

# LAKE AND STREAM LEADER'S INSTITUTE

## Information on the Web

This is a list of web sites that may be helpful to lake and stream leaders working to protect the quality of Michigan's water resources. The list of web sites and the information about each site were put together by members of the Lake and Stream Leader's Institute, Classes of 2002 and 2005. The web sites are organized by the primary focus or subject matter covered by the web site. The web sites are divided into the following primary focus categories:

- Agriculture and Conservation
- Aquatic Ecology
- Education
- Exotic Species
- Federal Government
- Funding
- Local Government
- Natural Resource Management
- Public Health
- Recreation
- State Government
- Watershed/Land Management

### AGRICULTURE AND CONSERVATION

**US Department of Agriculture**  
U.S. Government

[www.usda.gov/](http://www.usda.gov/)

Topics Covered: Water resources and agriculture, water related database, online documents covering water and agriculture and water related information on hurricanes.

Site map: What's new, water and agriculture, enviro news and search.

Unique Features: This site features a new page dealing with water related information on Hurricane Katrina that tracks to environmental factors, flood cleanup, flood control and levee management, maps and image.

**Farmland Information Center**

[www.farmlandinfo.org](http://www.farmlandinfo.org)

Topics Covered: The FIC is a clearinghouse for information about farmland protection and stewardship. It is a partnership between the USDA Natural Resources Conservation Service and American Farmland Trust which was authorized by the federal Farmland Protection Policy Act (FPPA).

Site Map: Statistics, Laws, Literature, Technical Resources

Unique Feature(s): Can organize topics by state

**Michigan Farm Bureau**

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

Topics covered: Education, legislative issues, farm youth, member benefits

Site map: Calendar, newsletter, links, education

Unique feature(s): Agricultural viewpoint on conservation issues, youth participation in farming and conservation

**Michigan Department of Agriculture**

[www.michigan.gov/mda](http://www.michigan.gov/mda)

Topics Covered: Agricultural Producers Licensing / Legislation, Food and Agribusiness, Farming, Consumer Information, Marketplace

Site Map: Animal Health, Human Health, Licensing, Pesticide Regulation, Farming / Food Regulations

Unique Features: Pesticide use regulations that could effect lakes and or ponds in a watershed

**MACD Navigator**

[www.macd.org/macdpage.html](http://www.macd.org/macdpage.html)

Michigan Association of Conservation Districts

Topics Covered: Conservation districts, Michigan envirothon, native plants.

Site map: Links to Michigan conservation districts, Michigan envriothon, Michigan conservator partnership, meetings & events calendar, resources for districts

Unique Features: Good way to locate your county conservation district. The native plants gateway is helpful for planning native plantings.

**MSUE Portal**

[www.msue.msu.edu](http://www.msue.msu.edu)

Michigan State University Extension

Topics Covered: Agriculture, community, environment, health and wellness, home and garden, youth and family

Site Map: Information, “hot topics” bar on right side, links, calendar, each topic listed in the bar across the top leads to a page with a menu that contains subtopics.

Unique Features: Wealth of information on environmental topics, good way to connect with MSUE resources.

**Soil and Water Conservation Society**

[swcs.org](http://swcs.org)

Topic's covered: Research, education and advocacy with science-based conservation practices programs and policy.

Site Map: About SWCS, society in action, international conference, publications, chapters, media, scholarships, awards, member information, calendar, support, job board.

Unique Features: Publications, activities/advocacy.

**Waterhome- ag pesticide use**

<http://waterhome.brc.tamus.us>

Blackland Research Center Water Sciences Laboratory

Topics covered: Rural water protection, Current Projects, Staff, Questions, News

Site Map: Water Quality Research projects to develop Best Management Practices to reduce atrazine, sedimentation and nutrient losses from Central Texas farm and ranchland.

Unique Features: Water Quality concerns from agricultural production

**AQUATIC ECOLOGY**

## American Rivers

[www.americanrivers.org](http://www.americanrivers.org)

Topics covered: American Rivers is a national non-profit conservation organization dedicated to protecting and restoring healthy natural rivers and the variety of life they sustain for people, fish and wildlife. They deliver innovative solutions to improve river health; raise awareness among decision-makers and the public; serve and mobilize the river conservation movement; and collaborate with partners to develop the Citizens' Agenda for Rivers which creates a unified vision for improving river health across the country. The conservation work of American Rivers is designed to address some of the most pressing threats and opportunities for people and rivers today. America's Most Endangered Rivers, Clean Water, Dam Removal, Hydropower Dam Reform, Wild Rivers, Sprawl, Water Scarcity & Instream Flow, Endangered Species, Community Watersheds, Army Corps Reform, River Science.

Site Map: National Office, California, About Us, Vision and values, Staff, Jobs & Internships, Annual Reports, Corporate partners and opportunities, Privacy policy, Our work, River Science Resources, Publications, River Action Center, Support American Rivers, Newsroom, Shop

Unique Features: They actually have a current newsroom with relevant and timely press releases

## Center for Aquatic & Invasive Plants University of Florida

<http://aquat1.ifas.ufl.edu/>

Topics covered: Plant identification guide with both photographs and drawings.

Unique feature: The Aquatic, Wetland and Invasive Plant Information Retrieval System (APIRS), the world's largest information resource on aquatic plants.

## Division of Water- Dam Safety <http://www.dnr.state.oh.us/water/> [http://www.dnr.state.oh.us/water/dsafety/lowhead\\_dams/case\\_study\\_kent.htm](http://www.dnr.state.oh.us/water/dsafety/lowhead_dams/case_study_kent.htm) Ohio Department of Natural Resources

Topics Covered: The Division of Water was created in 1949 by the Ohio General Assembly to collect and analyze Ohio's water resource data. The Division conducts ground water mapping and research; develops water supply studies; insures the safety of existing dams; regulates construction of new dams, dike, and levees; governs the sale or lease of state owned waters; maintains the canal systems; administers the state floodplain management program; and supports education through outreach programs such as Project WET. Technical assistance is also provided on ground water quantity management, water well construction, water-related engineering, and flooding and floodplain management.

