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Environmental Calendar

February

2 - World Wetlands Day www.ramsar.org/wwd/wwd_index.htm

12 - Darwin's Birthday / Darwin Day www.darwinday.org

March

20 - World Frog Day www.herparts.com

22 - World Water Day www.worldwaterday.org/

23 - World Meteorological Day www.wmo.int/pages/wmd/

Late March - Earth Hour www.worldwildlife.org/sites/earthhour/

April

21 - International Creativity and Innovation Day www.creativityday.org

22 - Earth Day www.earthday.net www.allspecies.org/neigh/blocka.htm

May

22 - International Biodiversity Day www.cbd.int/ibd/

23 - World Turtle Day www.herparts.com

Last Friday before Memorial Day - Long Island Sound Day www.lisfoundation.org

June

5 - World Environment Day www.unep.org/wed

8 - World Oceans Day www.theoceanproject.org/wod/

14 - World Sea Turtle Day www.herparts.com

September

Third Week - Clean Up the World Campaign www.cleanuptheworld.org/en/

Third Saturday - Coastal Clean Up Day www.coastalcleanup.org

Last Saturday - National Estuaries Day www.estuaries.gov

October

Energy Awareness Month www1.eere.energy.gov/femp/services/energy_aware.html

4 - World Animal Day www.worldanimalday.org.uk

December

5 - International Volunteer Day www.worldvolunteerweb.org/int-l-volunteer-day.html



How to Preserve Seaweed From *Seaweeds of Long Island Sound* by Margaret “Peg” Van Patten

To make a permanent collection, you will need to dry and press your algae on acid-free paper. Herbarium sheets, which can be purchased from biological and archival suppliers, are best but good artist’s paper or even index cards can be used too.

On the bottom right-hand corner of your paper, put the following information: first, the species you believe you have collected. If you don’t know yet, you can add it later. On the next line(s), put the date and location where you collected the sample. Next, add any important additional information about the habitat, the condition of the water, etc. Finally, put your name, as the collector. You may also want to number your sheets for easy identification later on. This way of labeling the collection is a convention that botanists use. It makes it easy if someone wants to compare samples or ask questions later on. Since these collection sheets can potentially last for hundreds of years, it may be much later.

Put your sheet of paper into a large tray, or even in a tub. After it has been gently rinsed, arrange your specimen on the sheet so that it is attractive, and somewhat centered. The holdfast should be at the base, if there is one, as in nature. Now either immerse your sheet and specimen in a very thin covering of water, or gently spray or squirt water on it to spread out the branches. This is particularly important for the red algae, which may be a dense clump until you spread the branches. If you have a particularly bulky specimen, you may trim away some of the branches so that the basic structure is clearly seen.

Once your specimen looks the way you want it to, gently slide it out of the water and let it “drip dry” for a few minutes. While it is draining, start a “sandwich” by laying down a sheet of corrugated cardboard at least as large as your herbarium sheet, then add a sheet or two of blotting paper (or several layers of paper towels). Now put down your herbarium sheet with the specimen on top. If you have a piece of nylon stocking or panty-hose handy, place it on top of the specimen. This step is optional but allows air to circulate nicely and keeps the specimen from molding or sticking to the next layer. Finish your “sandwich” by reversing the order of the layers-waxed paper, blotting paper or paper towels, then another sheet of cardboard. Make as many “sandwiches” as you need to accommodate all of the specimens you wish to dry, and stack them. Once all of your “sandwiches” are assembled, you can put them in a press. The quick and dirty method is to place them in a cool environment and put a couple of heavy weights such as rocks on top. Or use a couple pieces of thin plywood or pegboard, strapped together with belts or bungee cords. A simple press can be purchased or replicated using pieces of scrap lumber and straps. Holes drilled in the top and bottom encourage air circulation, preventing mold. Handles can be added for convenience.

You may be wondering about the fact that no glue has been mentioned. The colloid substances that keep algae moist, and are so important to industries, act as a natural glue, oozing forth as the piece dries and adhering it to the paper. If by chance a specimen comes loose after drying, you can always touch it up with a clear-drying glue.

In a couple of days, your specimens will be dry and ready to archive. Keep them in a place where the temperature stays pretty constant and doesn’t overheat. One of the marvelous things about seaweeds is that, if you ever need to examine a structure microscopically, you can always cut a small piece from your dried specimen later on, reconstitute it with water, and observe the structures nearly “as good as new”.



Resources

Resources by Topic

The following resources are focused on Long Island Sound and marine education. The descriptions for the websites below were taken directly from the websites. Please see those websites for more details.

Aquaculture

Resources for Aquaculture Educators: Lists websites and resources for educators and students of aquaculture. Connecticut Sea Grant. web2.uconn.edu/seagrant/whatwedo/aquaculture

ALEARN-Education: This area of ALEARN is dedicated to educators. Educators are continually looking for new resources and different, more effective ways to present information. This area will assist in the location and identification of resources that can be used in teaching aquaculture and other related aquatic sciences. Resources include lesson plans, curricula evaluations, activities, access to resources, teaching materials, suppliers and new methods. If you have additional items or resources that could be added to our list or have special interests or request please contact us.

www.aces.edu/dept/fisheries/education/

Aquariums

Mystic Aquarium and Institute for Exploration: Mystic Aquarium & Institute for Exploration is a division of Sea Research Foundation, Inc., a nonprofit institution. The Foundation's mission is to inspire people to care for and protect our ocean planet through education, research and exploration.

www.mysticaquarium.org

The Maritime Aquarium at Norwalk: The Maritime Aquarium inspires people of all ages to appreciate Long Island Sound and protect it for future generations. A vibrant and entertaining learning environment, the Maritime Aquarium achieves this goal through living exhibits, marine science, and environmental education. www.maritimeaquarium.org

Careers

Careers in Oceanography and Marine-Related Fields: The Oceanographic Society. www.tos.org

Marine Science Careers: marinecareers.net will introduce you to a wide range of marine career fields and to people working in those fields. In addition, it will give those men and women a chance to tell you what they like and dislike about their careers, what they see for the future in their fields, and much more. This site also provides you with some experts' views on what the future holds for marine science careers. Sea Grant. www.marinecareers.net

OceanCareers.com: At the heart of www.oceancareers.com are four databases in which you'll find detailed information about: Educational Institutions - descriptions of more than 300 educational institutions offering ocean-related programs; Careers - descriptions of more than fifty ocean occupations, including task and duties, knowledge and skills, salary range, and workforce trends; Educational Competencies - what you need to know and be able to do in twenty-four different discipline areas to be marketable in today's workplace; and professional societies - links to more than 200 professional societies. www.oceancareers.com

Conservation

The Ocean Conservancy: Ocean Conservancy promotes healthy and diverse ocean ecosystems and opposes practices that threaten ocean life and human life. Through research, education, and science-based advocacy, Ocean Conservancy informs, inspires, and empowers people to speak and act on behalf of the oceans. In all its work, Ocean Conservancy strives to be the world's foremost advocate for the oceans. www.oceanconservancy.org

The Ocean Project: Through this collaboration among aquariums, zoos, science, technology, and natural history museums, and other educational institutions that together serve more than 200 million visitors each year, The Ocean Project aims to significantly increase the success of ocean conservation. The Ocean Project seeks to complement and build upon the work of existing institutions and organizations. We also collaborate with local, regional, and national nonprofit conservation and environmental organizations to actively involve people in conservation activities in their communities and better connect them to the ocean. www.theoceanproject.org

Curriculum

Curriculum Research & Development Group (CRDG): The CRDG with its Laboratory School is an organized research unit in the College of Education at the University of Hawai'i that conducts research and creates, evaluates, disseminates, and supports educational programs that serve students, teachers, parents, and other educators in grades preK-12. www.hawaii.edu/crdg

The Ocean Crisis: A Curriculum for Global Problem Solving. Linda MacRae-Campbell and Bruce Campbell. Zephyr Press. www.zephyrpress.com

Ocean Literacy Essential Principles and Fundamental Concepts: The following Essential Principles of Ocean Sciences may also be downloaded from: <http://coexploration.org/oceanliteracy/>

1 - The Earth has one big ocean with many features.

- a. The ocean is the dominant physical feature on our planet Earth—covering approximately 70% of the planet's surface. There is one ocean with many ocean basins, such as the North Pacific, South Pacific, North Atlantic, South Atlantic, Indian and Arctic.
- b. An ocean basin's size, shape and features (islands, trenches, mid-ocean ridges, rift valleys) vary due to the movement of Earth's lithospheric plates. Earth's highest peaks, deepest valleys and flattest vast plains are all in the ocean.
- c. Throughout the ocean there is one interconnected circulation system powered by wind, tides, the force of the Earth's rotation (Coriolis effect), the Sun, and water density differences. The shape of ocean basins and adjacent land masses influence the path of circulation.
- d. Sea level is the average height of the ocean relative to the land, taking into account the differences caused by tides. Sea level changes as plate tectonics cause the volume of ocean basins and the height of the land to change. It changes as ice caps on land melt or grow. It also changes as seawater expands and contracts when ocean water warms and cools.
- e. Most of Earth's water (97%) is in the ocean. Seawater has unique properties: it is saline, its freezing point is slightly lower than fresh water, its density is slightly higher, its electrical conductivity is much higher, and it is slightly basic. The salt in seawater comes from eroding land, volcanic emissions, reactions at the seafloor, and atmospheric deposition.
- f. The ocean is an integral part of the water cycle and is connected to all of the Earth's water reservoirs via evaporation and precipitation processes.
- g. The ocean is connected to major lakes, watersheds and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments and pollutants from watersheds to estuaries and to the ocean.
- h. Although the ocean is large, it is finite and resources are limited.

2 - The ocean and life in the ocean shape the features of the Earth.

