



The Resource '98

A Special Environmental Education Supplement

Published by the Maryland Department of the Environment

ADKINS ARBORETUM

CONTACT: Ellie Altman
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DESCRIPTION: Adkins Arboretum is a 400-acre preserve within Tuckahoe State Park in Caroline County. The arboretum offers classes in arts and crafts, ecology, horticulture and natural history for all ages. A newsletter, *Native*

LIVING CLASSROOMS FOUNDATION

CONTACT: Living Classrooms
PHONE: 410-685-0295

DESCRIPTION: The Living Classrooms Foundation in Baltimore offers exciting educational programs on ships and on land, ranging from one-day expeditions for school and youth groups, to extended live-aboard and land programs. Living Classrooms also

DESCRIPTION: A reimbursement grants program for public/private schools and school systems. Grants of \$1,000 per school and up to \$4,000 per school district are available to conduct aquatics related projects. Five area regional mini-conferences are held during the school year attracting 80-130 teachers per mini-conference. A total of 60-70 workshops are featured each year. The mini-conferences take place at outdoor education centers around the state. Offered through the Department of Natural Resources.

DESCRIPTION: The Chesapeake Bay National Estuarine Research Reserve in Maryland protects portions of the Bay ecosystem for research and education. These areas include Monie Bay, Jug Bay and Otter Point Creek. The Reserve serves as a field laboratory for estuarine research and education, promotes informed coastal decision making based on scientific research and strengthens public awareness, understanding and stewardship of estuaries and their watersheds. Call for more information on specific programs in each location.

ARBOR DAY CURRICULUM

CONTACT: Barbara Rice
PHONE: 410-260-8531
Email: brice@dnr.state.md.us

DESCRIPTION: This Department of Natural Resources curriculum provides teachers with activities associated with Arbor Day and is targeted to 3rd grade students. Developed in conjunction with the MD State Department of Education. All 3rd grade students in Maryland receive a free tree seedling to plant for Arbor Day.

ENVIRONMENTAL FACT SHEETS AND BROCHURES

CONTACT: Chris Plummer
PHONE: 410-631-3012
Email: cplummer@mde.state.md.us

DESCRIPTION: Fact sheets and brochures are available from the Maryland Department of the Environment on air pollution, recycling, smart growth, *pfiesteria*, water quality, toxics, school recycling, asbestos, lead poisoning, seafood safety, alternative fuels, ozone pollution, watershed, sewage treatment and wetlands, among others. Many available on MDE's website www.mde.state.md.us Call for complete list.

CAREER, EDUCATION AND BUSINESS DIRECTORY

CONTACT: Allison Anderson
PHONE: 410-455-6149
Email: aanders@neors.cat.cc.md.us

DESCRIPTION: Great resource for students and teachers seeking information about Maryland's environmental organizations! *Environment Maryland*, published by the Environment Project at Catonsville Community College,

CEDARVILLE HATCHERY VISITOR CENTER

CONTACT: Mary Groves
PHONE: 301-888-2423,
Cedarville Work Center, Rt.4, Box 106-E, Brandywine, MD 20613

DESCRIPTION: Exhibits on fish species and sampling techniques. Also have a traveling display tank for special events.

CHESAPEAKE BAY NATIONAL ESTUARINE RESEARCH RESERVE

CONTACT: Kathleen Buppert
PHONE: 410-260-8710
Email: kbuppert@dnr.state.md.us



A Living Classrooms naturalist explains how oysters filter pollutants while on a field trip on the Skipjack *Sigsbee*.

Seed, is published three times a year. Within the arboretum are four miles of well-maintained trails through meadows, and upland and bottomland forests. An interpretive trail guide leads visitors through one mile of the trail. The visitor's center has excellent meeting and classroom space, as well as a library, all open free to the public. A nursery facility provides native plants for sale twice a year.