Site Map: Canal Lands, Dam Safety, Education, Floodplains, GIS Data, Ground Water, Well Log Searches, Lake Erie Water Data, Observation Well Records, Water Planning, Great Lakes Charter Annex 2001.

Unique Features: Lowhead Dam Removal Case Study Kent Dam - Cuyahoga River

## Fisheries and habitat conservation U.S. Government

[www.fws.gov/fisheries](http://www.fws.gov/fisheries)

Topics Covered: Environment and energy, fisheries, habitat, invasive species, pollution, wildlife and working with Native Americans.

Site map: Birds, kids/education, hunting, coastal, permits, fishing and partnerships.

Unique Features: This site links to the Native Web with information on specific Tribes and the American Indian environmental issues, pointing out that more than 55 million acres of the Nation's most important fish and wild life habitats are managed or influenced by Indian Tribes

**Great North American Secchi Dip-In**  
Kent State University

<http://dipin.kent.edu/>

Topics Covered: Secchi disk readings

Site Map: What is a Secchi Disk? Instructions, Enroll, View (data), Photo Gallery, Methods.

Unique Features: This is a national repository of Secchi disk readings from all over North America where volunteer lake samplers can enter water clarity depth readings (Secchi disk readings). It is a project coordinated by Kent State University

**Great Lakes Information Network**

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

Topics Covered: Great Lakes, environment, education, economy, maps and GIS, tourism

Site Map: Daily news, calendar, links, e-mail lists, information center, about, search

Unique Features: Focus on Great Lakes news and updates on current water topics and issues. Useful links page.

**NALMS – Committed to Helping Our Lakes**

[www.nalms.org](http://www.nalms.org)

North American Lake Management Society

Topics Covered: Lake ecology, government affairs, watershed management, lake protection and restoration, and lake monitoring.

Site Map: e-newsletter, bookstore, calendar, job postings, education, lake glossary, yellow page directory, and links.

Unique Feature(s): The site tracks significant law and regulation developments at the federal level that impact lakes and lake management. Additionally through state chapter reports it is possible to learn what is happening around the country at the state and local level regarding lake management.

**National Wetlands Inventory**

<http://wetlands.fws.gov>

US Fish and Wildlife Service.

Topics Covered: Wetland maps and general information about wetlands

Site Map: Maps online, Map Information, Wetlands,

Unique Features: It has links to maps of designated wetlands across the country.

**Sea Grant National**

[www.seagrants.oregonstate.edu/wsep](http://www.seagrants.oregonstate.edu/wsep)

U.S. Department of Commerce

Topics Covered: Aquaculture, fisheries, seafood science and technology, coastal national hazards, and oyster disease research.

Site maps: About sea grant, sea grant resources, partnerships, news and events and leadership.

Unique Features: This site covers the total coast line of the United States – featuring coastal communities and economies.

**U.S. Army Corp of Engineers**

[www.usace.army.mil](http://www.usace.army.mil)

U.S. Government

Topics Covered: Plant models, information, bulletins, peer reviewed journals and research briefs.

Site map: Contacts, invasive species center, related sites, calendar of events and American Fisheries Habitat Manual.

Unique Features: This is a site for online aquatic plant control research and plant information systems.

### **US EPA Wetlands**

**[www.epa.gov/owow/wetlands](http://www.epa.gov/owow/wetlands)**

US Environmental Protection Agency's

Topics Covered: Definitions of wetlands, watersheds, and why they are important.

Site Map: Laws, Landowners, Water Quality and 401 Certification, Wetlands and Watersheds, Restoration, Education, and In Your Area.

Unique Features: It has links to the laws, regulations, and guidance documents concerning wetlands and watersheds nationally and within the states and tribal areas. There is also information on permitting, restoration of watersheds and wetlands, and wetland programs across the country.

### **Water on the Web**

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

University of Minnesota

Topics Covered: Lake ecology, streams ecology, monitoring, resource information/data, environmental education

Site Map: Data, curricula, resources, topic background information

Unique Features: Water on the Web is designed to train high school and college students to understand and solve real-world water quality problems using technology, accessible through site. There are two sets of curricula, basic science and water resource science, which include resources for both teachers and students. The site also provides lake and stream water quality data and data visualization tools.

### **Water Quality Investigators, Inc.**

**[www.inland-lakes.com](http://www.inland-lakes.com)**

Topics Covered: Michigan inland lakes, lake monitoring, riparian rights, lake politics.

Site Map: Word, topic search of organizational newsletter, *The Water Newsletter*

Unique Features: This website is very simple – it allows the site user to search issues of this organization's newsletter going back a decade or more. Some useful information can be gleaned regarding specific inland lakes as many lakes have been "centerfolded" as part of the newsletter. This website is interesting and somewhat useful to those of us interested in Michigan inland lakes, many of which have been studied by Water Quality Investigators.

### **World Lakes Network**

**[www.worldlakes.org](http://www.worldlakes.org)**

LakeNet

Topics Covered: Lakes in the news, sustainability, global perspective

Site Map: eForum for online discussion, global lake database

Unique Features: Global information, lake art gallery, special features on interesting lakes,

## **EDUCATION**

**Directory of Great Lakes Water Resource Organizations** **[www.greatlakesdirectory.org](http://www.greatlakesdirectory.org)**

Great Lakes Aquatic Habitat Network and Environmental Association for Great Lakes Education

Topics Covered: Links to news articles and educational materials relating to the protection of Great Lakes, invasive species, water diversion, ecological issues, cleanup and remediation of the Great Lakes

Site Map: Link to news releases, announcement of upcoming events, publications highlight potential threats, resources

Unique features: Ease of use, speed of web response, well organized

### **Earthforce**

**[www.earthforce.org](http://www.earthforce.org)**

Topics Covered: Training and support of K-12 environmental educators, community based environmental action, environmental education tools.

