

WATERSHED PARTNER TEACHER RESOURCES

What the Partners
Have to Offer Teachers
in the Twin Cities



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ANOKA CONSERVATION DISTRICT

16015 Central Ave. NE, Suite 103

Ham Lake, MN 55304

Mary Gullickson Anokaconservation@email.msn.com

763-434-2030 x11, Fax: 763-434-2094

Mission: The mission of the Anoka Conservation District is to inform and assist county residents and landowners in natural resource management, conduct research and monitoring for soil and water conservation, promote practices for soil and water conservation, and serve as a guide to local units of government in land-use planning.

Resources:

- 1) **Stream Macroinvertebrate Biomonitoring** - Streams throughout the county are monitored in the spring and fall for macroinvertebrates to evaluate overall stream health and water quality. Sampling and identification are conducted by students in the classroom setting or as an out of school project/program.
- 2) **Yearly Poster/Essay Contest** - Each year ACD works in conjunction with the Area IV Metro area soil and water conservation districts to promote the poster and essay contest. The students are given a new theme each year to base their poster or essay on. Prizes are given in both categories.
- 3) **Storm Drain Stenciling** - ACD has a full set of stencils for residents to use to increase awareness of non-point-source pollution in their neighborhood.



DAKOTA COUNTY ENVIRONMENTAL EDUCATION PROGRAM

<http://www3.extension.umn.edu/county/dakota/Eeprog.html>

4100 - 220th St. W., Suite 101

Farmington, MN 55024

Charlotte Shover cshover@extension.umn.edu

651-480-7734, Fax: 651-463-8002

Mission: The program is an outgrowth of the 1994 Dakota County Water Resources Education Plan, and the goal of the program is to promote consistent messages countywide about water resources protection.

Resources:

- 1) **Ground Water Flow Model** - The Ground Water Flow Model demonstrates movement and contamination of ground water and the connection between ground water and surface water. Available for loan at no charge.
- 2) **Wetland Teaching Pack** - It is designed around AWOW! The Wonders of Wetlands” curriculum, and supports site visit to local wetland. It is prepared for grades 4-6, but can be adapted to K-12. It contains books, videos, audiotapes, water quality testing equipment, beaver and muskrat pelts, posters, background information, lists of resources. There is a \$10 fee for a three-week loan.

- 3) **Dakota County Water History Trunk** - Is designed to support AProject WET@, (Water Education for Teachers), curriculum. Explore the role water played in the history of Dakota County. There is a \$10 fee for a loan period of three weeks.
- 4) **Enviroscape** - An interactive portable model of a watershed that demonstrates water pollution and its prevention. Available for use at no cost.
- 5) **Dakota County Rural Nonpoint Source Pollution Prevention Supplemental Curriculum** - There are upper elementary/middle school and secondary versions available. Lessons, resources, and information on local nonpoint source pollution issues in rural Dakota County.
- 6) **AIcredible Journey@ Activity Box** - Materials for Project WET activity on the water cycle, includes AThe Blob@ video, and poster. No charge.
- 7) **Vermilion River Watch Program** - Water quality monitoring on the Vermilion River.
- 8) **Dakota County Wetland Health Evaluation Project** - Citizen volunteer monitoring for wetland macroinvertebrates and plants in communities in Dakota County.
- 9) **Storm Drain Stenciling** - Work with cities to paint messages on storm drains like ADon't dump, drains to lake.@ Excellent service learning project. Call for local city contact name.
- 10) **Project WET (Water Education for Teachers)** - Workshops annually.
- 11) **Videos** - Available on various water resources issues available on loan. No charge.



ECO EDUCATION

<http://www.blacktop.com/ecoeducation/>

275 East 4th Street #821

St. Paul, MN 55101

ecoed@minn.net

651-222-7691, Fax: 651-222-3425

Mission: Eco Education is a nonprofit environmental education organization based in St. Paul, Minnesota. We are committed to making environmental education relevant to urban learners and to helping them address their unique environmental concerns.

Resources:

- 1) **Urban Stewards** (<http://www.blacktop.com/ecoeducation/ee.urbanstewards.html>) - Eco Education visits classrooms to work with students on activities to help them investigate their environment, such as issue investigations, value continuums, and needs assessments. Students then pick a local environmental issue of importance to them and design a service-learning project to address it.
- 2) **Connections** (<http://www.blacktop.com/ecoeducation/ee.connections.html>) - Connections is curriculum that you can do with your students to help them "make the connection" between ecological concepts and everyday life.
- 3) **Eco Outreach** (<http://www.blacktop.com/ecoeducation/ee.ecooutreach.html>) - Eco Outreach places professionals from environmental fields into your class to spark your students' curiosity a concern for the environment.