ADOPT-A-STREAM

CONTACT: Matt Chasse
PHONE: 410-260-8710
Email: mchasse@dnr.state.md.us

DESCRIPTION: This program is designed to protect and improve the water quality of Maryland's waterways. It is a statewide stewardship campaign that encourages active citizen participation in the monitoring and cleanup of the state's waterways and watersheds. Adopt-A-Stream is a series of hands-on activities that are conducted for the Department of Natural Resources by the nonprofit group Save Our Streams (SOS). SOS can be reached at (800) 448-5826.

offers innovative job training and academic intervention programs. The foundation's interdisciplinary programs emphasize applied learning in math, science, language arts, economics, history, ecology and Chesapeake Bay studies. Customized and teacher training programs are available. Visit their Web page at www.livingclassrooms.org

ENVIRONMENTAL EMERGENCIES

CONTACT: Chief Alan Williams
PHONE: 410-333-2950
Email: dachief9@juno.com

DESCRIPTION: Learn about how Maryland responds to environmental emergencies such as chemical accidents and oil spills. A member of the Maryland Department of the Environment's emergency response team brings emergency response truck and equipment to your site and does cleanup demonstrations. Grade 2 to adult.

AQUATIC RESOURCES EDUCATION GRANTS

CONTACT: Cindy Grove
PHONE: 410-260-8710
Email: cgrove@dnr.state.md.us

What? You're Not Listed Here?

The Resource is a special supplement to *MDEnvironment*. This publication will be updated throughout the year and posted on MDE's website at www.mde.state.md.us. A 1999 edition will be published next September. This feature is open to non-profit businesses, governments and educational institutions that offer environmental education opportunities. Submit additions or updates to MDE Office of Communications, 2500 Broening Highway, Baltimore, MD 21224. E-mail: swoods@mde.state.md.us. Phone: 410-631-3003

is a listing of over 1,000 private environmental companies, state and federal offices, environmental non-profits, and educational institutions offering environmental studies.

HOWARD COUNTY EDUCATION RESOURCE MATERIALS

CONTACT: Howard County Department of Public Works
PHONE: 410-313-6444

DESCRIPTION: The Howard County Department of Public Works has a variety of environmental education resources available (brochures, pamphlets, slide presentations and videos) for use by teachers and community organizations. Sample topics include: water quality, pollution prevention, lawn and garden information, backyard conservation, storm water management, recycling, household hazardous waste, and neighborhood environmental project ideas.

ESTUARINE BIO INDICATORS, SEINE DEMOS

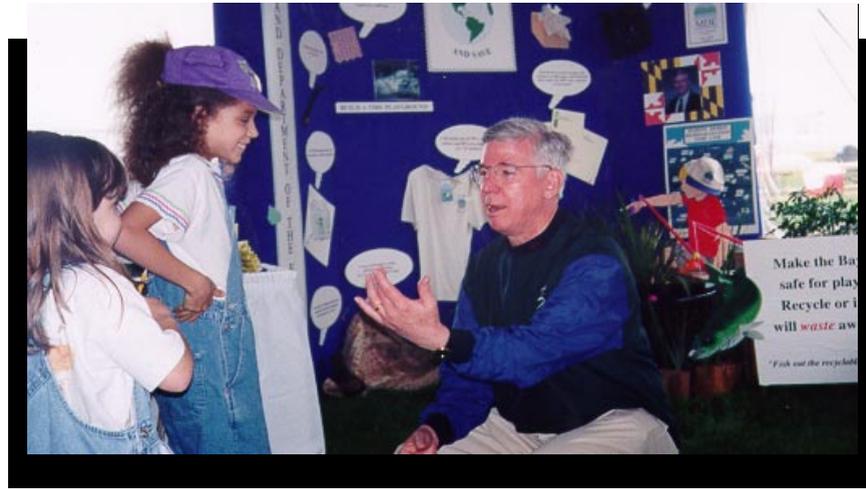
CONTACT: Margaret McGinty
PHONE: 410-260-8630
Email: mmcginty@dnr.state.md.us

DESCRIPTION: Introduces biological indicators, what they are, and what they can tell us. A demonstration of sampling techniques used by the bio-indicator program follows. Discussion of the sampling area and a recap of the overall program is next. Can handle approximately 30 students, but prefer smaller groups. Program is conducted on the shore of estuarine tributaries. Available on a limited basis with adequate notice (at least one month). Warm weather months are preferable. Can also present information in the classroom with slides. Can also conduct fish identification training for groups of 5-35 people, held indoors and with sufficient notice (one month). Offered by the Department of Natural Resources.

