



**NATIONAL MARINE PROTECTED AREAS CENTER
INFORMATION EXCHANGE FOR MARINE EDUCATORS**

MAY 2005

This update is provided as a service by the National Marine Protected Areas Center to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs. Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it in the MPA Information Exchange.

The information included here has been compiled from many different sources, including SeaSpan, NSTA Express, edinfo at FREE, EE-NEWS@NAAEE, CREEC, Scuttlebutt, EEinGEORGIA, the Scout Report, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

To subscribe to this distribution list, send a blank message to requests@willamette.nos.noaa.gov with "subscribe infoexchange" in the subject field. Similarly, to remove yourself from the list, send the subject "unsubscribe infoexchange".

Collected archives of the information presented in past newsletters are available at http://www.mpa.gov/information_tools/education.html#InfoExchange. Contact the MPA Center's education coordinator directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

Notable MPA Literature

Northwestern Hawaiian Islands Newspaper Insert

A newspaper insert prepared during the period in which draft fishing regulations are being developed for the proposed Northwestern Hawaiian Islands National Marine Sanctuary discusses the history and importance of the islands' ecosystem, fishery management plans and coral reef preservation actions, the seafood market and its importance to consumers, and research on fishing effects on the ecosystem.

http://www.wpcouncil.org/NWHI/Documents/NWHI_Insert.pdf

Western Pacific Fishery Management Council, "Northwestern Hawaiian Islands Newspaper Insert". Honolulu, Hawaii: Honolulu Advertiser, March 6, 2005

Main MPA Library URL:

http://www2.mpa.gov/mpa/mpaservices/virtual_library/virtual_library.lasso .

PROGRAM OF THE MONTH

Ocean Exploration – Summer Expeditions

NOAA's Office of Ocean Exploration will be launching several expeditions during the upcoming summer months. Follow along with scientists and educators through daily web logs, images, and video as they explore unknown areas of the ocean from the Arctic to the Lost City Site along the Mid-Atlantic Ridge. You will also find new educational resources developed specifically for these expeditions. Be sure to mark your calendars to follow along!

New Zealand American Submarine Ring of Fire – April 3 – May 10, 2005

The 2005 summer season kicks off with the New Zealand American Submarine Ring of Fire. Join us as an international team of scientists visits submarine volcanoes along the Kermadec Arc using submersibles. Check out the expedition logs, lesson plans, and computer simulations, and post questions to the exploration team.

<http://oceanexplorer.noaa.gov/explorations/05fire/welcome.html>

Hidden Ocean Expedition, June 26 - July 16, 2005

Among the major oceans on Earth, the Arctic Ocean is the most inaccessible and the least studied. Within it, the Canada Basin is the least known and its isolation potentially predisposes it to the evolution of unique species. Join scientists and educators during this mission as they seek to understand more about communities found in the sea ice, pelagic, and benthic realms of this polar ocean and study the physical environments and primary productivity associated with them.

Lost City Expedition, July 15 – August 4, 2005

Join Dr. Robert Ballard on board the NOAA ship *Ron Brown*, Dr. Deborah Kelley from her command center at the University of Washington in Seattle, along with many others as they visit the Lost City hydrothermal field along the Mid-Atlantic Ridge. The magnificent venting limestone pinnacles tower 200 feet above the seafloor, and the warm fluids support novel microbial life forms that thrive in the hydrogen- and methane-rich fluids. Says Ballard, "If the Lost City had been discovered on land instead of 2,100 feet under the ocean it would be a national park as beautiful and compelling as Yellowstone." Join the science and education team as they search for new vent sites and seek to learn more about the macrofauna, microfauna, and vent chemistry associated with this site.

DeepScope, August 19 - September 4, 2005

Operation Deep-Scope 2004 looked into the deep ocean with new technologies and revealed new organisms, behaviors, visual adaptations, and fluorescent compounds. Scientists discovered a fluorescent shark, that methane hydrates fluoresce, and a bioluminescent anemone. The most active hurricane season in 30 years cut the expedition short, and scientists and educators are anxious to return to the 2004 target sites to continue to add to the comprehensive characterization of the deep-sea benthic environment begun last year.

