estuary Live* is scheduled for the week of April 26<sup>th</sup>. Watch the Web page for a schedule [www.ncnerr.org](http://www.ncnerr.org). If you have not participated before, this is a fun, interactive, online field trip to an estuary. Guides take you on a field trip while you and your class can submit questions using an on-line form. In a few minutes the guides will answer your questions! The only technology you need is an Internet connection. See the Web page for more details. Registration is required to be able to answer your class's questions.

### Windows of Opportunity Grants for North Carolina Teachers

NC Beautiful, a nonprofit organization that works to improve North Carolina's environmental resources through education and environmental stewardship, is offering Windows of Opportunity grants to K-12 teachers

in North Carolina. The program helps teachers develop educational programs targeted at improving the environment while creating future environmental leaders. To request a Windows of Opportunity grant application form and guidelines, contact NC Beautiful's offices at 919.787.1693 or [ncbeautiful@bellsouth.net](mailto:ncbeautiful@bellsouth.net).

The **SouthEast Center for Ocean Sciences Education Excellence** (SouthEast COSEE) announces the second Ocean Education Leadership Institute for school educators June 25 - July 1, 2004. The institute will be held at the University of Georgia Marine Education Center and

Aquarium in Savannah, Ga. Middle and high school science teachers from NC, SC and GA are invited to apply for selection - 10 teachers with two alternates selected from each state. Teachers will be introduced to cutting-edge ocean science research in island dynamics and the physical and biological/ecological parameters of the South Atlantic Bight region. For information or an application, visit the SouthEast COSEE website at: <http://www.scseagrant.org/se-cosee/education.htm> or contact Margaret Olsen, Institute Coordinator and South East COSEE Education Specialist at [olsen@uga.edu](mailto:olsen@uga.edu)

## VIRGINIA (Lisa Ayers)

***Veined Rapa Whelks: Aliens in the Chesapeake*** is a multimedia CD-ROM designed to provide information on the biology, ecology, habitat requirements, and distinguishing features of Rapa whelks in relation to native Chesapeake Bay gastropods. This CD is designed as a resource for scientists, educators, and the general public. The Virginia Institute of Marine Science Department of Fisheries Science, the Chesapeake Bay Restoration Fund Advisory Committee, and Virginia Sea Grant supported the CD's development. Visit the *Veined Rapa Whelks: Aliens in the Chesapeake* Web site ([www.vims.edu/mollusc/education/rapaCD.htm](http://www.vims.edu/mollusc/education/rapaCD.htm)) for ordering information. Also, for information on other VORTEX materials, visit ([www.vims.edu/mollusc/education/vortex.html](http://www.vims.edu/mollusc/education/vortex.html)).

**Amazing Sea: An Undersea Adventure** - Virginia Marine Science Museum, May 2 - September 1, 2004 Immerse yourself in the sights and sounds of an undersea environment created by two walkthrough mazes and a sea-themed toddler play area. Five interactive rooms, using a combination of visual, tactile, audible and comprehension activities, give guests in-depth lessons on ocean creatures, their environment and the effects humans have on it.

**Ironclad Exhibition** - The Mariner's Museum Beginning Friday, March 5, 2004, you can relive the night crewmembers from the Civil War ironclad USS Monitor fought for their lives as the vessel slipped beneath the cold Atlantic Ocean waves on December 31, 1862. This new exhibition features artifacts, original documents, and images from the USS Monitor and CSS Virginia to help bring alive the lives, warfare, history, and times that made these two vessels such an important part of this country's naval history.

**Marine Navigational Instruments** - The Mariner's Museum, Open through Sunday, May 2, 2004. This temporary exhibition features 115 navigational instruments spanning five centuries of maritime history.

The exhibition guides visitors through four thematic areas—finding direction, finding latitude, finding longitude and predicting the weather.

