

Wetlands and Woodchucks

By Kevin Kopp

According to the U.S. Army Corps of Engineers and the U.S. EPA wetlands are defined as "...areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

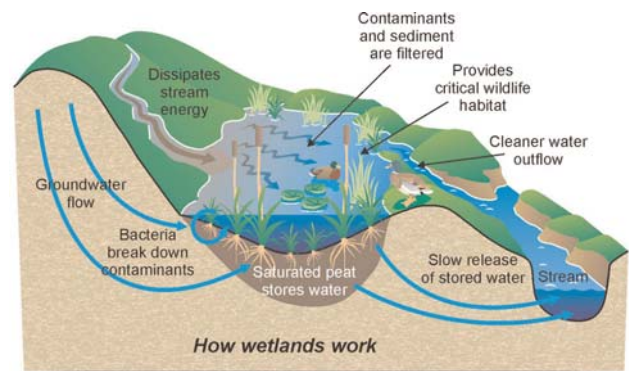
On the other hand the U.S. Fish and Wildlife Service defines wetlands as: lands that are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water, and that have one or more of the following attributes:

- the land supports predominantly hydrophytes periodically;
- the substrate is predominantly undrained hydric soil;
- the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

When New Jersey enacted the Freshwater Wetlands Protection Act in 1987, NJDEP was bound to go along with the USEPA definition, but wanted to make it less ambiguous than the above definitions, and easier for anyone to determine if a particular piece of land was regulated as wetlands in accordance with that law. So NJDEP uses the following definition, which mandates use of a specific technical manuals developed by several Federal agencies. This definition reads:

"Freshwater wetland" or "wetland" means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under

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Source: www.geoscape.nrcan.gc.ca/h2o/bowen/factory_e.php

normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation; provided, however, that the Department, in designating a wetland, shall use the three-parameter approach (that is, hydrology, soils and vegetation) enumerated in the 1989 Federal Manual as defined in this section. These include tidally influenced wetlands which have not been included on a promulgated map pursuant to the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq.

To muddy the waters more, or should I say wetlands, other States and anyone else with a pension for regulatory or educational writing has a slightly different definition for wetlands. Let's see if we have any better luck with the second half of this article's title "Woodchucks".

A Woodchuck is, as defined by my favorite purveyor of mostly correct information Wikipedia, a groundhog (Marmota monax), which is also known as a whistlepig. It is a rodent of the family Sciuridae, belonging to the group of large ground squirrels known as marmots. The woodchuck is a lowland creature. It is widely distributed in North America and common in the northeastern and central United States. Groundhogs are found as far north as Alaska, with their habitat extending southeast to Alabama.

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COMMON BUTTONBUSH *Cephalanthus occidentalis*

Buttonbush is a large, multi-stemmed shrub that grows to a mature height of twelve feet. It has opposite, entire leaves 2-6 inches long and 1-3 inches wide. They are glabrous and green above. The flowers occur in dense, round, 1 inch diameter clusters which bloom from June to September. The seed matures in the round clusters that resemble those of the sycamore tree. This plant spreads by seed dispersal and resulting seedling establishment.



Buttonbush is common New Jersey native shrub can be found from Sussex to Cape May counties, with the one exception being Salem County. Buttonbush is an obligate wetland shrub suitable for wetland restoration, created wetlands, and to maintain riparian zones. Buttonbush is best adapted to shorelines and swamps with saturated soil and full sunlight; and it will tolerate water depths up to three feet. The shrub can survive upland habitats and is commonly planted as an ornamental, however flowering is poor in shady or dry conditions. It has exceptional wildlife benefits. The seed or outlet is eaten by eight species of waterfowl (gadwall, mallard, blue- and green-winged teal, and woodduck to name a few) and the twigs are consumed by three species of mammals.