North Atlantic Deep Sea Corals Expedition, August 5 – September 5, 2005

Join scientists and educators as they seek to understand more about seamounts of the New England Seamount Chain and how these deep-sea "stepping stones" may be potential faunal links to the Mid-Atlantic Ridge. Although the geology of the seamounts and their affects on ocean currents have been studied, the biota has only recently been closely investigated. To date, the science team for this mission has collected 198 coral specimens, about 15 species of which are possibly new to science. Join the science and education team as they continue to explore the biota associated with these magnificent mountains in the sea.

<http://oceanexplorer.noaa.gov>

OPPORTUNITY OF THE MONTH

Hollings Scholarship

The National Oceanic and Atmospheric Administration (NOAA) Ernest F. Hollings scholarship program will provide selected undergraduate applicants with awards that include academic assistance for full-time study; a 10-week, full-time internship position during the summer at a NOAA or partner facility; and, if reappointed, academic assistance during a second academic year. The internship provides hands-on, multi-disciplinary educational training experience involving Scholars in NOAA-related scientific, research, technological, policy, management, and education activities. The scholarship is available for full-time undergraduate juniors in fall, 2005. The deadline for application is May 23, 2005.

<http://www.orau.gov/noaa/HollingsScholarship/>

REQUESTS

Looking for Caribbean Seabird Photos

Lisa Sorenson is preparing a "Seabirds of the Caribbean" PowerPoint slide presentation for distribution on CD and poster to natural resources agencies and environmental educators throughout the Caribbean, cruise ship lines, and other users of the Caribbean seas. The materials aim to raise awareness about the loss of Caribbean seabirds including identification and natural history of the breeding residents and common migrants, how and why populations have declined, and conservation actions that can be taken. She is seeking images for many species. Please contact her directly for more details about the project, particular images sought, credits, and more.

Contact Lisa at lsoren@bu.edu

GRANTS AND OPPORTUNITIES

Angels in Action Award

The Angel Soft® Angels in Action® Award Program recognizes young people (ages 8-18) for exemplary acts of service that benefit their community, a charity, or a cause. The deadline for nomination is August 15, 2005.

<http://www.angelssoft.com/angelsinaction/awardsprogram.asp>

Environmental Stewardship Grant

Entergy Corporation's sixth annual Environmental Stewardship Grant program provides support to community-based projects that protect, enhance, or preserve the environment. A non-profit organization may partner with an Entergy employee for

eligibility. Priority is placed on projects benefiting locations where Entergy has customers and employees. The deadline for application is May 31, 2005.

<http://www.entergy.com/Corp/she/grant.asp>

Groundwater Awards

The Groundwater Foundation offers four awards for educating and motivating people to care for and about groundwater. The Groundwater Educator Award recognizes educators who understand the importance of groundwater, motivate others to protect groundwater, and lead by personal example. The W.C. Foxley – E.P. Taiganides Award for Excellence and Leadership in Groundwater is open to any student, age 12-17, in the U.S. that gives time, energy, and knowledge to promote the protection of groundwater in his or her community. Additional awards recognize groundwater heroes and government service promoting groundwater stewardship. The deadline for nominations is July 14, 2005.

<http://www.groundwater.org/aw/awards.html>

Natural Science, Wildlife and Environmental Education Grant Program - Washington

This program promotes proven and innovative natural science, wildlife, and environmental education programs that are aligned with Washington State's essential academic learning requirements. Fundable projects include but are not limited to instruction about renewable resources, responsible use of resources, and conservation. Qualified applicants must be non-profit organizations with at least one Washington State public school district partner. The application deadline is June 21, 2005.

<http://igrants.ospi.k12.wa.us/docs/04-05/Connections/formpackages.html>

Presidential Freedom Scholarships

Two students from every high school in the U.S. are eligible for Presidential Freedom Scholarships in recognition of their outstanding service to the community. This annual college scholarship program is administered by the Corporation for National and Community Service's Learn and Serve America program and provides half of the award, which must be matched with \$500 from a community organization, civic group, or business and secured for the student by his or her high school. The application deadline is July 1, 2005.