### **Blue Crab Bowl**

Old Dominion University (ODU) and the Virginia Institute of Marine Science (VIMS) will host the seventh annual Blue Crab Bowl at ODU on Saturday, February 28, 2004. Sixteen high school teams from across the state will compete in this round-robin/double elimination academic tournament. The winners will receive an all-expense paid trip to the National Ocean Sciences Bowl in Charleston, South Carolina April 24-26, 2004. For more information, contact [crab@vims.edu](mailto:crab@vims.edu) or visit the Blue Crab Bowl Web page at [www.vims.edu/adv/bcb/](http://www.vims.edu/adv/bcb/).

The **Middle Peninsula Planning District Commission** has issued a request for proposals from qualified education consultants to conduct watershed educational programs and plan a community watershed festival in Virginia's Middle Peninsula. Find more information at <http://www.mppdc.com>.

### **2004 Virginia Environmental Stewardship Awards**

The Secretary of Natural Resources and the Virginia Petroleum Council (VPC) have announced that nominations are now being accepted for the Year 2004 Virginia Environmental Stewardship Awards. The program encourages nominations that exemplify innovative and effective stewardship initiatives and educational approaches to help enhance Virginia's natural resources and is open to any individual, class or school, public/private partnership, business or community. Winners will receive handsome engraved plaques at a luncheon to be held in the Richmond area in the spring of 2004. Categories include: Youth (under the age of 21), Adult, Organization (non-profit, community, civic, etc.) and Communication/Educational Projects or Programs. The deadline is April 30, 2004. For an application, call Mike Ward at VPC (804) 225-8248.

## WASHINGTON, D.C. (Sarah Schoedinger)

Hey, MAMEAns! Save the date for the **DC-Delaware Chapters' 2004 Joint Mini-Conference** on aquatic education and coastal ecology. When: May 22-23, 2004. Where: Delaware Aquatic Resource Center in Smyrna, DE. What: We plan to provide outdoor experiences that take advantage of the various coastal environments nearby and, if the moon and tides are right, we'll be able to observe the horseshoe crab spawning. Questions? Contact Shaun Giudice at [s\\_giudice@comcast.net](mailto:s_giudice@comcast.net) or Sarah Schoedinger at 202.332.0063 or [sschoedinger@coreocean.org](mailto:sschoedinger@coreocean.org).

The Consortium of Ocean Research and Education (CORE) is pleased to announce that the **6<sup>th</sup> Annual Chesapeake Bay Bowl**, a regional competition of the National Ocean Sciences Bowl, will be held in

Washington, DC. The National Ocean Sciences Bowl (NOSB<sup>®</sup>) is a unique program that prepares budding scientists, policy makers, teachers, explorers, researchers, technicians, environmental advocates, and informed citizens for future challenges in the field of marine science. Teams of high school students from the District of Columbia, Delaware, Maryland and southern Pennsylvania are encouraged to register for the event, which will be held during February 2004. Participants will be eligible to apply for scholarships and internships and the winning team from this region will receive an all-expenses-paid trip to Charleston, South Carolina to face off against 23 other regional teams at the national competition April 24-26, 2004. For more information on how to participate, please visit the NOSB<sup>®</sup> web site at [www.NOSB.org](http://www.NOSB.org) or call Leslie Orzetti at 202-285-9303.

## Opportunities

### The Chesapeake Bay Small Watershed Grants Program

The Chesapeake Bay Small Watershed Grants Program provides grants to organizations working on a local level to protect and improve watersheds in the Chesapeake Bay basin, while building citizen-based resource stewardship. The purpose of the grants program is to address the water quality and living resource needs of the Chesapeake Bay ecosystem. *Under the 2004 Chesapeake Bay Small Watershed Grants Program*, grants of up to \$50,000 will again be awarded on a competitive basis to support projects that meet the program guidelines. For more information, visit the National Fish and Wildlife Foundation's web site at <http://www.nfwf.org/chesapeake/index.htm>. **Proposals are due February 2, 2004.**