- 4) **Ecosphere** (<http://www.blacktop.com/ecoeducation/ecosphere.html>) - The youth-created EcoSphere, is where students share their ideas about composting, solar power, chimpanzees, and more.
- 5) **Teacher Training** (<http://www.blacktop.com/ecoeducation/ee.teachertraining.html>) - Increase your skills at teaching environmental education and receive materials and resources to use with your students. Also, learn strategies to meet Minnesota Green Print and Graduation Rule standards.

 **FRIENDS OF THE MISSISSIPPI RIVER**

<http://www.fmr.org>

46 East 4th Street, Suite 606

St. Paul, MN 55101

Irene Jones ijones@fmr.org

651-222-2193, Fax: 651-222-6005

Mission: Friends of the Mississippi River is the leading citizen organization working to protect and enhance the Mississippi River in the Twin Cities area. We strive to create positive changes that improve water quality, provide habitat for wildlife, create education and recreation opportunities and inspire widespread commitment to this natural wonder that flows through our community.

Resources:

- 1) **Service Learning Activity- Storm Drain Stenciling** - Volunteer student groups are needed to help protect the Mississippi River and its tributaries from urban runoff pollution. Students stencil (paint) the message: APlease, Don't Pollute! Drains to River (or Creek)® next to storm drains and distribute educational door hangers to neighborhood homes and businesses. A short orientation about non-point source pollution is included, and additional resources and curriculum are available.

 **HAMLIN UNIVERSITY- CENTER FOR GLOBAL ENVIRONMENTAL EDUCATION**

<http://cgee.hamline.edu/>

1536 Hewitt Ave., MS-A1760

St. Paul, MN 55104-1284

Tracy Fredin tfredin@gw.hamline.edu, 651-523-3105

Tracy Fallon tfallon@gw.hamline.edu, 651-523-2591

Fax: 651-523-2987

Mission: CGEE specializes in combining environmental education with distance learning technology, while integrating hands-on learning to build community among students and teacher world-wide.

Resources:

- 1) **Waters to the Sea: Rivers of the Upper Mississippi** (<http://cgee.hamline.edu/waters2thesea>) - A CD-ROM for ages 8 and up that contains media-rich explorations, revealing how humans have changed the rivers of the Upper Mississippi watershed.
- 2) **Rivers of Life** (<http://cgee.hamline.edu/rivers>) - Rivers of Life is an inter-connected series of water- related projects and initiatives, delivered over the Internet to K-12 teachers and learners. Using Rivers of Life, teachers utilize rivers and watersheds as an entry point to studies of the environment, and our relationship to Earth.
- 3) **A Thousand Friends of Frogs** (<http://cgee.hamline.edu/frogs>) - A Thousand Friends of Frogs connects K-12 students, educators, families, and scientists from Minnesota and beyond to study and celebrate frogs and their habitats.
- 4) **Self Expressing Earth** (<http://cgee.hamline.edu/see>) - SEE combines ecology with the expressive arts to teach environmental education.
- 5) **Courses and Institutes** (<http://cgee.hamline.edu/courses>) - CGEE contributes to Hamline University's outstanding heritage of teacher training through graduate-level courses and institutes that strategically enhance inquiry-based experiential learning with technology. Some courses enhance the effectiveness of face-to-face instruction through extended online contact that builds community while supporting curriculum integration back in the classroom. Others, offered completely online, connect educators, faculty, and resource experts around the globe.

CGEE Partners:

- 1) **National Wildlife Federation** (<http://www.nwf.org/nwf/index.html>) - The National Wildlife Federation is the nation's largest member-supported conservation group, uniting individuals, organizations, businesses and government to protect wildlife, wild places, and the environment upon which we all depend.
- 2) **Keep the Wild Alive** (http://www.nwf.org/wildalive/workshop/kwa_home.htm) - Keep the Wild AliveJ workshop is ideal for educators in grades 3 to 9 who are interested in incorporating the endangered species topic into the curriculum. The workshop will illustrate the successes and shortcomings of our national endangered species protection efforts.
- 3) **Globe Franchise** (<http://cgee.hamline.edu/globe>) - Global Learning and Observations to Benefit the Environment (GLOBE) is a worldwide network of students, teachers, and scientists working together to study and understand the global environment. Students and teachers from over 7,000 schools in more than 80 countries are working with research scientists to learn more about our planet.
- 4) **Global Environmental Educators Initiative** (<http://cgee.hamline.edu/china/china.html>) - A project which aims at helping teachers to infuse environmental education into their classrooms.
- 5) **Earth Force** (http://www.earthforce.org/check_it_out.htm) - A national, nonprofit organization that is youth-driven and nonpartisan.
- 6) **National Youth Leadership Council –NYLC** (<http://www.nylc.org/>) - NYLC's service-learning programs set standards for academic excellence and serve as models for educational reform.