<http://www.nationalservice.org/scholarships>

President's Environmental Youth Awards

The President's Environmental Youth Awards program recognizes young people for projects which demonstrate their commitment to the environment. The program is available to individuals, classes, and youth groups. Awards are presented in each of the EPA regions, and one project from each region is presented with a national award. The application deadline is July 31, 2005.

<http://www.epa.gov/enviroed/awards.html>

Toshiba America Foundation Grants

The mission of Toshiba America Foundation is to contribute to the quality of science and mathematics education in U.S. communities. Applications for grants for projects in math and science designed by classroom teachers to improve instruction for students in grades K-12 are accepted on a rolling basis. The website lists past grants, many of which have supported environmental science.

<http://www.taf.toshiba.com>

INTERNSHIPS AND TEMPORARY OPPORTUNITIES

Graduate Assistantships in Human Dimensions of Coastal and Marine Ecosystems - Massachusetts

The National Centers for Coastal Ocean Science is funding two Ph.D. Graduate Research Assistant positions for the fall of 2005 with the University of Massachusetts-Amherst Human Dimensions Research Unit. One student will examine the extent to which the management of coral reef ecosystems is consistent with the basic goals, interests, and wants of society (these goals will range from protection to consumptive use), and the second student will examine the extent to which an estuary or bay is providing society with social, economic, and cultural benefits in relation to the ecological condition of that estuary or bay.

Contact Professor Dave Loomis at Loomis@forwild.umass.edu

Summer High School Student Research Mentorship Program - California

The University of California, Santa Barbara is accepting applications for its summer Pre-College Research Mentorship Program, June 20 - July 29, 2005 in Santa Barbara, California. Students will conduct field, library and/or laboratory research; learn research techniques; analyze data; and present research findings in a formal symposium setting, under the tutelage of university professionals.

<http://www.summer.ucsb.edu/precollegeprograms/research/description.html>

Summer Opportunities

For those searching for additional summer opportunities, visit the Summer Opportunities page from the Bridge, the Sea Grant Ocean Sciences Education Center. Find links to more than 40 ocean science summer programs for middle, high school, undergraduate and graduate students, and adults. The Marine Advanced Technology Education (MATE) Center also maintains a listing of marine-related internships.

http://www.marine-ed.org/bridge/index_summer.html

http://www.marinetech.org/education/internships/intern_volunteer.php

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Action in Place Conference

The "Action in Place: Promoting Community and Environmental Sustainability" conference will take place October 6-9, 2005, in Plainfield, Vermont. The conference will showcase place- and regionally-based programs of education and action promoting environmental and community sustainability, as well as provide a forum for discussion of related ideas and issues.

<http://www.goddard.edu/academic/actioninplace.html>

Coast Alive! Teacher Training Workshop - California

Coast Alive! is a project created by the California Institute for Biodiversity, California State Parks Foundation, and California State Parks for 5th-9th grade teachers and their students. The project provides teacher professional development and incorporates interactive computer technology and lessons in literacy, science, math, and social science. Teachers will be able to have their students extend and apply classroom

lessons to field investigations. There are workshops in May and June in various locations throughout California.

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

Coral Reef Ecology of Hawai'i Teachers Workshop – Hawai'i

This week-long course will be held twice during July, 2005, in South Kona, Hawai'i. Participants will learn first-hand how humans are impacting the life of the organisms on the coral reef of Hawai'i and what the state is doing about it. Participate in daily snorkel excursions along the shore, explore the coastline, visit Pu'uuhonua o Honaunau National Historical Park (Place of Refuge) and more.

<http://www.aote.org/menu/prog/haw/index.htm>

Environmental Learning Institute

The Environmental Learning Institute is a not-for-profit organization working with host-country communities, scholars, and institutions to conduct community-based environmental research and offer undergraduate and graduate field study courses in various natural and cultural scientific disciplines. The courses employ an action-research model working with communities on locally identified projects that serve the public good. A graduate program in field biology, geology, and science education will be held June 4-9, 2005 in the Clayoquot Sound Biosphere Reserve in British Columbia. Check the website for details and other programs.

