

# The Masthead

Winter, 2005



Mid-Atlantic Marine Education Association

## Captain's Quarters

Another winter is upon us and like me; many of you are thinking, "WHERE did 2004 go?" Although it may seem a blur, a lot happened this year! As a result of the efforts of our past president, the 2004 board, and your input, MAMEA now has an action plan to focus on the needs of our membership and provide solid direction for the future. We are grateful to Lewie Lawrence for his hard work and persistence in this effort. Additionally, great strides have been taken to put us on a solid financial path. Look for more specific budget information in the next newsletter and on the website in early 2005.

This year, three mini-conferences were held in our region with over 80 teachers in attendance. Additionally, 77 members gathered at our annual fall conference in Corolla over Halloween weekend to explore concepts in marine biodiversity, rekindle connections, and impersonate their favorite marine organism at the Biodiversity Ball.

You have a very active NMEA chapter in MAMEA. At our fall conference several members asked, "How can I get more involved?" Here are a couple of avenues to get the most out of your regional marine education organization.

- Please take the time to visit our website and look over the action plan. Comments should be directed to Lewie Lawrence and are welcomed from the membership through December 30, 2004. There are many details in the action plan and the board is looking at this as a working document. We plan to revisit it regularly and work toward meeting the essential points over time.
- Consider a board position or join a committee. There are several established committees and committee chairs and a few new ones developing. These are listed in this issue.

The key to our success in moving MAMEA forward lies in YOU. We need your participation, input and expertise to strengthen the organization. I look forward to working with all of you in the coming year.

Happy Holidays,

Susan Haynes  
MAMEA President 2004-2005



## National Marine Educators Association 2005 Conference Call for Papers

The theme of the National Marine Educators Association annual 2005 meeting, Kahului, Maui, July 11-16, 2005, is *Nana I Ke Kumu, Nana I Ke Kai – Look to the Source, Look to the Sea*. The deadline for abstract submission is February 1, 2005. For more information, check out [www.hawaii.edu/maui/oceania/NMEA05.html](http://www.hawaii.edu/maui/oceania/NMEA05.html).



**NMEA 2005**  
Kahului, Maui, Hawai'i  
*Nānā I Ke Kumu, Nānā I Ke Kai*  
Look to the Source, Look to the Sea

## 2004 MAMEA Awards and Elections

A special congratulation goes out to the following individuals:

- Barbara Waters – Classroom Teacher Award
  - J. Adam Frederick – Non-traditional Educator Award
  - Shauneen Giudice - Special recognition
  - Patricia Hay – N.C. Representative
  - Jane Brown – VA Representative
  - Bill Simpkins – DC Representative
  - Amy Sauls – President Elect
  - Lewie Lawrence – Past President
- See page 11 for the story.

# Check These Out

## **A Resource Guide for Oceanography and Coastal Processes**

The *Oceanography and Coastal Processes Resource Guide* covers coastal processes, organisms, habitats, geology and chemistry. Topics range from ROV manipulator arms to camouflage to coral creatures. There are 81 lesson plans, each complete with basic scientific background information, educational objectives, materials lists, instructions, evaluation and extensions for further learning. You can access the resource guide at <http://www.coast-nopp.org/toc.html> or [www.usm.edu/aquarium](http://www.usm.edu/aquarium). While on USM's Scott Aquarium website, click on Resources to access the *COAST Resource Guide* and while you're there, check out the *Coral Reefs Resource Guide*.

## **Cyberschoolbus Seeking Teachers to Review Content**

The United Nations Cyberschoolbus is looking for teachers and curriculum supervisors to review content and lesson plans being developed for the website. The site currently provides a wide variety of educational resources, including a Cleaner Oceans curriculum, a briefing paper on climate change, and a Water Quiz. Reviewers will receive free materials for their classroom. <http://www.un.org/Pubs/CyberSchoolBus/index.html>

## **ARKive – Images of Life on Earth**

ARKive is a centralized digital library of films, photographs and audio recordings of the world's species, providing a record of the world's biodiversity. The website features photographs of endangered and protected species, including information on habitat, status, descriptions, threats and biology. It also features lesson plans (UK standards).

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

## **Electronic Naturalist**

The Electronic Naturalist is an on-line education program providing a weekly environmental education unit. Each unit has artwork, text, activities, additional web sites, plus online access to a professional naturalist. The units cover insects, fish, amphibians, reptiles, birds, mammals, plants and environmental issues. <http://www.enaturalist.org/index.htm>

## **Environmental Education Works**

The EE-works is a service of the National Environmental Education and Training Foundation (NEETF). The website hosts data, studies and case examples of how environmental education has a measurable impact on environmental protection and improved student learning. <http://www.theeworks.org/>

## **Journey of the Loggerhead:**

This interactive DVD on marine turtles contains GIS data, satellite-tracking information, still photographs, extensive interviews and a 26-minute video about the loggerhead and other marine turtle species. There is also an on-line Curriculum Correlations guide. <http://www.envmedia.com/production/loggerhead/index.htm>

## **Sea Turtles: An Ecological Guide**

This book features more than 350 color photos and original graphics that illustrate basic concepts of taxonomy, ecology, physiology, human impacts and conservation of sea turtles. A unique reference for naturalists, divers, eco-tour operators, resource managers and policy-makers, the book can also serve as a text. Contact author Dr. Karen Eckert at [keckert@widecast.org](mailto:keckert@widecast.org) soon.

