



15

Ways You Can Save Your River and Watershed

When starting a new organization to protect a river that isn't facing a "looming crisis," knowing how to begin implementing the goals of your organization can be difficult. Similarly, watershed groups with long histories sometimes forget about the many ways they can protect their river. This tool offers a list of actions that your group can take to discover, promote, and advocate healthy rivers and watersheds. While not all of these activities may be applicable to your own organization, we hope the list will stir up some creative ways to accomplish your goals and provide a stepping off point from which your group can begin its work.

This tool is designed to help you take action using a community-based approach. In order to best help your river or watershed, you should first understand your local resource and landscape, the threats facing the resource, and the steps that you can take to minimize those threats. The EPA tracks a lot of data for rivers. Their MyWATERS Mapper is comprehensive (you could spend days learning about your watershed) and is a good starting point for understanding the condition of your watershed. <http://www.epa.gov/waters/enviromapper/index.html>

River Alliance of Wisconsin staff can provide you technical assistance with any of the following types of projects - contact us for help!

A Series of Helpful Tools for River and Watershed Advocates

#1: Monitor Who is Polluting Your River

The Clean Water Act requires that anyone planning to discharge pollution into a water body through “any discernible, confined, and discrete conveyance” (e.g. a

pipe) receive a permit. This includes municipalities, industrial facilities and significant animal waste operations (known as CAFOs). All new and renewed “discharge permits” are subject to public comment. Permits are required on the federal level (National Pollutant Discharge Elimination System) <http://www.rivernetwork.org/content/lesson-2a-pollution-discharge-permits> and state level (Wisconsin Pollutant Discharge Elimination System (WPDES) <http://dnr.wi.gov/org/water/wm/ww/pmttypes.htm>).

What Can You Do?

Learn who is seeking or renewing discharge permits in your watershed, what they want to discharge into the water, and when existing permits are up for renewal.

- Search for WPDES permitted facilities in your watershed by going to <http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer>. You can search for your city, town or waterway through the “find location” tab at the top of the page, then select the “Layers” tab and open the “permits and related data” folder. Finally, click on the box next to the “surface water outfall”. You can then identify the different brown triangles to learn the facility name, the facility type, the issue date, the permit expiration date, and the waste type.
- Public notices are required by law to alert interested members of the public of the DNR’s intention to authorize a discharge to a water of the state. WPDES Permits on Public Notice: <http://dnr.wi.gov/org/water/wm/ww/DRAFTS/PUBNOT.htm>.

Review and comment on all permit applications impacting your local waterbody.

- Permitting an End to Pollution: How to Scrutinize and Strengthen Water Pollution Permits in Your Watershed by Robert Moore, Gayle Killam and Merritt Frey is a handbook that explains common problems to watch for in discharge permits. It is available from River Network by visiting <https://www.rivernetwork.org/files/resources/permitguide.pdf>
- The Clean Water Act: An Owner’s Manual, produced by River Network, provides information on conducting reviews of proposed permits. Visit www.rivernetwork.org. (\$40 to purchase, <https://www.rivernetwork.org/marketplace>. River Alliance has several copies in our office available for loan. Basic overview: <http://www.rivernetwork.org/getstartedbio>

Concentrated Animal Feeding Operations (CAFOs) are farms with 1,000 or more animal units, which is about 700 dairy cows, 2,500 pigs, 10,000 sheep, or 100,000 layer chickens. There are many potential water quality hazards due to the large amount of manure many animals in a small area can produce.

- Background information on CAFO issues in Wisconsin <http://wisconsin.sierraclub.org/Issues/CAFOHome.html>
- To see statistics on Wisconsin CAFOs, visit <http://dnr.wi.gov/runoff/ag/stats.htm>
- One way to influence decisions about new CAFOs is to comment on their permit applications. Midwest Environmental Advocates offers suggestions on how to be effective in your comments, and can lend legal advice if necessary. <http://www.midwestadvocates.org/advocacy/factories/index.html>

#2: Reduce Polluted Runoff

Polluted runoff comes from rainwater and snowmelt that picks up contaminants and sediments from the land and deposits them in water bodies. This type of pollution

is regulated under Wisconsin's Runoff Management rules. To help curb polluted runoff, the state offers some cost-share funds to encourage the implementation of "best management practices" and the development of "targeted runoff management plans." There are also model ordinances to help municipalities control runoff from construction sites and new development.

What Can You Do?

Become familiar with the major sources of polluted runoff affecting your watershed.