SOMETHING'S FISHY

CONTACT: Larry Leasner
PHONE: 410-260-8250

DESCRIPTION: The primary goal of the Maryland Fish Passage Program is to remove or bypass all blockages and reopen spawning runs for migratory fish wherever feasible, thereby increasing populations of targeted species to near historic levels. Program personnel are available to speak and provide a slide show, video presentation, exhibit materials, literature, and if interested, an opportunity to visit a fishway. Also, discusses the Fish Passage Program as an integral part of the Chesapeake Bay restoration effort. Available according to staff schedule. One-month notice is needed. This is a program of the Department of Natural Resources.



Governor Glendening talks about recycling with children at an MDE Exhibit at the Whitbread Festival.

FORESTRY AWARENESS MONTH

CONTACT: Dave Reinecke
PHONE: 410-543-1950

DESCRIPTION: Held in October. Half-day field trips to the Department of Natural Resources' Wicomico Demonstration Forest for 4th grade students in Dorchester, Worcester, Wicomico and Somerset counties. Students learn about resource management.

GROUNDWATER EVERYWHERE!

CONTACT: Bonnie Berardelli
PHONE: 410-631-3956
Email: bberardelli@mde.state.md.us

DESCRIPTION: Learn about groundwater, how it moves and how it can become contaminated. Demonstration of model, 30-minute presentation by a representative of the Maryland Department of the Environment. Grade 3 to adult.

LANDFILLS TODAY

CONTACT: Bonnie Berardelli
PHONE: 410-631-3956
Email: bberardelli@mde.state.md.us

DESCRIPTION: Approximately 30-minute presentation using a model to demonstrate how modern landfills differ from old style dumps. Limit of 20 individuals for presentations. All ages.

RECYCLE, RECYCLE, RECYCLE

CONTACT: Bonnie Berardelli
PHONE: 410-631-3956
Email: bberardelli@mde.state.md.us

DESCRIPTION: A very entertaining presentation by the Maryland Department of the Environment for kindergarten through Grade 5 on the importance of recycling and being careful about household hazardous waste.

LIVING HISTORY CHARACTERS

CONTACT: Dave Jurgella
PHONE: 410-260-8186

Email: djurgella@dnr.state.md.us

DESCRIPTION: Trained Department of Natural Resources personnel present Living History Characters at State Forest and Park sites. Some classroom presentations are available. Some characters carry and display, but do not fire replica antique firearms or other historic weapons in their presentations. Written permission signed by the school principal must be furnished in advance before characters will carry their weapons on to school property. Examples of these characters are: colonial ranger, Revolutionary War soldier, War of 1812 soldier, Civil War - Union and Confederate soldiers and a forest ranger. Presentations upon request and a fee may be charged.

OXFORD LAB: EXPERIMENTAL STATION TOURS

CONTACT: Keith Lockwood
PHONE: 410-226-5988
Cooperative Oxford Lab, 904 S. Morris St., Oxford, Md. 21654

DESCRIPTION: K-College. Program is tailored to the needs of the group. For young children the program concentrates on a touch tank and large tanks containing various Chesapeake Bay fish and other aquatic life. Marine mammal/human interactions are explored through the Marine Mammal Stranding Station activities. For older groups, Chesapeake Bay ecology is explored through beach seining and by investigating oyster reef habitats, salt marsh communities, fish anatomy and physiology. Maximum group size is 50. Programs are outside. Docking available for large vessels on site.

PATUXENT RIVER COMMISSION RESOURCES

CONTACT: Meo Curtis, Montgomery County
PHONE: 301-217-6395

Susan Overstreet,
Howard County
PHONE: 410-313-2393
Email: meosotis.curtis@co.mo.md.us

DESCRIPTION: The Patuxent River Commission is creating a database listing environmental outreach organizations and stew-

ardship activities in the Patuxent River Watershed. As of July, more than 150 organizations have been listed, offering programs on lawn care, volunteer stream monitoring, forest preservation and more. The database will be completed this fall and will be available through schools, libraries and local environmental agencies. Will be a useful resource!

