

# Teaching Resources

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## **www.wetkit.net**

*North American Wetland Conservation Council*

Select *Tools*, then *Sector*, and then *Education*. At the right, under *For More Information*, choose the province/territory of your choice. *Bog Ho!* is an example of an international Web-based learning project that brings together primary schools from several countries to explore the importance and fragility of wetland habitats. This 2001 project engaged schools in Calgary, New York State and England, enabling students to share data, ask questions of experts, and participate in discussions. Visit the site to see the students' work, or to find out how your school can get involved.

## **www.swa.ca**

*Project WET (Water Education for Teachers)*

Discover a wide variety of activities for grades K-12, produced by the Saskatchewan Water Authority; select *Education*.

## **www.livingbywater.ca**

Information on all things related to freshwater and marine shorelines, including a handbook, impact assessment worksheets, links to educational resources and more.

## **www.ducks.ca**

*Ducks Unlimited Canada*

Includes maps, diagrams and lessons. The *Resources for You* section includes:

- *Ask the Expert*: post your wetland questions
- *How Does a Wetland Work?*: explanation and great diagram of a wetland: aquatic, riparian and upland zones labeled with many plant species
- *How Wetlands Keep Our Water Clean*: explanation and watershed diagram
- *Interactive North American Duck Migration Maps*: by province, with statistics.

Also includes free teacher resources and student kits in English and French to order, recommendations about Natural Capital and Ecological Goods and Services, and information on classroom programs.

## **www.epals.com**

An online classroom community that invites you to link with classrooms throughout Canada and the world.

## **www.nationalgeographic.com**

*National Geographic*

This site includes a wide variety of maps and lessons; under *Map Machine*, see map *Global Agricultural Threats to the Environment*. Select *Educators Homepage* for lessons on the importance of forests and wetlands.

## **www.tbs-sct.gc.ca/**

*Treasury Board of Canada*

To search for contaminated land and water sites by province/territory or electoral district, select *Navigate by Topic A-Z* and then *Contamination*.

## **www.microbeworld.org**

*The American Society for Microbiology*

Hands-on activities designed for junior/intermediate students on bacterial activity in soils from ponds, forests, gardens, etc.; can be adapted to any age group. Select *More About Microbes*, then *MicrobeWorld Activities*, then *Biosphere in a Bottle*.

## **www.cbc.ca/news//background/water**

### **www.cbc.ca/fifth/deadinthewater**

*Canadian Broadcasting Corporation*

Extensive water facts and statistics including residential water use, global water supplies, drinking water treatment and the contamination of Walkerton's water system.

Comparison of Canada's forestry and water resources management practices versus those of other countries.

## **www.ec.gc.ca/water/e\_main.html**

*Environment Canada*

Over 150 freshwater facts for Canada and the world; select *Informational Resources and Services* on the main menu, then *Teacher's Corner*, then *Freshwater Facts for Canada*; you can download:

- *Every Drop Counts: A Speaker's Kit on Water Conservation and Efficiency*: a PowerPoint presentation
- *Explore Water With Holly Heron* and *From the Mountains to the Sea: A Journey in Environmental Citizenship*: activity books for primary/junior students
- *Let's Not Take Water for Granted: Kids WaterFest at the Museum of Industry, Stellarton NS*: resource kit with teaching suggestions, reading material and activities
- *A Primer on Fresh Water: Questions and Answers*: for senior students, explores a wide range of facts on various aspects of water
- *Water and Canada: Preserving a Legacy for People and the Environment*: booklet prepared in connection with The Third World Water Forum held in Japan, 2003.

Also visit *Quickfacts* in the sidebar.

## **http://atlas.gc.ca/site/index.html**

*The Atlas of Canada, Natural Resources Canada*

This site provides learning resources and maps including data on coastlines, lakes, rivers, waterfalls, land and freshwater areas; select *Facts about Canada* in the left margin. There are sections on *Freshwater* (maps showing drainage, wetlands, groundwater), *Environment* (forests, hydrology, sea ice,) as well as lesson plans and facts. A search for maps using keyword "rivers" produced 71 maps!

## **www.careercruising.com**

*Career Cruising*

Information on jobs in forestry, wetland and water management.