### Workshop on Voluntary Wetland Restoration Opportunities in Virginia, Wednesday, March 3rd, 2004

(Northern Virginia Regional Department of Environmental Quality (DEQ) Office, Woodbridge, Virginia)  
This workshop is part of our on-going efforts to establish a Virginia Citizen Wetland Education, Outreach, and Monitoring Initiative, funded through a grant from the EPA to the DEQ and the Alliance for the Chesapeake Bay (Alliance). Leaders of natural resource associations and organizations including local governments watershed, civic, and land trust and private landowners are to be invited to participate in the workshop. Although the workshop is free for all participants, **registration is required no later than February 25<sup>th</sup>, 2004**. A workshop brochure containing registration details and a current agenda are available at: [www.AllianceChesBay.org/events.cfm](http://www.AllianceChesBay.org/events.cfm). For specific questions regarding the workshop, please contact Hadley Milliken ([hmilliken@acb-online.org](mailto:hmilliken@acb-online.org)) or Stacey Moulds ([smoulds@acb-online.org](mailto:smoulds@acb-online.org)) of the Alliance at 804.775.0951.

### National Science Teachers' Association 2004 Eastern Regional Convention – Call for Presentations

The regional conference will be held in Richmond, VA, Dec. 2-4, 2004. Conference strands include: Maximizing Resources in Standards-Based Instruction, Technology Integration, Biotechnology - Applications and Implications, and **Interdisciplinary Study of Watersheds**. This promises to be an exciting, comprehensive conference. Deadline for proposal submissions for area conventions is January 15, 2004. For more information, visit: <http://www.nsta.org/sessions>. Please contact one of the following individuals for further information or to volunteer to help with the convention.

Maria Cooper, Convention Chairperson ([mmcooper@vbcps.k12.va.us](mailto:mmcooper@vbcps.k12.va.us))

John Kowalski, Program Coordinator ([jkowalsk@pen.k12.va.us](mailto:jkowalsk@pen.k12.va.us))

Jimmy Johnson, Local Arrangements Coordinator ([leafmold@aol.com](mailto:leafmold@aol.com))

The Virginia Association of Science Teachers will not have a separate convention in 2004

**NMEA will be sponsoring a marine/aquatic education Share-a-Thon at the conference. MAMEAns are encouraged to participate. If you have activities, curriculum resources or other items that you would like to share, contact Beth Jewel at [fin2fluke@hotmail.com](mailto:fin2fluke@hotmail.com).**

## Graduate Research Fellowship Program

The National Estuarine Research Reserve System's Graduate Research Fellowship offers qualified master and doctoral students an opportunity to address scientific questions of local, regional and national significance. Students have an opportunity to conduct their research in a reserve as well as contribute to the research or monitoring program. The result is high-quality research focused on improving coastal management. For more information, check out [www.ocrm.nos.noaa.gov/grf](http://www.ocrm.nos.noaa.gov/grf).

## Captain Planet Foundation Environmental Grants

The mission of the Captain Planet Foundation is to fund and support hands-on environmental projects for children and youths. Their objective is to encourage innovative programs that empower children and youth around the world to work individually and collectively to solve environmental problems in their neighborhoods and communities. For more information including guidelines and application, check out: [http://www.captainplanetfdn.org/aboutUs.html#policies\\_grant\\_guidelines](http://www.captainplanetfdn.org/aboutUs.html#policies_grant_guidelines).

## Out and About

### Dangerous invader plant takes root in Maryland.

When Judy Harlan's husband, Bill, walked up the hill to their Harford County farmhouse in late May and told her she had to come see something by the Little Gunpowder Falls, she knew it would be unusual - but an alien-like plant, growing fast, with leaves the size of tabletops? "I was just amazed at the size of the leaves," Judy Harlan said. "It looked like a giant Queen Anne's lace." What they had found next door to their farmland was giant hogweed, a cousin to the carrot and an invasive species worthy of a most-wanted list for noxious plants. With heights of 8 to 15 feet, giant hogweed grows to sci-fi movie standards and looks every bit the part, from its sometimes 4-foot-wide flowering head to the wiry stubble spiking its expansive leaves. The purplish-red stalks, up to 4 inches in diameter, contain a toxic sap that causes skin to blister, burn and have prolonged sensitivity to sunlight.