- a. Many earth materials and geochemical cycles originate in the ocean. Many of the sedimentary rocks now exposed on land were formed in the ocean. Ocean life laid down the vast volume of siliceous and carbonate rocks.
- b. Sea level changes over time have expanded and contracted continental shelves, created and destroyed inland seas, and shaped the surface of land.
- c. Erosion—the wearing away of rock, soil and other biotic and abiotic earth materials—occurs in coastal areas as wind, waves, and currents in rivers and the ocean move sediments.

Resources

- d. Sand consists of tiny bits of animals, plants, rocks and minerals. Most beach sand is eroded from land sources and carried to the coast by rivers, but sand is also eroded from coastal sources by surf. Sand is redistributed by waves and coastal currents seasonally.
- e. Tectonic activity, sea level changes, and force of waves influence the physical structure and landforms of the coast.

3 - The ocean is a major influence on weather and climate.

- a. The ocean controls weather and climate by dominating the Earth's energy, water and carbon systems.
- b. The ocean absorbs much of the solar radiation reaching Earth. The ocean loses heat by evaporation. This heat loss drives atmospheric circulation when, after it is released into the atmosphere as water vapor, it condenses and forms rain. Condensation of water evaporated from warm seas provides the energy for hurricanes and cyclones.
- c. The El Niño Southern Oscillation causes important changes in global weather patterns because it changes the way heat is released to the atmosphere in the Pacific.
- d. Most rain that falls on land originally evaporated from the tropical ocean.
- e. The ocean dominates the Earth's carbon cycle. Half the primary productivity on Earth takes place in the sunlit layers of the ocean and the ocean absorbs roughly half of all carbon dioxide added to the atmosphere.
- f. The ocean has had, and will continue to have, a significant influence on climate change by absorbing, storing, and moving heat, carbon and water.
- g. Changes in the ocean's circulation have produced large, abrupt changes in climate during the last 50,000 years.

4 - The ocean makes Earth habitable.

- a. Most of the oxygen in the atmosphere originally came from the activities of photosynthetic organisms in the ocean.
- b. The first life is thought to have started in the ocean. The earliest evidence of life is found in the ocean.

5 - The ocean supports a great diversity of life and ecosystems

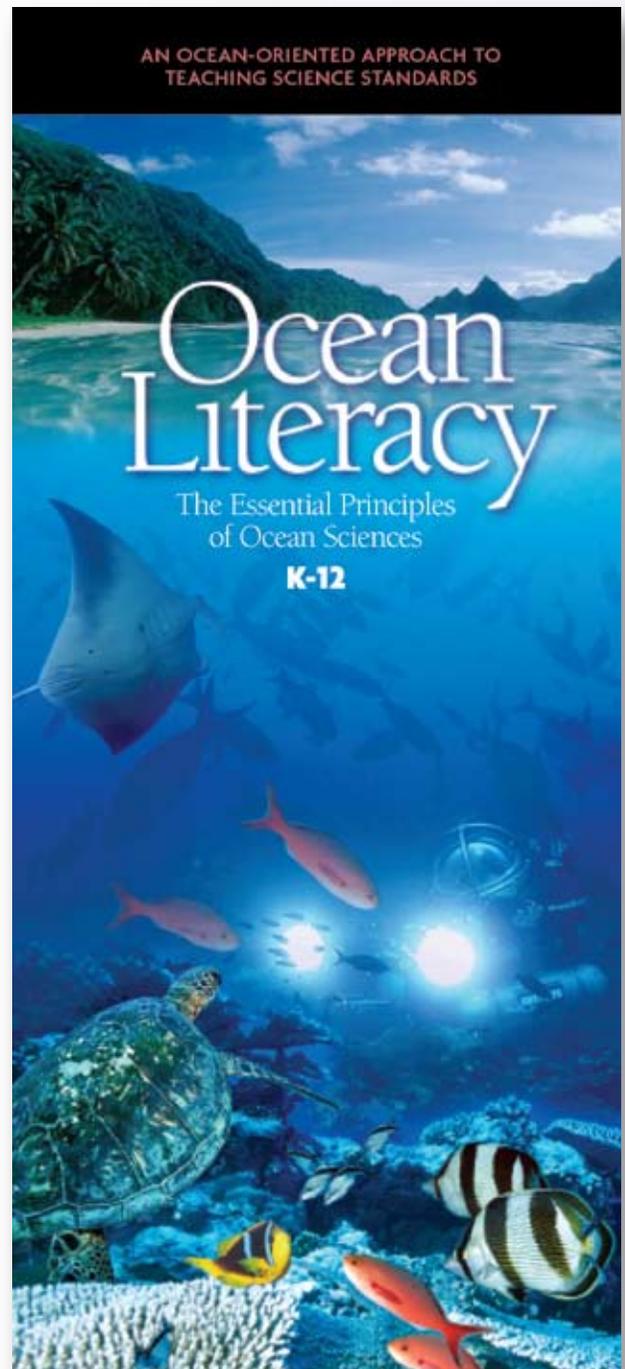
- a. Ocean life ranges in size from the smallest virus to the largest animal that has lived on Earth, the blue whale.
- b. Most life in the ocean exists as microbes. Microbes are the most important primary producers in the ocean. Not only are they the most abundant life form in the ocean, they have extremely fast growth rates and life cycles.
- c. Some major groups are found exclusively in the ocean. The diversity of major groups of organisms is much greater in the ocean than on land.
- d. Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms (symbiosis, predator-prey dynamics and energy transfer) that do not occur on land.
- e. The ocean is three-dimensional, offering vast living space and diverse habitats from the surface through the water column to the seafloor. Most of the living space on Earth is in the ocean.
- f. Ocean habitats are defined by environmental factors. Due to interactions of abiotic factors such as salinity, temperature, oxygen, pH, light, nutrients, pressure, substrate and circulation, ocean life is not evenly distributed temporally or spatially, i.e., it is "patchy". Some regions of the ocean support more diverse and abundant life than anywhere on Earth, while much of the ocean is considered a desert.
- g. There are deep ocean ecosystems that are independent of energy from sunlight and photosynthetic organisms. Hydrothermal vents, submarine hot springs, methane cold seeps, and whale falls rely only on chemical energy and chemosynthetic organisms to support life.
- h. Tides, waves and predation cause vertical zonation patterns along the shore, influencing the distribution and diversity of organisms.
- i. Estuaries provide important and productive nursery areas for many marine and aquatic species.

6- The ocean and humans are inextricably interconnected.

- a. The ocean affects every human life. It supplies freshwater (most rain comes from the ocean) and nearly all Earth's oxygen. It moderates the Earth's climate, influences our weather, and affects human health.
- b. From the ocean we get foods, medicines, and mineral and energy resources. In addition, it provides jobs, supports our nation's economy, serves as a highway for transportation of goods and people, and plays a role in national security.
- c. The ocean is a source of inspiration, recreation, rejuvenation and discovery. It is also an important element in the heritage of many cultures.
- d. Much of the world's population lives in coastal areas.
- e. Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, non-point source, and noise pollution) and physical modifications (changes to beaches, shores and rivers). In addition, humans have removed most of the large vertebrates from the ocean.
- f. Coastal regions are susceptible to natural hazards (tsunamis, hurricanes, cyclones, sea level change, and storm surges).
- g. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.

7 - The ocean is largely unexplored.

- a. The ocean is the last and largest unexplored place on Earth— less than 5% of it has been explored. This is the great frontier for the next generation's explorers and researchers, where they will find great opportunities for inquiry and investigation.
- b. Understanding the ocean is more than a matter of curiosity. Exploration, inquiry and study are required to better understand ocean systems and processes.
- c. Over the last 40 years, use of ocean resources has increased significantly, therefore the future sustainability of ocean resources depends on our understanding of those resources and their potential and limitations.
- d. New technologies, sensors and tools are expanding our ability to explore the ocean. Ocean scientists are relying more and more on satellites, drifters, buoys, subsea observatories and unmanned submersibles.
- e. Use of mathematical models is now an essential part of ocean sciences. Models help us understand the complexity of the ocean and of its interaction with Earth's climate. They process observations and help describe the interactions among systems.
- f. Ocean exploration is truly interdisciplinary. It requires close collaboration among biologists, chemists, climatologists, computer programmers, engineers, geologists, meteorologists, and physicists, and new ways of thinking.



Resources

Project Learning Tree® (PLT): Project Learning Tree® is an award winning, multi-disciplinary environmental education program for educators and students in PreK-grade 12. PLT, a program of the American Forest Foundation, is one of the most widely used environmental education programs in the United States and abroad. PLT continues to set the standard for environmental education excellence. PLT helps students learn how to think, not what to think, about the environment. PLT meets state and national education standards. The curriculum materials provide the tools educators need to bring the environment into the classroom and their students into the environment. Topics range from forests, wildlife, and water, to community planning, waste management and energy. www.plt.org

Project Soundwise: A Curriculum and Teacher's Guide to Long Island Sound for Grades K-4: By Dana McArdle, Kirsten Conway, and Laura Norwitz. 1992. Schooner, Inc. www.schoonerinc.org

Project Soundwise: A Supplemental Teacher's Guide to Long Island Sound for grades 5-8: By Dana McArdle and Laura Norwitz. 1992. Schooner, Inc. www.schoonerinc.org

Project WET (Water Education for Teachers): Project WET is an award-winning, nonprofit water education program and publisher. The program facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources through the dissemination of classroom-ready teaching aids and the establishment of internationally sponsored Project WET programs. Project WET is: a publisher of materials and lesson plans for teachers and for children; a source of leadership training and capacity building courses, seminars, and workshops for water education providers; a global water education delivery network designed to reach children through educators; and a provider of information, support services, and consultation for people that have questions regarding water education for teachers and children. Project WET is committed to global water education that is implemented at the community level. www.projectwet.org

Project WILD: Project WILD is one of the most widely-used conservation and environmental education programs among educators of students in kindergarten through high school. It is based on the premise that young people and educators have a vital interest in learning about our natural world. A national network of state wildlife agency sponsors ensures that Project WILD is available nationwide --training educators in the many facets of the program. Emphasizing wildlife because of its intrinsic value, Project WILD addresses the need for human beings to develop as responsible citizens of our planet. www.projectwild.org