## **www.jobfutures.ca**

*Government of Canada*

A career planning tool with information about 226 occupational groups and descriptions of work experiences.

## **www.canadianforestry.com**

*Canadian Forestry Association*

Information on careers in resource management; select *Forest Education*, then *The Profession*.

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### **[www.canadian-forests.com/job.html](http://www.canadian-forests.com/job.html)**

*Canadian Forests*

A Web site on forests and forestry in Canada including links to all federal and provincial governments, the forest industries, service and supply companies, associations and NGOs, consultants, education and research, forestry news, and employment opportunities.

### **[www.cif-ifc.org](http://www.cif-ifc.org)**

*Canadian Institute of Forestry*

Information about forestry policy, practices and career opportunities; for career information select *Professional Development*, then *Employment Opportunities*.

### **[www.atl.cfs.nrcan.gc.ca/index-e/index-e.html](http://www.atl.cfs.nrcan.gc.ca/index-e/index-e.html)**

*Natural Resources Canada – Canadian Forest Service*

Information about careers in science including research, forestry, biology, GIS specialist and communications; in the sidebar select *Science*, then *Careers in Science*.

### **[www.envirothon.org](http://www.envirothon.org)**

*Canon Envirothon*

An annual competition among state/provincial teams of students grades 9 to 12 for recognition and scholarships. Teams demonstrate knowledge of environmental science and natural resource management through hands-on problem-solving activities. There are four testing categories (soils/land use, aquatic ecology, forestry, and wildlife) in addition to a current environmental issue. The site provides history about the competition, how to enter a team, training resources, etc. Recent results are posted on the Canadian Forestry Association Web site: [www.canadianforestry.com](http://www.canadianforestry.com).

### **[www.modelforests.net](http://www.modelforests.net)**

*Canadian Model Forest Network*

A program of the Canadian Forest Service, this site has information on conservation projects, international model forest partnerships, Aboriginal initiatives, and Local Level Indicators, which are the heart of the model forests' emphasis on sustainability. These indicators "provide the framework for monitoring on-the-ground changes and assessing their influence on the many components of sustainable forest management."

### **[www.waterontheweb.org](http://www.waterontheweb.org)**

*Water on the Web*

A research site for senior students and their teachers including how to study a water problem, design experiments, analyze and present data; independent modules. In the main menu select *Curricula*, then *Teaching* for advanced lessons on topics such as heat budgets of lakes, water conductivity, thermal stratification.

### **[www.nrcan-rncan.gc.ca/kids/index\\_e.html](http://www.nrcan-rncan.gc.ca/kids/index_e.html)**

*Natural Resources Canada Scratching Post for teachers, parents and kids.*

Students can send e-card tips, play games and complete four quizzes (*The Great Canadian Forest Challenge*). For teachers/parents: many links and an upcoming teaching kit.

### **[www.green-street.ca](http://www.green-street.ca)**

*Green Street*

Numerous all-Canadian teaching kits, activities, and games for grades K-12, funded by the J.W. McConnell Foundation, a private grant-making organization with a mission "to enhance the ability of Canadians to understand, adapt and respond creatively to the underlying forces that are transforming Canadian society and the world."

### **[www.on.ec.gc.ca/greatlakeskids/intro.html](http://www.on.ec.gc.ca/greatlakeskids/intro.html)**

*Great Lakes Kids*

This site features video clips, a colouring book, quizzes, games and activities.

### **[www.great-lakes.net](http://www.great-lakes.net)**

*Great Lakes Information Network*

For information on Great Lakes water level fluctuations (effects, historical levels, how levels/flow are measured) fish and native flora, GIS maps, economic benefits; select *Education*.

Also check out Environment Canada's Our Great Lakes Web site: [www.on.ec.gc.ca/water/greatlakes/intro-e.html](http://www.on.ec.gc.ca/water/greatlakes/intro-e.html).