<http://www.environmentallearning.org/index.htm>

Interdisciplinary Workshop in Environmental Education - Wisconsin

A summer environmental education workshop, May 31 - August 19, 2005, in River Falls, Wisconsin, is designed for K-12 teachers who want to improve their environmental education skills and knowledge. Workshop participants will gain a basic knowledge of the nature and distribution of groundwater; water chemistry and analysis; stream health and ecology; sources and characteristics of common water pollutants; waste management problems and solutions; water science curricula; and field experience to observe water-related and land use environmental problems. Specific program areas covered include Adopt a Lake/Stream, Project WET, Project WILD, and Water Action Volunteers.

<http://www.uwrf.edu/ogs/CAFES.php#envwshp>

Invasive Species Workshop - Pennsylvania

Delaware, Maryland, and Pennsylvania Sea Grant will hold a three day professional development workshop for educators and K-12 teachers. *Invasive Species: The Good, the Bad and the Prolific* will be held June 28 - 30, 2005 in Chester, Pennsylvania. Learn more about invasives in your backyard, and bring back activities to incorporate invasive species concepts into your curriculum. There will be afternoon field trips to nearby locations.

www.pserie.psu.edu/seagrant/invasive_species.pdf

Learning Ocean Science through Ocean Exploration – Hawai'i

NOAA is offering a professional development workshop prior to the National Marine Educators Association 2005 Conference, *Learning Ocean Science through Ocean Exploration* Curriculum Professional Development, on July 11, 2005 in Maui, Hawai'i. Bring the excitement of current ocean science discoveries to your students using the ocean exploration curriculum and companion CD-ROM. Join the experts for inquiry- and standards-based activities tied directly to NOAA ocean expeditions. For more

information about the pre-conference workshop, visit the NMEA website. For a full description of the curriculum, visit the Ocean Explorer website.

www.hawaii.edu/maui/oceania/NMEA05PRE.html

<http://oceanexplorer.noaa.gov/edu/curriculum/welcome.html>

Mapping Ocean Sanctuaries - Massachusetts

The free, Mapping Ocean Sanctuaries teacher workshop, July 6-8, 2005 in Scituate, Massachusetts, will explore the biological, physical, and geological characteristics of our coastlines and national marine sanctuaries. It is sponsored by a 2003 Grosvenor Grant from the National Geographic Society and taught by the Center for Image Processing in Education in conjunction with Stellwagen Bank National Marine Sanctuary. The workshop will include hands-on instruction on how to use geographic information system (GIS) software and global positioning system hand-held units, using the Exploring Data with GIS to Experience Sanctuaries (EDGES) curriculum. The workshop will include a whale watching trip to collect whale sighting data. Participants will receive materials and curriculum, including a one-year site license for ArcView GIS software. The application deadline is May 25, 2005.

http://www.evisual.org/www/pdfs/SBNMS_app.pdf

Marine and Estuarine Invertebrates Field Course - Oregon

A summer field course at the Hatfield Marine Science Center will be held June 20 – July 15, 2005 in Newport Oregon. It will include the comparative survey of eight major invertebrate phyla and many lesser-known phyla. Three areas of emphasis will be invertebrate identification, natural history, and comparative anatomy. Laboratories and field trips will strongly supplement lecture material.

<http://hmsc.oregonstate.edu/classes/summer/zoo461.html>

National Marine Sanctuaries Field Studies – Hawai'i

The National Marine Sanctuaries Field Studies in Hawai'i will take place August 4-9, 2005 on O'ahu, Hawai'i. NOAA's National Marine Sanctuary Program, in partnership with the National Geographic Society, offers hands-on ocean field studies based on educational standards, including subject areas such as marine science, water systems, habitat monitoring, and exploration. Teacher/student pair work will include snorkeling and fish identification on the coral reefs, studies of the local watershed, environmental monitoring, and more. The application deadline is May 30, 2005.

http://www.ngsednet.org/workshop_details.cfm?w_id=27

National System of MPAs Public Dialogue - Maine

The National Marine Protected Areas Center is holding a series of public dialogues around the country to solicit and collect input that will be used to develop the framework for the national system of marine protected areas. Each forum will begin with a presentation from MPA Center staff on our current plans. Participants will then break into small groups to ask questions, discuss relevant issues, and provide input on the national system. The New England Region Public Dialogue will be held on May 16, 2005, in Portland, Maine. If you would like to attend, please RSVP by Friday, May 6, 2005 to mpa.comments@noaa.gov, as space is limited.