Contributed by: USDA NRCS National Plant Data Center & Louisiana State University-Plant Biology; partial funding from the US Geological Survey and the US National Biological Information Infrastructure
Photo by Jeff McMillian @ USDA-NRCS PLANTS Database

Flora & Fauna of the Season



Brent Goose *Branta bernicla*

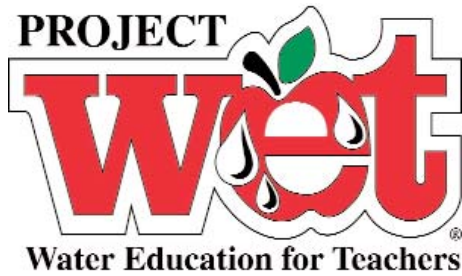
The Brent Goose (*Branta bernicla*), a goose of the genus *Branta*, is known in North America as Brant. The name Brant is in fact onomatopoeic, being derived from the guttural call note of the species. There are two sub-species of Brant that can be found in the United States: Pale-bellied (American) Brent Goose *Branta bernicla hrota* in the Atlantic region, and the Black Brant *Branta bernicla nigricans* in the Pacific region.

Brant are probably the most common goose of the Atlantic salt marshes in New Jersey. You can see them practically anywhere up and down the Jersey shore, just behind the barrier islands. These marshes have been a traditional wintering area for these geese for millennia.

Commonly found covorhting with Canada and Snow Geese, this small goose is about 60 cm long with a short, stubby bill. The under-tail is pure white, and the tail black and very short (the shortest of any goose). The Brant used to be a strictly coastal bird seldom leaving tidal estuaries during New Jersey winters where it feeds on crustaceans, annelid worms, gastropods, bivalves, eel-grass (*Zostera marina*), alga, seaweed, sea lettuce (*Ulva*), and a few insects. In recent decades, it has started using agricultural land a short distance inland, feeding extensively on grass and winter-sown cereals. This may be behaviour learnt by following other species of geese. Food resource pressure may also be important in forcing this change, as the world population has risen over tenfold to 400-500,000 by the mid 1980s, possibly reaching the carrying capacity of the estuaries. In the breeding season, it uses low-lying wet coastal tundra for both breeding and feeding. The nest is bowl-shaped, lined with grass and down, in an elevated location, often in a small pond.

Source: www.en.wikipedia.org/wiki/Brent
American Wildlife & Plants: A Guide to Wildlife Food Habitats by Dover Publications, Inc. New York





Grant Funds available through New Jersey Project WET

If you have taken a Project WET workshop in New Jersey, you are eligible to apply for a grant of up to \$1,000.00. Two different grants are available "Make SPLASH Festival" and "The New Jersey Watershed Stewards Program". The following are brief description of both grants.

The New Jersey Watershed Stewards Program challenges high school students to interact with others in their community as environmental leaders by organizing a successful community service project to improve water quality in their local watershed and environmental awareness in their community. The program will provide mini-grants of up to \$1,000 to enable eight student teams, each supported by a Teacher-Advisor, to develop, implement, and finish a watershed improvement project by the end of the 2008-09 school year.

How the Program works: A group of 4-5 students and a Teacher -Advisor decide to undertake a watershed improvement project and seek approval from their school administration to attend a weekend training workshop so they can learn how to become Watershed Stewards and obtain a mini-grant. Once administrative approval has been received, the group must complete and submit a Watershed Stewards registration form.

Prior to attending the workshop, each school group should decide upon a project that is suitable for their own community, and one that they could start and successfully complete by the close of school year. This year NJWET is especially interested in supporting groups who desire to Construct and Plant a Rain Garden. Other types of suitable watershed improvement projects are: Steam Bank Restoration/Shoreline Protection, Stream or Lake Clean Up, Storm Drain Stenciling and Mapping, Community Education Programs, Animal (Pet) Waste Control Programs, Native Plant Landscaping for Wildlife Habitat, and Enhancement of a Stormwater Detention Basin.