The Water Sourcebooks: The Water Sourcebooks contain 324 activities for grades K-12 divided into four sections: K-2, 3-5, 5-8, and 9-12. Each section is divided into five chapters: Introduction to Water, Drinking Water and Wastewater Treatment, Surface Water Resources, Ground Water Resources, and Wetlands and Coastal Waters. This environmental education program explains the water management cycle using a balanced approach showing how it affects all aspects of the environment. All activities contain hands-on investigations, fact sheets, reference materials, and a glossary of terms. Activities are organized by objectives, materials needed, background information, advance preparation, procedures, and resources. US EPA. www.epa.gov/safewater/kids/wsb

WOW!: The Wonders of Wetlands: WOW!: *The Wonders of Wetlands* is an instructional guide for educators that provides a resourceful and creative collection of wetland activities, information, and ideas. WOW! includes: over 50 hands-on multidisciplinary activities in lesson plan format, extensive background information on wetlands, ideas for student action projects, and a wetlands resource guide. www.wetland.org/education_wow.htm

Education Organizations

Connecticut Outdoor and Environmental Educators Association (COEEA): COEEA is a network of classroom educators, naturalists, environmental educators, youth leaders, administrators, professors,

and students who work toward a future where increasingly: an appreciation for and understanding of the environment is an integral part of all community education - including formal, non-formal, and informal education; educators, environmental professionals, and the organizations and agencies they represent are well informed and are willing to work together to maximize resources; and people of all ages are environmentally literate and act as environmental stewards. COEEA serves its members by supporting professional development, providing networking opportunities, and promoting environmental education in Connecticut. We are also the state affiliate of the New England Environmental Education Alliance and the North American Association for Environmental Education. www.coeea.org

Connecticut Science Teachers Association (CSTA): Since 1952, the Connecticut Science Teachers Association has spoken for the needs and interests of science teachers in Connecticut. CSTA has been your voice in professional development, science curriculum, instruction, certification, and communication with the Connecticut State Department of Education, the Connecticut Academy for Education in Math, Science, & Technology and many others about the direction that science education should take. Wherever you teach science, and whatever level, CSTA has represented you, the science teacher. www.csta-us.org

National Marine Educators Association (NMEA): NMEA brings together those interested in the study and enjoyment of both fresh and salt water and provides a focus for marine and aquatic studies all over the world and includes professionals in education, science, business, government, museums, aquariums and marine research. www.marine-ed.org

New England Environmental Education Alliance (NEEEA): The mission of NEEEA is to promote quality environmental education across New England in partnership with the state environmental education organizations. NEEEA members include all state organizations in the six New England states. www.neeea.org

New York State Marine Educators Association (NYSMEA): NYSMEA exists to promote marine awareness and encourage the growth and exchange of instructional resources within the scientific, commercial, and educational communities. Members include educators from all levels; museum, aquarium, and environmental center staff, research scientists, laboratory technicians and those with interests in SCUBA, fishing, boating, maritime history, folklore, archeology and the arts. www.nysmea.org

North American Association of Environmental Educators (NAAEE): NAAEE is a network of professionals, students, and volunteers working in the field of environmental education throughout North America and in over 55 countries around the world. Since 1971, the Association has promoted environmental education and supported the work of environmental educators. There are many environmental interest groups, and many organizations dedicated to improving education. NAAEE uniquely combines and integrates both of these perspectives, and takes a cooperative, nonconfrontational, scientifically-balanced approach to promoting education about environmental issues. www.naaee.org

Science Teachers Association of New York State, Inc. (STANYS): STANYS is New York's oldest and most respected professional organization of science educators. Our membership of primary, secondary, and tertiary educators creates a collaborative association that is invaluable for our organization and for science education in New York State. STANYS promotes excellence in science education. Its mission is to work with educators and communities to provide opportunities for all students to participate in and learn science. www.stanys.org

Southeastern New England Marine Educators (SENEME): SENEME is the Rhode Island and Connecticut regional chapter of the National Marine Educators Association. SENEME's vision is to create a society of empowered citizens who will make a difference in the world of water with the mission to develop an appreciation and stewardship for the world of water by supporting both freshwater and marine environmental education. www.seneme.org

Estuaries

Discover Bays & Estuaries: Learn how we all impact and depend on bays and estuaries. Students work their way through a food web, identify animals that live in the “mixing zone,” and decide how to conserve, protect, and restore bays and estuaries by drawing pictures of Best Management Practices (BMP) throughout a watershed. Ages 8-12. 16 pp. <http://store.projectwet.org>

Estuaries: A Day at the Bay: A program for Middle and Junior High School Students. David Grant and Linda Stefaniak. Ocean Institute, Brookdale Community College.

Estuaries Tutorial: The Estuaries Tutorial is an overview of estuarine habitats, the threats facing them, and efforts to monitor and protect estuaries nationwide. The Roadmap to Resources complements the information in the tutorial by directing you to specific online estuary-related materials from NOAA and other reliable resources. NOAA Ocean Service Education. <http://oceanservice.noaa.gov/education/kits/estuaries/welcome.html>

Estuaries.gov: Estuaries.Gov helps educators bring the beauty and the importance of estuaries into classrooms and educational programs. This site provides, primarily, an avenue for elementary, middle and high school students, and their teachers, to learn more about estuaries, research, and explore NOAA’s “living laboratories” - the National Estuarine Research Reserves. www.estuaries.gov

Learn About Estuaries: Educational information about estuaries, including: what estuaries are, why they are important, and links to more information about estuaries. US EPA. www.epa.gov/region1/eco/lis/estuaries.html

National Estuarine Research Reserve System (NERRS): NERRS is a network of protected areas established for long-term research, education and stewardship. This partnership program between NOAA and the coastal states protects more than one million acres of estuarine land and water, which provides essential habitat for wildlife; offers educational opportunities for students, teachers and the public; and serves as living laboratories for scientists. www.nerrs.noaa.gov

Exploration

From Sea to Shining Sea: Exploring America’s Ocean Realms. National Geographic Education Foundation. www.ngsednet.org/oceans

National Geographic: Since 1888, National Geographic has traveled the Earth, sharing amazing stories with each new generation. National Geographic’s Mission Programs support critical expeditions and scientific fieldwork, encourage geography education for students, promote natural and cultural conservation, and inspire audiences through new media, vibrant exhibitions, and live events. www.nationalgeographic.com

NOAA Ocean Explorer: NOAA Ocean Explorer is an educational Internet offering for all who wish to learn about, discover, and virtually explore the ocean realm. It provides public access to current information on a series of NOAA scientific and educational explorations and activities in the marine environment. The site provides a platform to follow explorations in near real-time, learn about exploration technologies, observe remote marine flora and fauna in the colorful multimedia gallery, read about NOAA’s 200-year history of ocean exploration, and discover additional NOAA resources in a virtual library. www.oceanexplorer.noaa.gov

Ocean Detectives, Solving the Mysteries of the Sea: Explorer book. Mary Cerullo. Woods Hole Oceanographic Institution.

Geology

Geologic History of Long Island Sound: Chapter in Connecticut College's *Tidal Marshes of Long Island Sound - Ecology, History, and Restoration* by Ralph Lewis. <http://arboretum.conncoll.edu/publications/34/CHP1.HTM>

Ocean Energy: U.S. Department of the Interior Minerals Management Service. U.S. Department of the Interior. www.mms.gov

Sedimentary Environments in Long Island Sound: A Guide to Sea-Floor Management in a Large Urbanized Estuary: USGS factsheet. <http://marine.usgs.gov/fact-sheets/fs41-98/>

Government Agencies and Programs

Connecticut Department of Environmental Protection (DEP): Founded in 1971, the mission of the DEP is to conserve, improve and protect the natural resources and environment of the State of Connecticut in such a manner as to encourage the social and economic development of Connecticut while preserving the natural environment and the life forms it supports in a delicate, interrelated and complex balance, to the end that the state may fulfill its responsibility as trustee of the environment for present and future generations. The DEP achieves its mission through regulation, monitoring, inspection and enforcement, and licensing procedures that help control air, land and water pollution in order to protect health, safety, welfare and natural resources. The DEP also improves and coordinates the state's environmental plans, functions and educational programs in cooperation with federal, regional and local governments, other public and private organizations and concerned individuals, while managing and protecting the flora and fauna for compatible uses by the citizens. www.ct.gov/dep

DEP Education: The CT DEP can help with information and resources for use in the classroom, at home, or in your local community including educator workshops, student field trips, educational resources and public education courses. http://www.ct.gov/dep/cwp/view.asp?a=2691&q=322500&depNav_GID=1627&depNav=|

National Oceanic and Atmospheric Administration (NOAA): NOAA is an agency that enriches life through science. Their mission is to understand and predict changes in Earth's environment and conserve and manage coastal and marine resources to meet our Nation's economic, social, and environmental needs. From daily weather forecasts, severe storm warnings and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it. www.noaa.gov

NOAA Education: NOAA's many educational activities are distributed across the agency. This site has been designed to help students, teachers, librarians and the general public access the many educational activities, publications, and booklets that have been produced. www.education.noaa.gov

New York State Department of Environmental Conservation (DEC): The New York State Department of Environmental Conservation was created on July 1, 1970 to bring together in a single agency all state programs directed toward protecting and enhancing the environment. Its mission is to conserve, improve and protect New York's natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being. DEC's goal is to achieve this mission by embracing the elements of sustainability - the simultaneous pursuit of environmental quality, public health, economic prosperity and social well-being, including environmental justice and the empowerment of individuals to participate in environmental decisions that affect their lives. www.dec.ny.gov

Resources

DEC Education: To make the right environmental choices, we all need to understand how our natural environment works, and how resources are affected by the things we do. This is why state law directs DEC to provide environmental education programs that help every citizen to be a steward of the environment. All DEC divisions and regions constantly make information available for the public; five divisions and one region offer established, formal environmental education programs. Links from this page will help you access these programs. <http://www.dec.ny.gov/26.html>