● **HENNEPIN CONSERVATION DISTRICT**

Wayzata Blvd., Suite 240
Minnetonka, MN 55305

Tricia Mangold tricia@hcd.hennepin.mn.us

952-544-8572, Fax: 952-544-9437

Mission: To facilitate the conservation of our water, soil, and related natural resources through education, technical assistance, and implementation of sound land use practices, in the most cost-effective manner, for the benefit of current and future generations.

Resources:

- 1) **River Watch Macroinvertebrate Monitoring Program** - This program coordinates macroinvertebrate monitoring for high schools and colleges around Hennepin County. The goals of the program are to provide hands-on environmental education for students, promote river stewardship and obtain water quality information on local streams.

● **MINNEAPOLIS ENVIRONMENTAL MANAGEMENT**

<http://www.ci.minneapolis.mn.us/citywork/city-coordinator/environment/index.html>

250 South 4th Street, Room 401
Minneapolis, MN 55415

Brook Waalen brook.waalen@ci.minneapolis.mn.us

612-673-3179, Fax: 612-673-2522

Mission: Minneapolis Environmental Management is responsible for preventing, controlling, and mitigating activities that affect the natural environment of the City of Minneapolis by enforcing odor, smoke, and emission regulations, planning for the wise use of our waters through watershed management, and cleaning-up and restoring polluted lands.

Resources

- 1) **Watershed Lesson Plan Folder** - A collection of lesson plans on watershed topics. The lessons are geared toward students at the elementary and middle school levels.
- 2) **Maps of the City of Minneapolis** - Maps can be provided that show neighborhoods, school locations, park areas, storm drain sewers, wet areas, contaminated sites, and other local and environmental features in the City of Minneapolis.
- 3) **Community Connections** - Phone numbers and contacts at various local and state government and environmental agencies. We can help schools get in contact with community members for information about environmental issues or for classroom speakers.

● **MINNESOTA DEPARTMENT OF AGRICULTURE**

<http://www.mda.state.mn.us/>

90 West Plato Blvd.
St. Paul, MN 55107

Jerry Spetzman Jerome.Spetzman@state.mn.us

651-297-7269, Fax: 651-296-7386

Mission: To work toward a diverse agricultural industry that is profitable as well as environmentally sound; to protect the public health and safety regarding food and agricultural products; and to assure orderly commerce in agricultural and food products.

Resources:

1) **Minnesota Agriculture in the Classroom**

(<http://www.mda.state.mn.us/docs/mktg/maitc/aitchome.htm>) - The Minnesota Agriculture in the Classroom program shall provide materials, programs and other opportunities, especially to K-12 youth and educators, in helping to develop an understanding and awareness of agriculture and its importance to Minnesota, the nation and the world.

2) **WaterShed Stewards Curriculum** - The MDA, in cooperation with other organizations, has developed "Watershed Stewards Curriculum". This curriculum, designed for 5th or 6th grade students, helps students understand the concepts of a watershed and how their individual actions affect water quality. Twelve lessons are available to provide background information on water quality and watersheds along with suggestions for service learning projects. MDA anticipates developing curriculum for high school students in the near future.

 **MINNESOTA DNR, PARKS AND RECREATION** (Metro Region)

http://www.dnr.state.mn.us/parks_and_recreation

1200 Warner Road

St. Paul, MN 55106

Judy Thomson judy.thomson@dnr.state.mn.us

651-772-7996, Fax: 651-296-0445

Mission: We will work with the people of Minnesota to provide a state park system which preserves and manages Minnesota's natural, scenic and cultural resources for present and future generations while providing appropriate educational and recreational opportunities.

Resources:

1) **Fort Snelling State Park** - State Park, National Historic Landmark and Visitor Center located at the confluence of the Minnesota and Mississippi Rivers. Naturalist programs, exhibits and environmental education materials on the topics of watersheds, natural and cultural history of the river confluence area. For more information: 612-725-2724

 **MINNESOTA DNR, PROJECT WET**

http://www.dnr.state.mn.us/waters/project_wet/index.html

500 Lafayette Road

St. Paul, MN 55155-4032

John Linc-Stine john.stine@dnr.state.mn.us

651-296-0440, Fax: 651-296-0445

Mission: Helping you protect Minnesota's water resources.