Site Map: About Earth Force, History, Contact Information, Board of Directors, Staff, Youth Advisory Board, Programs, Local Offices and Partners, How You Can Help, Success Stories, Tools for Teachers, News Items

Unique Feature: This may be a first rate environmental education focused organization but their website is weak.

### **Education for Conservation**

**<http://educators.fws.gov>**

U.S. Fish & Wildlife Service

Topics covered: Curriculum support for educators. Links to games, quizzes, and conservation educational websites for children.

Unique feature: Conservation library at <http://library.fws.gov/>.

### **Environmental Communication, Education and Media**

**[www.ecoiq.com](http://www.ecoiq.com)**

EcolQ.com

Topics Covered: Sustainable communities, land use, energy, transportation, waste management and pollution, green building

Site map: Communication, (EcoMagazine, EcoGateway), tabs on the left side lead to a variety of educational resources (videos, publications, speakers). One of the tabs leads to a useful navigation page.

Unique Features: Easy to use, worldwide topics, educational resources. The reviewer would use this page as a jumping-off point for research and for continuing education.

### **The GLOBE Program**

**[www.globe.gov](http://www.globe.gov)**

Colorado State University

Topics Covered: Hydrology, resource information/data, environmental education, collaboration leadership development

Site Map: Education and science, data, partners, library, news and events

Unique Features: This site serves as the center for a worldwide youth science education program that is supported by major partners, including NASA and the National Science Foundation. Students collect and report data in the areas of hydrology, soils, and land cover, and then collaborate with scientists and other students. Teachers can also benefit from extensive training programs and materials available through the site.

**GVSU—Water Resources Institute**

[www.gvsu.edu/wri](http://www.gvsu.edu/wri)

Grand Valley State University—Annis Water Resources Institute

Topics Covered: Ecological Research, Information Services, Education & Outreach

Site Map: Publications, Links, Advisory board Information

Unique Features: *site currently under construction* Links to Project WET (Water Education for Teachers), an interdisciplinary water science & education program for formal and non-formal teachers

**Kalkaska Conservation District**

[www.kscd.org](http://www.kscd.org)

Topics Covered: Land use, Forestry, Soils

Site Map: Calendar of Events, Information, Aerial photos, Maps & land use, Tree sale, Publications

**Lake Association/School Project**

[www.mlswa.org/school-lake-project](http://www.mlswa.org/school-lake-project)

Michigan Lake and Stream Associations, Inc.

Topics Covered: High School student water quality testing and education; partnership between lake/stream association members of ML&SA and local high school students. Highlights student activity, test parameters, instrumentation, water bodies where tests have been done, lake associations and high schools that are involved in program

Site Map: Student activity photos, recognition, contact information

Unique Features: Fosters interest in water quality science as a career and good stewardship

**MSTA—Michigan**

[www.msta-mich.org/curriculum/index.php](http://www.msta-mich.org/curriculum/index.php)

Michigan Science Teachers' Association

Topics Covered: Ecology, Environmental Education

Site Map: Educational Publications, Links, Projects, Mini-grants

Unique Features: Contains curriculum and project materials cross-referenced to Michigan state science objectives, also grouped by grade level and topic

**Preserving our past...Creating our future**

[www.fw.msu.edu](http://www.fw.msu.edu)

Dept. of Fisheries & Wildlife – Michigan State University

Topics covered: Providing the education, research, and outreach for conservation and rehabilitation of fish and wildlife resources and ecosystems. ecosystem education, research and outreach programs for student and stakeholders

Site map: MSU's Admissions – Application and Request Info, Partnership for Ecosystem Research and Management, Faculty/Staff Directory Faculty/Staff Web sites, Graduate Student Directory, Graduate Web sites, List of Experts, College of Agriculture and Natural Resources Alumni Relations, MSU Alumni Relations, Endowments, Campaign for MSU, F&W Mission and Vision, F&W Strategic Plan

Unique features: Definitions and contact information for Outreach and Extension Services

**Project Wet – Water Education for Teachers**

[www.projectwet.org](http://www.projectwet.org)

A nonprofit water education program – located in Bozeman, Montana

Topics Covered: The program facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources through the dissemination of classroom-ready teaching aids and establishment of internationally sponsored Project WET programs. Programs include: Healthy Waters, Healthy People; Discover a Watershed Series; The Wonder of Wetlands; KIDS (Kids In Discovery Series); Ground Water; Native Waters; Water Conservation/Drought; and Pearls (Precious Places).  
Unique Features: Great practical, ready to teach/use materials, excellent teacher aids

**Educating Young People About Water**  
University of Wisconsin

[www.uwex.edu/eerc/ey paw](http://www.uwex.edu/eerc/ey paw)

Topics Covered: Building youth/educator links with community partnerships for water education programs

Site Map: Links, prepared educational material

Unique Features: 150 water related curricula database, guides, videos adaptable to situations, leadership workbooks

**USEPA—Environmental Education**  
US Environmental Protection Agency

[www.epa.gov/enviroed](http://www.epa.gov/enviroed)

Topics Covered: Grants, Fellowships, Awards, Educator Training, Resources & Publications, Advisory Groups, Partnerships, Assessment Tools

Site Map: Regional Information, Legislative History, Government Programs

Unique Features: Includes “portal sites” for educational resources & programs, broken down by grade level cluster (K-4, 5-8, 9-12). Also includes background for teachers and science/research links.

**The Watershed Academy**  
([www.epa.gov/watertrain](http://www.epa.gov/watertrain))

[www.epa.gov/owow/watershed/wacademy](http://www.epa.gov/owow/watershed/wacademy)

US Environmental Protection Agency (EPA)

Topics Covered: Training units include—Introduction/Overview, Watershed Ecology, Watershed Change, Management Practices, Community/Social (Each of these units has 7 to 13 modules) over 50 modules total— each \_ to 2 hours.

Site Map: Introduction, How to Navigate, Certificate Program, and Contributing Authors

Unique Features: This is a no cost, self paced, on-line education program where certification is granted (if you wish) for completing the required 15 modules and self-tests. The faculty is outstanding. A good winter project for self-education with no driving costs or time.