United States Environmental Protection Agency (EPA): In July of 1970, the White House and Congress worked together to establish the EPA in response to the growing public demand for cleaner water, air and land. Prior to the establishment of the EPA, the federal government was not structured to make a coordinated attack on the pollutants that harm human health and degrade the environment. The EPA was assigned the daunting task of repairing the damage already done to the natural environment and to establish new criteria to guide Americans in making a cleaner environment a reality. www.epa.gov

Teaching Center: This site is for both formal and nonformal educators who wish to teach about the environment. It offers background information on a variety of topics, lesson plans, and activities that work in and out of the classroom. You will also find information on workshops, conferences, grants, awards and a variety of other information that will assist you in your educational goals whether you teach in a traditional classroom setting, an outdoor classroom, a community center or in your home. www.epa.gov/teachers

Environmental Education Training and Partnership (EETAP): This site offers educators information, resources, and links for promoting academic achievement and environmental literacy. It describes the EETAP, participating organizations, services, and achievements. EETAP is a national leader in the delivery of environmental education training for education professionals. EETAP is funded by the U.S. Environmental Protection Agency's Office of Environmental Education through a cooperative agreement with the University of Wisconsin-Stevens Point. www.eetap.org

United States Geological Survey (USGS): As an unbiased, multi-disciplinary science organization that focuses on biology, geography, geology, geospatial information, and water, it is dedicated to the timely, relevant, and impartial study of the landscape, our natural resources, and the natural hazards that threaten us. www.usgs.gov

The USGS and Science Education: The USGS provides scientific information intended to help educate the public about natural resources, natural hazards, geospatial data, and issues that affect our quality of life. Discover selected online resources, including lessons, data, maps, and more, to support teaching, learning, education (K-12), and university-level inquiry and research. <http://education.usgs.gov>

Hypoxia

Alternative Strategies for Hypoxia Management: Factsheet produced by the EPA LISS. www.longislandsoundstudy.net/pubs/facts/hypfsas.pdf

Long Island Sound Study overview of hypoxia: An overview of the problem, the plans and the costs of the hypoxia issue in Long Island Sound. EPA LISS. www.longislandsoundstudy.net/ccmp/hypox.html

Long Island Sound Study publications about nitrogen and hypoxia: A list of reports and documents produced by the EPA Long Island Sound Study available to download or available from the LIS Office. 203-977-1541. www.longislandsoundstudy.net/publications.htm

NASA Ocean Color - Creeping Dead Zones: Focus on anoxia using satellite image data, or "ocean color data". The phrase "ocean color data" refers to accurate measurements of light intensity at visible wavelengths. As ocean color data is related to the presence of constituents (primarily phytoplankton and

inorganic particulates) it may therefore be used to calculate the concentrations of material in surface ocean waters and the level of biological activity. Ocean color observations made from Earth orbit allow an oceanographic viewpoint that is impossible from ship or shore -- a global picture of biological activity in the world's oceans. http://daac.gsfc.nasa.gov/oceancolor/scifocus/oceanColor/dead_zones.shtml

Invasive Species

Aquatic Invasive Species: An Educator's information and materials guide. This booklet is a compilation of elected educational materials on aquatic invasive species (AIS). Materials have been assembled from agencies nationwide by the University of Minnesota Sea Grant Program to assist K-12 teachers and nonformal educators in raising awareness and integrating AIS studies into their curriculums. http://www.seagrant.umn.edu/education/ais_guide.pdf

Exotic Aquatics on the Move: Currently, teachers are more frequently requesting information on Aquatic Nuisance Species (ANS) to use in their classrooms. They seek clear, concise lesson plans that include multi-disciplinary concepts to help their students attain high academic goals and meet state and national education standards. This project is designed to assist teachers with research-based information for the classroom. A joint project of National Sea Grant Network and Geographic Education Alliances. <http://www.iisgcp.org/edk-12/exoticsp/>

Invasive Species of Long Island Sound: Poster with images and information about 14 invasive species of Long Island Sound. Includes a description of what invasive species are, why they are of concern, how they get into Long Island Sound, and what is being done about them. Connecticut Sea Grant. web2.uconn.edu/seagrant

Invasive Species of Long Island Sound: Web page. Invasive species occur in many different habitats within the waters and around the shores of LIS and come in an astonishing variety of sizes, shapes and forms, from the tiniest microscopic parasites to very large organisms. The species included here will provide a glimpse of the array of non-native species now occupying LIS and its surrounding coastlines. Connecticut Sea Grant. web2.uconn.edu/seagrant/whatwedo/ais/listour.php

The Lionfish Invasion!: Learn about the environmental and economic consequences of invasive species, using the recent invasion of the lionfish as a case study. <http://oceanservice.noaa.gov/education/stories/lionfish>

Marine Bioinvasions: MIT Sea Grant Center for Coastal Resources site for information, research, education, links and resources, exotic maps, and conferences related to marine bioinvaders. <http://massbay.mit.edu/exoticspecies>

Nab the Aquatic Invader: Major arrests need to be made in the fight against invading aquatic plants and animals. These invaders have hitchhiked to U.S. waters and are on the loose creating huge problems, such as impacts on biodiversity. We're looking for kids in grades 4-10 who want to help "book these bad guys" for their disruptive activities. You can be a private investigator on the case and help the other detectives "book the bad guys." Start by meeting the suspects and then read their profile sheets. Uncover more clues by solving the case files on each detective page and collect evidence and background information to help you catch each suspect. When you think you have enough evidence to "book a bad guy" click on the "Book'em" file and answer the questions. Don't forget to read them their rights! Sea Grant Network. www.sgnis.org/kids

Nonindigenous Aquatic Species (NAS): An information resource for the United States Geological Survey. Located at the Florida Integrated Science Center, this site has been established as a central repository for spatially referenced biogeographic accounts of nonindigenous aquatic species. <http://nas.er.usgs.gov/>

Resources

Visual Guide: Long Island Sound Marine Invasive Species with comparison to some native species: Waterproof field guide/flip book with color photographs, scientific and common names, and brief descriptions of each species. Connecticut Sea Grant. web2.uconn.edu/seagrant

Long Island Sound

Connecticut Coastal Access Guide: The Connecticut Coastal Access Guide is designed to help you explore the Connecticut shore of Long Island Sound. Use the guide to identify sites open to the public for boating, swimming, fishing, hiking and other outdoor activities. www.lisrc.uconn.edu/coastalaccess

Favorite Activities Book: Long Island Sound Educators Conference March 23, 1996. Long Island Sound activity reference for educators. (Out of Print)

The Living Sound: A kid's video about Long Island Sound. Ages 8-13. Activity book included. Available to borrow through the Connecticut Sea Grant Video Lending Library. web2.uconn.edu/seagrant

Long Island Sound Environmental Education Activity Kit: Activity kit and lesson plans focused on Long Island Sound. (Out of print)

Long Island Sound in a Jar: Activities for youth demonstrating human impact on aquatic systems. Lesson plans and activities. Edited by Heather Crawford. Connecticut Sea Grant. web2.uconn.edu/seagrant

Long Island Sound Facts, Figures and Maps: A list of physical facts (area, depth, etc.) and downloadable maps of Long Island Sound. US EPA. <http://www.epa.gov/region1/eco/lis/facts.html>

Long Island Sound Foundation (LISF): The mission of LISF is to facilitate the exchange of information among individuals and organizations and enhance their ability to address issues impacting Long Island Sound; enhance public learning, awareness, understanding and involvement focused on Long Island Sound; and establish an environmental fund by fund-raising and fund dispersing to support scientific and public policy research, education and community programs. The LISF holds a calendar contest for student artwork every year. Visit the website for more details about the latest calendar competition. <http://lisfoundation.org>

Long Island Sound Integrated Coastal Observing System (LISICOS): The goal of the Long Island Sound Integrated Coastal Observing System is the development of a sustained capability to observe the Long Island Sound ecosystem and an adequate capability to understand and predict its response to natural and anthropogenic changes. <http://lisicos.uconn.edu/>

Long Island Sound Resource Center (LISRC): The Resource Center was established in 1988 as a central clearinghouse for information and data related to the Sound. This web site is an ongoing project to provide access to data and information about the Sound. Visitors can learn about scientific research, access data, view interactive maps, search literature related to the Sound, browse a directory of organizations and information sources, or look for locations to access the Sound. www.lisrc.uconn.edu

Long Island Sound Resource Directory: Directory of agencies and organizations focused on the environment, Long Island Sound, and its watershed. 2004. Long Island Sound Foundation. <http://lisfoundation.org>

Long Island Sound Study (LISS): The Environmental Protection Agency's Long Island Sound Study (EPA LISS) is a cooperative effort involving researchers, regulators, user groups and other concerned organizations and individuals. These people are working together to protect and improve the health of the Sound. Be sure to check out the factsheets (<http://www.longislandsoundstudy.net/publications.htm#factsheets>) and the Kids/Teachers link for useful resources and links. www.longislandsoundstudy.net

Long Island Sound: Worth Fighting For!: In this 30-minute video produced by Connecticut Public Television, one will discover links between Long Island Sound's colorful past and its threatened future. See the beauty of a vast ecosystem that supports a biological bouillabaisse, and the science behind it. Find out what the issues are today, and what some people are doing to help. 1992. Available to borrow through the Connecticut Sea Grant Video Lending Library. web2.uconn.edu/seagrant



MYSound: MYSound provides comprehensive, real-time water quality, weather and wave data from Long Island Sound, its harbors and estuaries. The objective of the MYSound Project is to provide real-time water quality monitoring data from Long Island Sound to a broad spectrum of users - enhancing the appreciation, knowledge and use of the Sound. The approach consists of establishing telemetering data buoys at several locations throughout The Sound. Currently there are six active stations, with two more stations in transition. The data are posted realtime to this site as provisional data, while longer term and historical data are available as ASCII files via FTP. The sensor data available includes: water temperature, salinity (from conductivity), and dissolved oxygen as indicators of water quality. Due to the initial popularity of the weather station located in the eastern Sound, weather sensors were added to the central Sound and western Sound buoys. The central Sound buoy is also equipped with a wave monitor. University of Connecticut Department of Marine Sciences. www.mysound.uconn.edu