http://mpa.gov/national_system/

Natural Resource Communications Techniques and Technologies – West Virginia

This Natural Resource Communications Techniques and Technologies course (OUT8106), June 6-10, 2005 in Shepherdstown, West Virginia, is designed to help

natural resource professionals communicate more effectively through oral presentations using dynamic visual aids. Topics include developing communication strategies for specific audiences, creating computer-generated PowerPoint images, and solving equipment problems. Participants will learn skills in planning, preparing, delivering, and evaluating oral presentation. A special session entitled "Verbal Victories" (SM) provides hints for handling difficult or hostile audiences. The course combines lecture, role-playing, demonstration, and practice in making presentations on natural resource topics. Contact Juanita Gustines at Juanita_Gustines@fws.gov

Northwest Aquatic and Marine Educators Conference

The Northwest Aquatic and Marine Educators annual conference will be held July 20-23, 2005, in Bamfield, British Columbia. The theme of the conference is *Ride the Wave to Bamfield*. Registration and other information may be found on the conference website. The deadline for proposal submission is May 27, 2005.

<http://mareco.org/name>

Stingray Tracking – Hawai'i

This course offered by the University of Hawai'i (MARE 394), May 29 - June 4, 2005 on O'ahu, Hawai'i, includes guest speakers, lectures on general ray and shark ecology, and practical techniques of tracking and telemetry. Participants assist with a tracking study of stingrays using transmitters and data loggers. Gain experience in field research and conservation ecology. For more information, contact Mark Heckman at

mheckman@hawaii.edu.

<http://www.uhh.hawaii.edu/depts/summer/credit.php>

Sustainable Beaches Conference

The Sustainable Beaches Conference will be held October 31 - November 2, 2005 in St. Petersburg, Florida. Please note that the Clean Beaches Council is partnering with NMEA to publish a special issue of the NMEA journal *Current*, focusing on education and management issues related to recreational beaches. This issue will be published this fall in time for the conference. The deadline for session proposals is June 1, 2005.

<http://www.cleanbeaches.org/events/summit/2005/>

Nonpoint Source Pollution Conference

The 9th Virgin Islands Nonpoint Source Pollution Conference, *Preventing Pollution in the Caribbean: Reshaping Our Communities for the Future*, has been rescheduled and will be held November 28-30, 2005 in St. John, U.S. Virgin Islands. The conference will present information on implementing and adapting environmentally-friendly practices to reduce or prevent pollution of terrestrial and marine environments in the Caribbean region. Topics of particular interest include watershed management, government initiatives, nonpoint source pollution education and outreach, and more. The deadline for abstract submission is August 1, 2005.

<http://usvircd.org/NPS/VINPSconf2005.index.html>

EDUCATIONAL RESOURCES

Bioimages

The Bioimages database has been developed by the Department of Biological Sciences at Vanderbilt University in cooperation with other participating institutions and agencies.

The image databases cover a wide range of biogeographical regions and their associated flora.

<http://www.cas.vanderbilt.edu/bioimages/>

Center for North American Herpetology

The Center for North American Herpetology serves as a data bank for information about North American amphibians, turtles, reptiles, and crocodilians, and promotes their study and conservation. There are links to websites for information, on-line collections, publications, and much more.

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

Ecology Connections

Ecology Connections is a Canadian website dedicated to providing educators and public access to primary ecological research and education resources. The research and education connections are relevant to high school biology teachers, educators from non-formal education organizations, and public interested in learning more about the science of ecology. Information, professional development, curriculum, and links to career information are available.

<http://www.ecologyconnections.ca/cgi-bin/index.php>

Edheads Weather

Edheads helps students learn through educational games and activities designed to meet state and national standards. Through one of the on-line activities, students learn how to report and predict the weather. A teacher guide, lesson plans, and weather glossary are included.

<http://edheads.org/activities/weather/index.htm>

EPA Water Webpage for Kids

A new Kids Page has debuted on the Environmental Protection Agency's Office of Water website. The site contains games, activities, and animated classroom experiments, following along with a new character called "Thirstin". Teachers and students can work on-line or download some of the information for classroom use. Check out the interactive water cycle, and the *Aquifer in a Cup* activity.