## **Smithsonian Lesson Plans**

Smithsonian lesson plans emphasize inquiry-based learning using primary sources and museum collections. The searchable database allows you to browse lesson plans by subject area or search by grade levels and keywords. Ocean Planet: Marine Science Activities are at [http://www.smithsonianeducation.org/educators/lesson\\_plans/lesson\\_plans.html](http://www.smithsonianeducation.org/educators/lesson_plans/lesson_plans.html).



## **Map Your Waters**

EPA's Office of Water has just released a new version of EnviroMapper for Water (<http://www.epa.gov/waters/enviromapper>). EnviroMapper for Water provides a Web-based mapping connection to a wealth of water data. You can use it to view and map data, such as the uses assigned to local waters by your state (fishing, swimming, etc), waters that are impaired and do not support their assigned uses, the reasons why waters are impaired, water

quality monitoring information, closures of swimming beaches, and the location of dischargers. Other enhancements make it easier to locate and view these data, and instructions are included describing how to incorporate the resulting map into your own Web page. Contact Tommy Dewald at [dewald.tommy@epa.gov](mailto:dewald.tommy@epa.gov) or 202-566-1178.

### **Revamped Save Our Streams Clean Water Kit**

The toolkit is a central element to the League's longstanding Save Our Streams (SOS) program. The toolkit includes a number of fact sheets on wetlands, the Clean Water Act, and watershed action plans. The toolkit can be purchased on the Izaak Walton League's web site at [www.iwla.org/merchant2](http://www.iwla.org/merchant2).

### **New Tool for Achieving Smart Growth and Water Quality Goals**

EPA has released a new report, *Protecting Water Resources with Smart Growth* that will help communities protect water resources and achieve smart growth. The report documents 75 innovative approaches including redeveloping abandoned properties, encouraging rooftop gardens, creating shared parking and promoting tree planting. The report and more information about smart growth are available at: <http://www.epa.gov/smartgrowth>.

### **New Stream Classification Module Added to Watershed Academy Online**

A new stream classification module is available on EPA's Watershed Academy's on-line training program at [http://www.epa.gov/watertrain/stream\\_class/](http://www.epa.gov/watertrain/stream_class/). The module summarizes the basic Level 1 and Level 2 techniques for classifying stream channel types according to the Rosgen classification system. Check out other on-line Watershed Academy Web modules at [www.epa.gov/watertrain](http://www.epa.gov/watertrain).

### **New Website on Beaches**

The agency is organizing the information around topics rather than programs or organizations. One of the first new topics-based sites brings together the Agency's information on beaches. Take some time to visit EPA's new beaches website at [www.epa.gov/beaches/](http://www.epa.gov/beaches/) to help you plan a trip to the beach, learn about beach conditions, and see what EPA is doing to clean and protect our Nation's beaches. EPA is also working on topics-based sites for water quality standards, cruise ship water discharges, floating debris, private drinking wells and septic systems.

### **New WOW education Module: Smart Consumers**

The World Wildlife Fund has released its latest education module in the Windows on the Wild series: *Smart Consumers: An Educator's Guide to Exploring Consumer Issues and the Environment*. The guide includes 14 hands-on activities, a Community Action Guide, and a colorful poster. <http://www.worldwildlife.org/windows/consumers.cfm>

### **Global Change Report**

A new report by the Pew Center on Global Climate Change, *Observed Impacts of Global Climate Change in the U.S.* by Camille Parmesan of The University of Texas-Austin and Hector Galbraith of the University of Colorado-Boulder, reviews the broad range of ecological changes that have occurred in response to human induced changes in the global and U.S. climate. <http://ealert.pewclimate.org/ctt.asp?u=430867&l=67971>

### **Watershed Academy CDs**

Watershed Academy is offering a free CD version of the online watershed-training program. Each module is interactive and written in a style to optimize understanding by general audiences and is used by a number of professors as a framework for their college courses. Orders for up to 50 CDs require no special approval. Request: the Watershed Academy Web on CD publication EPA 841-C-03-001 by email: [ncepimal@one.net](mailto:ncepimal@one.net), call: 800-490-9198, or visit: <http://www.epa.gov/watertrain/getCD.html> or <http://www.epa.gov/watertrain/>.

### **List of publications on shipwrecks and shipwreck related topics**

This is a bibliography of shipwreck related titles of print and online resources that have been cataloged in the NOAA Library Network's online catalog. Entries are organized alphabetically by title and include call numbers and URLs if available. The document also includes a section of selected Internet resources. For more information, go to: [http://www2.mpa.gov/mpa/mpaservices/virtual\\_library/virtual\\_library.lasso](http://www2.mpa.gov/mpa/mpaservices/virtual_library/virtual_library.lasso) and search shipwrecks.

### **The Microbe Zoo**

This virtual zoo, part of the Digital Learning Center for Microbial Ecology at Michigan State University, is filled with exotic specimens from the microscopic worlds around, inside of and on us. The zoo includes pictures of microbes; data

about their size, scientific classification, feeding habitats, and descriptions of how the microbes fit into and interact with their environment and other microorganisms. Look for the microbe of the month and tales of the extreme.