Proceedings of the Biennial Long Island Sound Research conferences: Since 1992, the Long Island Sound Foundation has sponsored the Long Island Sound Research conferences, in cooperation with the Connecticut and New York Sea Grant programs. Proceedings include abstracts and papers about Long Island Sound research. http://lisfoundation.org/lisf_pubs.php

Sound Health: Sound Health is the EPA LISS report to the public on the environmental issues affecting Long Island Sound. It provides information on water quality, the abundance of animal and plant life in the Sound, and trends in land use along the shore. It also illustrates some of the efforts to protect the Sound. www.longislandsoundstudy.net/soundhealth

S.O.S. Saving our Sound: Book of illustrations of Long Island Sound that promote Long Island Sound stewardship. Created by Mrs. Carter's 4th Grade students at Hart Magnet Elementary School in Stamford, Connecticut. 2005. (Out of Print)

Soundkeeper: Soundkeeper is dedicated to the protection and enhancement of the biological, physical, and chemical integrity of Long Island Sound and its watershed. Laws established by the Clean Water Act, as well as others, were designed to protect the Sound, and other waters, from pollution. But citizens are responsible for seeing that these laws are enforced. Soundkeeper is the vital link – the voice and action of concerned citizens – in making the waters of Long Island Sound fishable and swimmable. By raising awareness and attacking critical issues with the commitment and support of a dedicated citizen network, Soundkeeper is the advocate for the Sound. Its daily work is patrolling, investigating, intervening, and raising public awareness of the Sound's problems. www.soundkeeper.org

An Underwater Tour of Long Island Sound: This web site is designed to share this view with others, to show a glimpse of the other side of the shore. Take a tour through the broad types of habitats of Long Island Sound and see a diversity of animals that live in them. Click on the links in the map to tour seagrass meadows, boulder and gravel reefs, sand, mud, and midwater habitats. No diving experience is required. Long Island Sound Resource Center. www.lisrc.uconn.edu/lis_uwtour

What Makes Long Island Sound Special?: On this website you can learn about what Long Island Sound is

and where to find information about the vast array of environmental issues that impact the Sound. You will also find information and links to understand issues that impact the waters, land and air in the State of Connecticut and the waters of Long Island Sound. US EPA. www.epa.gov/ne/eco/lis

Wrack Lines: The official magazine of the Connecticut Sea Grant College Program. Articles center around Long Island Sound topics and include perspectives from several disciplines. This magazine is FREE and available in print or to download. Visit the *Wrack Lines* home page for a list of issues available to download. web2.uconn.edu/seagrant/publications/magazines/wracklines

Marine Education and Teaching Tools

Awesome Ocean Science: Investigating the secrets of the underwater world, a Williamson Kids Can! book. 2006. Cindy A. Littlefield. Ages 7-12. Ideal Publications, 120 pp.

The Bridge: The Bridge is a growing collection of the best marine education resources available on-line. It provides educators with a convenient source of accurate and useful information on global, national, and regional marine science topics, and gives researchers a contact point for educational outreach. Resources are organized as indicated on the sidebar on the left side of the screen. The Bridge is supported by the National Sea Grant Office, the National Oceanographic Partnership Program (NOPP), and the National Marine Educators Association (NMEA). Their goal is to provide educators with content-correct & content-current marine information and data, support researchers in outreach efforts, and improve communications among educators and between the education and research communities. www.marine-ed.org/bridge

Centers for Ocean Sciences Education Excellence (COSEE): The COSEE promote partnerships between research scientists and educators; disseminate best practices in ocean sciences education; and promote ocean education as a charismatic, interdisciplinary vehicle for creating a more scientifically literate workforce and citizenry. www.cosee.net

Coasts in Crisis: Public issues in Earth science. It discusses the dangers posed to coasts and coastal communities by “development, recreation, and waste disposal,” among other activities. It describes the ever changing nature of coastlines, and both the natural and human causes of coastal change. Four case studies are very briefly described. While not an exhaustive treatment of its subject, this is an effective introduction that may encourage further study. A small bibliography is provided. U.S. Geological Survey Circular 1075. S. Jeffress Williams, Kurt Dodd, and Kathleen Krafft Gohn.

Discover Nature at the Seashore: Things to know and things to do. In this handy guide you’ll find all you need to know to make a scientific expedition to the beach (or to a rocky shore, a salt marsh, and more). The author, science professor Elizabeth Lawlor, is completely practical: along with guidelines about what to take along in order to perform mini-scientific experiments right at the beach, she includes advice about how to dress and other ways you can be prepared for anything that might arise. 1992. Elizabeth P. Lawlor. Stackpole Books, 224 pp.

Discovery of Sound in the Sea (DOSITS) Teacher Resources and Weblinks: The Discovery of Sound in the Sea web site introduces you to the science and uses of Sound in the Sea. There are several major sections on the site such as The Science of Sound in the Sea, People and Sound in the Sea, and Animals and Sound in the Sea. The site’s Audio Gallery is a fascinating place to visit and listen to underwater sounds created by marine animals, human activities, and natural phenomena such as lightning, earthquakes, and rain. Check out the technology gallery and discover a variety of equipment that uses sound to investigate the ocean. Watch video interviews with scientists that study how marine animals produce and hear sounds. Investigate how scientists use underwater acoustics to track ocean currents, identify potential obstacles, and quantify fish distributions. There is also a special section for teachers with resources and classroom activities. University of Rhode Island. www.dosits.org/teacher/teach1

Hands-On Ecology - Real-Life Activities For Kids: Children naturally are fascinated by the world around them, exploring the make-up of their world, including the animals, plants, and organisms that inhabit it, at an early age. Hands-On Ecology develops children's fascination with their world by giving them a front-row seat in the exploration of various ecological habitats. The book gives teachers the tools they need to create an extensive, in-depth study of ecology, including background information on ecosystems, how to set up a hands-on study of their local ecosystem, a look at how human populations affect the environment, and viable ways classrooms can contribute to conservationism. 2007. Colleen Kessler. Grades 3-5. Prufrock Press Inc., 168 pp. www.prufrock.com

Investigating Earth Systems: An inquiry earth science program from It's About Time Oceans. Teachers Guide. Michael J. Smith, John B. Southard, Colin Mably. It's About Time. www.its-about-time.com

Learning with Limulus: A model for teaching marine education by Dave Grant and Nancy Church, focusing on horseshoe crab form and function. Students will describe physical adaptations used by horseshoe crabs for locomotion, feeding, protection and vision. Students will also use familiar items as analogies to "construct" and study a horseshoe crab. Grades 4-8. <http://ux.brookdalecc.edu/staff/sandyhook/dgrant/field/LWL/LWL.html>

NOAA Ocean Explorer Education: This Web site provides an innovative way for students of all ages to learn about the oceans by offering near real-time access to a series of multidisciplinary ocean explorations. It also provides compelling imagery, video, and topical essays related to the ocean. This particular section of the site offers formal education materials, including a listing of professional development opportunities. <http://oceanexplorer.noaa.gov/edu>

NOAA Ocean Service Education Program (NOS): The National Ocean Service education team engages formal and informal education audiences to build environmental literacy through products and programs that incorporate the applied science of NOS. The team supports teacher infusion of NOS content into local curricula through professional development opportunities at conferences and through Web-based avenues. Be sure to check out the Discovery Kits-topics include pollution, currents, and invasive species. <http://oceanservice.noaa.gov/education>

Ocean Currents: Marine Science Activities for Grades 5-8, Teachers Guide. Developed at the Lawrence Hall of Science, this guide is one of more than 70 teacher's guides and handbooks from the Great Explorations in Math and Science program. Catherine Halversen, Kevin Beals, Craig Strang.

Oceans: Activity Guide for Ages 6-9. Oceans approaches a study of the ocean through games, activities and experiments. With more than 50 hands-on activities, children will explore the oceans from tide pools to the deep-water world. They will learn about sharks, sea turtles, octopuses, dolphins and more. The chapters include ocean information in "Ocean Notion," lots of fun facts, vocabulary words, and many literature selections, including stories, fables and legends. The hands-on explorations provides an insight to the information that will help children to have a deeper understanding of the ocean. Nancy F. Castaldo. Chicago Review Press. www.ipgbook.com

Oceans: Activity Guide for Grades 6-8. This Activity Guide is intended as a resource to assist teachers in incorporating the study of aquatic science, specifically as it relates to the ocean, into their existing curricula. The goals of this Activity Guide are to provide teachers with an interactive teaching tool and curriculum on oceans for grades 6-8; build students' critical thinking skills and scientific literacy; approach the study of science in an interdisciplinary way; and offer students a fun, hands-on learning experience. Shedd Aquarium. http://www.sheddaquarium.org/pdf/education/edu_guide_oceans.pdf

Only One Ocean: Marine Science Activities for Grades 5-8, Teachers Guide. Developed at the Lawrence Hall of Science, this guide is one of more than 70 teacher's guides and handbooks from the Great Explorations in Math and Science program. Catherine Halversen and Craig Strang. <http://lhs.berkeley.edu/gems/gemspubs>

Resources

Seashore Life: One of several titles on a website designed to provide users with a number of simple games and activities that help to nurture an interest in natural sciences. Designed to compliment the K-12 science curriculum, the materials range from simple games and quizzes to activities and experiments that can take a number of hours or days. James Kavanagh. Waterford Press.
www.waterfordpress.com

Take a Beach Walk: A discovery guide to finding, observing and identifying the plants and animals of North American seaside beaches. 2005. Jane Kirkland. Ages 8 and up. Take a Walk Books, Stillwater Publishing, 108 pp. www.takeawalk.com

