ANNOTATED WEBSITES

TEXAS NATURAL RESOURCES

Texas Natural Resource Conservation Commission (TNRCC) (www.tnrrc.state.tx.us/about.html) is the leading environmental agency for Texas. Its mission is to protect the state’s human and natural resources consistent with sustainable economic development. They have over 300 publications that can be downloaded or bought at minimal cost. Categories that these publications cover include: air quality, composting and yard care, floods, industrial and hazardous waste, municipal solid waste, pollution cleanup, recycling automotive waste, recycling markets, general reducing and recycling, water availability, water quality and water utilities. They also have 22 publications on these subjects geared for K-12 education, most of which are downloadable.

Brownfields Redevelopment Initiative (www.ci.austin.tx.us/sws/brownfields.htm) is a brief description of an area in Austin that is not being developed because of real or perceived environmental contamination. The Austin Redevelopment Initiative wants to develop this area. The EPA has awarded a grant to help with assessment, cleanup, and redevelopment. The TNRCC is also involved and has a web page devoted to this project (www.tnrrc.state.tx.us/permitting/remed/vcp/brownfields.html).

Houston Audubon Society (www.houstonaudubon.org/) works for the conservation of natural resources and protecting wildlife habitats. This website has a brief history of the organization, details of the various sanctuaries they have, different educational programs and field trips they run, a calendar of current events, and links to other birding websites in this region.

A Natural History of Central Texas (www.dallas.net/~dpierson/main.html) is a website that provides links to websites that cover a whole range of topics such as: animals and wildlife, plants and trees, rocks and landforms, weather and climate, nature study, and natural history. It provides access to a couple of photo galleries. Links are also provided to other resources and organizations concerned about the natural history of Texas.

Texas Parks and Wildlife (www.tpwd.state.tx.us/) has a huge website with lots of information about many natural resource issues. They have articles on various subjects including outdoor wildlife and conservation programs and activities, Texas wildlife, conservation, and the watersheds of Texas and their ecosystems. They also host a kids page with educational activities and a GIS lab with downloadable GIS data and maps of Texas’ natural regions, vegetation, and river basins.
Texas Natural Resources Information System ([www.tnrix.state.tx.us/](http://www.tnrix.state.tx.us/)) is the state’s clearinghouse for natural resources data. They also serve as U.S. Geological Survey’s distribution center for Texas. They have a lot of digital data available for water resources, geology, the Census, and other natural resources. Some of this data can be downloaded at no cost. They also have an education outreach page that provides useful links for teachers on a variety of subjects.

Natural Resources Conservation Service ([www.nrcs.usda.gov/](http://www.nrcs.usda.gov/)) works with people to conserve and sustain natural resources on private lands. They have information on how to defend against drought, managing aging dams in watersheds, animal husbandry and clean water issues, and buffer strips. Under ‘General Information’ they have information on conservation-conscious home and gardening tips, how to bring conservation to the backyard, and living in harmony with wetlands. Under ‘Teachers and Students’ there are conservation education materials that are downloadable for k-12 teachers.

The North Central Texas Council of Governments ([www.nctcog.dst.tx.us/](http://www.nctcog.dst.tx.us/)) is a voluntary association of local governments that was established to assist local governments in planning for common needs. These needs include environmental issues, transportation issues, and population and development issues. They have good maps and aerial photos of the region, environmental maps, and GIS data.

**MAPS**

National Atlas.gov ([www-atlas.usgs.gov/](http://www-atlas.usgs.gov/)) delivers easy to use map-like views of America’s natural and sociocultural landscapes. It is designed to provide a reliable summary of national scale geographical information. Creating the maps is easy to do.

National Forest Map of the U.S. ([www.fs.fed.us/recreation/map.shtml](http://www.fs.fed.us/recreation/map.shtml)) shows where the national forests and grasslands are located.

Forest Land Distribution Data for the U.S. ([www.srsfia.usfs.msstate.edu/rpa/rpa93.htm](http://www.srsfia.usfs.msstate.edu/rpa/rpa93.htm)) has raster data on forest type group and forest density for the 48 contiguous states, Alaska and Hawaii.

National Atlas.com ([http://fia.fs.fed.us/libray/forestcover.pdf](http://fia.fs.fed.us/libray/forestcover.pdf)) has a PDF map of the forest cover types of the U.S. This is a huge file and takes a while to download and maneuver.

Texas General Land Office ([www.glo.state.tx.us/landoffice.html](http://www.glo.state.tx.us/landoffice.html)) has information on coastal issues, energy and natural resources. They also have GIS map products and data available under the “Maps, Research and Data” section.

The National Park Service’s Park Guide ([www.nps.gov/parks.html](http://www.nps.gov/parks.html)) has maps and other information for all of the national parks in the country.