<http://commtechlab.msu.edu/sites/dlc-me/index.html>

### **National Marine Sanctuaries Education Website**

Take a Sanctuary Tour of image galleries or explore the section for teachers that include curriculum, online activities, professional development opportunities, high tech learning, multicultural programs and much more. You can also take a virtual dive in a submersible, download puzzles, read online storybooks and engage in digital labs just for fun.

<http://sanctuaries.noaa.gov/education>

### **National Sea Grant Library**

This unique library houses the only complete collection (including 30,000 titles and a total of 90,000 documents) of Sea Grant funded work. It also maintains a 36,000 record bibliographic database that is searchable from the website. You may obtain citations and abstracts of Sea Grant publications and access a full text copy of the many documents.

<http://nsgl.gso.uri.edu/index.html>

### **This Land is Your Land**

This is a free, activity-based youth curriculum on land use issues developed by MSU Extension's United Growth for Kent County project. It was designed so that young people can contribute solutions to current land use issues as well as participate in making sound decisions now and in the future. <http://web4.msue.msu.edu/msuewc/kent/yourland/>

### **All About Birds**

Brought to you by the Cornell Lab of Ornithology, this site includes an on-line guide to bird watching, sound files of bird songs, a video gallery, and links to a variety of sites where you can report your observations. The conservation section highlights bird conservation success stories. Other information includes habitat management, an educator's guide to bird study, and how to get involved in bird conservation. <http://www.birds.cornell.edu/programs/allaboutbirds/>

### **Phytopia: Discovery of the Marine Ecosystem**

This educational CD-ROM, developed by Bigelow Laboratory for Ocean Sciences, University of New England, and NASA's Jet Propulsion Laboratory, is available for the price of shipping. The CD provides a window to the world of the oceans' microscopic life. Phytopia consists of three major modules: Phyto Files, Phyto Factors, and Special Topics.

Other features include an image-based glossary and summaries of relevant topics. <http://www.bigelow.org/phytopia/>

### **Respect the Beach**

*Respect the Beach* is a coastal educational program that includes classroom lectures, handouts, video, hands-on projects, and more, designed to teach coastal watershed processes, shoreline ecology and coastal areas stewardship to K-12 students and community groups. Surfrider members, who represent ocean environmentalism from the surfer's perspective, bring the program into classrooms. Programs include Beachology, Watershed Works, and the Snowrider Project. <http://www.surfrider.org/programs/respectthebeach.asp>

### **Migrations On-line**

Teachers and students in K-12 classrooms can participate this February through May in one of the Journey North project's free online global studies of wildlife migration and seasonal change. Participating classrooms watch spring sweep across the hemisphere by following the migration patterns of monarch butterflies, bald eagles, and other animals; the budding of plants, changing sunlight, and other natural events. Students share field observations with classmates across North America and analyze real-time maps and data from other students and professional scientists.

<http://www.learner.org/jnorth>

### **BBC Science and Nature**

This BBC site features live animal web-cams; wildlife articles and field guides; a searchable database; conservation projects in the UK; photography; and much more. Science & Nature-Birds is the latest addition and offers a comprehensive guide for bird watching; live bird-cam; projects for students; and bird-song audio files where students can learn to identify birds by their song. <http://www.bbc.co.uk/nature/animals/>

## Lessons for a Sustainable Future

Population Connection's all-new version of its popular middle school curriculum, *People and the Planet: Lessons for a Sustainable Future*, is now on CD-ROM. As an interdisciplinary, environmental education and global studies guide in one, *People and the Planet* covers concepts and objectives central to science, social studies and math. The CD-ROM matches activities to national standards for ten different subject areas; sorts them by thematic unit, subject and topic, and includes a thorough teacher's guide with instructional readings, helpful graphs and an inclusive list of sources for further research. <http://www.populationeducation.org/pages/0.productdetail.productdetail,00.ecs?contentid=172>

## USGS Website – The Water Cycle

This new U.S. Geological Survey (USGS) Website about "The Water Cycle" is the most comprehensive discussion of the water cycle anywhere. It features a diagram of the water cycle, available in 37 languages, and an in-depth discussion of each of the 15 topics on the diagram, such as condensation, runoff, storage, springs, flow and more. <http://ga.water.usgs.gov/edu/watercycle.html>

## Around the Association

### Maryland (Kathy Siegfried)

#### 2005 Maryland Mini-conference and Teacher Overnight at the National Aquarium in Baltimore, March 11-12

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, MD MAMEA representative, at 410-576-3888 or email [ksiegfried@aqua.org](mailto:ksiegfried@aqua.org) for registration materials. Registration deadline is March 4, 2005. Fee: \$50.00

#### Project WET Workshop at the National Aquarium in Baltimore, March 5, 2005

Participants in this one-day workshop engage in hands-on, multidisciplinary activities that promote awareness, appreciation, knowledge and management of water resources. All participants receive a copy of the *Project WET Curriculum and Activities Guide*, which contains more than 60 activities for children in Grades K through 12. Call David Christopher at 410-576-8799 or email [dchristopher@aqua.org](mailto:dchristopher@aqua.org) for registration materials. Registration deadline is February 18, 2005. \$7.00/person includes Aquarium admission and refreshments. Lunch is on your own.