Marine Flora and Fauna - Identification and Information

Across the Wide Ocean: The why, how, and where of navigation for humans and animals at sea. 2007. Karen Romano Young. Ages 9-12. Harpercollins Childrens Books, 80 pp.
http://www.harpercollins.com/books/9780060090869/Across_the_Wide_Ocean/index.aspx

AlgaeBase: AlgaeBase is a database of information on algae that includes terrestrial, marine and freshwater organisms. At present, the data for the marine algae (photographs, taxonomic, and species information), particularly seaweeds, are the most complete. For convenience, sea-grasses have been included even though they are flowering plants. www.algaebase.org

Beachcomber's Companion®: Web site and cards. The *Beachcomber's Companion*® web site, provides plenty of information about Atlantic coast marine invertebrates. Waterproof and portable, *Beachcomber's Companion*® features 50 common Atlantic coast marine invertebrates, beautifully illustrated (and scientifically accurate), and held together with a clip. Packaged in a mesh collecting bag, each set comes with a special marking pencil for the checklist card, so every critter found on each trip to the beach can be recorded—and wiped clean for next time! Cards provide common and scientific names for each organism, along with classification information, details on size, shape, and color, and where to look for it. Fun and strange facts for each organism are also included. Woods Hole Oceanographic Institution (WHOI) Sea Grant. www.beachcomberscompanion.net

Benthic Marine Algal Herbarium of Long Island Sound: Digital archive of scanned seaweed herbarium sheets. University of Connecticut University Libraries. www.algae.uconn.edu

Discover Marine Mammals: Swim in the ocean with a dolphin or under the sea with a blue whale. In this book, activities lead students on a journey of discovery as they explore the world of marine mammals. Lessons on the habitats in which marine mammals reside, the conditions and challenges marine mammals face, and how to be a marine mammal steward are taught through hands-on activities. Ages 8-12. 16 pp. <http://store.projectwet.org>

Fish: An Introduction to The Living Ocean: Biology and Technology of the Marine Environment: Curriculum Research and Development Group. University of Hawai'i at Manoa. www.hawaii.edu/crdg

Fish and Fishing: From facts about fins to funny phrases, kids learn about the lives of fish and human-kind's long history of pursuing them. "A Fine Kettle of Fish" increases awareness of water pollution, whirling disease, drought, loss of habitat, and over-fishing. Ages 8-12. 16 pp. <http://store.projectwet.org>

Fishes: Activity Guide for Grades K-8. This Activity Guide is designed to provide teachers with a resource for incorporating the study of aquatic science, specifically fishes, into their existing curricula. The goals of this Activity Guide are to provide teachers with an interactive teaching tool and curriculum on fishes for grades K-8; build students' critical thinking skills and scientific literacy; approach the study of science in an interdisciplinary way; and offer students a fun, hands-on learning experience. Shedd Aquarium. http://www.sheddaquarium.org/pdf/education/edu_guide_fishes.pdf

The Horseshoe Crab: Natural history, evolution, anatomy and more. The Ecological Research & Development. <http://horseshoecrab.org>

Horseshoe Crab Model: This life-sized paper model, to cut out and assemble with tape, is a great activity for 4th graders and up. It's also a perfect companion to the horseshoe crab MAS Bulletin. Includes background on the horseshoe crab and a crossword puzzle to test readers' knowledge. Copies are free to Delaware schoolteachers for classroom use. Requests should be submitted on school letterhead. Marine Advisory Service University of Delaware Sea Grant College Program. www.ocean.udel.edu/seagrant

Living Treasures of Long Island Sound: Connecticut Sea Grant has revised its old favorite, *Plants and Animals of Long Island Sound*. *Living Treasures* has more beautiful line drawings and updated expanded text. Reading level: middle school. By Lisa Wahle and Nancy Balcom. Also in Spanish translation: *Tesoros Vivientes*. Single copies are FREE! Teachers can also request multiple copies for classes and pay shipping. web2.uconn.edu/seagrant

Lobster Life Cycle and Habitat: Life as a lobster in Long Island Sound. Colorful illustrated life cycle poster and facts on reverse. New York Sea Grant. www.seagrant.sunysb.edu Also available from Connecticut Sea Grant. web2.uconn.edu/seagrant

Long Island Sound Educational Resources CD including Sound Facts: Fun Facts About Long Island Sound and Living Treasures: Plants and Animals of Long Island Sound: PowerPoint presentation. Connecticut Sea Grant. web2.uconn.edu/seagrant

Long Island Sound's Marine Mammals and Sea Turtles: Brochure with descriptions of Marine Mammals and Sea turtles of LIS and info on their protection. Mystic Aquarium and Institute for Exploration. www.mysticaquarium.org

Marine Animals of Southern New England and New York: Published by the Connecticut Department of Environmental Protection, this book will help identify most marine animal species found throughout the region. A complete reference on invertebrates and vertebrates, it features up-to-date keys to identifying 1,500 species. In addition, it contains more than 200 additional species references, 2,154 black and white illustrations, and 116 color prints. A perfect addition to any classroom or for any coastline explorer. Edited by Howard M. Weiss. 344 pages. www.ctdepstore.com

Marine Advisory Service (MAS) Bulletins: MAS bulletins are four- to eight-page publications that offer in-depth information about popular topics. Marine flora and fauna subjects include blue crab, hard clam, horseshoe crab, Phragmites, jellyfish, and sharks. Delaware Sea Grant. www.ocean.udel.edu/seagrant/publications

Michael Guiry's Seaweed Site: This educational website provides biological and taxonomic information on the three divisions of seaweed, world wide production statistics, and an introduction to the commercial uses of seaweed. www.seaweed.ie

Seaweeds of Long Island Sound: 104 page, lavishly illustrated guide to the seaweeds of Long Island Sound. Topics include species identification and when, where, and how to collect and preserve specimens. Many habitat views and microscopic images are included with pages for individual species. 162 photographs. By Margaret "Peg" Van Patten with introduction by Dr. Charles Yarish. Funded by an education grant from the EPA LISS, *the book is free to K-12 educators*. Connecticut Sea Grant. web2.uconn.edu/seagrant

Scott Tucker's Expedition New England: Scott Tucker created and currently hosts his television program called Expedition New England. Using his training as an artist and photographer, Scott documents the adventures of his family as they scuba dive the oceans and comb the front yards, backwoods and swamps of New England looking for wildlife. www.expeditionnewengland.com

Resources

Sharks: Activity Guide for Grades 3-5. This Activity Guide is designed to provide teachers with a resource for incorporating the study of aquatic science, specifically fishes, into their existing curricula. The goals of this Activity Guide are to provide teachers with an interactive teaching tool and curriculum on fishes for grades 3-5; build students' critical thinking skills and scientific literacy; approach the study of science in an interdisciplinary way; and offer students a fun, hands-on learning experience. Shedd Aquarium. http://www.sheddaquarium.org/pdf/education/edu_guide_sharks.pdf

Marshes and Wetlands

Connecticut College Arboretum Bulletin no. 25 - *Salt Marsh Plants of Connecticut:* Illustrated guide to 22 plants which grow in our tidal wetland. 32 pp., 1980. Available in print at www.conncoll.edu/ccrec/greennet/arbo/pub.html

Connecticut College Arboretum Bulletin no. 27 - *Birds of Connecticut Salt Marshes:* Illustrations and descriptions of 24 birds commonly seen on our tidal marshes. 48 pp., 1981. Available in print at www.conncoll.edu/ccrec/greennet/arbo/pub.html

Connecticut College Arboretum Bulletin no. 34 - *Tidal Marshes of Long Island Sound - Ecology, History, and Restoration:* Edited by Glenn D. Dreyer and William A. Niering. Describes the ecology and chronicles the history of Long Island Sound tidal marshes. Photographs and illustrations. 73 pp., 1995. Available in print at www.conncoll.edu/ccrec/greennet/arbo/pub.html or online at <http://arboretum.conncoll.edu/publications/34/MAIN.HTM>.

Connecticut College Arboretum Bulletin no. 37 - *Living Resources and Habitats of the Lower Connecticut River:* Focuses on the lower reaches of the Connecticut River that is a major New England estuary and tidal river recognized as globally significant. Photographs and illustrations. 76 pp., 2001. Available in print at www.conncoll.edu/ccrec/greennet/arbo/pub.html

The Connecticut River Tidal Marshes: Educational CD consisting of a PowerPoint presentation and photographs of the Connecticut River tidal marshes, Wetlands of International Importance under the Ramsar Convention. The content of the CD covers the geology and formation of the lower Connecticut River and the beautiful and diverse flora and fauna to be found in its salt, brackish and freshwater tidal marshes. Connecticut Sea Grant. web2.uconn.edu/seagrant

Wetlands, Oceans, and Watersheds: Information and links to specific topics on the connectivity of wetlands, oceans, and watersheds - what is being done and what you can do to protect them. US EPA. www.epa.gov/owow

Museums

Connecticut River Museum: Located on the waterfront in historic Essex, the Connecticut River Museum is the perfect place to explore the heritage and experience the wonders of New England's Great River. If you are drawn to the Connecticut River by the beauty of its unspoiled marshlands, the Museum offers an exceptional vantage point in any season. From its docks you can see bald eagles, migratory birds, and a wide variety of waterfowl. Recognized as one of The Last Great Places in the Northern Hemisphere by the Nature Conservancy, the tidal wetlands that surround the Connecticut River Museum are an environmental treasure worth the trip from anywhere. If you are intrigued by the rich history of the River and its peoples, there is no better starting point than the Museum's galleries. Designed to appeal to children as well as adults, the family-friendly exhibits are filled with art and artifacts that link the River's stories to our lives today. From dinosaurs to Dutch explorers, from Native American canoes to the first American submarine, there is something to capture every visitor's interest. www.ctrivermuseum.org

