



ANNOUNCING MAMEA's

Annual Professional Development Conference



GO PLAY OUTDOORS

Do you know what is in your watershed?

Where: Beautiful Beaufort, North Carolina

When: October 14 – 15, 2005

Who: Anyone with an interest in learning about current and new marine and freshwater education resources

How: Visit the MAMEA Web site for Conference information, registration materials and call for presentations (www.mamea.org). A special Conference Masthead issue will be coming in September.

Captain's Quarters

Greetings MAMEAns,

As summer comes to a close, I suspect many of us are reflecting back on a season filled with inspiring courses, workshops, and conferences, rejuvenating us for the fall.

This July many marine educators from the mid-Atlantic region made their way to the National Marine Educator's Association conference on Maui. Morning symposia gave us fresh perspectives on everything from aquaculture to coral reef biodiversity to tsunamis. Two days of field trips took us tide pooling, hiking, canoeing and kayaking. Concurrent sessions were filled with new ideas in marine science education. Mark your calendars for next year's NMEA conference, July 15-22 in New York City!

During our chapter meeting we had brief updates from attending state representatives and committee chairs and discussed the latest actions of our new committees. Please visit our website and take a look at the latest version of our Action Plan. Adam Fredrick is chairing this committee and welcomes comments from our membership to help streamline and prioritize our focus areas for the near and long-term future of MAMEA. Also, if you know of a classroom teacher coming to our fall conference who is new to the organization, be sure to let them know so that Fred Chanania and Jane Brown can personally welcome them in Beaufort, NC.

Lastly, your President-elect, Amy Sauls, has been busy planning a wonderful fall conference for the membership! Events will include Friday evening at the North Carolina Maritime Museum and a day of concurrent sessions on Saturday at Duke Marine Lab. The Conference Call for Presentations is in this issue of Masthead. I am looking forward to seeing our members, old and new, there on October 14th and 15th!

Best wishes,
Susan Haynes
MAMEA President

CALL FOR MAMEA BOARD NOMINATIONS (Page 3)

CALL FOR CONFERENCE PRESENTATIONS (Pages 4-5)

**CALL FOR AWARD AND MINI-GRANT APPLICATIONS
(www.MAMEA.org)**

A Note from the Newsletter Committee

In our never-ending quest for the best in marine and aquatic education information, it becomes a challenge to "wade" through all the curricula, activities and programs that exist in the real and cyber worlds. This is where we NEED your help. Have you tried a new activity lately, used a neat resource or attended an exciting workshop? Well, how about sharing with your fellow MAMEAns. All we need is an ever-so-brief description (who, what, where, when, how, etc.) to get your name in the Masthead as a "contributor." We greatly appreciate any contribution.

Kathy Siegfried – Committee Chair

Barry Fox – Masthead Editor

Maritime Heritage Conference Call for Papers

Abstract submission for the first ever Maritime Heritage Education Conference has been officially announced. This conference will be the first of its kind to bring formal and informal educators together to promote the sharing of maritime heritage education partnerships, programs and products. People from all over the country will come together to participate in this exciting conference featuring guest keynote speakers, concurrent sessions, a book room and social gatherings related to the following maritime heritage topics: Lighthouses/light saving stations; whaling and fishing heritage; native canoe cultures; shipping and port heritage; shipboard education programs; shipwrecks and other submerged sites. Check out the website <http://www.sanctuaries.noaa.gov/education/mhec> for all of the conference information. Don't miss out on this exciting opportunity to join us in inspiring educators to learn more about our nations maritime heritage.

Where: Nauticus: the National Maritime Center Norfolk, VA

When: November 18-20, 2005 with a kick off get together on Thursday, November 17th.

Who: Formal and informal educators, as well as people working within the maritime heritage field who may be partnering or working on education programs.