#### Wonder of Wetlands Workshop at the National Aquarium in Baltimore, April 23, 2005

This one-day workshop features hands-on, multidisciplinary activities from the *WOW! The Wonders of Wetlands* curriculum guide. All activities are designed to increase understanding of wetland ecology

and issues, and to promote informed decision making regarding wetlands. This workshop is appropriate for informal and formal educators of students in Grades K through 12. Each participant receives a free copy of *WOW! The Wonders of Wetlands*. Call David Christopher at 410-576-8799 or email [dchristopher@aqua.org](mailto:dchristopher@aqua.org) for registration materials. Registration deadline is April 9, 2005. \$10.00/person includes Aquarium admission and refreshments. Lunch is on your own.

#### Fort McHenry Wetland Clean-Up 2005 Dates A Day in the Muck with the National Aquarium in Baltimore!

The National Aquarium in Baltimore invites the public to participate in a hands-on wetland restoration project! In partnership with the National Park Service, the Aquarium is working to restore, monitor and maintain a tidal wetland adjacent to the Fort McHenry National Monument and Historic Shrine, one of the few remaining in the lower Patapsco River watershed. In an effort to do so, the Aquarium will be hosting four Public Restoration Days during the year 2005. These events are free of charge and will be held: **April 16, June 11, September 24 and December 3, 2005**. Each day is scheduled from 9:00 am—1:00 pm. During the restoration activities and debris removal, 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.** To receive a registration packet, simply contact the Conservation Department at **410-659-4274** or [conserve@aqua.org](mailto:conserve@aqua.org). **Please note:** Due to hazardous work conditions associated with urban debris

and marsh waterfront features, the minimum age for this program is 14 years.

### **National Aquarium in Baltimore's Aquarium on Wheels Program wins the prestigious *Coming Up Taller* Award**

On December 14, 2004, First Lady Laura Bush presented the National Aquarium in Baltimore's Aquarium on Wheels Program with the prestigious *Coming Up Taller Award*. *Coming Up Taller* is a national initiative that recognizes and supports outstanding out-of-school and after-school arts and humanities programs for young people. It is a project of the President's Committee on the Arts and Humanities.

Winners of the award exemplify excellence and diversity in the power of the arts and the humanities to inspire young people and to equip them with essential tools for a creative and productive life. The National Aquarium in Baltimore's Aquarium on Wheels Program combines instruction in theater and science for 16 – 18 Baltimore City and Baltimore County high school students helping them to transform science-based information into a fun, educational play, portraying everything from sharks to jellyfish. The play, created entirely by the students in the program, is then performed to thousands of children in Baltimore City at the Enoch Pratt Free Libraries as part of the Summer Reading Program. The Aquarium on Wheels Program staff is honored by this recognition.

### **North Carolina (Patricia Hay)**

The SouthEast Center for Ocean Sciences Education Excellence (SECOSEE) will sponsor the following programs:

- **From the Mountains to the Coast** is set for Friday, January 7, 2005 from 4:00 p.m. to 8:30 p.m. and Saturday, January 8, from 8:30 a.m. to 3:00 p.m. Teachers will gather at the Catawba Science Center in Hickory, NC, and will receive materials and resources to use in the classroom, as well as join a regional network of educators from NC, SC, and GA. Registration is limited. For information and registration, contact Doni Angell, [dangell@burke.k12.nc.us](mailto:dangell@burke.k12.nc.us), Walter Johnson Middle School, 701 Lenoir Road, Morganton, NC 28655; phone: 828-430-7340; fax: 828-430-4801.
- **Ocean Awareness Comes to the Piedmont** is set for Friday, January 14, 2005 from 9 a.m. to 3:30 p.m. Join educators at Discovery Place in Charlotte for a day of ocean activities. Dr. John Bender of UNC-Charlotte will be the guest speaker, focusing on Pacific Ocean studies of undersea volcanoes. Teachers will receive materials and resources to use in the classroom, as well as join a regional network of educators from NC, SC, and GA. Lunch will be provided. Registration is limited. For information, contact Deb Emmans, 704-372-6261, ext. 226, [debbie@discoveryplace.com](mailto:debbie@discoveryplace.com). To reserve space in the workshop, call 1-800-935-0553 or 704-372-6261, ext. 300.
- **North Carolina's Coastal Past, Present & Future** is scheduled for Saturday, March 5, 2005 at the NC Museum of Natural Sciences in Raleigh, NC, participating teachers will receive materials and resources to use in the classroom, as well as join a regional network of educators from NC, SC, and GA. Registration is limited. For information and registration, contact Sarah Kuszaj, [<skuszaj@wcpss.net>](mailto:skuszaj@wcpss.net).