## **EXOTIC SPECIES**

**Protect Your Waters**  
Exotic Invaders

[www.protectyourwaters.net](http://www.protectyourwaters.net)

Topics Covered: Zebra mussels, protect your waters, stop hitchhikers, simple boating procedures become informed.

Site Map: Hitchhikers, Impacts, Prevention, Resources, News, Activities

Unique Features: Current/latest information about aquatic pests, impacts caused by these species, facts about the species.

**Nonindigenous Species** [cars.er.usgs.gov/Nonindigenous\\_Species/nonindigenous\\_species](http://cars.er.usgs.gov/Nonindigenous_Species/nonindigenous_species)  
U.S Geological Survey

Topics covered: Information on non–native fish, shellfish, and plants, with distribution maps.  
Unique feature: Photos of nonindigenous species.

## **FEDERAL GOVERNMENT**

**Clean Lakes Program** <http://www.epa.gov/owow/lakes/>  
U.S. Environmental Protection Agency

Topics covered: Information on the Clean Lakes Program (Section 314), and the Nonpoint Source Program (Section 319) including grants, technical manuals on lake assessment and monitoring methodologies, and watershed protection case studies.  
Unique feature: Online training available on “Understanding Lake Ecology.”

**National Atlas** [www.nationalatlas.gov](http://www.nationalatlas.gov)  
U.S. Department of the Interior

Topics Covered: A new portrayal of America in maps, agriculture, biology, climates, environment, geology and water.  
Site map: Map maker, map layers, printable maps, dynamic maps and wall maps.  
Unique Feature: This site is an online national atlas to be used for geographic information along with geospatial data and satellite view. This is a geospatial one stop that serves as a gateway for the organizations and individuals who have maps and data that one may want to view.

**U.S. Geological Survey** [www.usgs.gov](http://www.usgs.gov)

Topics covered: The mission of the U.S. Geological Survey is to provide information that is used to protect life and property from natural disasters, manage natural resources, and protect the environment. Information is offered on water resources including maps, links to databases, and access to thousands of publications. A noteworthy link is to the Michigan–focused section of the site at [www.usgs.gov/state/state.asp?State=MI](http://www.usgs.gov/state/state.asp?State=MI) where the site offers real time data of stream flow, ground water, and water quality around the state. It also highlights some of the water projects that the U.S. Geological Survey is managing throughout Michigan.  
Unique feature: Satellite photographs of the aftermath of Hurricane Katrina.

**Natural Resource Conservation Service (NRCS)** [www.nrcs.usda.gov](http://www.nrcs.usda.gov)  
U.S. Department of Agriculture

Topics covered: Conservation Security Program, education, policy, special reports funding, Wetlands Reserve Program  
Site map: Site search, summaries, reports, publications, events and activities, news releases, telephone directory  
Unique feature(s): Strategic planning and accountability from a federal perspective

**Natural Resource Conservation Service – Michigan** [www.mi.nrcs.usda.gov](http://www.mi.nrcs.usda.gov)

Topics covered: Education, volunteers, outreach council, employee directory, employment, native ash tree preservation effort, Native American information

Site map: Calendar, publications, links, programs

Unique feature(s): A listing and summary of state and federal agricultural programs such as EQIP, WRP, CRP

**USGS Water Sources for Georgia**  
United States Geological Survey

[www.gawater.usgs.gov](http://www.gawater.usgs.gov)

Topics Covered: Hydrology, Monitoring, Resource Information/Data, Restoration

Site Map: Real-Time Data, Government Programs, Publications, Current Projects, Information Network

Unique Features: Can send daily water reports by e-mail, Georgia Water Information Network (GWIN) offers information on surface, ground, and water quality sites in GA

## **FUNDING**

**Catalog of Fed. Funding for Watershed Protection** [www.epa.gov/watershedfunding](http://www.epa.gov/watershedfunding)  
US Environmental Protection Agency

Topics Covered: Searchable database of financial assistance—grants, loans, cost-sharing available for watershed protection.

Site Map: Other funding sources, complete list of all programs; programs listed by keyword, programs listed by agency

Unique Features: Fourteen very large agencies included in this search. When Watershed Management is searched there are 60 matches. Most grants seem to be large— 7–160 million.

**Foundation Center**  
The Foundation Center

[www.fdncenter.org](http://www.fdncenter.org)

Topics Covered: The Foundation Center's mission is to strengthen the nonprofit sector by advancing knowledge about U.S. philanthropy. Collect, organize, and communicate information on U.S. philanthropy. Conduct and facilitate research on trends in the field. Provide education and training on the grant seeking process. Ensure public access to information and services through Web site, publications, five library/learning centers, and a national network of Cooperating Collections.

Site Map: Philanthropy News Digest, Learning Lab, Finding Funders, Researching Philanthropy, Marketplace

Unique Feature(s): Helps grant seekers succeed, has list of interesting training courses

## **LOCAL GOVERNMENT**

**Community Based Approaches – Environ. Innovation** [www.epa.gov/ecocommunity](http://www.epa.gov/ecocommunity)  
US Environmental Protection Agency

Topics Covered: Environmental management with human needs, ecosystem health, positive correlations between economic prosperity and environmental well-being.

Site Map: Policy, Contracts, Publications, Case Studies, Tools, Resources

Unique Features: Provides solutions to those seeking to address the various causes of the problems and understand the interrelationships between human behavior and pollution in a specific area.