Peabody Museum of Natural History: The mission of the Peabody Museum is to serve Yale University

by advancing our understanding of earth's history through geological, biological, and anthropological research, and by communicating the results of this research to the widest possible audience through publication, exhibition, and educational programs. Fundamental to this mission is stewardship of the Museum's rich collections, which provide a remarkable record of the history of the earth, its life, and its cultures. Conservation, augmentation and use of these collections become increasingly urgent as modern threats to the diversity of life and culture continue to intensify. Yale University. www.peabody.yale.edu

Museum of Long Island Sound Natural Sciences: The Museum of Long Island Natural Sciences is associated with the Geosciences Department at the State University of New York at Stony Brook, Stony Brook, Long Island, New York. Its mission is to promote education, research, and public service in the natural sciences. In this context, the Museum: provides science education programs to the community, public schools, and general public through lectures, seminars, exhibits, films, publications, and special projects; promotes science literacy and serves as a catalyst for continued exploration in the natural sciences; and acts as a community resource on issues of science and the environment through timely dissemination of information and provision of learning opportunities for the public and other organizations, agencies and institutions. www.geosciences.stonybrook.edu/museum

Oceanography and Physical Science

Discovery of Sound in the Sea (DOSITS): The Discovery of Sound in the Sea web site introduces you to the science and uses of Sound in the Sea. There are several major sections on the site such as The Science of Sound in the Sea, People and Sound in the Sea, and Animals and Sound in the Sea. You will find the site's Audio Gallery a fascinating place to visit where you can listen to underwater sounds created by marine animals, human activities, and natural phenomena such as lightning, earthquakes, and rain. Check out the technology gallery and discover a variety of equipment that uses sound to investigate the ocean. Watch video interviews with scientists that study how marine animals produce and hear sounds. Investigate how scientists use underwater acoustics to track ocean currents, identify potential obstacles, and quantify fish distributions. There is also a special section for teachers with resources and classroom activities. University of Rhode Island. www.dosits.org

Hurricanes... Unleashing Nature's Fury: A preparedness guide. NOAA. <http://www.weather.gov/os/hurricane/pdfs/HurricanesUNF07.pdf>

Hurricane Brochures: A digital library of hurricane facts and preparedness guides. Atlantic Oceanographic and Meteorological Laboratory. www.aoml.noaa.gov/general/lib/hurricane.html

Project Earth Science: Physical Oceanography: The paperback includes 18 activities and five readings on water properties, currents, waves, tides, characteristics of the ocean, and human impacts. Each section is introduced by a selection from classic prose or poetry that reinforces a theme of respect for Earth's ocean. The activities require common materials, and include background information, easy-to-follow procedures, questions to guide the student, and reproducible directions. The helpful teachers' guide features more detailed background information, a summary of key concepts, time allocations, extensions, and a suggested list of readings for integrating the activity into other disciplines. One of the unique features used in many of the activities is sciLINKS--NSTA's Internet connection system. An extensive appendix provides a master materials list, resources, and directions for constructing a wave tank. National Science Teachers Association. Second Edition. Brent A. Ford and P. Sean Smith. NSTA Press. Grades 5-12. 224 pp

Tidal Current Predictions: This system will allow you to obtain tidal predictions computed by CO-OPS for more than 2700 tidal current stations. Each region presents a list of the water level stations in the area. The stations are listed geographically; thus, stations that are near each other along the shoreline are near each other in the listing. NOAA. http://tidesandcurrents.noaa.gov/curr_pred.html

Traveling Nitrogen Game: Students play the role of nitrogen atoms traveling through the nitrogen cycle

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to gain understanding of the varied pathways through the cycle and the relevance of nitrogen to living things. www.windows.ucar.edu/tour/link=/teacher_resources/teach_nitrogen.html

Understanding Your Water: From Source to Tap and Back Again: Lesson Plan. Students will research where their local drinking water comes from; explore pollution and other risks to drinking water sources; investigate the relationship between water treatment and public health; examine what happens when water goes down a toilet, down the drain, and into sewers; understand drinking water and wastewater treatment processes; and become familiar with the laws that govern drinking water and wastewater treatment.

http://www.pbs.org/newshour/extra/teachers/lessonplans/science/jan-june08/water_0324.html

Water Cycle Animation: An educational animation of the hydrologic cycle. NASA's Observatorium is a public access site for Earth and space data. They have pictures of the Earth, planets, stars, and other cool stuff, as well as the stories behind those images. http://physics.ship.edu/~mrc/astro/NASA_Space_Science/observe.arc.nasa.gov/nasa/earth/hydrocycle/hydro1.html

Pollution and Water Quality

Long Island Sound Water Quality Monitoring Program maps: Maps depict the extent of low dissolved oxygen in Long Island Sound for bi-weekly surveys conducted by the Connecticut Department of Environmental Protection, Bureau of Water Protection and Land Reuse's Long Island Sound Water Quality Monitoring Program from June to September.

www.ct.gov/dep/cwp/view.asp?a=2719&q=325532&depNav_GID=1654

Luck Isn't Enough: The Fight for Clean Water: A 12-minute video, narrated by Mason Adams, that describes the causes and effects of nonpoint source water pollution and suggests ways citizens and local decision makers can combat it. Connecticut and New York Sea Grant Extension Programs.

web2.uconn.edu/seagrant and www.seagrant.sunysb.edu

Nutrient Reduction: New Solutions for Old Problems: Nutrient Reduction Action Plan Demonstration Projects fact sheet. EPA LISS. www.longislandsoundstudy.net/pubs/facts/fact11.pdf

USGS Water Science for Schools - Primary Wastewater Treatment: A step-by-step guide describing what happens at each stage of the wastewater treatment process and how pollutants are removed to help keep our waterways clean. USGS. <http://ga.water.usgs.gov/edu/wwvisit.html>

Pathways to a Sustainable Future: A curriculum guide for schools exploring waste management issues. In order to better help schools and other institutions understand and review their waste management issues Pathways offers a *Waste Management Curriculum Guide*. This guide is available free to individuals or institutions and facilitates the exploration of complex issues surrounding waste management, as well as for planning for a sustainable future and implementing meaningful solutions today. The Chewonki Foundation. www.chewonki.org/pathways

Pollution Tutorial: The Pollution Tutorial will help you learn about nonpoint source pollution, which is pollution from sources that can't be tied to a specific location (city streets, farm fields, etc.) You'll read about the history and types of nonpoint source pollution, methods used to detect pollutants, and assess and reduce their damaging effects on the environment. The Roadmap to Resources complements the information in the tutorial by directing you to additional information and data from NOAA and other reliable resources. <http://oceanservice.noaa.gov/education/kits/pollution/welcome.html>

Understanding Marine Debris: The NOAA Marine Debris Program serves as a centralized marine debris capability within NOAA in order to coordinate, strengthen, and increase the visibility of marine debris issues and efforts within the agency, its partners, and the public. This Program is undertaking a national and international effort focusing on identifying, reducing, and preventing debris in the marine

environment. Additionally, the MDP supports and works closely with various partners across the U.S. to fulfill the Program's mission. www.marinedebris.noaa.gov

Water Quality Testing Kits: Choose from an assortment of tests; from 5-11 parameters, turbidity tests, and pH buffer solutions. <http://store.projectwet.org>

Programs

Bridgeport Regional Vocational Aquaculture School (BRVAS): The mission of BRVAS high school is to provide a rigorous educational program that ensures that students are able to examine problems and make informed decisions concerning society's relationship with the aquatic environment. The Aquaculture School serves a diverse community of students with a broad range of social, economic, cultural, and ethnic backgrounds who bring to the school a variety of skills, talents, and learning styles. We offer students from school systems in the greater Bridgeport region, the opportunity to enhance the traditional academic high school curriculum with a specialized emphasis on science and technology instruction related to the development of aquaculture in the State of Connecticut. The educational program is designed to provide students with experiences developed in collaboration with industry, government agencies, post-secondary educational institutions, and community organizations from local municipalities. Our goal is to enable students to meet rigorous academic standards through selected educational experiences that them to require work with technologies used by professionals in the maritime industry and aquatic research community. The Aquaculture School has, and will strive to maintain, a unique educational program that is relevant, focused, innovative, and continually evolving with an emphasis on high academic standards that will enable students to meet the needs of a changing world. <http://bridgeport.ct.schoolwebpages.com/education/school/school.php?sectionid=349>

The Marine Sciences Program at University of Connecticut Avery Point: The Marine Sciences Program for undergraduate and graduate studies is located on UConn's coastal campus at Avery Point, on the shores of Long Island Sound. The program includes the Department of Marine Sciences and the Marine Sciences and Technology Center. Within this program, faculty, staff, and students carry out cutting-edge research in coastal oceanography using cross-disciplinary approaches. It offers both undergraduate and graduate degrees that are characterized by an interdisciplinary foundation, high faculty-to-student ratio, and individualized plans of study and research. The program offers the intimacy and support of a small campus, coupled with the resources of a top-notch public university and internationally renowned scientists. www.marinesciences.uconn.edu

The School of Marine and Atmospheric Sciences (SoMAS) at Stony Brook University: SoMAS is the State University of New York's center for marine and atmospheric research, education, and public service. More than 200 graduate and undergraduate students from 16 different nations currently work and study at SoMAS. The Center's students study coastal oceanographic processes and atmospheric sciences in a natural and academic setting that offers abundant opportunities for conducting field work, solving real problems in both local and distant environments, and learning to express their opinions in the weekly seminars. The SoMAS faculty are internationally known for their leadership in research in both the atmospheric sciences and all the major disciplines of oceanography-biological, chemical, geological, and physical, and also atmospheric sciences. www.msrc.sunysb.edu/index.html

Project Oceanology: Project Oceanology's mission is to nurture interest and enthusiasm for science and our planet's marine environment. Their waterfront location is adjacent to a diverse variety of marine habitats and offers hands-on learning opportunities for any age. The school programs for students in grades 5 through 12, scout programs and summer enrichment overnight and day camps feature an inquiry oriented approach to science. The lighthouse expeditions, oceanographic research cruises and seal watches are unique educational outings for families. The travel programs for grown-ups provide learning adventures in marine ecology and lighthouse preservation. Located at the University of Connecticut's Avery Point Campus in Groton, Connecticut. www.oceanology.org