- **Ocean Awareness Day** is set for Saturday, March 12, 2005, 9:30 a.m. to 4 p.m. Teachers will gather at the Allison Woods Environmental Education Center, located on Highway 21, 7 miles north of Statesville to learn about "Water: The Piedmont-Coast Connection." Teachers will receive materials and resources to use in the classroom, as well as join a regional network of educators from NC, SC, and GA. Environmental Education Certification is available. Registration is limited. For information and registration, contact Jane Crosby, [jwcrosby@iss.k12.nc.us](mailto:jwcrosby@iss.k12.nc.us), by February 28.

### **ARTNC**

The North Carolina Museum of Art online educational resource, featuring nature and science activities that can be used in environmental education includes K-12 lesson plans and activities searchable by region, subject, and grade. <http://www.ncmoa.org/artnc/>

### **NC National Estuarine Research Reserve**

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

- **Winter Wildlife on the Coast** - Join the Rachel Carson National Estuarine Research Reserve and the NC Wildlife Resources Commission on a workshop focusing on winter wildlife on our barrier islands. Through a classroom presentation and a field trip, we will discover species that inhabit these areas during our coldest months. This workshop will satisfy requirements for Component II of the NC OEE certification program. This workshop is scheduled for February 18<sup>th</sup> from 9-4pm. Space is limited.
- **Project Design and Evaluation** workshop in the Beaufort/Morehead City area will be presented March 15-17<sup>th</sup>. Space is limited. Registration is required. Environmental Educators are encouraged to attend.

- **EstuaryLive** will be May 3-5<sup>th</sup>. Come join us from a computer near you! Check the webpage for updates, schedules, etc – [www.estuarylive.org](http://www.estuarylive.org). This is a great way to experience a field trip without actually being there! It does not take the place of having an outdoor experience.

### **NC Aquarium on Roanoke Island**

Calling All Educators! The NC Aquarium on Roanoke Island will be hosting Project WILD and Project WET January 13-14, 2005, 9am-4pm. These workshops, designed for teachers, youth leaders, and environmental staff, will provide hands-on activities for incorporating wildlife and water resources into the school curriculum or community programs. Participants receive K-12 activity books, and the 6-hour workshops are free. Teacher renewal credits and NC EE certification credit is available with homework. Pre-registration is required. First come, first served. Deadline for registration: January 10. To register or learn more, contact: Jenn Tetterton, Education Dept. (252) 473-3494 ext. 263 or email [jennifertetterton@yahoo.com](mailto:jennifertetterton@yahoo.com)

### **North Carolina Maritime Museum**

Many of the museum's public programs can be arranged for organized groups of teachers, students or clubs. Trips

include marine life collecting cruises and bird watching, in addition to field experiences in the wetlands of the Croatan National Forest, the coastal islands of the Rachel Carson Reserve, Cape Lookout National Seashore, and Shackleford Banks.

The boating program provides classes in boatbuilding, adult sailing, sea kayaking, and the annual Wooden Boat Show on May 7. Sign ups begin in early spring for the summer Junior Sailing Program and Summer Science School for Children. Inquire with the education department about internships, program assistants, or teaching Summer Science School classes. For international travelers there is an opportunity to visit the Galapagos and Machu Picchu in April.

Teachers may call the museum to make reservations for school group tours. Grade-based activity sheets enhance group museum visits. Call early for available times for field studies of coastal marine habitats as they fill up quickly. View the current calendar of events and education services on [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) Phone: 252-728-7317

## **Virginia (Jane Butler-Brown)**

### **CVW's Resources for Teachers**

Clean Virginia Waterways and Longwood University have co-authored a book, *Virginia's Water Resources: A Tool for Teachers*, that includes articles and lesson plans that cover water quality, litter in our waterways, groundwater, aquatic species and much more! The book is on-line at: <http://www.longwood.edu/cleanva/teachers.htm>.

### **Virginia Wildlife Mapping**

WildlifeMapping is an outreach program that allows school children, citizens, community groups, and other city, county and state organizations to collect wildlife-related information that will be available to everyone.

The program provides an opportunity for students and volunteers to perform field studies that contribute to the state's biological databases.

<http://www.dgif.state.va.us/wildlifemapping/teachers.html>

### **NMEA/ MAMEA Marine education share-a-thon at the NSTA regional in Richmond, December 1-3.**

Approximately 50 participants gathered materials and information from MAMEA members during the 45-minute session. MAMEA membership forms were distributed along with the now famous MAMEA crab stress-toy and pens. Hosting another share-a-thon at the NSTA regional in Baltimore in 2006 is a possibility.

### **The Problem with Probe Ware**

Many of you may be required to use electronic probe ware and computer interfaces in classroom instruction. There are several easy-to-use brands on the market (Pasco, Vernier, etc.) The hand-held data loggers and data-display software are relatively simple to use. The real challenge can be calibrating membrane and ion-sensitive probes (dissolved oxygen, pH, ORP, etc.). If you're just starting out or have been having difficulty, let me recommend that you use automatic calibrating probes such as temperature, conductivity and turbidity. These probes are tough and you don't have to worry about accuracy. Students get good data and can easily interface with the data logger and computer software. In addition, many of the membrane/ion probes must be replaced at regular intervals. They also must be stored properly or they will fail. If you don't have a lot of time to standardize probes or find the process confusing, avoid the membrane/ion probes until you feel more comfortable with them. (Note: Education-grade probe ware is generally not an accepted tool for water quality monitoring programs.)