- EPA factsheets for background information on runoff from:
 - agricultural sources <http://water.epa.gov/polwaste/nps/outreach/point6.cfm>
 - urban sources http://www.epa.gov/owow/keep/NPS/urban_facts.html#runoff

Learn about Wisconsin's cost-share programs and encourage eligible entities to apply.

- Targeted runoff management grant programs - <http://dnr.wi.gov/runoff/grants/trm.htm>
 - TRM funds are used for forming best management practices (BMPs) to control nonpoint source pollution or for construction projects.
 - The cost-share rate for TRM projects is up to 70% eligible costs (90% in cases of economic hardship).
 - Mainly used to control pollution from farms. They are funds to support cost-share agreements that are negotiated between the farmer and the government, but can also be used by municipalities to control nonpoint pollution.

Encourage your county, town, city or village to adopt strict stormwater ordinances.

- The Center for Land Use Education, a UW Extension/UW Stevens Point joint program, has this handy fact sheet explaining how land use and runoff are related. It may be a good link for citizens to use to convince local municipalities they need to have a stormwater ordinance, or you could also pull info from it and use it as text in the tool: <http://www.uwsp.edu/cnr-ap/clue/Documents/PlanImplementation/Rain%20and%20Snow.pdf>
- Dane County's stormwater ordinance has also been called out by EPA as a model ordinance for other municipalities to use: <http://www.danewaters.com/pdf/manual/ecsmm1revfinal.pdf>

Examine, comment on and monitor enforcement of relevant planning documents.

- Search for Notices of Intent to Discharge for construction sites in your watershed: http://dnr.wi.gov/runoff/stormwater/data/construction/noi_data/index.asp

Additional Resources:

- Reducing the Impacts of Construction Activities in Your Watershed by the River Alliance <http://www.wisconsinrivers.org/watershed-advocate-toolkit/taking-action-in-your-watershed/reducing-the-impact-of-construction-site-activities-in-your-watershed>.
- For information on DNR's Runoff Management Program, including a link to a summary of all Administrative Rules addressing polluted runoff, visit <http://dnr.wi.gov/runoff/about.htm>

#3: Enforce and Strengthen Shoreline/ Floodplain Development Regulations

A **floodplain** is the land adjacent to a waterway which may be covered with water during the most extreme flood event. Floodplains provide many important

ecosystem functions. The goal of shoreland zoning is to protect water quality, fish and wildlife habitat, recreation and natural beauty. In 2010, the state shoreland development rules in NR 115 were updated to better protect Wisconsin's water and to allow more flexibility to landowners in some aspects of structure renovations. Currently, however, this rule is at risk of being repealed. Historically, every county in Wisconsin had to adopt zoning ordinances to regulate shoreland and floodplain development, these ordinances were often not strong enough to adequately protect water quality. Furthermore, frequent zoning variances diluted the effectiveness of the existing regulations.

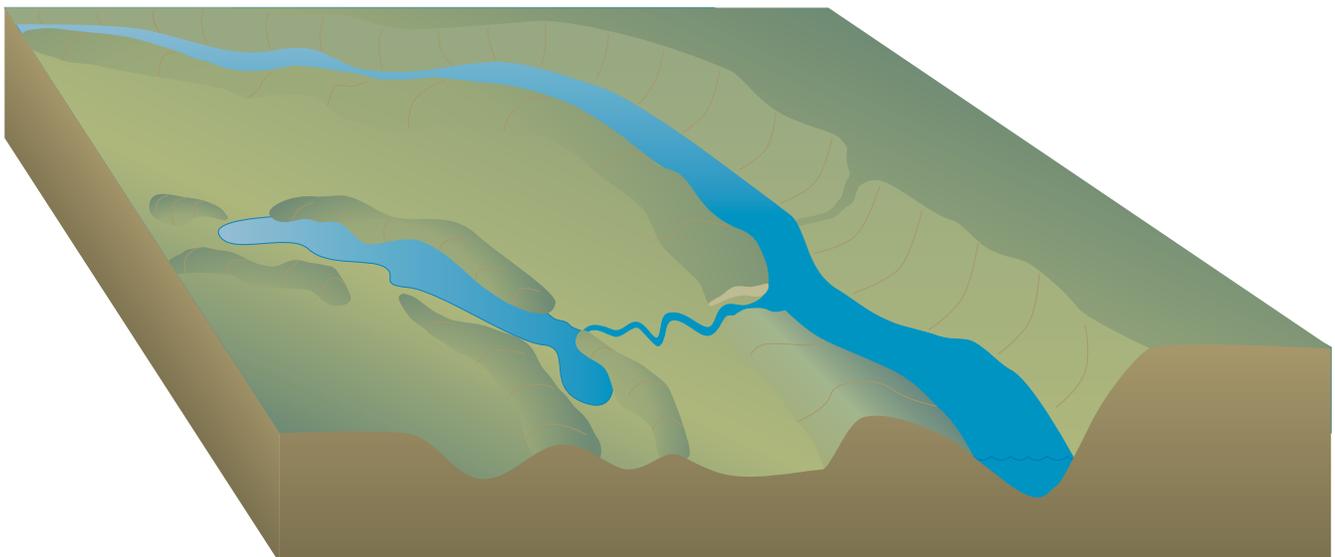
What Can You Do?