<http://www.epa.gov/safewater/kids/index.html>

Estuary Live!

Take a live, interactive virtual field trip to the Rachel Carson Site of the North Carolina National Estuarine Research Reserve with a trained naturalist as your guide via a live Internet connection. Visit four uninhabited islands and salt marshes located off Beaufort, North Carolina, May 3-5, 2005. The broadcast will feature topics including blue crabs, oysters, water quality, coastal geology, weather, decoy carving, and sand sculpture. Lesson plans and images are available on-line.

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

Exploring Biodiversity: A Guide for Educators around the World

Conservation International provides *Exploring Biodiversity: A Guide for Educators around the World*, developed to introduce basic concepts of biodiversity conservation, support educator training, and inspire and guide the development of local biodiversity education materials. Adapted from the World Wildlife Fund curriculum Biodiversity Basics, this guide offers background information on biodiversity conservation as well as

hands-on activities for teachers and non-formal educators to implement with students ages 9-14. Spanish and Portuguese language versions are being developed.

<http://www.conservation.org/xp/CIWEB/programs/awareness/education/>

Hawai'i Coral Reef Bibliography

The Hawai'i Coral Reef Initiative Computer Interactive Bibliography is a collaborative project between the Hawai'i Wildlife Fund and AECOS, Inc. This reference data base provides reference listings of surveys, studies, technical reports, and more on subjects ranging from physical oceanography, biology, taxonomy, water quality, ecology, and reef resources for the main Hawaiian Islands.

<http://home.hawaii.rr.com/cpie/CoralReefBib.html>

Illinois Natural History Survey

The Illinois Natural History Survey offers on-line field guides to amphibians and reptiles of Illinois with species accounts with photographs, distribution maps, and brief entries on description, habitat, status, and more. The website also links to collections of crustaceans, mollusks, fish, birds, mammals, and more.

<http://www.inhs.uiuc.edu/cbd/collections/collections.html>

Massachusetts Ocean Education Guide Website

The Massachusetts Coastal Zone Management Ocean Education Program has developed a dynamic directory of state ocean education resources. The directory includes field trips, speakers, curricula, after school programs, workshops, films/videos, newsletters/periodicals, library/resource centers, volunteer opportunities, and other programs designed to assist K-12 educators in teaching about the Massachusetts' ocean resources.

<http://www.mass.gov/czm/oceanmanagement/education/guide/index.htm>

Millennium Ecosystem Assessment

The new Millennium Ecosystem Assessment collates research from many specific locales to create the first global snapshot of ecosystems. The report was assembled by the U.N. Environment Program and includes contributions by 1,300 authors from 95 countries. The Millennium Ecosystem Assessment Synthesis Report presents a synthesis and integration of the findings of the four working groups, condition and trends, scenarios, responses, and sub-global assessments. This synthesis is organized around the core questions originally posed to the assessment: How have ecosystems and their services changed? What has caused these changes? How have these changes affected human well-being? How might ecosystems change in the future and what are the implications for human well-being? And what options exist to enhance the conservation of ecosystems and their contribution to human well-being? An interactive system is being developed that will allow easy access to reports, maps, and data, and will soon be launched by the World Data Center for Biodiversity and Ecology, which is managed by the U.S. National Biological Information Infrastructure.

<http://wdc.nbi.gov/ma>.

www.MAweb.org

National Coastal Condition Reports

The National Coastal Condition Reports from the EPA summarize the condition of ecological resources in the coastal waters of the United States and highlight several exemplary federal, state, tribal, and local programs that assess coastal ecological and water quality conditions. The *2005 National Coastal Condition Report II* rates the overall

condition of U.S. coastal waters as fair. The reports are downloadable from the website by region, and include graphics.

<http://www.epa.gov/owow/oceans/nccr/>

National Wetlands Research Center

The mission of the National Wetlands Research Center is to develop and disseminate scientific information needed for understanding the ecology and values of our nation's wetlands and for managing and restoring wetland habitats and associated plant and animal communities. The on-line library includes species profiles, produced in the 1980's, of more than 100 coastal aquatic organisms, principally fish of sport, commercial, or ecological importance.