PATUXENT RIVER NAVAL AIR STATION OUTREACH

CONTACT: Theresa Hopkins
PHONE: 301-757-4814

DESCRIPTION: Environmental professionals from the Patuxent River Naval Air Station in St. Mary's County offer on-station or off-station environmental education programs on the Chesapeake Bay, erosion control, the water cycle, recycling, habitat, and forestry, just to name a few. Programs can be 20 to 30 minute discussions with hands-on activities, or daylong field trips tailored to teachers' instructional needs. Presentations available to schools and groups in St. Mary's, Calvert and Charles counties.

POWER UP!

CONTACT: Carol Towle
PHONE: 410-260-8710
Email: ctowle@dnr.state.md.us

DESCRIPTION: A cooperative project between the Department of Natural Resources and the Outdoor Education Program of Anne Arundel County. For grades 4-8. Activity guide examines the issues of electric power generation in Maryland. This includes how and where electricity is produced, its transmission, and environmental impacts and energy conservation at home and in the school. Activities use a variety of teacher/learning strategies: small group cooperative learning, individual tasks, reading, lab investigations, mapping and models.

LEARNING TREE

CONTACT: Dave Reinecke
PHONE: 410-543-1950

DESCRIPTION: Project Learning



A DNR ranger explains the fine art of snake handling as part of a Scales and Tales exhibit.



MDE's Alan Williams demonstrates the equipment needed to respond to environmental emergencies.

Tree is a six-hour training program for K-12 educators. Adult leaders are trained to use an activity guide and learning materials that use trees to teach young people about diversity, interrelationships, system, structure and scale and patterns of change.

PROJECT WET

CONTACT: Cindy Grove
PHONE: 410-260-8710
Email: cgrove@dnr.state.md.us

DESCRIPTION: Project WET is a collection of innovative, water-related activities that are hands-on, easy to use and fun! Project WET activities incorporate a variety of formats, such as large and small group learning, whole body activities, discussion of local and global topics, and involvement in community service projects. Six-hour workshops provide teachers with the activity guide, information on how to use the guide, and resources to assist teachers in incorporating Project WET into their curriculum. Offered by the Department of Natural Resources.

PROJECT WILD

CONTACT: Nancy Smogor
PHONE: 301-777-2136

DESCRIPTION: Project WILD is a collection of curricular activities and resource information related to wildlife, habitat and conservation. Audience is K-12 educators. Free, six-hour workshop introduces educators to over 200 activities. Offered by the Department of Natural Resources

FORESTS AT SCHOOL

CONTACT: Mike Grant
PHONE: 410-260-8531
E-mail: mgrant@dnr.state.md.us

DESCRIPTION: In cooperation with the County and Baltimore City Forestry Boards. Aid schools in designing, planting and maintaining a non-landscaping forest on school property and encourages teachers to use that forest for study.

CRACKING THE SHELL-FISH/OYSTER MYSTERY

CONTACT: Chris Judy

PHONE: 410-260-8250
Email: cjudy@dnr.state.md.us

DESCRIPTION: For middle school through college classes, adult groups and clubs. Available about once per month by request. Slide shows, slide shows with overheads, and samples of oyster shells, spat. Can even dissect an oyster. Offered by the Department of Natural Resources.

WATERSHED MODEL DEMONSTRATION

CONTACT: Fran Stierstorfer
PHONE: 410-631-3172
Email: fstierstorfer@mde.state.md.us

DESCRIPTION: A 30-minute presentation about how runoff from land can damage our waterways. Interactive watershed model used. Offered by the Maryland Department of the Environment. All ages.