Become familiar with Wisconsin's standards for floodplain and shoreland zoning and with your own local ordinances. Speak up at zoning committee meetings if you feel proposed developments are not in compliance with existing ordinances.

- For information on Wisconsin's Floodplain Management Program: <http://dnr.wi.gov/topic/floodplains/>
- For information on Wisconsin's Shoreland Management Program: <http://dnr.wi.gov/topic/shorelandlandscaping/>

Monitor and comment on zoning variance applications that threaten to degrade water quality. Contact your county zoning staff to find out the status of your zoning ordinance and variance applications.

- County specific list of zoning-related permit contacts and websites <http://dnr.wi.gov/waterways/shoreland/county.htm>
- A list of the upcoming DNR hearings and meetings can be found at <http://dnr.wi.gov/org/caer/ce/news/hearmeet.html>



cross section of a floodplain

#4: Consider Removal of Old Dams

Dams cause a lot of damage to rivers and streams. They can degrade water quality, devastate fisheries, flood and silt-in natural stream areas, deplete oxygen levels, and

block and kill migrating fish. There are approximately 3,700 dams altering the flow of Wisconsin's rivers and streams, and many are old, poorly maintained and no longer serving their intended purpose. Furthermore, fewer than 400 provide electrical power or flood control.

What Can You Do?

Evaluate your local dams for their impact on local fisheries and aquatic communities and educate your community on these impacts.

Work with local DNR staff and dam owners to ensure that existing dams in your river are being properly maintained and operated. If the dam is in need of repair, the community and owner should also consider removal as an option.

Additional Resources:

- The River Alliance has a wealth of information about the benefits of selective dam removal, case studies and citizen's toolkits: <http://www.wisconsinrivers.org/grassroots-organizing/dam-removal>.
- Dam Removal - A Citizen's Guide to Restoring Rivers, published by the River Alliance of Wisconsin, provides a step-by-step process for pursuing dam removal <http://www.wisconsinrivers.org/documents/dams/Dam%20Removal%20-%20A%20Citizens%20Guide%20to%20Saving%20Rivers.pdf>
- DNR has a public database you can search to locate dams in your watershed. Just use the zoom in function and then click on identify on the red square for the dam you are interested in. <http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer>
- For information on managing and removing dams, laws and a list of past removals in Wisconsin, visit DNR's dam safety page at <http://dnr.wi.gov/topic/dams/>.
- Dam Removal Grant Program information on DNR website: <http://dnr.wi.gov/topic/Dams/grants.html>.
- The Ecology of Dam Removal: A Summary of Benefits and Impacts, published by American Rivers, <http://www.michigandnr.com/PUBLICATIONS/PDFS/fishing/dams/EcologyofDamRemoval.pdf>
- American Rivers website has a lot of good background information <http://www.americanrivers.org/our-work/restoring-rivers/dams/>.

#5: Support Groundwater Protection Efforts

About 1 million Wisconsin

households drink water from private wells. 97% of Wisconsin municipalities and 750,000 private wells rely on groundwater,

and more than 340,000 acres of Wisconsin farmland are irrigated with groundwater. Wisconsin has laws to protect drinking water quality, but has been too understaffed to ensure all wells are safe. The Groundwater Protection Act, passed in 2004, was the first attempt by the state to address groundwater quantity and to consider the impacts of groundwater withdrawals on nearby rivers and lakes. The law requires that DNR review high capacity well applications (those that withdraw more than 100,000 gallons per day) to determine if there will be impacts to surface waters if located in very close proximity to the state's trout streams and highest quality rivers. A recent Wisconsin Supreme Court decision made clear that DNR must review applications with the potential to harm any stream or lake, as long as there is credible information indicating there might be an impact. It will often be up to citizens concerned about a new well to provide that credible information.