**Green Communities**  
Environmental Protection Agency

[www.epa.gov/greenkit](http://www.epa.gov/greenkit)

Topics covered: Sustainability, leadership development, assessing and organizing communities  
Site Map: Community Assessment and planning tool, mapping of natural resources  
Unique Features: Mapping capabilities, lots of great links

**Michigan Association of Counties**

[www.micounties.org](http://www.micounties.org)

Topics Covered: enhanced leadership skills, basics of county government, and develop innovative programs to maximize the impact of county government in local communities.  
Site Map: Highlights, Legislative Updates, Upcoming Events, Monthly Newspaper, Conference Handouts

**NEMO Nonpoint Education for Municipal Officials**  
University of Connecticut

[nemo.uconn.edu](http://nemo.uconn.edu)

Topics Covered: An educational program for land use decision makers that addresses the relationship of land use to natural resource protection. Education and research, case studies, maps, etc on shoreline issues and other land use issues.  
Site Map: Links, publications, national network

## NATURAL RESOURCE MANAGEMENT

**Boardman River Project**  
Grand Traverse Conservation District

[www.boardmanriver.org](http://www.boardmanriver.org)

Topics covered: Best management practices, river restoration, and overview of project.

**Center for Geographic Information**  
State of Michigan

[www.michigan.gov/cgi](http://www.michigan.gov/cgi)

Topics Covered: Maps and geographic imagery, geographic information systems (GIS), maps by county.

Site Map: Michigan Map Gallery, Michigan Mapper, Michigan Geographic Data Library, Programs, Projects and Initiatives, Geographic Information Standards, Outreach and Promotion Grant Opportunities, Map Michigan, Michigan Geographic Names, Authority, Michigan Geographic Framework Network, Upcoming Events, State Department and Agency Search function, Quick Website Links to Geographic and Mapping Sites.

Unique Feature: A somewhat rigid website dedicated to State of Michigan geographic information services. Nevertheless, this web resource provides valuable information and mapping services to the citizens of the State of Michigan. This site provides quick links to several outstanding websites dedicated to geographic information and mapping services.

**The Endangered Species Program**  
U.S. Fish and Wildlife Service

[www.fws.gov/endangered](http://www.fws.gov/endangered)

Topics Covered: wildlife, fish, grants, laws, land management

Site Map: threatened and endangered species list, species information, endangered species in news, kids corner, recent publications, local contacts and policy links

Unique Features: This site provides up-to-date news items and a list of threatened and endangered species in the United States, as well as detailed information on the individual species. There are many links for information on grants, laws and regulations. In addition, the site provides access to many publications and other tools for landowners.

## **ESI**

**[www.esri.com](http://www.esri.com)**

GIS & Mapping Software

Topics Covered: Mapping and location services in Web-enabled applications, global mapping applications, GIS web services, up-to-date geographic-based reports and maps

Site Map: Products & Services, Support & Solutions, Company Information, Hardware, More ESRI Sites

Unique Features: Assist government agencies and private organizations that need help in responding to recent or upcoming severe weather events, also used to create, import, edit, query, map, analyze, and publish geographic information.

## **The Groundwater Foundation**

**[www.groundwater.org](http://www.groundwater.org)**

Topics covered: Educate and motivate people to care about groundwater, programs and events, education, groundwater protection

Site Map: How to get involved, Kids corner, events, education

Unique Features: Ideas on community involvement, education of water quality concerns and protection.

## **Institute of Water Research**

**[www.iwr.msu.edu](http://www.iwr.msu.edu)**

Michigan State University

Topics Covered: Watershed Management, Aquatic Ecology, Groundwater, Geographic Information Systems (GIS), Digital Mapping, Watershed Management Virtual Education, Soil and Sedimentation Control, Watershed Planning and watershed monitoring and management tools.

Site Map: Announcements and Events, Publications and Books –pdf downloads, E-Newsletter - Watershed Post, Contact Information, Interactive Tools, Digital Mapping, E-Z Mapper, RUSLE Tool, Professional Watershed Management Certification Program

Unique Features: The complete website resource for watershed managers – this site reflects an organization consisting of limnologists and watershed researchers at the cutting edge of these sciences. This site contains too many useful tools and resources to be mentioned in the context of this assignment – a must browse for anyone interested in preserving our freshwater resources or developing an integrated watershed management plan for their community or watershed. The mapping tools are nothing short of extraordinary and profoundly useful!!!

## **The Izaak Walton League of America**

**[www.iwla.org](http://www.iwla.org)**

Topics Covered: Organization focused on “conserving and properly managing the country’s soil, air, woods, waters and wildlife.” Various position statements, resolutions, and policy documents related to that mission. Outreach/education programs.

Site Map: General information Conservation Programs: American Wetlands Campaign; clean air Campaign; Fish Kill Advisory Network; Outdoor Ethics Program; Save Our Streams; Sustainability Education; Youth Education. Action Center; Advocacy Center; Background; Conservation Policies; You Can Help; Legislative Priorities; Legislative Updates; Testimony and Comments, News & Publications

Unique Features: Strong focus on legislative advocacy; links to state and local chapters including three locals in Michigan.

**Lake Maps** [www.michigan.gov/dnr/0,1607,7-153-10319-99445--,00.htm](http://www.michigan.gov/dnr/0,1607,7-153-10319-99445--,00.htm)  
Michigan Department of Natural Resources

Topics Covered: This site has lake hydrographic maps for about 2000 lakes in Michigan.

**Michigan Environmental Council** [www.MECProtects.org](http://www.MECProtects.org)

Topics Covered: Collective voice for the environment, Land Stewardship, Water Protection, and Pollution Reduction

Site Map: Board Members, Member Groups, Staff, Funders, Employment, Legislation, Publications, Victories and Issues, News.

Unique Features: Site tracks legislative and member group environmental positions to propose effective policy decisions.

**Michigan Citizens for Water Conservation** [www.savemiwater.org](http://www.savemiwater.org)

Topics Covered: Protecting our most valuable resource, drinking water. Water policy, water court case.

Site Map: Calendar of events, press releases, studies and reports, newsletters, water court case documents.

Unique Features: Chronicles the taking of Michigan water by a multinational company highlighting the legal battle and policy implications. Contains sample letters to legislators and governor regarding policy issues.

**Michigan United Conservation Clubs** <http://www.mucc.org/>

Topics Covered: This group promotes environmental education and outdoor activities .

Site Map: This site sports links to such topics as Wildlife, Fisheries, Air Quality, Water, Recycling, Policy Reports, Shooting Sports, Sportsman's Resources, and links to National and Michigan Government.