Resources:

- 1) **Project WET Curriculum and Activity Guide** - A collection of over 90 innovative, interdisciplinary activities that are hands-on, easy to use, and fun. The program is designed for formal and non-formal educators of K-12 students. This resource is available through educator workshops.
- 2) **International Project WET** (<http://www.montana.edu/wwwet>) - The goal of the Project WET program is to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources through the development and dissemination of classroom ready teaching aids and the establishment of state and internationally sponsored Project WET programs.
- 3) **Conserve Water** - Designed for middle school and secondary educators, this module presents information and activities aimed at using water more efficiently, in a format intended to encourage individual and group participation.
- 4) **Ground Water Flow Model** - This teaching tool is constructed with a clear Plexiglass front, which allows observers to watch water and contaminants introduced into the system move through underground rock formations or how surface sources like rivers or wetlands can be connected to ground water.
- 5) **The Liquid Treasure Water History Trunk: Learning From the Past** - This 64-page booklet contains stories, activities, and information for procuring artifacts needed to assemble a water history trunk.
- 6) **Water Celebration! A Handbook** - A water celebration is a one- to three-day event to entertain and educate a community, a school, or a single class about the importance of water. This 32-page booklet provides schedules, funding suggestions, sample letters, flyers, press releases, and ideas for games, exhibits, and presentations.
- 7) **Water Resource Trunks** - A kit filled with education resources for a variety of ages and audiences. The material format includes: videos, audiotapes, curriculum, books, props, brochures, and games.
- 8) **Wetlands Activity Trunk** - An activity kit for middle school educators to use in their classroom setting. The trunk includes nine separate learning stations incorporating hands-on learning about wetlands.
- 9) **WOW! The Wonders of Wetlands** - This comprehensive guide features 70 pages of background material in six chapters followed by more than 40 cross-referenced K-12 activities focused on wetlands. This is designed for anyone interested in educating others about wetlands in a hands-on environment.

Project WET Partners:

- 1) **Project Learning Tree** (http://www.dnr.state.mn.us/forestry/learning_tree/index.html) - An award winning international environmental education program. It uses the forest as a "window on the world" to increase students' understanding of our complex environment. PLT teaches not only about trees, but has informative lessons about land, the air, and the water. PLT uses hands-on learning activities that are appropriate for formal and non-formal educators working with children in grades K-12.

2) **Project Wild and Aquatic Wild**

(http://www.dnr.state.mn.us/fish_and_wildlife/project_wild/index.html) - The mission of Project WILD is to provide wildlife-based education that fosters responsible actions toward wildlife and related natural resources. The two activity guides, Project WILD and Aquatic WILD, offer teachers a wide variety of indoor and outdoor activities for K-12.

3) **MAEE (Minnesota Association for Environmental Education)** - The mission of MAEE is to promote a responsible citizenry through environmental education and action.

● **MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE**

http://www.fws.gov/r3pao/mn_vall/

3815 East 80th Street

Bloomington, MN 55425

952-858-0731, Fax: 952-725-3279

Mission: Restore and manage the ecological communities of the Lower Minnesota River Valley and its watershed while providing environmental education and wildlife dependent recreation.

Resources:

1) **Natural resources-based environmental education programs for the following:**

- a. Pre-school (topics include: migration, trees, squirrels, habitats, and tracks)
- b. Kindergarten-3rd grade: (topics include: habitats, insects, and birds)
- c. 4th - 12th grade: (topics include resource management issues and allow students to explore the refuge as a wildlife biologist.)

● **MISSISSIPPI NATIONAL RIVER AND RECREATION AREA** (National Park Service)

<http://www.nps.gov/miss/>

111 E. Kellogg Blvd, Suite 105

St. Paul, MN 55101

Lyndon Torstenson lyndon_torstenson@nps.gov

651-290-4160 x232, Fax: 651-290-3214

Mission: The Mississippi National River and Recreation Area represents America's greatest river, the Mississippi, which weaves together the heartland's natural and cultural heritage and economic vitality. The MNRRA works with partners to increase awareness, advocacy and stewardship of resources of this Mississippi corridor in order to encourage increased recreational enjoyment and sensitive economic use and development within the corridor.

Resources:

- 1) **Big River Journey** - Riverboat expeditions on the Mississippi with staffed learning stations for students in grades 4-6.
- 2) **Big River Teacher Workshops and Teacher's Guide** - Workshops and loose-leaf guide feature river-related science and thematic classroom activities and resources. Grades 4-6.