Giant hogweed has been found in western New York, Oregon, New England, Washington, Michigan and Washington, D.C. In Pennsylvania, agriculture officials

say it has been reported in at least 250 sites. State agriculture officials have identified three Maryland giant hogweed sites, two in Gunpowder Falls State Park and one in Ruxton near Lake Roland. Giant hogweed has been in Maryland for decades.

The weed attracts curious passers-by, especially children. Recent news articles detail stories about children who received serious skin burns after using the large stalks for telescopes, swords or peashooters. The initial reaction mirrors poison ivy, with blisters that form and pop within days. But dark scarring can result and last for a year and the skin remains sensitive to light for a prolonged period. "Your skin loses the ability to deal with ultraviolet light," said Jonathan McKnight of the state Department of Natural Resources. So obviously, officials say, don't touch the plants. To report suspicious plants, call the Maryland Department of Agriculture's Plant Protection and Weed Management Section: 410-841-5920.

By Lane Harvey Brown, Sun Staff - July 24, 2003 (Original article edited)

### Harsh winter blamed for blue crab shortage

Commercial fisherman Frenchie Poulin set 20 wire mesh crab pots in Delaware Bay one day last week. His catch of no more than a dozen hard crabs was barely worth the effort. On a normal day, he said, he would expect several bushels. But this is not a normal year. "There isn't any crabs," Poulin said.

Delaware's blue crab harvest is as low as it has been in more than 20 years. Crabbers are not doing much better in New Jersey or in the big crabbing states of Maryland and Virginia along Chesapeake Bay. The commercial harvest also is down as far south as North Carolina. Fishery experts said they think a particularly cold winter has taken a heavy toll on blue crab stocks in the mid-Atlantic region. That has further weakened a population already in decline because of over fishing and pollution that harmed crab

habitats. They fear it could take years for local crab stocks to recover. It took eight years for the local blue crab population to rebound after the last big winter-freeze in Delaware Bay in 1976-77. That means lean times for watermen who harvest crabs for a living and higher prices at restaurants and markets, especially for seafood lovers who prefer locally harvested hard-shelled crabs.

"Farmers, if they have a bad crop, the government goes out and subsidizes them," said seafood wholesaler Alan Pleasanton, of Leipsic. "For the watermen, it's tough luck." For consumers, it means prices 35 percent to 100 percent higher than a year ago. A bushel of large crabs is selling in Delaware for \$135 to \$200, depending on the retailer. In past years, a bushel of hard crabs would cost \$100 or less by midsummer. Crabs still are available in

most places, but many wholesalers are trucking them in from North Carolina and Louisiana where catches have been stronger. In Delaware, many crabbers are resigned to a bad season, fishing every other day to cut expenses. Some of the state's 200 commercial crab license holders have turned to conch fishing to supplement their crab harvesting, said Richard Cole, the state shellfish administrator. So far, the state has received about 66 percent of commercial crab reports due for May.

Maryland officials said preliminary statistics show 23,000 bushels were harvested in May, down 40 percent from the May average since 1996 of 38,750 bushels. In New Jersey, Commercial fishermen landed 33,544 bushels in May in 2002. This May, landings totaled 12,948 bushels, said Jack Kaskey, a spokesman for the New Jersey Department of Environmental Protection. Blue crab populations have been declining in the region since the mid-1990s. Some experts think the main reason is that too many crabs have been harvested along the Atlantic Coast from New York to Florida. In 1976, crab landings in Atlantic Coast states totaled more than 81 million pounds and that increased to 192 million pounds by 1993. Since then, however, the harvest has dipped to 97 million pounds in 2001. In Delaware, the harvest peak was more than 8 million pounds in 1995. By 2001, it had dropped by half. The 4 million pounds of crabs landed in the state brought \$5.1 million at the dock. Although blue crabs reproduce rapidly and they mature quickly, experts think the take may be

outpacing the ability of the crustacean to keep pace. "The stock's been fished hard," in Delaware Bay, Cole said.