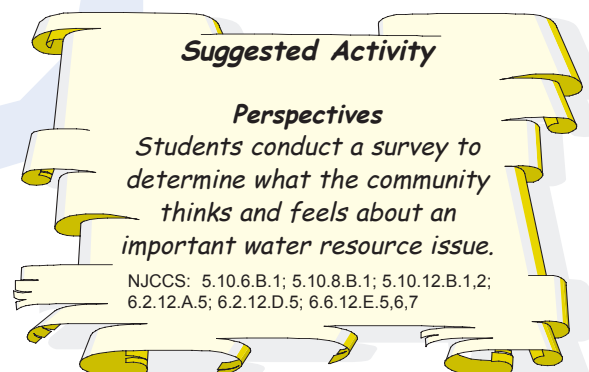
NJWET will conduct the weekend training workshop in early December 2009, for teams composed of a Teacher-Advisor and a core group of four or five students. Each team that attends the workshop and decides to follow through with an acceptable project will be eligible to obtain a "Watershed Stewards Project Implementation Grant". The Teacher-Advisor for each team will receive a \$100 stipend and 6 DOE In-service education credits for participating in the workshop. During this workshop, the participants will learn how to successfully complete a community service project that will improve their local watershed, including how to obtain financial and material support for their project as

well as how to attract other volunteers to help implement it. They will learn about community organizing, teamwork, planning a complex project involving a variety of people, logistics, budgeting, grant proposal writing, getting free publicity, and projects that other student-led groups have successfully completed.

Following the workshop, the students will have a month to plan the specifics of their project and submit a grant proposal. After NJWET reviews and approves the grant application, the school will be sent a check for 50% of the grant. Upon completion of the project (including the submittal of a Final Report by June 30, 2009), NJWET will send the school the balance of the grant amount.

Make a SPLASH Water Festivals are a unique way to educate our future world leaders about the value of this natural resource, upon which all life depends. These Festivals are celebrations which involve learning stations designed to engage students in a wide array of water topics. Station topics typically include the hydrologic cycle, water conservation, animals that live in water, water purification, watershed awareness and management, water quality, wetlands, chemical and physical properties of water, and more. Students complete Station Activity Journals, to record what they learn at the stations. Water Festivals also bring schools and students together with their surrounding community, in joint celebration of the wonders and importance of water - a resource that unites all people. Water Festivals are a unique way for schools to partner with local water resource organizations and community groups, as well as local businesses, parents, and government officials. Water Festivals are, most importantly, celebrations in a festival atmosphere with music, games, contests, demonstrations, skits, murals, and other fun, creative, and hands-on activities.

School teachers of 2nd through 8th grade students who have taken a Project WET Education Workshop at some time prior to grant submission are eligible to apply for grants that range from \$300 to \$1000. The deadline to apply for a grant to hold a Water Festival in May is February 20, 2009, while the deadline for festivals in September is May 15, 2009.





**Flying WILD & International Migratory Bird Day
2009 Theme: Celebrating Birds in Culture**

Whether you consider yourself an urbanite or a rural dweller, birds are one of very few wildlife that can be readily witnessed. And migratory birds serve as an ideal way to connect youth to their local and global environment.

Flying WILD, introduces students to bird conservation through standards-based classroom activities and environmental stewardship projects. Flying WILD encourages schools to work closely with conservation organizations, community groups, and businesses involved with birds to implement school bird festivals and bird conservation projects. Currently, the Flying WILD guide is offered in a similar workshop model as Project WILD, where participants of the six hour professional development workshop receive an activity guide chock full of lessons plans that help get teachers started towards organizing their own festival with students.



Pequest Trout Hatchery will hold the next workshop Saturday, March 21, 2009 from 8:30 to 3:00 pm. To register contact Liz Jackson at 908-637-4125 or send email to ejackson@dep.state.nj.us. Registration is \$10 and includes morning refreshments.

In celebration of International Migratory Bird Day, Pequest Trout Hatchery will host its first bird festival Saturday, May 9 from 10-3 pm. For more information about this great event call 908-637-4125.