### **[www.eman-rese.ca](http://www.eman-rese.ca)**

*Ecological Monitoring and Assessment Network*

Who's monitoring Canada's forests and water? Environment Canada's Ecological Monitoring and Assessment Network is a blanket organization for groups such as Icewatch, Frogwatch, Plantwatch and yes, even Wormwatch. To find out what's going on in Canada, select *Topics*, then *Ecosystems* (Great Lakes, coastal, Fraser and St. Lawrence rivers, etc.), *Water* (floods, ground-water, bulk water removal, etc.), *Nature and Wildlife*, *Recreation*, *Waste Management*, *Climate Change* and others.

### **[www.gemswater.org](http://www.gemswater.org)**

*Global Environmental Monitoring System (GEMS)*

Who's monitoring our planet? This United Nations water program "provides scientifically-sound data and information on the state and trends of global inland water quality required as a basis for the sustainable management of the world's freshwater to support global environmental assessments and decision-making processes."

### **[www.aquaculture.ca](http://www.aquaculture.ca)**

*Canadian Aquaculture Industry Alliance*

For information about aquaculture practices and environmental impacts select *Info About Aquaculture*; links to provincial associations also provided.

### **[www.cfa-fca.ca](http://www.cfa-fca.ca)**

*Canadian Federation of Agriculture*

For graphs on soil conservation, pesticide and fertilizer use select *Agriculture in Canada*, then *Agriculture and the Environment*.

### **[www.nwri.ca](http://www.nwri.ca)**

*National Water Research Institute of Environment Canada*

Provides contacts, updates and FAQs; select *What's New*.

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## [www.iath.virginia.edu/waters](http://www.iath.virginia.edu/waters)

*Aquae Urbis Romae: Investigating the Waters of the City of Rome*

On this highly interactive site, students can examine how natural elements such as rain, spring water and the Tiber River interact with aqueducts, fountains and sewers in Rome 753 BC to present; you can also make your own map of water features.

## VIDEOS

### **Water Under Fire** (2004/2005)

*Canadian Water Network*

[www.waterunderfire.com](http://www.waterunderfire.com)

A seven-part TV series hosted by CBC radio's Bob McDonald and produced by the University of Lethbridge AB, and Gallant Productions. Viewers will learn how water systems in Canada and around the globe affect the long-term quality of the environment and our lives.

### **WestLand Television**

[www.westlandtv.com](http://www.westlandtv.com)

T: 250-353-2697

Approximately 50 detailed videos on watershed restoration, the impacts of logging, spawning, etc. in British Columbia; produced by Back On Track Productions. \$89 per video; some deals possible for multiple orders.

### **Dr. Don Waite**

*Earth Songs*

T: 306-522-5237

[don.waite@accesscomm.ca](mailto:don.waite@accesscomm.ca)

Video (10 songs) and CD (12 songs) created by musician and Environment Canada researcher Dr. Don Waite, and featuring Aboriginal musician Lea Bill. The songs cover topics such as the water cycle and are suitable for grades K-6. Fit Science curricula; words are included. \$10 plus shipping.

### **Ducks Unlimited Canada**

[www.ducks.ca](http://www.ducks.ca)

*If You Build It* (1991); 21 minutes (junior level)

Alberta teens meet a wizard who takes them to three nearby wetlands to witness conservation in action (special effects).

*Planned Grazing* (1994); 21 minutes

Ranchers and Ducks Unlimited Canada work together across the Northern Great Plains to develop grazing systems that increase beef production, improve wildlife habitat and stop soil degradation.

*Reflections on a Prairie Slough* (1991); 27 minutes

Potholes or sloughs formed by glaciers are some of the earth's most productive waterfowl habitats, but loss of these vital wetlands continues.

*The Right Direction* (1994); 23 minutes

A family learns about Ducks Unlimited Canada's native plant program. Economical, low-maintenance and diverse native plants can stabilize fragile agricultural lands, re-vegetate disturbed areas and provide excellent wildlife habitat.

*The Shores of Life* (1991); 27 minutes

Between New Brunswick, Prince Edward Island and Nova Scotia and the Atlantic Ocean, there is a vital band of wetland habitats, more diverse and productive than either land or sea – from the microbes of salt marsh tidal pools and beachcombing sandpipers to bald eagles, fish and waterfowl.

Many others are available but not listed here. All are loaned to schools for free; most cost \$15 to buy.