Blue crabs are one of the few fisheries along the Atlantic Coast not managed by federal or regional commissions that try to prevent over fishing by setting catch limits. Blue crab harvests are managed by individual state rules except for Chesapeake Bay, where a bi-state commission advised Maryland and Virginia on how to control the catch. The commission recently disbanded.

In a normal year, adult crabs winter in the bottom mud. If the bottom temperature drops below 36 degrees, many crabs will die, said Charles Epifanio, a professor of marine biology and biochemistry at UD's marine college in Lewes. There are 17 species of blue crabs and most are tropical, he said. Only three of the species come to the temperate region and few stray north of Long Island. "We're here at the northern edge of this species," Epifanio said. "They're not very cold tolerant. The adults are more sensitive than the juveniles." State officials said the impact of the hard winter could last for years. They estimated that mortality rates for mature crabs could be 47 percent or more during a cold winter. The year before the last big Delaware Bay freeze in 1976-77, the harvest was 3.6 million pounds. The next year, it dropped to 880,200 pounds and the following year it bottomed out at 331,700 pounds. "The stock wasn't really rebuilt until 1985," Cole said.

By Molly Murray, Sussex Bureau reporter, July 27, 2003 (Original article edited.)

## Check These Out

The following is a curriculum resource review by Jane Brown and Lisa Wu. Both reviewers teach high school marine science and biology, and coach NOSB teams.

***The Discovery of Hydrothermal Vents: 25th Anniversary 1977-2002*** (CD, 2002)

Woods Hole Oceanographic Institution, (508) 289-2271, email: [info@whoi.edu](mailto:info@whoi.edu)

**Grade Level:** High school and upper middle school.

**Subjects:** Marine Science, Earth Science, and some Biology.

**Works on computer:** Very easy to use, runs quickly without glitches.

**NOSB Value:** Excellent prep in seafloor spreading, satellites, ships and submersibles.

**Classroom Applications:** Independent use by students with teacher worksheet (not included), PowerPoint presentations, jigsaw with small groups, etc.

**Special features:** Excellent graphics (TASA Graphic Arts does a great job with plate tectonics), link to an online expedition, pop-up glossary, video interviews with Robert Ballard and other scientists, archives including newspapers and research journals, printable screen.

**Student appeal:** Colorful pictures, engaging animation, content interesting and easy to understand, timelines, awesome graphics, short reading sections with bright photographs and videos. There is a section that presents the ocean as a battlefield that should be especially appealing to middle school boys!

**Teachers' comments:** WOW! Woods Hole has got a great product for teachers and students. This well organized CD has 5 major chapters on every aspect of hydrothermal vents including their discovery in 1977, the role of vents in seafloor spreading, vent biology, chemosynthesis, oceanographic discoveries, and geography.

**Grade:** A+ for its visual appeal to students, readable content, and inclusion of vent biology, geology, chemistry,

physics, technology and geography! This is a "gotta have" for all teachers who include hydrothermal vents into their curriculum. This CD will please both students and teachers!

**Cost:** FREE

(WHOI has a web site that also covers hydrothermal vents. It is called Dive & Discover and is found at <http://www.divediscover.who.edu>.)

**If you have a curriculum, activity, audio-visual or other resource you would like to share with other educators, please submit a brief article to the Masthead editor.**

### **Estuary Public Awareness**

The Association of National Estuary Programs (ANEP) launched a national public awareness campaign entitled *What's an Estuary: Now You Know* in late September. In North Carolina, the campaign was debuted during *EstuaryLive!*, the interactive Internet fieldtrip featuring the Rachel Carson National Estuarine Research Reserve. For a full listing of campaign activities occurring nationally or for more information go to: <http://www.What'sAnEstuary.com> or [www.ANEP-USA.org](http://www.ANEP-USA.org). The Teaching Learning Network and ANEP have also produced a new episode in the *Voices of Vision* series entitled: *Watery Ring of Life: Saving our Estuaries*. The *Voices of Vision* series is comprised of documentaries that tell compelling stories of individuals who are helped by the generosity and skills of others and the organizations they represent. Each episode spotlights the work of a particular non-profit organization by profiling people who have been positively affected by those efforts. For more information visit: [www.voicesofvision.org](http://www.voicesofvision.org).