Sponsored by: NOAA's National Marine Sanctuary Program, National Park Service, Nauticus: the National Maritime Center, the Hampton Roads Naval Museum and the National Marine Sanctuary Foundation

Partners: National Council for the Social Studies, American Sail Training Association, PAST Foundation, JASON Foundation, Mariners Museum

Abstract submission is available until August 30th, 2005 from this link:

<http://www.sanctuaries.noaa.gov/education/mhec>. To submit and abstract, please click on REGISTRATION/ABSTRACT SUBMISSION. Click on CLICK HERE to be navigated to the registration abstract submission page. You will be prompted to submit an abstract or to register for the conference. If you choose to submit an abstract, you will need to provide your contact information and a pdf or word document of your abstract. Please note that abstract submission does not register you for the conference. You will have to go back and register after your abstract submission. If you are having problems submitting your abstract, please email sanctuary.education@noaa.gov. Abstract selection will be announced in September.

Check These Out

- **Aquarium Video Library – Online:** The Monterey Bay Aquarium Website Video Library includes over 30 videos about animals, exhibits, and conservation research programs at the aquarium. http://www.mbayaq.org/efc/video_library/video_library.aspx
- **CIESE Online Classroom Projects:** The Center for Improved Engineering and Science Education (CIESE) sponsors and designs interdisciplinary projects that teachers can use to enhance their curriculum through use of the Internet. <http://www.k12science.org/currichome.html>
- **Estuaries Discovery Kit:** NOAA's National Ocean Service Communications and Education Division offers the Estuaries Discovery Kit. The kit explores how estuaries are classified, the various ecosystem services estuaries perform, how organisms have adapted to estuarine environments and human impacts. <http://oceanservice.noaa.gov/education/kits/estuaries>
- **American Field Guide:** Immerse yourself in the great outdoors without leaving your desk. Tap into the sights and sounds from a wide variety of environments throughout America. PBS has collected over 1400 video clips that enable you to experience America's wilderness firsthand. <http://www.pbs.org/americanfieldguide//index.html>
- **Expedition Chesapeake:** On June 24, 2005, a group of students from Rockingham County, Virginia, all active members of the National Future Farmers of America Organization, embarked on a unique, educational, 30-day journey with the Chesapeake Bay Foundation. Sixteen upcoming juniors and seniors from Turner Ashby High School are paddling 355 miles, from their hometown at the beginning of the South Fork of the Shenandoah River to Tangier Island, Virginia. Follow the journey online through the students' own journal entries and photographs, posted and updated regularly on the website. www.baybound.org
- **Posters of Marine Life:** NOAA's National Marine Fisheries Service has reprinted its historic series of posters depicting species of fish, shellfish, marine mammals, and sea turtles that are indigenous to the United States. The eight posters can be viewed and purchased individually at the Government Printing Office's on-line bookstore. http://bookstore.gpo.gov/collections/ocean_exploration.html
- **A Field Guide to Aquatic Phenomena:** This is a really cool Web site that describes many of those weird and unusual things we see in and around water. <http://www.umaine.edu/waterresearch/FieldGuide/default.htm>

MAMEA Wants You! 2005-2006 MAMEA Board Call for Nominations

MAMEA is looking for energetic members who want to make a difference in our organization and in marine education in general. If this is you, or someone you know, run for or nominate someone for an officer position! This year MAMEA is accepting nominations for the following Board positions: Maryland representative (2 year term), North Carolina representative (2 year term), Secretary (2 year term), President (1 year as president-elect, 1 year as president, 1 year as past-president). More information on the Board member duties can be found in the MAMEA By-laws (<http://www.mamea.org/admin/bylaws2000.pdf>).

Please submit your nominations by September 15, 2005 to Bill Simpkins, The National Aquarium, Dept. of Commerce Bldg, Room B-077, 14th St. and Constitution Ave., NW, Washington, DC 20230. Phone: (202) 482-2826 (W), (202) 482-4946 (fax), bsimpkins@nationalaquarium.com.

An announcement of the candidates will be posted on the MAMEA website (www.mamea.org) and sent to the MAMEA list-serve. Voting will take place at the October conference. We look forward to seeing you there!