What Can You Do?

Work with your local government to develop a Wellhead Protection Program to protect the quality of your community's drinking water. <http://dnr.wi.gov/org/water/dwg/gw/wellhead.htm>

Talk to local scientists and land managers to identify critical groundwater recharge areas, and encourage local land use decisions that limit development in recharge areas.

- Iowa County map for recharge areas http://wisconsingeologicalsurvey.org/pdfs/espdf/es50_2_recharge.pdf.

Monitor applications for high capacity wells. If you believe a proposed well will impact nearby waterways, talk with local scientists to learn if they have data that will force close scrutiny by DNR.

- Background information on CAFO issues in Wisconsin <http://wisconsin.sierraclub.org/issues/greatlakes/articles/cafofacts.html>
- To see statistics on Wisconsin CAFOs, visit <http://dnr.wi.gov/runoff/ag/stats.htm>
- One way to influence decisions about new CAFOs is to comment on their permit applications. Midwest Environmental Advocates offers suggestions on how to be effective in your comments, and can lend legal advice if necessary. <http://www.midwestadvocates.org/advocacy/factories/index.html>

Promote water conservation to minimize groundwater withdrawals.

- *Wisconsin Water Conservation Coalition* provides information on strategies for water conservation at home, at the office, and outdoors. Visit <http://www.wisconsinwaterwise.org/>

Encourage your local government to establish water conservation programs.

- The Alliance for Water Efficiency has a lot of information on water conservation programs <http://www.allianceforwaterefficiency.org/residential-tips.aspx>

ADDITIONAL RESOURCES

- *Central Wisconsin Groundwater Center* provides background information on groundwater, provides county groundwater reports, and local groundwater news: <http://www.uwsp.edu/cnr-ap/watershed/Pages/GWHome.aspx>
- *50 Ways Farmers Can Protect Their Groundwater* – University of Illinois Extension <http://www.thisland.illinois.edu/50ways/50ways.html>

#6: Identify Degraded Waters and Push for Restoration

By law, the Wisconsin DNR must keep and regularly update a list of all degraded waterways in the state (known as the “303(d) list”). In turn, listed waterways get

priority for cleanup and restoration. In reality, many degraded waters have never been listed because they have not been monitored, and plans to cleanup degraded waters (known as Total Maximum Daily Load or TMDLs) are often inadequate or nonexistent. TMDL identifies a maximum amount of pollutant a waterbody can accept and still meet water quality standards. Restoration is usually achieved through a combination of improved agricultural and urban runoff controls, modified permit limits and actions by concerned members of the community.

What Can You Do?

Review the 303(d) list to learn which local waterways are included, and which waters known to be impaired have not been listed.

- For Wisconsin’s most up-to-date 303(d) list, visit DNR webpage at <http://dnr.wi.gov/org/water/wm/wqs/303d/>.

Oppose any activities that would further impact listed waters.

Use volunteers to monitor impaired waters that are not listed to identify causes of impairment and possible solutions, and campaign for DNR to list them.

- Data from citizens can be used as long as it is quality assured, meets the minimum data requirements in WisCALM (<http://dnr.wi.gov/org/water/condition/wiscalm.htm>), and the data is accessible by DNR staff. The best way to contribute to monitoring is through the Water Action Volunteers Stream Monitoring Program (<http://watermonitoring.uwex.edu/index.html>).

Campaign the DNR to include local listed waters on its priority list for TMDL development.

- More information on TMDL can be found at <http://dnr.wi.gov/org/water/wm/wqs/303d/TMDL.html>.
- Third-Party TMDL Development Toolkit published by the Water Environment Federation provides background information on TMDLs, guidelines for third-party planning, and case studies. <http://www.wef.org/ThirdPartyTMDL.aspx>.



#7: Make Sure High Quality Waters are Protected

State law provides extra protections for recognized trout streams and rivers and lakes officially designated as Outstanding or Significant Resource Waters. New

discharges of pollution are severely restricted, and DNR must carefully review all applications for activities such as construction of piers in these waters.

What Can You Do?

Review pollution permit applications to ensure local trout streams, Outstanding Resource Waters (ORWs) and Exceptional Resource Waters (ERWs) are protected as required.

Track Chapter 30 permits for alterations proposed to local trout streams, ORWs and ERWs to make sure permits provide sufficient protections for these special resources.