# Items of Interest

## Amphibian Decline

The first comprehensive survey of a grouping that includes frogs, toads, and salamanders, the Global Amphibian Assessment says that at least nine species have become extinct since 1980. It says 113 more have not been reported in the wild in recent years and are believed to have vanished. The full details will be published in a few weeks in the respected journal *Science*. "Amphibians are one of nature's best indicators of overall environmental health," Conservation International President Russell Mittermeier said in a statement from the World Conservation Union (IUCN), one of the world's top environment bodies. "Their catastrophic decline serves as a warning that we are in a period of significant environmental degradation," he said in the statement that coincided with the final day of a two-week meeting of signatories to the Convention on International Trade in Endangered Species (CITES) in Bangkok. After birds and mammals, amphibians are only the third broad group of animals to be surveyed on such a global scale. More than 500 scientists from more

than 60 countries contributed to the report. The three-year study analyzed the distribution and conservation status of all 5,743 known amphibian species. Scientists from Conservation International and the IUCN collaborated on the study. In the Americas, the Caribbean, and Australia, a highly infectious fungal disease called chytridiomycosis is taking a big toll on amphibians. Air and water pollution, habitat destruction, climate change, the introduction of invasive species, and consumer demand are the biggest global threats. About one-third — at least 1,856 amphibian species or 32 percent of them all — are threatened with extinction. By comparison, only 12 percent of bird and 23 percent of mammal species are endangered. The study also found that the populations of 43 percent of all amphibian species are in decline, while less than 1 percent are rising. It found that 27 percent are stable and the rest are not known.

## \$15 Billion Chesapeake Bay Cleanup Cost

A finance panel led by a former Virginia governor said yesterday that it would take \$15 billion to clean up the Chesapeake Bay. The panel recommended bay-region states create an authority to find and allocate the money over the next six years. The report comes as Virginia, Maryland and Pennsylvania struggle with the complexities and rising

costs of environmental protection in one of the fastest-growing parts of the nation. "We concluded early on that business as usual was not completing the business of cleaning up the bay," former Gov. Gerald L. Baliles said of the Chesapeake Bay Watershed Blue Ribbon Finance Panel he was appointed to head in December.

## Diseases killing off bay's soft-shell clam population

Dan Donnelly, general manager of Cantler's Riverside Inn outside Annapolis, can't find enough soft-shell clams to keep diners happy. Charlie Bauer doesn't even have them on the menu at O'Leary's Seafood Restaurant in Eastport.

The thin-shelled clams are dying off in huge numbers in the Chesapeake Bay, and watermen who do find "steamers" send them up to New England, where demand and prices are higher. Much like oysters, diseases are wiping out steamers, said Mitch Tarnowski, a biologist for the Department of Natural Resources.

Forty years ago, the statewide steamer harvest was 680,000 bushels, he said. Last year, the figure was just 3,500. This year, he said, "It may be down in the hundreds." There are two culprits for the steamer decline: dermo and disseminated neoplasia, a fatal blood disease also known as DN. The diseases also affect razor clams, used mostly as bait for crabs. The clams remain safe to eat because the diseases don't affect humans. Dermo and DN don't affect most other clams, such as littlenecks and cherrystones.

## Flame Retardant PBDE Found in Lake Michigan

Concentrations of a flame retardant banned by many European countries have been found in Lake Michigan and are increasing, adding to concerns over previous findings that the chemicals were showing up in supermarket foods and women's breast milk. In the latest study, sponsored by the National Oceanic and Atmospheric Administration, University of Wisconsin scientists found PBDEs, or polybrominated diphenyl

ethers, in sediment hundreds of feet down in Lake Michigan. Fish and other animals absorb chemicals and pollutants through the environment, storing them in fat that people then eat. Studies in rats and mice suggest high levels can cause liver and thyroid damage, NOAA said. "They're really showing up all over the world," Bill Sonzogni, a University of Wisconsin professor, said Wednesday. "And the Great Lakes, because of the food



chain for bioconcentrating contaminants, have sometimes served as a sentinel for other parts of the world." The three-year study found PBDEs of up to one part per billion in the lake sediment -- the equivalent of one drop of water in a 10,000-gallon swimming pool. By

dating the samples of PBDEs, Sonzogni and scientist Jon Manchester also found that the concentrations were increasing, and that they mirror levels of PBDEs and other flame-retardants used since the 1970s.

**Data from 2003 International Coastal Cleanup! What's on the "TOP TEN" list?**

Here are the Top Ten debris items found during the 2003 ICC. This Top Ten list represents 45,674 items, and 89.8% of all the items found:

<b>VIRGINIA TOP TEN</b>	<b>U.S. TOP TEN (ICC data, 2003)</b>	<b>WORLDWIDE TOP TEN (ICC data, 2003)</b>
1. Beverage Bottles (Plastic)	1. Cigarettes/Cigarette Filters (34.5% of all items)	1. Cigarettes/Cigarette Filters (29.5% of all items)
2. Food Wrappers/Containers	2. Food Wrappers/Containers	2. Food Wrappers/Containers
3. Beverage Cans	3. Caps, Lids	3. Caps, Lids
4. Cigarettes/Cigarette Filters	4. Beverage Bottles (Plastic) 2 liters or less	4. Beverage Bottles (Plastic) 2 liters or less
5. Beverage Bottles (Glass)	5. Beverage Bottles (Glass)	5. Bags
6. Bags	6. Beverage Cans	6. Beverage Bottles (Glass)
7. Cups, Plates, Forks, Knives, Spoons	7. Cups, Plates, Forks, Knives, Spoons	7. Cups, Plates, Forks, Knives, Spoons
8. Caps, Lids	8. Straws/Stirrers	8. Beverage Cans Straws/Stirrers
9. Bait Containers/Packaging	9. Bags	9. Straws/Stirrers
10. Cigarette Lighters	10. Cigar Tips	10. Tobacco Packaging/Wrappers

**Fisheries scientists say no cod should be caught in the North Sea, the Irish Sea and west of Scotland in 2005.**

Experts from the International Council for the Exploration of the Sea (Ices) say the species is at historically low levels and should not be exploited. Ices says it will release a fuller report to governments on Friday to assist them in setting fishing quotas. It will also recommend zero catches for hake in the waters of southern Biscay and sharp cuts for plaice and sand eels. "There is still no clear sign that cod stocks in the North Sea, Irish Sea and West of Scotland are making a recovery. It also seems that fishing effort on these stocks is still too high," David Griffith, general secretary of Ices, said. "A further problem that scientists face is substantial under-reporting of catches of cod which

makes it difficult to get a true picture of the state of these stocks." The Denmark-based Council, which monitors about 135 types of fish, estimates cod stocks in the North Sea (including the Eastern Channel and Skagerrak) to total about 46,000 tons - less than a third of the recommended minimum of 150,000 tons. In the Irish Sea stocks are thought to be about half the minimum recommended size; and to the West of Scotland "limited data indicate stock remains at [a] historical low level". In contrast, Ices says haddock in the North Sea is at its highest level for 30 years, with an estimated total of 460,000 tons.

**Virginia urges people to limit consumption of local fish**

Release that trophy striped bass, and you'll both be better off in the long run. Virginia officials issued stricter guidelines for consumption of Chesapeake Bay stripers, better known hereabouts as rockfish. Under the new standards, the state recommends eating no more than two servings of Chesapeake Bay striper a month. Pregnant women, nursing mothers and young children should avoid eating the fish entirely. The problem is an

insidious industrial concoction called PCBs, or polychlorinated biphenyls. Long-term exposure to PCBs can affect neurological development in children, may increase the risk of developing cancer and could suppress the immune system. The levels of PCBs have not increased in Virginia's fisheries, according to Khizar Wasti, director of the Division of Health Hazards Control with the state health department.

**More than 30% of North America's bird populations are in "significant decline" according to conservationists.**

The National Audubon Society's State of the Birds report draws on data collected between 1966 and 2003 for 654 American bird species. The report looked at birds inhabiting grasslands, scrublands, forests, waterways and

urban settings. The report says the declines are abnormal and not part of the cyclical rise and fall in bird populations. Most disturbing was the finding that 70% of bird species living in grasslands - such as the Eastern

Meadowlark, Bobolink, Short-eared owl and Greater Prairie-Chicken - are doing poorly. The report found that for shrubland birds - including the Northern Bobwhite, Painted Bunting and Florida Scrub-Jay - 36% of species

are declining significantly. Smaller declines were noted in bird species living in forests, wetlands and urban areas.

### Call for Papers for Current!

*Current: The Journal of Marine Education* is seeking manuscripts for a theme issue to be published in 2005 that will focus on outreach and education programs relating to recreational beaches. This issue will be co-sponsored by the Clean Beaches Council. Deadline for submission of manuscripts is January 30, 2005. Manuscripts should describe beach-related educational programs, community-based projects and events, field activities, etc. that have been successfully implemented with students, tourists, and other beach users. The average length of *Current* articles is 1,500 to 3,000 words, although shorter or longer manuscripts will be considered. *Current* publishes only previously unpublished work. For complete manuscript submission guidelines, contact: Lisa Tooker, *Current* Business Editor, [tooker@inreach.com](mailto:tooker@inreach.com) or Vicki Clark, *Current* Editorial Board, [vclark@vims.edu](mailto:vclark@vims.edu).

## MAMEANS on a mission

Terri Kirby Hathaway, NC Sea Grant, and JoAnne Powell, NC Maritime Museum, attended the 9th Annual Sea-Bean Symposium and Beachcombers Festival in Cocoa Beach, Florida, Oct 15 & 16, 2004. At the symposium, sea-bean enthusiasts (including the NC crowd) marveled at the collections of veteran sea-beaners. One man displayed over 7,000 hamburger beans that he had gathered during his morning jogs and walks that covered roughly 4 thousand miles of beach over the past 10 years. Other exhibits featured sea-bean jewelry, live plants grown from sea-beans, and the "Bean-o-matic" wheel to identify beans.