Suggested Activity

Riparian Zone
students role-play a board of commissioners discussing the land-use planning of a waterway.

NJCCS: 3.2.5 D.2,3,10; 3.2.6 D.2,3,8; 3.2.7 D.10,11; 3.2.8 D.10,11; 3.3.5, 6, 7, 8A.1,2; 3.3.5, 6, 7, 8D.1,2,3,4; 5.5.8 B.2; 5.10.6 B.1; 6.6.8 E.2,4

**Go WILD About
Citizen Science & Field Investigations**

Field investigations are somewhat lost in formal education these days given the pressure on teachers not to take time away from test-related instruction. Yet field investigations serve as valuable tools for meaningful and sustained engagement of students in the learning process, and promote the retention and application of acquired knowledge. They also allow for making real-world connections between a student's everyday thinking and knowledge, and those practiced by wildlife biologists and scientists.

Similarly, Citizen Science is a term used for projects or ongoing programs of scientific work in which an individual volunteer or network of volunteers --many of whom may have no specific scientific training-- perform or contribute to research-related tasks such as making observations, and data collecting.

The use of citizen-science networks often allows scientists to accomplish research objectives more readily than would otherwise be possible. Citizen Scientist projects aim to promote public involvement with the research, as well as with science in general. Some programs provide materials specifically for use by primary or secondary school students, and in so doing offer another approach to informal science education.

There is some criticism that youth are not up to the task of providing meaningful, reliable, consistent data collection required for scientific research. Given their age, issues of liability are sometimes raised as barriers for some organizations that solicit help with public data collection. However, with proper training, guidance and simple standards of protocol, these issues can be effectively addressed.

Many high school students have community service requirements to be accomplished before graduation. Empowering a high school student by providing a citizen science opportunity to monitor vernal pools for example, could accomplish this requirement and perhaps even encourage that student to seek a career in wildlife management or urban planning.

The home school movement may also offer additional opportunities as it has grown in leaps and bounds in comparison to its bohemian start. Home school networks are far more organized now, are generally committed to high standards of excellence, and are seeking real-world opportunities to employ the use of applied knowledge.

In a nutshell, youth represent an under-utilized group who has an interest in their civic responsibility. It is important to harness their energy, and guide them in monitoring our shared natural resources.

Some examples of great field investigation opportunities:
www.windows.ucar.edu/citizen_science/budburst/
www.audubon.org/bird/cbc/index.html
www.worldwatermonitoringday.org/

Wetland Habitats are WILD

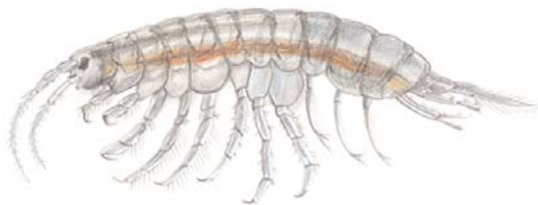
When you hear the word wetlands what comes to mind? A pond where you went fishing as a kid, the marsh you go kayaking in on your days off, or perhaps the bog down the road your fighting to protect so a new strip mall won't be built on it. Whether you've spent time saving wetlands, educating others about wetlands, or playing in wetlands it is a unique ecosystem like no other. Wetlands are some of the most productive habitats in the world. They provide homes to a diverse group of plants and animals that have adapted to live in conditions that are both aquatic and terrestrial.

Many aquatic wildlife species rely on wetlands for their survival. In New Jersey, the eastern tiger salamander and wood frog rely on vernal pools to lay their eggs. Striped bass, white perch, pickerel and other fish species use wetlands as a nursery to provide shelter and the nutrient rich waters provide food for their young. Mammals also depend on wetlands, such as the muskrat and beaver for food and shelter.

Plants also are an important part of wetlands habitat. Plants found in wetlands are adapted to anaerobic conditions where the water levels are generally high or in areas of salt water. These plants absorb nutrients to prevent toxic levels being reached. They also slow the flow of water, allowing soil to settle.