Schooner, Inc.: Schooner, Inc. is a nonprofit 501(c)(3) organization dedicated to protecting Long Island

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Sound through environmental education and sailing. All of Schooner, Inc.'s programs are centered around hands-on learning opportunities. These programs include academic programs in the classroom, at shore sites and on board the tallship Quinnipiack; teacher training; summer camp adventures; public sails and charters; and attendance at festivals. www.schoonerinc.org

The Sound School: The Sound School Regional Vocational Aquaculture Center is accredited inter-district, college preparatory, high school, one of the 19 vocational agriculture centers in Connecticut, and a part of The New Haven Public School System. We are the first (full-time center) to concentrate in the study of aquaculture and marine trades. The expanded Sound School curriculum provides an excellent background for a wide range of choices after graduation. Solid training in math, science and the marine trades allows students to pursue further education in college, the technical trades, or apply their vocational and personal skills directly in the job market. Students who are interested in land and sea sciences, trades, & careers are urged to apply. www.soundschool.com

SoundWaters: SoundWaters is an educational nonprofit organization founded in 1989, specializing in environmental education organization on Long Island Sound. Programs take place at the Coastal Education Center in Cove Island Park, in Stamford, Connecticut, on the SoundWaters, an 80' three-masted schooner; at schools, community centers and field sites throughout the region; and at our summer program for children ages 2-14. The mission of SoundWaters is to educate children and adults about the wonders and beauty of Long Island Sound and its watershed. Through education, SoundWaters provides people with an understanding and awareness of the changes they can make in their lives and communities to restore, protect and preserve Long Island Sound and the environment. www.soundwaters.org

Sea Grant Programs

Connecticut Sea Grant (CTSG) College Program: CTSG collaborates with maritime industries and coastal communities to identify needs, and fund research, outreach, and educational activities that have special relevance to Connecticut and Long Island Sound. Our mission is to work towards achieving healthy coastal and marine ecosystems and consequent public benefits by supporting integrated locally and nationally relevant research, outreach and education programs in partnership with stakeholders. web2.uconn.edu/seagrant

CTSG Education Program: The CTSG Education Program provides: training and workshops for K-12 educators; marine curriculum consultation; resources and publications; links among educators and administrators; and links between educators and scientists. web2.uconn.edu/seagrant/whatwedo/marineed

National Sea Grant College Program: Environmental stewardship, long-term economic development and responsible use of America's coastal, ocean and Great Lakes resources are at the heart of Sea Grant's mission. Sea Grant is a nationwide network (administered through NOAA), of 32 university-based programs that work with coastal communities. The National Sea Grant College Program engages this network of the nation's top universities in conducting scientific research, education, training, and extension projects designed to foster science-based decisions about the use and conservation of our aquatic resources. Sea Grant is NOAA's primary university-based program in support of coastal resource use and conservation. Its research and outreach programs promote better understanding, conservation and use of America's coastal resources. In short, Sea Grant is "science serving America's coasts." www.seagrant.noaa.gov

Sea Grant Educator's Network: The Sea Grant Educators Network operates both locally and as a national force, providing highly respected marine and aquatic science education nationwide and partnering (links to partnerships page) with other national education efforts. The common goal of all Sea Grant programs is to provide educators with insights into contemporary marine and aquatic science issues and research, and to also provide strategies to bring this information to their students.

The Sea Grant network offers a variety of programs and resources in marine and aquatic sciences for K-12 students and teachers, undergraduate and graduate students and the general public. These include publications, workshops, conferences, summer internships, informal education for the general public, radio programs, websites, videos and other electronic media on topics ranging from coastal ecosystems to marine biotechnology. The Sea Grant Educators Network offers a variety of resources for students and teachers. www.seagranted.net

New York Sea Grant (NYSG) College Program: “Bringing science to the shore.” The NYSG vision is to have coastal decision-making influenced by science-based information and educated stakeholders. The NYSG mission is to bring science to the shore through high quality research, outreach, and extension. www.seagrant.sunysb.edu

NYSG’s Focus on Education: NYSG’s Marine and Great Lakes educators work with K-12 classroom teachers and partner with nature centers, museums and aquaria to deliver science-based information to students and the general public in order to create the informed citizenry needed for wise coastal resource decision-making. We believe that through such education efforts, coastal resource development and protection will be supported by a new generation of motivated, highly educated scientists and environmentally aware stewards.

<http://www.seagrant.sunysb.edu/article.asp?ArticleID=50>

Shipwrecks

Shipwrecks of Connecticut: The state of Connecticut has some 600 miles of undulating coastline along the north shore of Long Island Sound. For centuries the Sound has provided a protected waterway for coastal marine traffic, but over the years it has been the site of numerous shipwrecks.

www.wreckhunter.net/ctwrecks.htm

Long Island Shipwrecks: Long Island is the home of the famous “Wreck Valley”. Hundreds of charted wrecks can be found in the waters off Long Island. And there are hundreds, maybe even thousands of wrecks that are yet to be discovered or have not been charted.

<http://longislandgenealogy.com/shipwrecks.html>

Undersea

National Deep Sea Submergence Facility: The unique vehicles of the NDSF carry humans and a virtual “human presence” beneath those waters and down to the largely unexplored sea floor. Whether diving 4,500 meters (14,764 feet) or remaining submerged for several days, each vehicle offers unique tools to explore the mysteries beneath the ocean’s surface. Learn about the submersible vehicles and look at data and photographs recorded on missions. Woods Hole Oceanographic Institute.

www.whoi.edu/page.do?pid=8124

National Undersea Research Center (NURC): The National Undersea Research Center for the North Atlantic is one of six undersea centers established by NOAA’s Undersea Research Program (NURP) to provide the research community the support needed to work underwater. As part of the University of Connecticut, NURC also contributes to the research enterprise of the institution. www.nurc.uconn.edu

NURC Education: NURC is one of only a handful of programs or institutions that annually sponsor expeditions to explore, study, measure and sample our underwater world. Therefore, the Center feels it is incumbent to provide opportunities for educators and students to share in the discovery and experience the research process first hand. Pursuant to this belief the Center has established two ongoing educational initiatives:

Aquanaut Program (AP): The AP is an educational initiative designed to rekindle a sense of curiosity and quest for scientific knowledge in high school students and to provide a resource for teachers to enhance the teaching of marine science at their schools. The program is a rigorous,

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exciting professional development activity for in-service teachers, and a hands-on learning experience for students. The AP is particularly successful in enhancing understanding of the research process, motivating students' decisions to pursue science as a career and promoting environmental stewardship on the part of all participants. <http://ap.nurc.uconn.edu>

Classroom of the Sea (COS) Program: COS was an innovative, comprehensive, three-year demonstration project that addressed many of the special needs of deaf learners in science. http://www.cos.uconn.edu/media_index.htm

Watersheds

Coastal Watershed Factsheets: Titles include "Your Coastal Watershed", "The Beach and Your Coastal Watershed", "Near Shore Waters and Your Coastal Watershed", and "Estuaries and Your Coastal Watershed." US EPA. www.epa.gov/owow/oceans/factsheets

Focus on the Coast: Focus on the Coast is an online resource for information on Connecticut's coastal natural resources and current issues and projects along our coast. The website provides descriptions of major coastal habitats that you will find in Connecticut and some of the threats that are impacting these habitats as well as ongoing projects that are restoring or managing these resources. At this site, you can link to digital maps and information via the Community Resource Inventory on priority coastal resource areas and land cover or, link to a variety of other sites that can help you protect your valuable coastal habitat areas. This website was developed as an educational resource and technical tool that is complementary to the NEMO Focus on the Coast workshop, which is available for the asking to come to your town. Focus on the Coast is a collaborative effort between the Connecticut NEMO Program and Connecticut Sea Grant. <http://nemo.uconn.edu/tools/fotc>

Fifteen Things You Can Do to Make a Difference in Your Watershed: Learn about, become active, and help increase public awareness in your watershed. US EPA. www.epa.gov/adopt/earthday

Long Island Sound Watershed: Downloadable figure of all watersheds draining into Long Island Sound. US EPA. <http://www.epa.gov/region1/eco/lis/assets/images/abasin.jpg>

Surf Your Watershed - Connecticut: Click on an interactive map of Connecticut to find out more information about the watershed you live in. US EPA. <http://cfpub.epa.gov/surf/state.cfm?statepostal=CT>

Surf Your Watershed - New York: Click on an interactive map of New York to find out more information about the watershed you live in. US EPA. <http://cfpub.epa.gov/surf/state.cfm?statepostal=NY>

Watershed Protection: What is a watershed? How can you protect a watershed using simple, everyday actions? Who manages a watershed? What watershed habitats support different plants and animals? Learn the answers to these questions and more through this interactive booklet. Kids can even become a certified Watershed Hero! Ages 8-12. 16 pp. <http://store.projectwet.org>

Wetlands, Oceans, and Watersheds: Information and links to specific topics on the connectivity of wetlands, oceans, and watersheds -what is being done and what you can do to protect them. US EPA. www.epa.gov/owow

What is a watershed?: With special reference to Long Island Sound. US EPA. www.epa.gov/region1/eco/lis/watershed.html

It's always ourselves we find in the sea.
—E.E. Cummings

The longer the island of knowledge, the longer the shoreline of wonder.
— Ralph W. Sockma

It is to the sea that man must turn to meet the last great challenge of exploration this side of outer space.
—H. B. Stewart

Probably the greatest enticement for those who today are devoting their lives to the study of the sea is the lure of the unknown, the challenge of the undiscovered, the thrill of discovery on what is truly the last frontier on earth.
—H. B. Stewart

To me the sea is a continual miracle; The fishes that swim - the rocks - the motion of the waves - the ships, the men in them, What stranger miracles are there?
—Walt Whitman

All we do is touched with ocean, yet we remain on the shore of what we know.
—Richard Wilbur