CHESAPEAKE BAY TRUST GRANTS

CONTACT: Laurissa Heller
PHONE: 410-974-2941
Email: cbt@ari.net

DESCRIPTION: The Chesapeake Bay Trust offer grants to encourage schools, community organizations, nature centers, public agencies and others to join as partners to help clean up the Chesapeake Bay. Grant applications for up to \$1,000 are accepted at anytime. Grant requests for more than \$1,000 are reviewed four times per year. The trust favors action-oriented activities. Priority is given to two principal areas: volunteers efforts, such as tree and wetland planting, and education projects that promote a behavior change toward the Bay.

FORESTRY EDUCATION SEMINARS

CONTACT: Will Williams
PHONE: 301-475-8551 Forest Service-Southern Region, Carter Building, Leonardtown MD 20650

DESCRIPTION: Seminars on a variety of topics related to forestry

geared to teachers, homeowners, and landowners. Topics include creating wetlands, urban riparian restoration and estate planning for forest landowners. Offered by the Department of Natural Resources.

EARTH SCIENCE INFORMATION CENTER

CONTACT: Ken Schwarz
PHONE: 410-554-5525

DESCRIPTION: Information to the public on maps, aerial photos, satellite images, and fossils among others. Offered by the Maryland Geologic Survey.

GEOLOGY LECTURES

CONTACT: Ken Schwarz
PHONE: 410-554-5525

DESCRIPTION: Lectures for all ages upon request. Also presentations upon request specifically on mineral resources, geology of MD, rocks and minerals, map making and fossils. Offered by the Maryland Geologic Survey.

HELEN AVALYNNE TAWES GARDEN

CONTACT: Amy Henry
PHONE: 410-260-8186
Email: ahenry@dnr.state.md.us

DESCRIPTION: The garden, located in Annapolis at the Department of Natural Resources, offers regularly scheduled environmental education programs for children and adults. Examples of programs offered are: A Walk Through Maryland, Pond Exploration, and Discover Nature (a program for children ages 3-5 with a parent to explore the natural world through a seasonal craft, nature story and walk through the garden.) Garden tours are geared to the interests and educational needs of the group.

BALTIMORE COUNTY WATER POLLUTION ENVIRONMENTAL EDUCATION PROGRAM

CONTACT: Jeanne Armacost
PHONE: 410-887-4488, EXT. 251

DESCRIPTION: *Let's Be Partners... Water Pollution: What We Can Do to Reduce and Prevent It* is a Baltimore County Department of Environmental Protection and Resource Management program to educate children, families and community groups about what they can do to reduce water pollution. The program presentations (introduction, questionnaires, slide presentations, inter-active activities, handouts and question and answer period) require about 75 minutes. Program can be tailored to specific needs of a group. Offered free of charge. Would prefer to have at least 20 people in attendance for each presentation.

MD ENVIRONMENT NEWSPAPER

CONTACT: Christine Plummer
PHONE: 410-631-3012
Email: cplummer@mde.state.md.us

DESCRIPTION: Monthly newspaper covering top environmental protection issues in Maryland, published by the Maryland Department of the Environment. Newspaper is available at MDE's website, www.mde.state.md.us Free printed subscriptions are available.

RECYCLING EDUCATION OPPORTUNITIES IN MONTGOMERY COUNTY

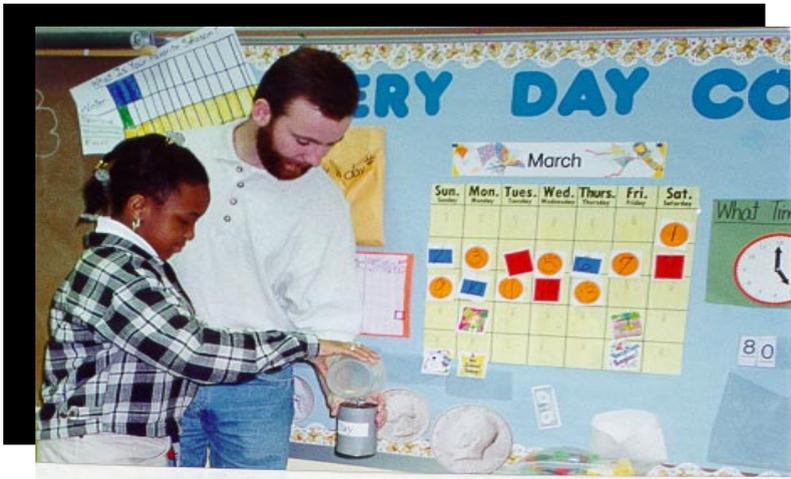
CONTACT: Suzanne Brunhart
PHONE: 301-590-2818
Email: mrc@windsor.net