Wetlands have many functions and not only benefit plants and animals, but humans and the overall environment as well. As an aquatic habitat they provide food, shelter, space and water to a variety of plants and animals found in New Jersey.

This year's World Wetlands Day (February 2) suggested slogan is *Upstream-Downstream: Wetlands Connect Us All*. And what better way to celebrate World Wetlands Day than with a Project WILD Aquatic activity. For those who wish to brave the cold and enjoy a beautiful day outside consider the activity *Watershed*. Those who would prefer to bring wetlands indoor, a few activities to consider are *Alice in Waterland*, *Wetland Metaphors*, *Dragonfly Pond*, and *Marsh Munchers*.



Gina Mikol, www.scientificillustrator.com

Scuds are in the order Amphipoda (amphipods) and look like tiny shrimp. Most can be found in marine and freshwater environments. They are at the bottom of the food web being preyed upon by fish, marine mammals, and a host of seabirds.



Winter, Waterfowl & Wetlands

As the temperatures begin to drop and the daylight gets shorter this is the perfect time for viewing migratory waterfowl. Ducks, geese and swans fly from their northern breeding grounds to their southern wintering grounds. These winter grounds are where they feed and most of them happen to be wetlands. So this fall or winter stop by a lake, pond or marsh with your binoculars to see some of the waterfowl that call New Jersey home for the winter. Some species you may see include brant, snow geese, tundra swans, ring-neck ducks, harlequin ducks, or bufflehead.



Did you know...

Wetlands act as a nursery for 80% of all migrating birds and 95% of all commercial fisheries depend on wetlands as nurseries!

Suggested Activity

Wetland Metaphors

Students are presented with a selection of object to investigate as metaphors for the natural function of wetlands.

NJCCS: 3.3.5.A.1,3; 3.3.5.B.1; 3.3.5.C.1-4; 3.3.6.A.2,3,5; 3.3.5.C.2-4; 3.3.6.A.2,5; 3.3.6.B.1,2-5; 3.3.6.C.1-3; 3.3.7.A.2,7; 3.3.7.C.1-4; 3.3.8.A.2,7; 3.3.8.B.3; 3.3.8.C.1-4; 3.4.5.A.1-3; 3.4.5.B.1-3; 3.4.6.A.1-3; 3.4.6.B.1-4; 3.4.7.A.1-3; 3.4.7.B.3,5; 3.4.8.A.3,5; 5.8.6.C.1; 5.8.8.C.1; 5.10.6.A.1; 5.10.6.B.1; 5.10.8.A.1; 5.10.B.1; 6.5.8.A.7; 6.5.8.B.1,3,4; 6.6.8.B.1-5; 6.6.8.C.2,4,5; 6.6.8.D.1,8; 6.6.8.E.1,2,6,7; 9.2.8.A.2



Did you know that 25% of the Pinelands is wetlands?

Atlantic white cedar, *Chamaecyparis thyoides*, form dense stands in cedar swamps in the Pinelands. An Atlantic white cedar community provides an ideal wildlife habitat and protects watersheds.

The Congress designated the Pinelands A Natural Reserve in 1978 to protect the largest open space on the eastern seaboard between Boston, Massachusetts and Richmond, Virginia. Beneath the Pinelands lies a huge reservoir, the Kirkwood-Cohansey aquifer system. It holds an estimated 17 trillion gallons of water, the region's primary source of drinking water. Atlantic white cedar play an integral part of forested buffer areas to filter pollutants from contaminating our groundwater.

In the 1930's white cedar swamps covered in excess of 100,000 acres. White cedar was one of the first timber trees harvested by the early settlers. Since its wood is light weight, straight grain and rot resistant, it was used for many products such as canoes, decoys, siding, roofs, and fencing. Barnegat Bay has a history of boatmen who constructed special small boats from cedar such as sneak boxes and Jersey Garveys.