ADDITIONAL RESOURCES:

- For a list of Wisconsin's Outstanding and Exceptional Resource Waters, visit DNR webpage at <http://dnr.wi.gov/topic/SurfaceWater/orwerw.html>



#8: Monitor the Quality of Your River

When it is part of a well thought-out plan with clear goals, water quality monitoring can be a powerful river protection tool. Monitoring can help define

the problems facing a river, pinpoint the sources of those problems, or help you measure the impact of particular river protection or restoration activities. Water quality monitoring can support many of the actions included in this Top 15 list, but because it can be expensive and time-consuming, it should be well planned to ensure it provides you with data and information that you can use

What Can You Do?

Identify why you want to monitor, how you intend to use the information, and who is your intended audience.

Review and comment on all permit applications impacting your local waterbody.

- *Water Action Volunteers (WAV)* is a program for citizens interested in monitoring water quality in Wisconsin rivers and streams. For information on WAV programs, visit <http://clean-water.uwex.edu/wav>.
- There are many publications available on the Wav website.

Aquatic Invasive Species (AIS) are a threat to the natural communities in rivers and streams statewide. AIS are nearly impossible to remove when they have been in a new habitat for awhile, so quick identification is important so that populations can be treated quickly. Your group can aid with AIS prevention and detection by taking part in Project RED (<http://www.wisconsinrivers.org/conservation-projects/project-red>) and Clean Boats, Clean Waters (<http://dnr.wi.gov/lakes/cbcw/>)



#9: Protect Wetlands

Wetlands provide important ecosystem functions, and yet only 5.3 million acres of wetlands remain of Wisconsin's original 10 million acres. Wetlands are protected under

federal and state laws. Despite strong wetland protection laws, wetland loss and degradation is still widespread throughout the state.

What Can You Do?

Comment on wetland development permit applications.

If development appears inevitable, argue for strict mitigation requirements.

Encourage local officials and landowners to apply for federal wetland restoration funds.

Enroll in programs to convert drained farmland back to wetland.

ADDITIONAL RESOURCES

- For information and contacts on wetland protection programs in Wisconsin, including wetland protection, mitigation and restoration, visit <http://dnr.wi.gov/topic/wetlands/>
- Wisconsin Wetland Association is a great resource for information on Wisconsin wetlands, wetland advocacy and research on issues that affect wetlands. <http://www.wisconsinwetlands.org>



#10: Get Involved in Statewide Campaigns that Impact Your Community

Strong statewide river/water protection laws and programs make it easier for your group to protect and improve your local waters. Your group's voice is needed to

demonstrate that there is a cohesive river protection movement across the state. And yet, far too many critical initiatives fail each year because not enough people speak up to ensure state laws reflect their values and priorities.

What Can You Do?

Respond to the River Alliance's action alerts regarding threats to water quality.

Keep water issues in the local press.

Partner with other local and regional organizations to ensure your message is heard.

ADDITIONAL RESOURCES

- *Influencing Decisions that Affect Your Environment*, by the River Alliance of Wisconsin, provides helpful information on how to navigate local government <http://www.wisconsinrivers.org/watershed-advocate-toolkit/getting-your-message-out-and-raising-money/influencing-decisions-that-affect-your-environment>.
- *Word On The Stream (WOTS)* is an online action alert of the River Alliance of Wisconsin to keep the public informed on issues concerning the rivers of Wisconsin. Visit www.wisconsinrivers.org to register for our e-newsletter.
- The *Online Directory of Wisconsin's Watershed Organizations*, by the River Alliance of Wisconsin, is a networking tool for watershed organizations around the state. <http://www.wisconsinrivers.org/directory/>.
- Share your conservation values with your Legislators at the Capitol on Conservation Lobby Day. For details, see the Wisconsin League of Conservation Voters website <http://conservationvoters.org>



#11: Conduct Targeted Education Campaigns

A **successful** education program is one that influences decisions or changes behaviors. While educational efforts can be valuable and make a difference, too

many education programs fail to have a positive impact on the quality of the waterway. In planning educational activities, set clear goals and determine who needs to be influenced in order to reach those goals.

A targeted education program must:

- *identify clear end goals*
- *understand who you're trying to influence*
- *include a plan to persuade your intended audience to support your goals*
- *evaluate your efforts*
- *recognize all who helped you achieve your goal*
- *learn from your successes and setbacks*

ADDITIONAL RESOURCES:

- *Communication Environmentally: Changing Minds, Building Momentum*, by the River Alliance of Wisconsin, provides useful tools for communicating your ideas and building support in your community. <http://www.wisconsinrivers.org/watershed-advocate-toolkit/getting-your-message-out-and-raising-money/communicating-environmentally-changing-minds-building-momentum>.
- *Organizing for Social Change - A Manual for Activists*, published by the Midwest Academy, is a useful guide to help you use meetings, workshops and media outlets as tools to effect change. To order, visit <http://www.midwestacademy.com/midwest-academy-manual>.