Worth the Reading

Sharps Island is gone. All visible evidence of it has vanished from the Chesapeake Bay. All you'll see to mark the spot is a warning buoy cautioning sailors of the hidden shoals that once comprised an isle of more than 475 acres. Today, it is best known as a favored fishing ground of sports and commercial fleets, marked by its big, tilted, namesake red lighthouse a few miles south of Tilghman Island. It is but one of hundreds of islands that have already disappeared or are in the process of disappearing in our Bay. Some were once thousands of acres; others only a few. As storms, winds, tides and currents relentlessly take their toll, much of the lore of the Chesapeake now remains (or will remain) only in memories, and memories, like islands, fade over time. What is — or will be — left?

William B. Cronin's 232-page book, *The Disappearing Islands of the Chesapeake* was recently released by The Johns Hopkins University Press. Research was painstaking and thorough, and the finished product comes off as a very interesting and revealing documentary of life on the Bay and the ever-changing life of the Bay itself.

Many of the photographs of life on the islands were snapped by A. Aubrey Bodine, The Sun's legendary photographer whose works — especially those of the Chesapeake and its people — are treasured everywhere. Perhaps snapped isn't the appropriate word; I don't think Aubrey ever snapped a picture in his life. In nearly 60 years of news papering, I've worked assignments with countless photographers, and never was there one as deliberate and painstaking as Bodine. More than a few times, I stood by for hours as he waited for the right light, pose and composition before he snapped the lens of his favorite camera, an ancient Linhof. If ever one captured the face of the Bay, it was A. Aubrey Bodine, and many of those faces and places of the Bay he captured before his death in 1970 are faces and places no longer around other than in his photography. In much of his Bay work, it's as if he knew he was photographing history.

The Disappearing Islands of the Chesapeake — in large format with 150 half-tone illustrations, charts old and modern of the islands — is priced at \$35. (Excerpts of review by Bill Burton, *Burton on the Bay*)

Around the Association

NORTH CAROLINA

The NC EstuaryLive will be held Sept 15 -16th. Go to www.estuarylive.org for details and to sign up. This session will include crabs, dredging, and estuarine habitats, to name a few.

The Fall National EstuaryLive will be held Sept 22-23rd. Sessions will include New Jersey, Alabama and California field trips. Go to www.estuaries.gov for more info on this Internet field trip.

Keep an eye on the NC Aquariums' web pages for announcements of employment opportunities in the very near future. Right now, you can find the descriptions of the Public Relations Coordinator and the Volunteer Coordinator positions for the expanding NC Aquarium at Pine Knoll Shores. More positions are opening soon!
<http://www.ncaquariums.com/newsite/pks/employment.htm>.

Call for Presentations

Mid-Atlantic Marine Education Association

Marine Science Education: An Annual Professional Development Conference
October 14 – 15, 2005, Beaufort, NC
(Theme: GO PLAY OUTDOORS: Do you know what is in your watershed?)



(Please print or type)

Name: _____

Professional Title: _____

School/Institution: _____

Mailing Address: _____

Phone: (work) _____ (home): _____ E-mail: _____

Type of Session (check one).

Hands-on workshop Research/Information Demonstration

Length of Session (check one). 45 minutes 90 minutes

Location preference (check one). Outside Inside

Presentation Title: _____

Presentation Description (limit 40 words): _____
(For the Conference Program)

Grade level: _____ Content area: _____

Preferred audience size:

- Max 10
- 10-20
- 30 or more

AV Needs:

I will need Internet access

Note: Presenters are responsible for their own AV equipment. None will be available at the Conference site.

Fax or Mail to:
MAMEA, 2005 Presentations
c/o Barry Fox
Box 9081, VA State University
Petersburg, VA 23806
FAX 804-524-5057

Questions?
Contact:
Amy Sauls, amy.sauls@ncmail.net
252-728-2170

Proposal deadline: September 16, 2005

(Page 1 of 2)

(Please print or type)

Name: _____

Presentation title: _____

Presentation Details:

Objectives:

Session content and activities (<250 words):

Related educational resources (print, Web, AV, etc.):

(Page 2 of 2)

MAMEA Field Trips:

The fall conference promises to be an exciting event. To start those marine education neurons tingling, here's a brief description of the field trips that will be offered. So put on your rubber boots, pool shoes or river sandals and come join us for a great learning experience.