Unique Features: It is the parent of "Michigan-Out-Of-Doors" magazine and television show.

**National Library for the Environment** [www.cnie.org/nle](http://www.cnie.org/nle)  
National Council for Science and Environment

Topics Covered: Extensive list of topics e.g. biodiversity, agriculture, forests, pollution, legislative

Site Map: Links, publications, current news items

Unique Features: Congressional research service.

**National Wildlife Federation**

<http://www.nwf.org>

Topics Covered: Conservation, land management, wetlands, areas for kids and teens, and education. This is a nation-wide conservation group that emphasizes habitat management, including wetlands.

Site Map: Wildlife, Your Yard, Take Action, Magazines, Shop

Unique Features: This is the home of “Ranger Rick” and “Your Big Backyard” for kids.

**Society for Ecological Restoration International**

[www.ser.org](http://www.ser.org)

Topics Covered: Promote ecological restoration, relationship between nature and culture

Site Map: Newsletter, website, working groups, conferences

Unique Features: Depicts worldwide restoration projects

**Topozone**

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

Maps a la carte, Inc.

Topics Covered: Digital Topographic Maps, Aerial Photographs and related mapping information.

Site Map: View Maps, Get Data, My Topozone, Web Services, About Us, Help

Unique Features: GeoZone Web Services that provide instant, online access to topographic maps, aerial photographs, and street maps through industry-standard interfaces. The site has the entire TopoZone digital cartographic library delivered direct, on demand, to desktop or server. USGS Digital Cartographic Business Partner, International Map Trade Association

**University of Wisconsin Stephens Point**

[www.uwsp.edu/cnr/outreach.htm](http://www.uwsp.edu/cnr/outreach.htm)

Topics Covered: Aquatic Ecology – Watershed Management – Lake Protection – Land Use Planning – Global Environmental Management – Fish and Game Management

Site Map: Outreach & Extension Programs: (Of interest to lake activists) Adopt-A-Lake, Aquatic Entomology Lab, Aquatic Toxicology Lab, Center for Land Use Education, Partnership for Community Planning, Center for Watershed Science & Education, Central Wisconsin Groundwater Center, Environmental Education and Training Partnership (EETAP), Global Environmental Management (GEM) Education Center, International Seminar Series on Watershed Management, National Environmental, Education Advancement Project, Portage County Groundwater Website, Project WET, UW-Extension Solid and Hazardous Waste Education Center, UW-Extension Wisconsin Lakes Partnership, Water and Environmental Analysis Lab, Wisconsin Association for Environmental Education, Wisconsin Center for Environmental Education, Wisconsin Cooperative Fishery Research Unit, Wisconsin Environmental Education Board, and Wisconsin Groundwater Guardian Communities

Unique Features: This website has a particular and inspirational slant toward freshwater resources management – this site reflects an institution that is profoundly dedicated to community outreach and education programs to promote community involvement and collaborative efforts to educate and to recruit public involvement in the natural resources decision-making process. The Adopt – A – Lake Program should be of particular interest to those involved in lake monitoring and management.

## **PUBLIC HEALTH**

**Adopt-A-Beach**  
Lake Michigan Federation

**[lakemichigan.org/adopt](http://lakemichigan.org/adopt)**

Topic's Covered: Alliance for the Great Lakes Adopt-A-Beach Program includes habitat restoration and beach clean-up.

Site Map: How to participate, download forms, data base, search and login.

Unique Features: Data base search, beach assessment, litter monitoring, water monitoring.

**Clean Beaches Council**

**[www.cleanbeaches.org](http://www.cleanbeaches.org)**

Topics Covered: The mission of the Council is to promote public awareness and volunteer participation in sustainability while ensuring a legacy of clean beaches for all generations to come. Has list of clean beaches in the United States.

Site Map: Get Involved Section, Events, News and Links

Unique Feature(s): Excellent link to clean beaches around the U.S., up to date information about research on beaches

**DEQ Water Well Viewer**  
Department of Environmental Quality

**[wellviewer.rsgis.msu.edu](http://wellviewer.rsgis.msu.edu)**

Topics Covered: Water well records

Site Map: Help for the viewer, start the viewer

Unique Features: This is the online resource for Michigan well records. If the DEQ has record of the well existing, it should be on this site.

**Ground Water Education in Michigan**  
Michigan State University

**[www.gem.msu.edu](http://www.gem.msu.edu)**

Topics Covered: Groundwater basics, drinking water basics, tools for teacher, case studies, and educational material.

Site Map: What you can do in your home, Fact sheet for Local Officials, Local, Regional and State Resources

Unique Features: Provides one-stop-shopping regarding ground and drinking water issues.

**National Small Flows Clearinghouse**  
SciTech Resources

**[www.nesc.wvu.edu/nsfc](http://www.nesc.wvu.edu/nsfc)**

Topics Covered: Information about innovative, low-cost wastewater treatments for small communities of populations under 10,000 and 1 million gallons or less of wastewater flowing through it each day, ranging from septic systems to small sewage treatment plants

Site Map: Databases for facilities, bibliographic information, manufacturing consulting, health departments and demonstration projects

Unique Features: Not user friendly but potentially valuable information



Special Features: Users can search for bills or laws based on key words or phrases of specific interest. Registered users can sign up to be notified via e-mail when legislation relating to area of interest are changed or are added. Click on the “Register” link to sign up for notification.

**Nonpoint Source Program** (google.com then Michigan Nonpoint Source Program)  
Michigan DEQ

Topics Covered: Information and Education, Technical Assistance, Grant Applications, Grant Recipient Information, Monitoring and Field Investigation

Site Map: Many subtitles under each—Inside the DEQ, Key Topics, News and Events, Pollution Prevention, Air, Land, Waste, and Water and who to contact

Unique Features: Very important site if you want to develop a Watershed Management Plan. If you are researching anything in the environmental field try this site first. There is a wealth of information here about the environment, its protection and its problems.