### **Dead in the Water** (2004)

*the fifth estate*

[www.cbc.ca/fifth](http://www.cbc.ca/fifth)

T: 1-800-363-1281

This video provides a detailed look at efforts to privatize the global water supply in various countries. \$70. Contact Bowdens MediaSource for *the fifth estate* episodes up to a year old at [www.bowdens.com](http://www.bowdens.com).

### **The Education of Shannon** (2003)

A look at the effects of groundwater pollutant trichloroethylene (TCE) on the community of Shannon QC, and provincial/federal policy on allowable levels in drinking water. Contact CBC at 1-866-306-4636 for older videos such as this.

### **National Geographic**

[www.nationalgeographic.com](http://www.nationalgeographic.com)

Select *School Publishing Teacher Store* in the *Teachers and Students* box. Search for a wide variety of videos on forestry and water from a global perspective.

### **Forests**

*Bill Nye, The Science Guy*

<http://dep.disney.go.com/educational/billnye>

Available in VHS and DVD; \$40US.

### **A Civil Action** (1998)

Starring John Travolta; the story of contaminated water in Woburn MA.

Check out [www.northshoreonline.com/woburn](http://www.northshoreonline.com/woburn) for background information.

### **Erin Brockovich** (2000)

Julia Roberts stars in this story of California water contamination.

### **Homage to Frédéric Back**

[http://secure.dep.ca/en/produit\\_details.asp?ID=1612](http://secure.dep.ca/en/produit_details.asp?ID=1612)

4 DVD Box Set; \$45.98

Produced in homage to the exceptional work of Frédéric Back, a master of film animation renowned worldwide. Includes *The Man Who Planted Trees* animated video and an exclusive interview with its author, Jean Giono.

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## BOOKS

*Reviewed by Educational Liaisons Jeannie Steele (retired, Riverside Forest Products Ltd.) and Deb Sluggett (Bell Pole Co., Tolko Industries, Louisiana Pacific-Canada, Downie Timber Ltd., Revelstoke Community Forest Corporation)*

### **I Took a Walk**

*Henry Cole (Greenwillow Books) ISBN 0-688-15115-9*

A fabulous picture book for 5 to 8-year-old children who will enjoy hunting for the animals found in the bushes, trees and streams; a good introduction to looking carefully at your environment and all life that exists there.

### **A Mountain Alphabet**

*Margriet Ruurs (Tundra Books) ISBN 0-88776-374-X*

A beautifully illustrated book for grades K-3 highlighting North American mountains; a wonderful introduction to forest uses (including recreational, commercial, and aesthetic). There is a picture search on each page: children are requested to look for other things beginning with the alphabet letter on the page (good opportunity for vocabulary extension).

### **A Rain Forest Tree**

*Lorien Kite (Crabtree Publishing Company) ISBN 0-7787-0146-8*

This book presents plants and animals, such as sloths, monkeys, parrots, tree frogs, and orchids living together in the same South American rain forest tree (for children 8 to 10).

### **In the Woods (See, Make and Do)**

*Pamela Hickman (Formac Publishing) ISBN 0-88780-412-8*

An excellent introduction to forest ecology: nature study activities, information on woodland animals, craft ideas using forest materials, plus safety and conservation tips for hiking in the woods.

### **Plants**

*Adrienne Mason and Deborah Hodge (Kids Can Press) ISBN 1-55074-395-3*

Thirteen simple hands-on experiments that children 5 to 12 can complete on their own while learning about plant biology.

### **Plants**

*David Alderton (Ladybird/Discovery) ISBN 0-7214-1819-8*

A biology book for beginners with excellent pictures that looks at the origin of plants, definition of a plant, the world's forests and the life cycle. Includes a foldout cutaway tree with labeled parts.

### **There's Dirt in the Forest**

*Kip Anastasiou (Pacific Educational Press) ISBN 1-8957-6642-7*

This is a great resource book about soil and the forest for children 9 to 12; includes experiments.

### **Trees**

*Linda Gamlin (An Eyewitness Explorers Book) ISBN 0-7894-1679-4*

A pocket-sized book packed with information and projects to help students learn about tree parts and functions, tree ID, uses of wood and tree pests.