Space is limited on all trips (minimum and maximum numbers) so register early. Details will be in the registration materials coming soon. Check the MAMEA Web (www.mamea.org) site for Conference information.

- **Oyster Reef Project:** Hear about oyster biology and visit sites of current oyster reef projects with NC Coastal Federation.
- **Ecology and Banker Ponies on a Barrier Island:** Travel by boat to Shackleford Banks to learn about the feral horses and general ecology of this barrier island.
- **The Real Down East:** Visit the Core Sound Waterfowl Museum and Heritage Center and Cape Lookout National Seashore Visitor Center.
- **Rachel Carson Reserve:** Ferry across Taylor's Creek in Beaufort and explore the nature trail that crosses marshes, mud flats and beaches. Shelling permitted
- **Outerbanks Wildlife Shelter (OWLS):** Tour the wildlife rehabilitation center's hospital, classroom, and nature trail. See such residents as raptors and giant catfish. Walk the nature trail with over 40 coastal plants identified.
- **Down East Kayaking:** Join Core Sound Kayaks for a 2-hour, guided kayaking excursion in Down East waters.

In addition, we will enjoy a night at the NC Maritime Museum Friday night with a variety of activities.

Aquarium Beautiful

Aquaria can be a source of complete enjoyment or total frustration. Many of us who keep tropical fish have learned that it is a labor of love. It takes dedication, a basic knowledge of water chemistry and processes, knowledge of species requirements and an understanding of aquarium mechanics to maintain a balanced, closed-circulation system. There are many approaches to aquarium management, ranging from the completely artificial to total natural systems. Most of us fall somewhere in between these two extremes. Both work if you know what you are doing – and this is a learn-by-doing process.

Good aquarists learn from other aquarists, reading, experimenting and recognizing their mistakes. Most of us have had to dispose of a favorite fish because we overlooked something or were unintentionally negligent concerning some facet of aquarium management. The following bites of information may help you identify practices and processes that you are not considering in managing your aquaria. Of course, I cannot cover the world of aquaria in this brief article. So I have listed some good references that will certainly help. May your fish "live long and prosper." May your aquarium never turn green and may your fish never die while you're away on vacation.

Water Quality Indicators	Management
pH/alkalinity/hardness	Monitor pH (6 – 9) and Alkalinity (>60ppm). Add buffers as needed. Adjust pH very slowly.
Chlorine and chloramines	Use commercial dechloro-aminators. Chloramines are an ammonia source. Plan to reduce nitrate buildup from chloramines.
Ammonia/nitrite/nitrate	Keep biological filter components "clean." Avoid "dead spots" in the system by having adequate circulation. Regular "nitrogen-free" water changes help reduce nutrient levels.
Bacteria	Be sure to let new systems thoroughly cycle prior to adding fish. Cloudy water usually indicates a bacterial bloom (stop feeding, increase filtration, make partial water changes).
Temperature	Keep temperature within tolerance ranges. Use dual heating sources for large systems in case of failure. Adequate heating requires 5 watts/gallon.
Dissolved oxygen	Proper filtration and circulation and avoiding high-density biological loading will eliminate most problems.
Metals (CU, Fe, Pb) Plastic residues Synthetic compounds	Usually a water source issue (copper water pipes with lead solder and plastic water pipes). Flush water lines before collecting aquarium water. Be careful with household aerosols and wash hands before placing them in the aquarium.

Water Source and Changes - Know the characteristics of your source water. Use filters if necessary. Good water quality is essential for sensitive fish species. Most fish are fairly tolerant to a wide range of water conditions as long as they are properly acclimated. Water changes should become a ritual, 20 – 30% per week. Replace evaporated water with soft or distilled/buffered water. Clean biological pads and vacuum bottom gravel or under gravel beds when changing water.