## WATERSHED/LAND MANAGEMENT

**Bear Creek Watershed Council**

[www.bearcreek-watershed.org](http://www.bearcreek-watershed.org)

Topics covered: Watershed management and collaboration

Site map: Meetings calendar, newsletter

Unique feature(s): An Oregon organization giving their slant on watershed management

**Black River Watershed Project**

[vbco.org/blackriver\\_2.asp](http://vbco.org/blackriver_2.asp)

Van Buren County Conservation District.

Topics Covered: Watershed/Land Management Agriculture, Conservation

Site Map: Community information, local government, map index, land use planning, calendar, community news, community forum.

Unique Features: Discussion forum

**Center for Watershed Protection**

[www.CWP.org](http://www.CWP.org)

Topics covered: Restoration, education, land management, best management practices

Site Map: Technical manuals and assistance, calendar, slide presentation, projects, newsletter

Unique Features: Watershed assessment tools, fact sheets for public outreach for download, consensus agreements for community site plan principles

**Friends of the St. Joseph River**

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

Topics Covered: Water Quality Monitoring, Volunteerism, Watershed Conservation & Maintenance

Site Map: Association Information, River Information, Newsletter, How to Volunteer, Events, Links

Unique Features: Links to Watershed Management Planning Project, Michigan Watershed Homepage, Hoosier Riverwatch

**Great Lakes Basin Soil Erosion and Sediment Control Program** [www.glc.org/basin](http://www.glc.org/basin)

## Great Lakes Commission

Topics covered: Projects in basin states, Best Management Practices, education, technical data  
Site Map: Policy and advocacy, programs, publication, monitoring data  
Unique Features: Michigan Groundwater inventory and mapping project, tool to determine your watershed address within nation-wide system, water word dictionary- compilation of technical water, water-quality, environmental and water related terms, includes conversion tables, flow equivalents and hydraulic units of measure.

## **Green Landscaping Wild Ones Handbook [www.epa.gov/glnpo/greenacres/wildones/handbook](http://www.epa.gov/glnpo/greenacres/wildones/handbook)** US EPA

Topics Covered: Landscaping and restoration with native vegetation. Sustainable landscaping, alternatives to lawns, problems with fertilizers and pesticides, prairie plants and why they are sustainable, how to naturalize and be acceptable to your neighbors, how to be successful in your efforts to naturalize, and bird and bat house building techniques  
Site Map: Techniques from selected outside sources, primarily self contained web page informed with outside contributions and references but few hyperlinks  
Unique Features: Esthetically well done, practical, and easy to translate into action.

## **Groundwater Mapping Project** Michigan State University

[gwmap.rsgis.msu.edu](http://gwmap.rsgis.msu.edu)

Topics Covered: Groundwater, hydrology  
Site Map: Interactive map viewer, groundwater information database, project reports, web resources, documents  
Unique Features: All you ever wanted to know about Michigan's groundwater resources. You need a fairly fast connection to download some of the stuff on this page. Tutorial is recommended.

## **Headwaters Land Conservancy**

[www.otsego.org/hwlc](http://www.otsego.org/hwlc)

Topics Covered: Headwaters Land Conservancy works to conserve the "Up North" you enjoy by protecting natural areas, waterfront, wildlife and farms & ranches in Northeast Michigan.  
Site Map: About Us, Events, Conserve Your Land and Frequently Asked Questions, Protected Properties, Headwater's Merchandise, Links, How to Contact Headwaters Land Conservancy.

## **Huron River Watershed Council**

[www.hrwc.org](http://www.hrwc.org)

Topics Covered: Creek Groups, Drinking Water Protection, Land Information, Access Association, Stewardship Network, and Wetland Identification (ADID)  
Site Map: Events Calendar, About HRWC, Programs, Membership

## **Kalamazoo River** Kieser and Associates

[www.kalamazooriver.net](http://www.kalamazooriver.net)

Topics Covered: Impacts to Kalamazoo river watershed, education, upcoming agenda of meetings, events concerning Kalamazoo river watershed.

Site Map: Phosphorus TMDL, Watershed Management Plans, Stormwater Management Plans, Watershed Education

Unique Feature(s): Site has information on how to limit impact to Kalamazoo River watershed.

### **Know Your Watershed**

[www.ctic.purdue.edu/KYW](http://www.ctic.purdue.edu/KYW)

Conservation Technology Information Center

Topics Covered: Nonpoint source pollution, collaboration, leadership development, conflict resolution

Site Map: Partnership lists, quizzes, e-newsletter, facts and guides

Unique Features: This site connects to the National Watershed Network, a registry of locally led watershed partnerships. The site contains many links to help these partnerships successfully attain their goals, including glossaries and fact sheets, as well as guides on developing watershed management plans.

### **Land Trust Alliance**

[www.lta.org](http://www.lta.org)

Topics covered: Land trusts – standards and practices,

Site Map: Publications, training and conferences, newsroom, locate a land trust

Unique Features: Funding Guides for open spaces, fact about conservation easements, federal law of conservation easements and threats to current benefits, protecting surface water quality with conservation easements

### **Lower Grand River Watershed 319 Project**

<http://www.gvsu.edu/wri/isc/index.cfm?id=61577520-B641-4994-8BF28BB9E585ED11>  
Grand Valley State University

Topics covered: This site discusses at length the 319 Project designed to improve, protect and enhance the lower Grand River watershed. This is the far western portion of the Grand River basin. The watershed is broken into county/city areas and addressed issues are water quality, stormwater management, waste and septic management, education, non point source pollution and the development of the overall plan.

Site map: Includes the various subunits/plans with links to projects, plans, participants.

Unique features: A great overall and comprehensive one-stop shopping resource for developing watershed management plans.

### **Low Impact Development Center**

[www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org)

Topics Covered: Best Management Practices, smart growth, sustainability.

Site Map: About Us, Projects, News, Software Utilities, Conferences & Training, Resources, Clients, Links, Employment, Contact information.

Unique Features: Technical resource for low impact design standards – “a new, comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the development hydrologic regime of urban and developing watersheds.”