<http://www.nwrc.usgs.gov/publications/specintro.htm>

New York Times Learning Network

The New York Times Learning Network is a free service for students, their teachers, and parents. The Web Exploration for students provides a guided web tour of different topics, including endangered species and biomes. Lesson plans are available on a wide variety of topics, written in partnership with The Bank Street College of Education in New York City for grades 6-12. Lesson plans can be searched by key word or accessed by thematic topic, including animals, insects and marine life, environmental issues, and weather.

<http://www.nytimes.com/learning/>

Plant Field Guide – Grand Bay NERR

The Mississippi Department of Marine Resources Grand Bay National Estuarine Research Reserve has posted its field guide on-line. *Selected Plants of Grand Bay National Estuarine Research Reserve and Grand Bay National Wildlife Refuge* includes some of the most popular plants and wildflowers seen along the Mississippi Gulf Coast. The guide provides visitors with color photos and descriptions of several coastal wetland and terrestrial plants found within the protected wildlands of the reserve, along with highlights of selected coastal habitats.

<http://www.dmr.state.ms.us/Coastal-Ecology/GBNERR/field-guide/field-guide.htm>

San Diego Natural History Museum Field Guides

The San Diego Natural History Museum's Biodiversity Research Center of the Californias works to understand and interpret the biodiversity of Southern California and the peninsula of Baja California. The museum provides links to information about its various departments and offers online access to databases for two collections. On-line checklists and field guides are available for a variety of regional plants and animals.

<http://www.sdnhm.org/fieldguide/index.html>

SciGuides

The National Science Teachers Association offers SciGuides™ as an online "science toolbox". The SciGuides tools allow teachers to quickly locate targeted science content information and teaching resources from NSTA-reviewed science websites. Teachers can also use SciGuides to transform science content into effective classroom resources by locating and incorporating online lesson plans and providing tips for teaching the content and examples of effective student assessments. The website offers an example guide on organisms.

<http://www.nsta.org/main/SciGuides>

Sea Partners Campaign

The U.S. Coast Guard Sea Partners Campaign is an environmental education and outreach program. Its aim is to develop community awareness of maritime pollution issues and to improve compliance with marine environmental protection laws and regulations. Messages include:

- The effects of oil, hazardous chemicals, waste and debris on the marine environment.
- How marine environmental protection laws and regulations apply to various marine users.
- Ways groups and individuals can take action to protect the marine environment.

For more information about local Sea Partners efforts, contact your nearest Coast Guard Marine Safety Office or Captain of the Port. The directory is available for downloading from the first website.

<http://www.uscg.mil/units.html>

<http://www.uscg.mil/hq/g-m/nmc/seapart.htm>

Sea Turtle eFieldTrip

The U.S. Fish and Wildlife Service has sponsored *Sea Turtles: Endangered Ocean Navigators*, an eFieldTrip on Sea Turtles. Have your students visit Pea Island National Wildlife Refuge and learn about these amazing animals. Each program has four major components: a virtual visit, a trip journal worksheet, ask the experts, and a live webchat. Archives of the questions are posted on the website.

www.eFieldTrips.org

Searchable Ornithological Research Archive

The Searchable Ornithological Research Archive is a resource for professional and amateur ornithologists. This online journal archive is produced jointly by the University of New Mexico, Association of Field Ornithologists, Cooper Ornithological Society, American Ornithologists Union, and Wilson Ornithological Society. At present, it contains seven journals, including *The Condor*, *Journal of Field Ornithology*, *Studies in Avian Biology*, and more. You can browse the journals or use the search engine.

<http://elibrary.unm.edu/sora/index.php>

The Shape of Life

Public Broadcasting System (PBS) hosts the Shape of Life website, which features activities, explorations, and experiments for K-12 formal and informal educators, students, and families. The website includes a downloadable activity guide, critter cards, and background material. Activities include "Can snails smell?" and how to make a jellyfish or brittle star.

<http://www.pbs.org/kcet/shapeoflife/resources/index.html>

Sharks 3D IMAX Film

Sharks 3D is a new IMAX film that was shot on location in Mexico, Colombia, Egypt, South Africa, Mozambique, USA, and French Polynesia. The website has a trailer and a list of theatres showing the film. There are also downloadable educator and companion guides with background material and activities.