DESCRIPTION: The Montgomery County Master Recycler/Composter Program offers recycling center tours where visitors can learn about recycling and reducing waste, how recyclables are sorted and what they become. To arrange a free tour, call the Recycling Hotline at 301-590-0046. The program also publishes *The Recycler*, a free monthly newsletter with articles about current solid waste issues in the county, as well as items about local and Internet resources. The newsletter is appropriate for middle school students and up. The county also has a recycling speaker's bureau and a recycling-related website - www.dpwt.com (select "solid waste services" menu option).

PICKERING CREEK ENVIRONMENTAL EDUCATION CENTER OPPORTUNITIES

CONTACT: Gia Marie Ristvey
PHONE: 410-822-4903
Email: gristvey@pickeringcreek.org

DESCRIPTION: A sanctuary of the Chesapeake Audubon Society, Pickering Creek serves students and adults on both sides of the Bay Bridge. Located on a 400-acre working tidewater farm near Easton, the site includes 100 acres of mature hardwood forest, tidal and nontidal wetlands, a mile of shoreline on a deep-water creek, a large children's Imagination Garden and organic demonstration plots. The center has two classrooms, resource library, numerous farm buildings, a boathouse and a fleet of canoes. The education program for Pre-K to Grade 12 students includes field trips to the center, in-school visits, agriculture education and outdoor education program including a low-ropes confidence building course. Evening and weekend programs are available as well as teacher training.



Hydrogeologists Dan Jordan, from the Naval Air Station Patuxent River demonstrates how water passes through different types of soil, sand and gravel at Ridge Elementary

SCALES AND TALES

CONTACT: Bill Trautman
PHONE: 410-922-8825
Email: btrautman@dnr.state.md.us

DESCRIPTION: Live animal demonstrations for all ages and locations, from state parks to classrooms to special events. Joint venture with the Department of Natural Resources and the Maryland Parks Foundation. Fee for program. Designed to develop appreciation for Maryland's wildlife and the relationship between humans, wildlife, and the habitat they share.

REFORESTATION WILDLIFE HABITAT PROGRAM FOR SCHOOLS - BALTIMORE COUNTY

CONTACT: Forest Conservation District Board/Baltimore County
PHONE: 410-665-5820

DESCRIPTION: The focus of this program is the execution of various tree and shrub planting projects, wildlife habitat enhancement and other conservation

activities. The program provides a hands-on, problem-solving activity for students to research, plan, develop, implement, maintain, apply for grants and provide follow-up for developing a forest stewardship plan, collecting data and writing final reports.

SIDELING HILL VISITOR CENTER

CONTACT: Fort Frederick
PHONE: 301-842-2155

DESCRIPTION: Visitor center on I-68 in Western Maryland with exhibits which inform people about millions of years of Maryland's geologic history, early transportation routes over the mountains and modern tools of the geologist's trade.

TREEMENDOUS MARYLAND

CONTACT: Terry Galloway
PHONE: 410-260-8531
Email: tgalloway@dnr.state.md.us

DESCRIPTION: One-day workshop by the Department of Natural Resources in the spring and fall to teach volunteers how to plant and maintain seedling and saplings.

UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE

CONTACT: Catherine Baptist (Horn Point) PHONE: 410-221-8452
Email: baptist@hpel.cees.edu

DESCRIPTION: Programs for K through Grade 12 students include a great diversity of activities at the 850-acre Horn Point Environmental Center, including seining, canoeing, water quality analysis, and wetlands ecology. Horn Point program may be one-day or overnight; longer trips, including on-site campouts are possible as well. CES also offers teacher training in Chesapeake Bay ecology, wetlands ecology as well as teacher internship opportunities.