The Conservation Biology Institute ([www.consbio.org](http://www.consbio.org)) has some maps and GIS-based geographical data sources for the Pacific Northwest. They also have a Pacific Northwest Conservation Assessment that includes a good map and reports on each of 40 ecoregions.
ECOSYSTEMS

Caddo Lake Institute (www.caddolakeinstitute.org/) encourages interdisciplinary environmental study. It is the sponsor of Project WET in Texas. This is an interdisciplinary, supplementary education program that promotes the awareness, appreciation, knowledge and stewardship of water resources in Texas.

The Galveston Bay National Estuary Program (http://riceinfo.rice.edu/armadillo/Galveston/) has published a book online about the bay's ecosystem. It provides a comprehensive overview of the bay and various aspects of its ecosystem. This book was written with adults in mind, so it would be most appropriate for high school students.

Galveston Bay On-Line (www.rice.edu/armadillo/Galveston/Curriculum) is an interdisciplinary curriculum unit designed for 7th grade students. This unit combines lessons in the language arts, science, health science, technology, mathematics, and social studies. The activities place a heavy emphasis on higher-order thinking skills.

Texas Environmental Center (www.tec.org/) is a non-profit organization that produces Web and CD-ROM based environmental programs. At the bottom of the page there are two graphics: “T.E.C. Environmental Resources” and “Other Environmental and Internet Resources.” “T.E.C. Environmental Resources” provides information about Texas water quality, air quality, and lands and wildlife. “Other Environmental and Internet Resources” provides links to other environmental resources on the Internet.

Texas Environmental Studies Institute (http://chico.rice.edu/armadillo/Ftbend/TESI/tesi.htm) serves as the Web-based framework to continue explorations on subjects such as Monarch butterflies, Purple Martins, Texas fossils, and Texas rivers. Some of these projects, geared for middle school students, are sketchy while others are more complete.

The Vanishing Species Curriculum (http://riceinfo.rice.edu/armadillo/Vanishing/index.html) has four lessons that deal with humans changing the environment, the contributions of the New World to agriculture, adaptations in plants and animals, and the importance of water to life. It is a curriculum framework or guide geared for middle school teachers.

Wildflowers in Texas (http://chico.rice.edu/armadillo/Wildflowers/wild.html) was created by Mr. Dettling and his 7th grade class. They photographed many Texas wildflowers and wrote brief descriptions of them. This is a great, visual source of wildflower information.

NASA's Earth Observatory has developed Mission Biomes (http://nasadaacs.eos.nasa.gov/edufeature.html) to teach 5th through 12th grade students about ecological communities such as rainforests, deserts, and forests. This site includes data and images, news and references, and experiments for student use. There is a teacher resource section that offers tips on how to use the site, as well as the national science, math, and social studies standards involved.

Ecological Education (www.angelfire.com/sk/monkeypuzzle/ecopackage.html) has an "Ecosystems" teaching package that is downloadable. It looks at the differing and the common needs of living things. It is geared for students aged 7-14 years.
Australian Ecosystems (www.gullivermedia.com.au/eco.html) has descriptions and photos of Australia's various ecosystems. This is a good site to compare and contrast ecosystems in different parts of the world with ecosystems in Texas.

Environmental Education (www.blm.gov/education) has been put together by the Bureau of Land Management. They have a number of programs and resources that teachers can use. They also have a feature entitled “Kids Corner” with lots of activities for young learners.

The Chesapeake Bay Program (www.chesapeakebay.net/index.htm) has a lot of information about the bay, its habitats, plants and animals, water quality, watershed profiles, bay stressers, and bay restoration. They also have a Bay atlas, many photos, and a landscape history of the bay from 1.3 billion years ago to 2000.

BIOSPHERE

Trinity Blacklands Urban Forestry Council (www.tbufc.org/tbufcindex.html) is an organization that promotes the protection and development of urban forest resources, and addresses urban forestry needs in the region around Dallas. They have a tree planting and growing guide under “Features” that is worth checking out.

Texas Forest Service (http://txforestservice.tamu.edu/) works to provide leadership to ensure that the state’s natural resources, especially its forests, are used, nurtured, protected and perpetuated wisely. The major categories they cover include fire protection, forestry education, forest management, landowner assistance, and urban forestry. The “Forestry Education” section has material for students and teachers about various forestry education subjects as well as good links to related websites.

American Forest and Paper Foundation (www.afandpa.org) represents companies that are in the forest, paper and wood products industry. The paper and wood recycling section has a brief description of the amount of recycling the U.S. does. The “Kids and Educators” section has kid-friendly information about trees and paper recycling. The “Teacher Tools” page has quite a few downloadable PDF Action Kit flyers that are geared for K-6 students.

Institute of Paper Science and Technology (www.ipst.edu/amp/museum_virtual_tour.htm) has a virtual museum of papermaking that is worth touring.