<http://www.sharks3D.com>

Strange Days on Planet Earth

Strange Days on Planet Earth is a four-part series from PBS. The segments include Invaders, The One Degree Factor, Predators, and Troubled Waters. Materials available from the website include downloadable classroom activities geared for each segment and a glossary; check out the *For Educators* link.

<http://www.pbs.org/strangedays/>

Student Experiments at Sea

Join the Student Experiments At Sea (SEAS) through a virtual cruise to the hydrothermal vents of the East Pacific Rise from April 23 - May 14, 2005. SEAS is a program for middle and high school students interested in learning science by participating alongside deep-sea scientists. This spring, SEAS is hosting four student experiments and includes a new feature, the "Classroom to Sea" Laboratory, in which students collect data in their classroom and compare it with data from the deep. Follow along with the cruise through the daily log and learn about science at sea. The website includes a teacher resource guide and much more.

<http://www.ridge2000.org/SEAS/>

Survey Results on Public Attitudes about Natural Resources

Responsive Management is a public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues. Their mission is to help natural resource and outdoor recreation agencies and organizations better understand and work with their constituents, customers, and the public. The website posts a wide variety of survey results, including studies on how the general population values natural resources and outdoor recreation and their opinions on and attitudes toward an array of natural resource-related issues. Select "Natural Resources & Outdoor Recreation Research" from the left side of the webpage.

<http://www.responsivemanagement.com/>

The Transect Line

The Transect Line is an on-line or print newsletter from the Reef Check global network. Reef Check is an international program that works with communities, governments and businesses to scientifically monitor, restore, and maintain coral reef health. The newsletter features articles about Reef Check team activities, news, events, and more.

<http://www.reefcheck.org/news/newsletter.asp>

Vision Fire Lessons Learned

A research publication on the 1995 Vision Fire has recently been completed. The fire burned more than 12,000 acres of federal, state, and private land in California, most within Point Reyes National Seashore. The downloadable publication documents lessons learned from the fire, including flora, fauna, and geomorphic response.

http://www.nps.gov/pore/fire_visionfire.htm

Water on the Web

Water on the Web helps high school and college students understand and solve real-world environmental problems using advanced technology. It is a package which contains two sets of curricula, data from lakes and rivers nationwide, online primers, data interpretation and Geographic Information System tools, and additional supporting materials.

<http://waterontheweb.org/>

WaterWorks!

WaterWorks! is a public education and outreach program implemented through the Middle Tennessee State University Center for Environmental Education and designed to promote clean water in Tennessee. The program offers a series of public service announcements promoting water quality through responsible individual action. A colorful brochure explains how a variety of nonpoint source pollutants can enter the water supply from homes and neighborhoods. The Stream Saver program awards youth and school groups that complete projects that improve water quality, including clean-ups or monitoring. To obtain the materials or for more information, please check out the website or contact them at (615) 898-2660.

<http://www.tennesseewaterworks.com/>

INITIATIVES and JOURNALS

Conservation and Society

The journal *Conservation and Society* is an interdisciplinary journal which integrates conservation research from the natural and social sciences. Its geographical scope has been expanded from its initial focus on South Asia to include issues regarding conservation from developing countries around the world. The journal is available online.

<http://www.conservationandsociety.org>

International Journal of Biological Sciences

International Journal of Biological Sciences is a new peer-reviewed journal publishing scientific papers in all areas of biological sciences, including cell biology, developmental biology, structural biology, microbiology, molecular biology & genetics, biochemistry, biotechnology, ecology, and bioinformatics. Articles of cross-disciplined research between biology and mathematics, physics, information science, material science and others are also welcomed. Selected papers from scientific meetings may be published as special issues of the Journal. The Journal is committed to open access through its online version to maximize the distribution of articles.

<http://www.biolsci.org>

The Science Teacher Call for Papers

The *Science Teacher*, the National Science Teachers Association's peer-reviewed journal for secondary science teachers, encourages authors to submit original manuscripts on inquiry-based units or activities in biology, chemistry, physics, Earth and space science, and integrated science. Upcoming issue topics include science across the disciplines, science and society, informal science, science for all, and community collaborations.

<http://www.nsta.org/420>