UPPER PATUXENT CURRICULUM FROM WSSC

CONTACT: Pearl Lauffer, WSSC
PHONE: 301-206-8100

DESCRIPTION: *The Upper Patuxent Curriculum: Our Water, Our Land Our Community* is a guide produced by the Washington Suburban Sanitary Commission and Maryland Save Our Streams. The multi-disciplinary middle school curriculum has ten units that include lessons on the history, geology, and soils of the Patuxent watershed as well as water quality testing. The curriculum includes MSPSP outcomes, estimated times for each lesson, objectives and materials needed.

MATERIALS FROM THE CHESAPEAKE WATER ENVIRONMENT ASSOCIATION

CONTACT: Don Jacobs
PHONE: 301-206-7415
Email: djacobs@wssc.dst.md.us

DESCRIPTION: The Chesapeake Water Environment Association offers a number of materials,

speakers and tours related to water conservation, water treatment and distribution, and pollution prevention and control. *The Water Source Book*, which comes in versions for Grades 3-5 and 9-12, is a comprehensive guide featuring more than 70 hands-on activities on drinking water, wastewater treatment, groundwater, surface water and wetlands. The association also offers *H2O-TV - The Water Environment Curriculum Program* for Grades 5-9 that covers groundwater conservation, wastewater treatment and surface water. The program comes with a VHS video, a teacher's guide and student guides. *Nature's Way, Too* is also offered and provides a video tour of Baltimore's Back River Sewage Treatment Plant. The association also has available the *Water Cycle Game*, which is suitable for Grades 4-6 and will arrange water and wastewater plant tours throughout Maryland.

IT'S A WILD LIFE!

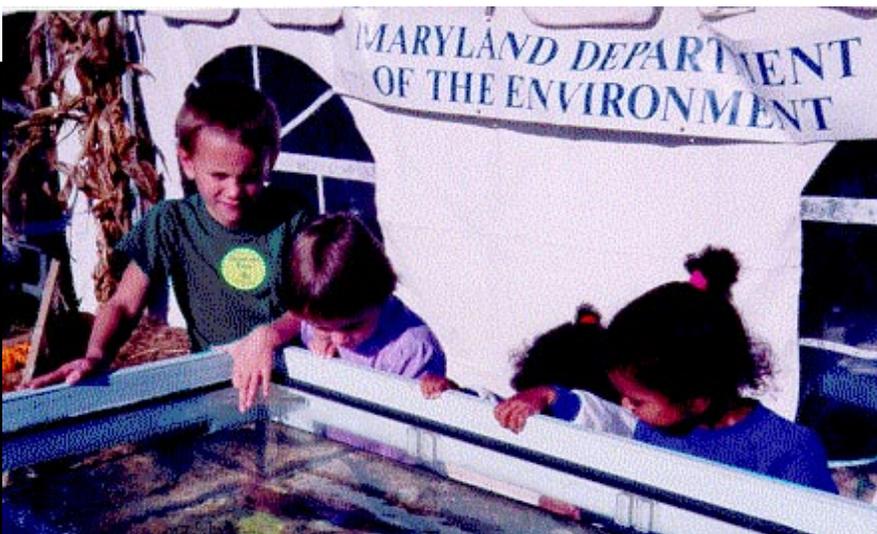
CONTACT: Dana Limpert
PHONE: 410-260-8540
Email: dlimpert@dnr.state.md.us

DESCRIPTION: "Wild Acres" provides information on creating habitat for wildlife in backyards. Interested participants can certify their backyards and receive the quarterly newsletter "Habichat." Offered by the Department of Natural Resources. All ages.

WONDERFUL WETLANDS

CONTACT: Fran Stierstorfer
PHONE: 410-631-3003
Email: fstierstorfer@mde.state.md.us

DESCRIPTION: Learn all about the wild and wonderful world of wetlands! Find out how wetlands filter pollutants, provide flood control and provide habitat for many plants and animals. 30- to 40-minute presentation by Maryland Department of the Environment staff using a model. All ages.



Children at an environmental festival get an up close personal look Bay creatures.



Michael Eisner of MDE demonstrates how groundwater flows using an interactive model.