Currently, there are approximately 38,400 acres with more than 50% white cedar. The amount of Jersey cedar continues to decline due to adjacent land use changes, wetlands degradation, wildfire, and lack of proper management.

New Jersey Forest Service advocates sound management techniques to sustain an adequate supply of white cedar for the future. The Forest Resource Education Center's Tree Nursery provides 18,000 seedlings from cuttings for reforestation projects.

For information on ordering seedlings, go to www.njforestrycenter.org



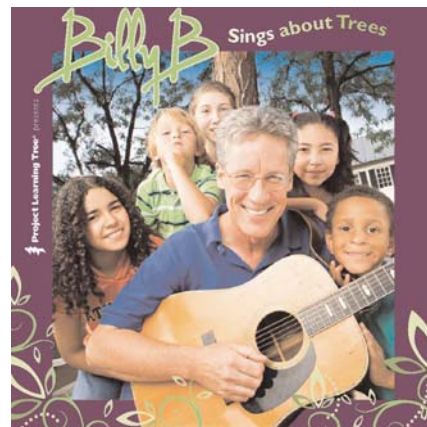
Would you like your students to conduct field studies in a local wetland and learn how land use decisions and legislation affect wetland areas? Check out this activity...

Billy B. Sings About Trees

PLT and well-known children's performing artist and songwriter Bill Brennan have teamed together again to produce a new CD -- all about trees! You may already be familiar with Billy B through his award-winning Energy & Me CD and dance DVD that's included with PLT's Energy & Society kit.

Parents, grandparents, and educators can use Billy B's latest fun and educational CD with 19 high energy songs to engage kids in learning about trees, forests, and people who work the land. Lyrics for the songs are included in the CD, and correlations have been made to PLT's PreK-8 Guide activities. The cost for the CD is \$15. Order two for \$14 each, or three or more for \$13 each. Prices include shipping and handling.

Order now at www.plt.org/cms/pages/21_20_238.html



Project Learning Tree Literacy Workshops for New Jersey Educators provides an opportunity for 50 educators across the state to attend workshops with a literary focus. In addition to obtaining the Project Learning Tree PreK-8 Activity Guide, numerous handouts and New Jersey-specific materials, educators will receive a gift certificate to the PLT Store. This will enable the teacher to identify books, tools and supplies they need to plan, integrate and successfully conduct Project Learning Tree activities back in the classroom. Check the workshop schedule on page 8 for a workshop near you!

Suggested Activity

Field Forest and Stream

Students will conduct a field study of three environments as they focus on sunlight, soil moisture, temperature, wind, water flow, plants, and animals in each environment.

NJCCS: 3.3; 3.4; 4.4, 4.5; 5.1; 5.3; 5.8; 5.10; 8.1; 9.2

Continued from cover.....

Groundhogs usually live from two to three years, but can live up to six years in the wild. In captivity, groundhogs can exceed this limit; by example, the 22-year-old Warton Willie may indicate the maximum lifespan. Common predators for groundhogs include wolves, coyotes, bobcats, bears, large hawks, and owls. Young groundhogs are often at risk for predation by snakes, which easily enter the burrow.

Groundhogs are excellent burrowers, using burrows for sleeping, rearing young, and hibernating. The average groundhog has been estimated to move approximately 1 m³ (35 cubic feet), or 320 kg (700 pounds), of dirt when digging a burrow.

Groundhogs are one of the few species that enter into true hibernation, and often build a separate "winter burrow" for this purpose. This burrow is usually in a wooded or brushy area and is dug below the frost line and remains at a stable temperature well above freezing during the winter months.

The definition for Woodchuck seems clear enough but why am I rambling on about Wetlands and Woodchucks, when from all the text above it would appear that water saturated substrate would be no place for a large ground squirrel to live. They are linked for all time by the date February 2nd.

On February 2, 1887 in Punxsutawney, Pennsylvania, the first official Groundhog Day was held. According to legend, if Punxsutawney Phil, the woodchuck, sees his shadow, there will be six more weeks of winter weather. If he does not see his shadow, there will be an early spring.