System Size - Get the largest system you can afford and/or manage: 30 – 50 gallons for starters, especially for marine systems. Smaller systems require more frequent maintenance.

Filtration - Mechanical, biological and chemical filters are important and often combined in most powered, filter systems. Power filters are dependable and low maintenance. Canister filters are efficient but high maintenance. Trickle filters in combination with skimmers are very efficient but expensive. Under gravel filters are good for small systems (< 30 gallons) but require regular maintenance. Top-tank filters are efficient and easy to maintain but expensive and size limiting. Modular systems are very efficient but very high maintenance and expensive. Bio-wheels and sponges depend on aerobic bacteria and release large amounts of nitrate. Nitrate towers are slow to activate but efficient. Biocide systems (ozone or UV light) are best used for delicate species or for medicinal purposes. The plenum is a natural denitrator and great for marine systems. All filters except skimmers, nitrate towers and plenums are nitrate sumps, creating a build-up of nitrate in the system. Nitrate can be reduced chemically, biologically or with water changes.

Filtration Rate - Filtration rates should be set at 3 – 6 times the system volume per hour depending on fish species, system load and size and filtration type. Over filtration is not possible unless the currents produced are too strong for the fish. Current direction is important in avoiding “dead spots” in the system. Under-filtration and poor filter maintenance are common problems. This can cause high organic loading, bacterial build-up, chemical shift and eventual system failure.

Substrates - Vacuuming will remove a large amount of organic loading from the system and avoid the “dead gravel” syndrome. Use of burrowing species helps keep the substrate turned over and clean. A carbonate source in the substrate provides a pH buffer for the system.

Stocking Rate - Stock no more than one inch of fish per freshwater gallon (small fish) or one inch of fish per five saltwater gallons. Always stock to the lower limits of the system. A 5-inch fish requires 3 - 5 times more water than 5 one-inch fish.

Maintenance - Schedule maintenance regularly. It is helpful to keep a maintenance and water quality log. Well-maintained systems may need a total breakdown only once every year or two. Keeping the filters and substrate clean, regular water changes and proper feeding lessen the frequency for a total-system breakdown.

Feeding - Over feeding and using poor quality feeds are frequent causes of water quality and fish health problems. Catfish do not eat fish wastes; they eat fish food (a common misconception). When leaving for a few days, it is OK to stop feeding, unless the fish are very young. This allows the bacteria to “catch up” with the biological demands of the system.

Fish Health - Changes in fish behavior are good indicators of disease or declining health. Erratic swimming, poor color or color changes, clamped fins, loss of appetite, reduced activity, body shimmies, and rubbing against gravel or rocks may indicate that the fish are stressed. There are numerous fish diseases and ailments and as many remedies. When treating any health issue, isolate fish, increase temperature and circulation, clean filters, make frequent water changes and remove carbon filtration while using a chemical treatment.

References:

The Marine Aquarium Reference, Systems and Invertebrates. 1989. Martin Moe. Green Turtle Publications, FL
The Marine Fish and Invert Reef Aquarium. 1989. Albert J. Thiel. Aardvark Press, CT
You and Your Aquarium. 1993. Dick Mills. Alfred A Kopf, New York
Freshwater and Marine Aquarium. BowTie Magazines. CA
Tropical Fish Hobbyist. TFH Publications, NJ

President
Susan Haynes
Consortium for
Oceanographic Research
and Education
1201 New York Avenue
NW, Suite 420
Washington, DC 20005
(202) 448-1232 (W)
(202) 986-5072 (fax)
shaynes@coreocean.org

President Elect
Amy Sauls
NC NERRS
135 Marine Lab Rd
Beaufort, NC 28516
(252) 728-2170 (W)
(252) 728-6273 (fax)
amy.sauls@ncmail.net

Secretary
David Christopher
NAiB
501 East Pratt, Pier 3
Baltimore, MD 21202
(410) 576-3859 (W)
dchristopher@aqua.org