Ocean drifters were featured in an exhibit by oceanographer Dr. Curt Ebbesmeyer of Seattle. Lego toys, rubber duckies, and Nike shoes are just a few of the items that he has used to plot the movements of the ocean surface currents over the last thirty years. If you find interesting or unusual beachcombing items, report them to him at [curtisebbesmey@msn.com](mailto:curtisebbesmey@msn.com). His quarterly newsletter, *Beachcombers Alert*, can be yours – just send \$15 for an annual subscription to 6306 21<sup>st</sup> Avenue NE, Seattle, WA 98115-6916.

East Coasters should be on the lookout for "Floatees" plastic ducks, turtles, beavers, and frogs that were lost from a container ship in 1992 in the Pacific. According to a model of Pacific Ocean currents, the floating toys should have made their way through the Bering Strait by now and should be melting out of the Arctic ice and making their

way to our beaches! For more information, visit [www.seabean.com/ThingsThatFloat/duckies](http://www.seabean.com/ThingsThatFloat/duckies).

The event's keynote speaker, Dr. Richard Turner of Florida Institute of Technology, focused his comments on how fossil ghost crabs were formed on Brevard County's beaches thousands of years ago. These amazingly detailed fossils were formed between 8,000 and 110,000 years ago in the Anastasia formation of Florida. Since the recent hurricanes, numerous specimens have been collected.

Between lectures on how to find sea-beans and how ocean drifters like seeds, plastic toys and Nike shoes help oceanographers track ocean currents; the two marine educators scavenged the beaches for their own sea-beans and flotsam. JoAnne and Terri's most prized finds were a number of fossilized ghost crabs in coquina rock deposits. They also participated in the "Bean-A-Thon," a two-hour competition to see who can find the most species and most unusual sea-beans. JoAnne was lucky enough to find two unusual seeds, a deer hoof bean and a sand box seed (or monkey pistol), that won her the "Cool Bean" award.

So, JoAnne and Terri, two marine educators from North Carolina, had an incredible educational adventure on Florida's east coast this fall. They're planning to attend the event again in the future! For more information about the symposium, sea-beans or ocean drifters see [www.seabean.com](http://www.seabean.com).

# MAMEA 2005 and beyond

Congratulations to our newly elected MAMEA board members and much thanks to the continuing Board members. As of the 2004 fall conference, your MAMEA Board terms are as follows:

**President** – Susan Haynes      **President Elect** – Amy Sauls      **Past President** – Lewie Lawrence  
**Treasurer** (2 year term)– Karen Fuss (2006)      **Secretary** (2 year term) – David Christopher (2005)

**State Representatives** (2 year terms)

NC- Patricia Hay (2005) (1 year, replacing president-elect Amy Sauls)

VA- Jane Butler (2006)

DC – Bill Simpkins (2006)

DE – Shauneen Giudice (2005)

MD - Kathy Siegfried (2006)

See the back page of this issue for a complete listing of your Board and all committee chairs. Your support is needed to make this organization work. So why not contact a committee chair and find out how you can serve MAMEA.

## 2004 MAMEA Awards

### **Classroom Teacher - Barbara Waters**

Barbara is a marine science teacher at East Carteret High School in Beaufort, NC. Always engineering new and more exciting ways to engage her students in discovering the wonders of the sea and its environment, Barbara seeks out every professional development opportunity, helps guide her students towards scholarships and coaches her school's National Ocean Sciences Bowl team which has won the state competition several times. It's through the dedication of proactive teachers like Barbara that the next generation of marine scientists and lovers of the sea is being nurtured and encouraged. We recognize and celebrate her spirit of dedication and accomplishment with the award of "MAMEA Classroom Teacher of the Year 2004".

### **Non-traditional Educator: J. Adam Frederick**

Adam is a Marine Education Specialist for the Maryland Sea Grant Extension Program. In his eight year with Sea Grant, he is the co-director of the SciTech Education Program serving students and teachers in grades 3 through 12. Among his activities and accomplishments are helping develop website interactive lessons, publishing the Sea Grant Schools Network Newsletter, involving thousands of students and their teachers in lab activities with the University of Maryland Biotechnology Institute, developing an Aquaculture in Action program with teachers where students raised and released striped bass, and holding Microbes for Hire workshops for teacher training in lab science. His high energy and creativity were recognized by NMEA when it awarded him the James Centorino Award at its conference this past summer. We should also remember him as the most successful fundraiser ever and the producer of the promotional video for the 2003 NMEA conference that we hosted.

### **Special recognition: Shauneen Giudice**

Shauneen is the MAMEA Delaware Rep and was recently recognized as the 2004 Delaware Governor's Marine Science Teacher of the Year. She is a seventh grade teacher in Delmar, DE.

### **New MAMEA Committees**

Four new committees have been created in order to move MAMEA in the directions of its strategic plan. These include: **Finance, Action Plan, Mentoring and Newsletter Editorial**. The Finance Committee chair is Lewie Lawrence. Current members include Karen Fuss and Mike Bates. Chairs for the remaining three committees are needed. Barry Fox will continue to serve as Newsletter Editor. Please contact Susan Haynes or any Board member if you have an interest in serving on one or more of these or other committees.

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**Be sure to**

- Attend the programs and use the resources described in this issue,
- Apply for the MAMEA mini-grant ([www.MAMEA.org](http://www.MAMEA.org)),
- Get involved with a MAMEA committee,
- Consider submitting an article for the Masthead.