And.....

On February 2, 1971 The Convention on Wetlands was signed in Ramsar, Iran. It is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 158 Contracting Parties to the Convention, with 1757 wetland sites, totaling 161 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance. The Convention's mission is the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world" (Ramsar COP8, 2002).

Since 1997 government agencies, non-governmental organizations, and groups of citizens at all levels of the community have celebrated February 2nd as "World Wetlands Day". Taking advantage of the opportunity to undertake actions aimed at raising public awareness of wetland values and benefits in general and the Ramsar Convention in particular. From 1997 to 2007, the Convention's Web site has posted reports from more than 95 countries of WWD activities of all sizes and shapes, from lectures and seminars, nature walks, children's art contests, sampan races, and community clean-up days, to radio and television interviews and letters to newspapers, to the launch of new wetland policies, new Ramsar sites, and new programs at the national level.

I became aware of World Wetlands Day through a grant made available from Environmental Concern, Inc. It was pleasing to read in the activities report for World Wetlands Day 2007:

In celebration of World Wetlands Day, Environmental Concern Inc., on behalf of the U.S. National Ramsar Committee, was pleased to announce the recipients of the "Promotion of the Ramsar Convention on Wetlands" grant awards. These grants are funded by the U.S. Fish and Wildlife Service's Wildlife Without Borders Global Programs. Project WET through Rutgers University received funding for a "Wonders of Wetland" facilitator workshop.

The workshop was held on April 9th and 10th at the Forsythe National Wildlife Refuge. The workshop was a great success and as a result the 14 participants:

- Were trained to facilitate workshops on the "Wonders of Wetlands" curriculum;
- Learned about the mission of the Ramsar Convention on Wetlands;
- Conducted an in-depth tour of the Edwin B. Forsyth National Wildlife Refuge;
- Learned about international World Wetlands Day;
- Developed a list of 10 Wonders of Wetlands activities that can be used by educators to teach about World Wetlands Day; and
- Each participant agreed to schedule a Wonders of Wetlands workshops that includes a focus on the Ramsar Convention on Wetlands and activities educators can use to involve their students in World Wetlands Day.

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WOW! Wonders of Wetlands

The "Wonders of Wetlands" guide is a 330 page book with 50 interactive, hands-on activities designed to educate young people on the delineation, value and protection of wetlands. More information about the Wonders of Wetlands can be found at:

http://www.wetland.org/publications_home.htm

Several Wonders of Wetlands workshops have already been scheduled. A full list of workshops can be found on the workshops page of this edition of Branching Out or by contacting NJ Project WET at NJWET@dep.state.nj.us.

New Jersey has two sites on the Ramsar List of Wetlands of International Importance. They are: The Delaware Bay Estuary added on 05/20/92 consisting of 51,252 hectares and The Edwin B Forsythe National Wildlife Refuge added on 12/18/86 consisting of 13,080 hectares.

To learn more about the Ramsar Convention on Wetlands and World Wetlands day visit www.ramsar.org. And to learn more about Groundhog Day visit www.groundhog.org.

Remember to save time on February 2nd to celebrate Wetlands and Woodchucks!

Winter 2008-2009 Workshop Schedule

January 22 Project Learning Tree - Focus on Winter
Great Swamp Outdoor Education Center, Chatham
\$25, bring a bag lunch
Jenny Gaus, 973-635-6629; jgaus@MorrisParks.net

February 4 Project WILD
Great Swamp Outdoor Education Center, Chatham
\$25 includes morning refreshments
Mindy Becker 973-635-6629 mbecker@MorrisParks.net

February 8 Project WILD Aquatic
Trailside Nature and Science Center, Mountainside
\$10 fee includes morning refreshments
Elisa Sananmany, 908-789-3670 x3430, esananman@ucnj.org

February 25 Healthy Water Healthy People
Great Swamp Outdoor Education Center, Chatham
\$25, bring a bag lunch
To register, please call 973-635-6629