Treasurer
Karen Fuss
3008 Chelsford Way
Williamsburg, VA
23185
(757) 564-9629 (W)
karendave@widomaker.com

**Past President
NMEA Board Rep.**
Lewie Lawrence
MPPDC
125 Bowden St.,
PO Box 286
Saluda, VA 23149
(804) 758-2311 (W)
(804) 758-3221 (fax)
LLawrence@mppdc.com

DC Representative
Bill Simpkins
The National Aquarium
Dept. of Commerce Bldg,
Room B-077
14th St. and Constitution
Ave., NW
Washington, DC 20230
(202) 482-2826 (W)
(202) 482-4946 (fax)
bsimpkins@nationalaquarium.com

DE Representative
Shaun Giudice
200 N. 8th Street
Delmar, DE 19990
(302) 846-9544 (W)
shauneen@shore.intercom.net

MD Representative
Kathy Siegfried
NAiB
Pier 3/501 East Pratt
Baltimore, MD 21202
(410) 576-3888 (W)
(410) 570-1927 (C)
ksiegfried@aqua.org



NC Representative
Patricia Hay
Coastal Fisheries and
Habitat Research
101 Pivers Island Road
Beaufort, North Carolina
28516-9722
(252) 728 3595 ext. 696
(252) 728 8784 fax
patricia.hay@noaa.gov

VA Representative
Jane Brown
746 Chatsworth Dr
Newport News, VA
23601
NNGardenJane@aol.com

Masthead Editor
Barry Fox
Box 9081
Petersburg, VA 23806
(804) 524-5848 (W)
(804) 524-5057 (fax)
bfox@vsu.edu

MAMEA Web Page
Lisa Lawrence
VIMS
PO Box 1346
Gloucester Point, VA
23062
(804) 684-7172 (W),
(804) 684-7161 (fax)
larkin@vims.edu

**COMMITTEES
Action Plan**
Chair: Adam Frederick
Maryland Sea Grant
Center of Marine
Biotechnology
Suite 236, Columbus
Center
701 E. Pratt Street
Baltimore, MD 21202
(410) 234-8850
frederic@mdsq.umd.edu

Archives
Chair: Terri K. Hathaway
NC Sea Grant
PO Box 699
Manteo, NC 27954
(252) 475-3663 (ext. 32)
(252) 475-3545 (fax)
terrikh@csi.northcarolina.edu

Awards
Co-Chair: John Chubb
PO Box 836
Eastville, VA 23347
(757) 442-9041 (W)
(757) 678-5469 (H)
jchubb@broadwateracademy.org

Co-Chair: Beth Jewell
5462 Stavendish St.
Burke, VA 22015
(703) 913-3800 (W)
fin2fluke@hotmail.com

Conference Advisory
Chair: Beth Jewell

Finance
Chair: Lewie Lawrence

Grants
Chair: Barry Fox

Newsletter
Chair: Kathy Siegfried

Nominations
Chair: Lisa Lawrence
VIMS
PO Box 1346
Gloucester Point, VA
23062
(804) 684-7608 (W)
(804) 684-7161 (fax)
Ayers@vims.edu

Mentoring
Co-chair: Fred Chanania
3631 Tallwood Terrace
Falls Church, VA 22041

Co-chair: Jane Brown

Standing Rules
Chair: Vicki Clark
VIMS
PO Box 1346
Gloucester Point, VA
23062
(804) 684-7169 (W)
(804) 684-7161 (fax)
vclark@vims.edu

Mid-Atlantic Marine Education Association

Masthead

Box 9081, Virginia State University
Petersburg, VA 23806



Be sure to:

- Save October 14 – 15 for the Annual MAMEA Conference in beautiful Beaufort, NC. Submit a workshop proposal – details in this issue.
- Nominate someone for a MAMEA Board position.
- Apply for a MAMEA mini-grant (www.mamea.org/minigrant.html).
- Nominate someone for a MAMEA award (www.mamea/awards.html).