**Wetlands 101** is a new on-line course covering wetland ecology, types and management. It is the perfect first step for anyone wanting to learn more about wetlands. Simply visit [http://www.wetland.org/educ\\_wetlandinfo.htm](http://www.wetland.org/educ_wetlandinfo.htm) and click on STEP 1, THE COURSE, which is divided into three sections and in Adobe format. Confident with your new wetland knowledge, move on to STEP 2, THE TEST. Follow the link and you will be greeted with 13 questions that change each time you take the test. Additional wetland education resources include:

- **POW! THE PLANNING OF WETLANDS** - Students learn to use aquatic plants and shovels to create a home for wildlife, a home called a wetland. While creating this vital resource, students gain life skills, reinforce concepts learned in school and feel empowered by making a positive difference in the environmental and their community.
- **WOW! THE WONDERS OF WETLANDS** - The nation's premier wetland education resource, educators find it easy to use and it fulfills their need for a single activity guide and information source covering all aspects of wetlands.
- **The Wetland Youth Leadership Program** is a 2-day training designed to give youth leaders the tools necessary to create a voice and have that voice heard. Students will leave the program with the knowledge, skills, materials, and motivation to educate others about the value of wetlands. Visit [www.wetland.org](http://www.wetland.org).

**Watchable Wildlife Program** is a cooperative, nationwide effort made up of state and federal agencies to support the public's interest in viewing wildlife and conserving wildlife habitat. NOAA Fisheries Office of Protected Resources and the National Ocean Service's National Marine Sanctuary Program joined Watchable Wildlife to ensure that marine species and habitats would be included in the program, and to initiate the development of appropriate viewing guidelines for the public to use in the marine environment. Please contact Jill Lewandowski, [jill.lewandowski@noaa.gov](mailto:jill.lewandowski@noaa.gov), or Jennifer Jefferies, [jennifer.jefferies@noaa.gov](mailto:jennifer.jefferies@noaa.gov), at (301) 713-2289. For more information, check out the websites: <http://www.nmfs.noaa.gov/pr/MMWatch/MMViewing.html> and <http://www.watchablewildlife.org>.

### **Project Dolphin Campaign**

For over a decade, the NOAA Fisheries Office of Protected Resources has worked to educate the public about the dangers of feeding and otherwise closely interacting with wild dolphins. As these activities alter the animals' natural behavior in ways that place them at increased risk of injury and death and also pose a significant public safety concern, NOAA Fisheries OPR has developed educational materials, including brochures, posters, warning signs, and public service announcements. For more information, contacts: Jill Lewandowski or Jennifer Jefferies (see above, Watchable Wildlife). Check out the website at: [http://www.nmfs.noaa.gov/prot\\_res/MMWatch/protectdolpfcamp.html](http://www.nmfs.noaa.gov/prot_res/MMWatch/protectdolpfcamp.html).

### **Getting in Step: a Guide to Effective Outreach in Your Watershed**

The *Getting in Step* guidebook or on-line web-based training module provides some of the tools you need to develop and implement an effective watershed outreach plan. If you're a watershed practitioner trained in the sciences, this manual will help you address public perceptions, promote management activities, and inform or motivate stakeholders. In addition, a

35-minute video is now available and can be ordered by contacting Don Waye at [waye.don@epa.gov](mailto:waye.don@epa.gov). To download the guidebook or for the training module, check out: <http://www.epa.gov/owow/watershed/outreach/documents/>.

### **Web Videos Available On-Line**

The Perry Institute for Marine Science/Caribbean Marine Research Center invites you to download and view three new educational videos for a glimpse at our underwater environments. These short videos give a brief overview of several pressing marine conservation topics currently being addressed through our research efforts. The topics are: Marine Protected Areas, Coral Reefs and Nassau Grouper. Each of the 3 videos is approximately 6 minutes long and is easy to download and view with Windows Media Player. VHS tapes and DVD videos may be purchased. Contact [cmrc@cmrc.org](mailto:cmrc@cmrc.org) or 561-741-0192 for more information. For more information, go to: <http://www.cmrc.org/pubs.htm>.