Forest History Society’s (www.lib.duke.edu/forest/) If Trees Could Talk section provides several lessons about the environmental history of forestry and conservation. These lessons are geared for middle school children. They provide all of the materials needed to complete these lessons and they take several class periods to complete. They are also geared to meet the National Council of Social Studies Standards.

National Arbor Day Foundation (www.arborday.org) has a wealth of information about trees. They also have a “Youth Education” section that has classroom activities, games, and tree and forest information geared for elementary school children. They have classroom materials, posters, booklets, flyers and a newsletter that can be bought at low prices.

Society of American Foresters (www.safnet.org/) has two very comprehensive sections of curriculum materials. The Education tab has “Tools for Teachers.” This section has
many K-12 lesson plans. The “About Forestry” tab has “Forestry Fun for Kids.” This section has a number of school activities and resources for all students.

The Texas State Tree (www.lsjunction.com/tree.htm) provides a brief page of information about the pecan tree.

HYDROSPHERE

The EPA’s Enviromapper Storefront (www.epa.gov/enviro/html/em/index.html) has good environmental information on the health of watersheds, surface waters, the Superfund sites, the Brownfields Initiative in Austin, and other environmental facts.

The New England Aquarium (www.neaq.org/) has several sections of interest. First, they have an exhibit and virtual tour of Lake Victoria, or Nyanja, that talks about the lake’s ecosystem and the introduction of alien species. They have a section on whale watching that will offer a virtual whale watch, pictures and videos, and whale facts. There are webcams located in their giant ocean tank and their penguin tank. In the Science and Learning section they have a Teacher resources Center with a catalog of materials that can be bought. The Kids section has activities that focus on life in the ocean.

The Alliance of Marine Mammal Parks and Aquariums (www.ammpa.org/) has sections about marine mammals with videos that can be viewed, conservation articles concerning marine mammals, and ready-to-use educational materials and activities for all grade levels.

The San Jacinto River Association (www.neosoft.com/~mtaylor/sjra.htm) is a volunteer organization that is dedicated to preserving the San Jacinto River and its watershed. They have a lot of information about the river including aerial and flood photos from the 1940s to the 1990s, the geology of the San Jacinto, and an article on the October 1994 flood.

The Guadalupe-Blanco River Authority’s (www.gbra.org/index.html) mission is to protect, conserve, reclaim and steward the region around the Guadalupe-Blanco River. Their responsibilities include the supply and quality of the water, and public service and recreation at their hydro lakes. They have sections that contain water quality data, information about the clean rivers program, and maps and recreational information on the hydro lakes.

The Lower Colorado River Authority (www.lcra.org/) is a conservation and reclamation district created by the Texas legislature in 1934. The LCRA supplies electricity to the region, manages floods, protects the quality of the lower Colorado watershed, provides parks and recreational facilities, and provides soil, energy and water conservation programs. This website has a lot of information about the river and their many responsibilities.

UNL-AgNIC’s Web Resources on Water Quality (http://deal.unl.edu/agnic/youth/) has information and activities on water, how it is used, and how to conserve and protect it. The information is divided into the following categories: agriculture, groundwater, home use, people, water basics, water protection, water sources, water treatment, watersheds, and wildlife. The activities include coloring pictures and stories, experiments, and games and puzzles.
USGS’ Aquifer Basics (http://sr6capp.er.usgs.gov/aquiferBasics/index.html) provides general information about the different rock types that form aquifers and has maps that show where aquifers are located in the U.S.

The Groundwater Foundation (www.groundwater.org/index.htm) has two sections that teachers can use. The Groundwater Basics section provides information that is geared for older students. The Kids Corner provides much the same information in an easier to read format.

RESOURCES

Conservation Education (www.na.fs.fed.us/spfo/ce/) is a program that provides structured educational experiences and activities for K-12 students. Their goal is to enable people to realize how natural resources and ecosystems affect each other and how resources can be used wisely.

The UNEP World Conservation Monitoring Centre (www.wcmc.org.uk/data/database/un_combo/html) provides information services on conservation and sustainable use of the world’s living resources. They have information for many countries around the world. They also have conservation databases on threatened species, forests, and marine and coastal resources.

The U.S. House of Representatives’ Committee on Resources (www.house.gov/resources/106cong/highlights1999.htm) highlights the legislation they worked on in 1999 for protecting natural resources, the environment, and the people.

The U.S. Department of Energy’s Energy Efficiency and Renewable Energy Network (www.eren.doe.gov/) has a lot of information on energy efficiency and renewable energy in the Technologies section. The Specialized Resources section has educational materials and links to other sites that have good information and activities for students. They also have a free CD on energy that teachers can order and the President’s National Energy Plan that was released May 2001.

The Northern Tallgrass Habitat Preservation Area (http://midwest.fws.gov/planning/tallgrass/top.htm) wants to permanently preserve remnant tracts of northern tallgrass prairie in western Minnesota and northwestern Iowa. This site gives a lot of background information about the habitat and the issues involved in preserving it.