### **Making Smart Growth a Reality in Michigan**

[www.mlui.org](http://www.mlui.org)

Michigan Land Use Institute

Topics Covered: Growth management (smart growth), transportation, oil and gas drilling, public lands, water use and protection, grassroots action

Site Map: Archives for each major section (growth management, transportation, land and water), join now and donate now, a series of tabs on the left side of the page lists the main features of the site (including an activist toolkit and discussion forums).

Unique Features: Good source for news, highlights Leelanau County on the discussion forums, good activist's toolkit with ideas that can be used with or outside of MLUI topics.

**Minnesota Shoreland Management Information**      [shorelandmanagement.org](http://shorelandmanagement.org)  
Minnesota Sea Grant, University of Minnesota

Topics Covered: Managing Lakes and Rivers as Part of the Landscape, Managing Water Quality, Managing Shoreland Property, Shoreline Regulations, Planning for the Future of Your Lake or River, Altering or Restoring Your Shoreline, Managing Aquatic Plants and Animals, Wastewater treatment on Shoreland Property, Managing Lake and River Use

Site Map: Overview, quick and easy answers, in depth information, shore to shore news

Unique Features: Some very nice graphics to download and use. Source of information for your Association Newsletter and lots of other sites listed to explore

**The Nature Conservancy**      [www.nature.org](http://www.nature.org)

Topics covered: Conservation efforts world-wide including MI projects, restoration, invasive species, collaboration

Site Map: Great Places Network, campaigns, e-newsletter, field guide, science publications

Unique Features: Site allows you to locate projects by different aquatic habitats in the US and around the world, tracks recent accomplishments, announces guided tours of preserves in your area, and has a newsroom for journalists with press releases and Public Service Announcements for download.

**Polluted Runoff (Nonpoint Source Pollution)**      [www.epa.gov/owow/nps/319](http://www.epa.gov/owow/nps/319)  
Environmental Protection Agency

Topics Covered: Applying for and administering CWA section 319 grants

Site Map: PDF and HTML formats of the manual for applying for 319 grants

Unique Features: The information needed to apply for a 319 grant.

**Raingardens of West Michigan**      [www.raingardens.org/Index.php](http://www.raingardens.org/Index.php)

Topics covered: Raingardens for managing stormwater runoff. Intro, why, where, when, how, with what, examples.

Site map: History of the organization, intro to raingardens, how to install one, where to go to them in action.

Unique features: Nice comprehensive site.

**Riparian buffers**      [www.crjc.org/riparianbuffers](http://www.crjc.org/riparianbuffers)  
Connecticut River Joint Commission

Topics covered: Riparian buffers – all shapes and sizes. Definition, types including backyard, 1 habitat, for agriculture, urban, field assessment, planting, plants and further assistance.

Site map: Includes all the above section links.

Unique features: Everything you ever wanted to know about riparian buffers.

### **Save our Streams Program**

**[www.iwla.org/sos](http://www.iwla.org/sos)**

Izaak Walton League

Topics covered: National watershed education and outreach program. Everything you ever wanted to know about managing watersheds and protecting and improving streams – education projects, plants, legislation, monitoring equipment, etc.

Site map: Extensive links and information from definition thru where to buy monitoring equipment and streamside plants.

### **Protection of local wild & scenic places**

**[swmic.org](http://swmic.org)**

SW Michigan Land Conservancy

Topics Covered: Land protection; endangered & threatened species, habitats, species, rural character, open spaces, agriculture, recreation.

Site Map: Organization, land protection, projects, preserve profiles, field notes, upcoming events

Unique Feature s: The site lists preserves owned by SWMLC not accessible to the public without permission.

### **Stormwater Manager's Resource Center (SMRC)**

**[www.stormwatercenter.net](http://www.stormwatercenter.net)**

Topics Covered: Technical assistance on stormwater management issues; best management practices; sustainability; smart growth; zoning; land management; hydrology

Site Map: Library – link to their journal articles, slideshows, manual – checklists, design examples, performance criteria, STP selection, sizing criteria, local review, construction specs, ordinance – post construction, stream buffers, illicit detection, ESC, open space zoning; operations and maintenance criteria, monitor/assess – indicator profile sheets, impervious cover model, simple method, RSAT, hydrology, program resources – finance, education, STP maintenance, Fact Sheets – land planning, conservation, aquatic buffers, better site design, ES&S stream restoration, non-stormwater discharges, and pollution prevention

Unique Features: Comprehensive resource, funded by an EPA grant, to provide Phase II communities with the tools and techniques necessary to protect their watersheds and to enhance and restore their local water resources.

### **Surf your Watershed**

**[www.epa.gov/surf](http://www.epa.gov/surf)**

Environmental Protection Agency

Topics Covered: Resource information/data, monitoring, restoration, collaboration, best management practices

Site Map: Environmental web site database, watershed locator map, database of volunteer opportunities, directory of monitoring programs, collection of activities and projects for youth

Unique Features: The site allows users to locate and share environmental information about their watersheds. There is an interactive map of the United States to search for watersheds. The site also includes extensive information on the EPA's campaign to protect water resources through environmental stewardship programs, including links to information about local watershed programs.

**Sustainable Measures**  
Sustainable Measures Consulting Firm

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

Topics Covered: Sustainable Measures is about indicators of sustainable community: ways to measure how well a community is meeting the needs and expectations of its present and future members. Explains what indicators are, how indicators relate to sustainability, how to identify good indicators of sustainability, and how indicators can be used to measure progress toward building a sustainable community.

Site Map: Indicators, Database, Questions, Training, Resources, Sustainability

Unique Feature(s): develops indicators that measure progress toward a sustainable economy, society and environment.

**Tip of the Mitt Watershed Council**

[www.watershedcouncil.org](http://www.watershedcouncil.org)

Topics Covered: Water resources, watershed protection, restoration,

Site Map: Newsletter, calendar, store, volunteer opportunities

Unique Feature(s): Legacy and funding opportunities, policy