**Interactive Watersheds:** Virtual 3D explorations of five watershed areas are at [www.interactivewatersheds.net](http://www.interactivewatersheds.net) with the use of 360-degree panoramas, accompanied by explanatory text outlining the restoration activities taking place in the watershed. In addition, digital terrain maps give users the choice of many sub-watershed areas, including views that span great distances or examine riverside microenvironments. Users can find additional descriptive text, photographs, and audio-video sequences of people talking about natural resource issues within the panoramas. Activities include efforts to improve water quality, restore upland and riparian vegetation and wetlands, and rehabilitate fish and wildlife habitats. The Interactive Watersheds web site also features Watershed Community Centers, in which watershed groups and interested individuals can engage in real-time interaction about ongoing restoration work.

### **Association for Environmental and Outdoor Education: *Teaching Outside the Lines* (Call for Papers)**

April 30-May 2, 2004 - Camp Hess Kramer, Malibu, California

Workshop proposals that address the theme of the conference are invited. Suggested topics for workshops include natural history, teaching methods, hands-on activities/games, naturalist/ science skills, educational theory, career/educational paths for environmental educators, program development, music, outdoor/indoor and classroom curricula, science standards, reflective writing, group management, storytelling, stress management, and anything else pertinent to the field. Submission Deadline: February 14, 2004. [http://www.aeoe.org/conference/spr2004/presenter\\_app.html](http://www.aeoe.org/conference/spr2004/presenter_app.html)

**River of Words:** <http://www.riverofwords.org/contest/index.html> River of Words, in affiliation with The Library of Congress Center for the Book, conducts an international poetry and art contest for youth on the theme of watersheds each year. The contest is designed to help youth explore the natural and cultural history of the place they live, and to express, through poetry and art, what they discover. The contest is open to any child, K-12, on their own or as part of a group. Prizes are awarded in art and poetry categories, according to age group. The entry deadline (U.S.) is February 15th.

### **Wyland Ocean Challenge**

Developed by the Scripps Institution of Oceanography (UCSD) and marine life artist Wyland, the Wyland Ocean Challenge, "Clean Water for the 21st Century" is an interdisciplinary art and science educational program for grades K-6. The program integrates easily into primary school science units through: Teacher activities, Art contest, and live learning events. It also meets all national standards for science, and is filled with art activities, case studies, and science experiments to teach students about the wonder of water on our planet. It is also available in Spanish.

<http://www.wylandoceanchallenge.org/>

### **Digital Library for Earth Education System (DLESE)**

This is a community-led, NSF-funded effort to promote access to high-quality resources for teaching and learning about the Earth. Now in its fourth year, DLESE provides access to over 5,000 educational resources. These resources include a variety of formats, from text-based lesson plans and field trip guides to sophisticated tools for visualization of scientific data. New features include: the ability to search by National Science and Geography Standards, the ability to search over multiple collections of resources, and services that allow educators to evaluate resources and supply tips for their effective use - <http://www.dlese.org/>.

### **Coastal Habitat and Estuarine Restoration Conference – Call for Presentations**

September 12-15 - Washington State Convention & Trade Center and the Grand Hyatt, Seattle, Washington. Presentation submission deadline: February 2nd. Poster Proposal deadline: March 1st. For more information, go to: <http://www.estuaries.org/2ndnationalconference.php>.