- 3) **Big River Art Contest** - Annual art contest for students in grades 4-6. Prizes for winners each of three categories.
- 4) **Birding Boat** - Participants identify and learn about birds living along the Mississippi River from a riverboat with MNRRA staff and Audubon volunteers.
- 5) **Mississippi National Center** - A new facility – currently under development – to be located off the lobby of the new Science Museum of Minnesota, will provide resources, information and products about the Mississippi River and the National Park Service.
- 6) **Mississippi River Gallery** - A partnership with the Science Museum of Minnesota, the Mississippi River Gallery features a host of interactive exhibits about the Mississippi.
- 7) **Stories and Songs of the Mississippi River** - Variety of programs celebrating the diverse perspectives of human experience along the river through music and arts
- 8) **River Heritage Posters** - Site and theme based poster series currently features Twin Cities historical stories of Kaposia.
- 9) **Volunteer Opportunities** - A wide range of fun and educational service opportunities for the Mississippi River.
- 10) **Mississippi River Kiosk** - Interactive computer kiosks located along the river corridor to introduce visitors to the Mississippi National River & Recreation Area and its partners' facilities.

 **SCIENCE MUSEUM OF MINNESOTA**

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

120 W. Kellogg Blvd.

St. Paul, MN 55102

Jim Heintzman jjheintz@smm.org

651-221-4724

Mission: The museum is Minnesota's most popular indoor cultural attraction and is a national leader in developing hands-on exhibits, Omnitheater films, school outreach and youth science programs, continuing education programs, science theater, and demonstrations.

Resources:

- 1) **Museum Trunks** - To reserve a Museum Trunk, call the School Outreach department at (800) 221-9444, ext. 4748 or (612) 221-4748, or email at schools@smm.org. Packed with artifacts, activities, specimens, and an operator's manual, each Science Museum of Minnesota Museum Trunk brings the Museum to your school or classroom. Trunks are rented at \$125 for the first week, \$50 for each additional week -including all shipping and handling- with Minnesota, Wisconsin and most of Iowa. Trunks are rented on a first-come, first-served basis.
- 2) **Frogs** - Includes frog calls cassette, frog and salamander models, video, posters, storybooks, digital frog CD-ROM, and a giant bullfrog puppet.
- 3) **Water** - Includes 3-D water cycle model and groundwater model, water testing and field equipment, videotapes, books, and a soft-sculpture trunk cover.

- 4) **Assembly Programs** - Science Museum Assembly programs are available in your school throughout the year. The cost is \$275 for the first presentation plus \$100 each for additional presentations of the same assembly program, on the same day, at the same location. The Wonder of Science program is available for only \$100 each when paired with any other program title on the same day. When applicable, there is also a flat \$75 per diem charge for overnight travel. However, if your school reserves programs during your scheduled Regional Tour, the per diem charge is waived. Audience maximum is 300 students per program, no exceptions, with an optimal size of 200 or fewer.
- 5) **Three Rivers** - Examine the St. Croix, Minnesota, and Mississippi River systems. Students explore the biology, ecology, water quality, and interdependence of these of these backyard waterways. Grades 2-4, 5-8, 9-12.
- 6) **Water!** - Students will travel back in time to the ancient origins of water and develop a greater appreciation for water's self-replenishing cycle.
- 7) **Residency Programs** - Each residency includes:
 - 50-minute assembly programs at the beginning of the residency. The Crime Lab Residency includes 25- minute beginning and ending assemblies. (Maximum attendance per assembly is 300 students.)
 - 50-minute follow-up sessions for each teacher's class of students.
 - Certified teachers from the Science Museum in your school.
 - Exciting, hands-on experiments for your students.

Residency programs are \$700 per day or \$3,500 per week. Per diem charges, when applicable, are an additional \$150 per day.



WATERSHED RESOURCES YOUTH STEWARDSHIP PROJECT

3715 - 45th Avenue South

Minneapolis, MN 55406

Susan and Rich Cairn cairn@gold.tc.umn.edu

612-722-5806, Fax: 612-722-6062

Resources:

- 1) **Pollution Prevention Project Guides** - A manual for how to do service-learning projects related to water quality issues. Free of charge.
- 2) **Workshops** - Teacher workshops on youth stewardship, water quality curriculum and service learning. Most are free with funding for substitutes. Please call for current dates and locations.
- 3) **Performance Tasks** - Linking Minnesota Graduation Standards to water-related service learning such as storm drain stenciling, water testing, erosion control plantings, and others.