February 27 Project WILD - Focus on Winter
Pequest Trout Hatchery & Natural Resource Education Center
\$10 includes morning Refreshments, bring a bag lunch
Liz Jackson, 908-637-4125; ejackson@dep.state.nj.us

March 10 Project Learning Tree:
Exploring Environmental Issues in the Places We Live
Forest Resource Education Center, Jackson
FREE! Includes morning refreshments
Elizabeth Faircloth, 732-833-9816; newjerseyPLT@gmail.com

March 12 Project WET
Pyramid Mountain Natural Historic Area, Boonton
\$25, bring a bag lunch
To register, please call 973-334-3130

March 21 Flying WILD
Pequest Trout Hatchery &
Natural Resource Education Center, Oxford
\$10 includes morning refreshments, bring a bag lunch
Liz Jackson, 908-637-4125 ejackson@dep.state.nj.us

March 24 Project Learning Tree
Woodford Cedar Run Wildlife Refuge, Medford
\$10, bring a bag lunch
Terri Loy, 856-983-9702; terri.loy@cedarrun.org

March 27 Project WET
Manasquan Reservoir Education Center, Howell
Program No. RJ029A, \$13 includes a snack
To register, please call 732-842-4000 x1

The bobcat is an elusive creature found in the northern hardwood forests of New Jersey. By the early 1970s they were thought to be extirpated (locally extinct) from the state. However, between 1978 and 1982 the Division conducted a restoration project through which 24 bobcats were trapped in Maine and released in northern NJ.

Source:

www.state.nj.us/dep/fgw/ensp/mammal_info.htm



© Chris Davidson

March 28 Project Learning Tree - Focus on Spring
Great Swamp Outdoor Education Center, Chatham
FREE! Includes morning refreshments, bring a bag lunch
Jenny Gaus-Myers, 973-635-6629; jgaus@MorrisParks.net

March 31 Project Learning Tree:
Literacy in the Urban Environment
Essex County Environmental Center, Roseland
FREE! includes morning refreshments, bring a bag lunch
David Alexander, 973-228-8776

April 8 Project WILD Aquatic
Manasquan Reservoir Env. Ctr., Howell
\$20, includes morning refreshments
Chris Lanza, 732-751-9453;
clanza@monmouthcountyparks.com

April 17 Project WILD Aquatic
Scotland Run, Gloucester County Park
Free! Includes morning refreshments and lunch
Jill Taylor, 856-881-0845; ltaylor@co.gloucester.nj.us

April 24 WILD School Sites
Pequest Trout Hatchery &
Natural Resource Education Center, Oxford
\$10 includes morning refreshments, bring a bag lunch
Liz Jackson, 908-637-4125; ejackson@dep.state.nj.us

April 24 Project Learning Tree
Meadowlands Environment Center, Lyndhurst
\$12, please bring a bag lunch
Jhenny Mejia, 201-460-8300

APRIL 15 WOW! & Project Webfoot
Newark Conservancy's Outdoor Learning Center, Newark
\$10, bring a bag lunch
Michelle Kovatch, 973-642-4646

April 28 Project WILD
Pyramid Mountain Natural Historic Area, Boonton
\$25 includes breakfast, bring a bag lunch
Douglas Vorolieff, 973-334-3130; dvorolieff@MorrisParks.net

MAY 19 WOW! Wonders of Wetlands
Silver Lake Nature Center, Bristol, PA
\$20, bring a bag lunch
To register, call Lorraine Skala @ 215-785-1177

May 21 Project WILD
Tenafly Nature Center
\$25 bring a bag lunch
Denise Kuehner, 201-568-6093
dkuehner@tenaflynaturecenter.org

July 15 Project Learning Tree Global Connections:
Forests of the World for middle and high school educators
Liberty State Park, Jersey City
\$6 includes morning refreshments, bring a bag lunch
Gina Provenzano, 201-915-3409, ispic@verizon.net