## What is the lowest temperature ever recorded on the Earth's Surface?

On July 21, 1983, the temperature dropped to a frigid  $-128.6^{\circ}\text{F}$  ( $-89.2^{\circ}\text{C}$ ) at Vostok Station in Antarctica. The lowest temperature in the United States occurred at Prospect Creek, Alaska. On January 23, 1971, the temperature there fell to  $-80^{\circ}\text{F}$ , or about  $-62^{\circ}\text{C}$ . The lowest temperature ever recorded in the conterminous 48 states,  $-69.7^{\circ}\text{F}$ , occurred at Rogers Pass, in Lewis and Clark County, Montana on Jan. 20, 1954. The lowest annual normal (1941–1970 mean) temperature in the United States is  $9.3^{\circ}\text{F}$  for Barrow, Alaska, which lies on the Arctic coast. In the 48 conterminous states, Mt. Washington, N.H. (elevation 6,262 ft), has the lowest annual normal temperature,  $26.9^{\circ}\text{F}$ .

## Where was the largest snowfall recorded in North America?

The most snow recorded in 24 hours was 76 inches (about 193 cm), or more than 6 feet. It blanketed Silver Lake, Colorado, on April 14-15, 1921. The most snow recorded during one season was 1,140 inches (about 2,896 cm). It fell at Mt. Baker in Washington State in 1998-1999. The largest hailstone ever found in the US was documented in Aurora, Nebraska on June 22, 2003. It was 7 inches (17.8 cm) in diameter, 18.75 inches (47.6 cm) in circumference.

## It really makes you wonder!!

**The following are actual visitor suggestions and comments received by the National Park Service.**

"Escalators would help on steep uphill areas of the hiking trails."

"More families would enjoy the parks and city children could learn more about nature if the Parks Department would provide services that include arcades, water slides and child care."

"A big hotel with a golf course and even a convention center would attract more people to this natural beauty."

"...the Forest Service needs to reduce world population growth to limit the number of visitors to the wilderness."

"Trails need to be wider so people can walk while holding hands."

"Many trails need to be reconstructed. Please avoid building ones that go uphill."

"Too many bugs and leeches and spider webs. Please spray wilderness areas to rid them of these pests."

"Chair lifts need to be in some places so that we can get to the wonderful views without having to hike to them."

"Too many rocks on the mountains."

"A deer came into my camp and stole my bag of chips. Is there away I can get reimbursed: Please call . . . ."

## Air Pressure and Surface Tension at Work

**Objective:** Students will observe and describe the physical forces exerted by air pressure and surface tension.

**Materials:** small paper cups, 3X3 inch heavy paper squares, 3X3 inch nylon window screen squares, water

**Background:** Differences in air pressure within and around a closed system can create a partial vacuum with amazing consequences. A siphon demonstrates this very effectively. The larger the siphon diameter, the greater the volume of liquid it can move. In addition, the cohesive force between water molecules can make water seem to do the impossible. Combine the two forces, and students can create a "magic" show of physical forces.

**Procedure: (Perform these activities over a sink or out doors.)**

- Fill a small paper cup with water. Place a heavy paper square over the cup and hold it in place with the flat of your hand.
- Quickly turn the cup and paper up side down. Slowly remove your hand holding the paper square.
- If done correctly, the water will remain in the cup. **(As the cup is inverted, a small amount of water leaks out. This causes the air space inside the cup to expand and decreases the air pressure. The outside air pressure is great enough to hold the paper square securely against the bottom of the cup, keeping the remaining water inside the cup.)**
- If you disturb the paper square or if it softens too much, the water will then fall from the cup.
- Now refill the cup and pour some water through a screen square. Of course, the water flows freely through it.
- Refill the cup and place the screen square over the cup. Hold the screen in place with the flat of your hand.
- Quickly turn the cup and screen up side down. Slowly remove your hand holding the screen.
- If done correctly, the water will remain in the cup. **(Two forces are at work here. The holes in the screen are small enough to allow the cohesion between water molecules to create a strong surface tension film. This seals the surface of the screen. In addition, the difference in air pressure inside and outside the cup holds the water in the cup.)**
- Disturb the screen and, well, you know what will happen.

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- **Attend one of the programs and use the resources described in this issue,**
- **Apply for the MAMEA mini-grant ([www.MAMEA.org](http://www.MAMEA.org)),**
- **Consider submitting an article for a future *Masthead* issue,**
- **Ask your students to research the *Out and About* topics in this issue of *Masthead*, and**
- **Renew your MAMEA membership!!**