#12: Plan Water Trails to Promote the River

The more familiar your community is with its natural resources, the more support you will be able to garner for future river protection. A fun and interesting way to

educate your community about their river or watershed is by creating a water trail. Water trails are informational paths for paddlers and recreationists to learn about the waterways and their ecosystems. A water trail is a great way to get to know your watershed and to educate others.

What Can You Do?

Develop a water trail by promoting a theme through a brochure (e.g. natural history, edible landscapes or impacts of development), or by posting signs along the shore or at public access points.

- For Wisconsin-specific information on water trails, including technical resources, funding opportunities and on-the-ground examples, visit the River Alliance of Wisconsin's water trails webpage <http://www.wisconsinrivers.org/watershed-advocate-toolkit/taking-action-in-your-watershed/water-trail-toolkit>.
- *Water Trails Toolbox: How to Plan, Build and Manage a Water Trail*, a webpage of the Chesapeake Bay Gateways Network, is a comprehensive how-to for water trails. Visit www.baygateways.net/watertrailtools.cfm.

Involve your members in researching information about the river and watershed, or in helping maintain the public access points.

ADDITIONAL RESOURCES:

- Fox Wisconsin Heritage Parkway: <http://heritageparkway.org/>
- Milwaukee River: <http://www.mkeriverkeeper.org/content/milwaukee-urban-water-trail>



#13: Purchase Conservation Easements Along Rivers

A **conservation easement** is a legal agreement between a landowner and a second party that places restrictions on the present and future uses of the property in an

effort to protect its conservation values. Once the terms of an easement are negotiated, the easement is recorded along with the property deed and the landowner retains property ownership subject to its terms. Easements along river buffers can protect water quality by providing permanent vegetation to help trap sediments, fertilizers, pesticides, bacteria, pathogens, and heavy metals.

What Can You Do?

If a land trust is active in your area, coordinate landowner outreach and fundraising activities to pursue easements along local streams.

- For a list of Wisconsin local land trusts, visit Gathering Waters Conservancy at <http://www.gatheringwaters.org/about-land-trusts/find-a-local-land-trust>

Prioritize land parcels for easement purchase by identifying areas facing future development or contributing large amounts of pollutants into the river.

Contact landowners about their interest in land protection along their rivers and creeks.

Learn about the public and private funding programs available for purchasing conservation easements.

- DNR grants for easements <http://dnr.wi.gov/aid/easements.html>

ADDITIONAL RESOURCES:

- The Land Trust Alliance has created a comprehensive tool on conservation easements. Visit <http://www.landtrustalliance.org/conservation/landowners>.



#14: Restore River Buffers and Improve Habitat

Well planned restoration projects can improve your river's water quality, aquatic habitat, recreational potential and aesthetics. River restoration projects can

focus on the buffer area, the streambank or the river channel itself. Buffers can be restored by controlling invasive plants and planting trees. Streambank projects may include shaping banks and protecting them with some type of cover until they are vegetated. In-stream projects include managing aquatic plants, restoring woody debris and other structures for fish habitat, and deflecting flows to create scour pools for spawning fish.

What Can You Do?

Assess your river and watershed by researching all available information, by identifying and filling existing data gaps, and by exploring the river's channel and banks.

With the help of a consultant or natural resource agency staff, identify and prioritize potential restoration projects.

Create a restoration plan that identifies clear goals, monitoring and evaluation protocols, project partners and funding sources.

ADDITIONAL RESOURCES:

- *Stream Corridor Restoration - Principles, Processes and Practices*, a common reference on stream restoration published by various federal agencies and partners, includes guides for planning and carrying out river restoration projects. Visit <http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/technical/alphabetical/water/restoration/?&cid=stelprdb1043244>
- For a great source of background information on shoreline buffers and a list of additional resources view this document created by UW-Extension http://basineducation.uwex.edu/southeastfox/pdf/Open%20Space%20Files/shoreline_buffers.pdf



#15: Celebrate Your River!

You and the members of your organization know about the benefits of protecting rivers, what about the rest of your community? Celebrate your river

to raise public awareness of your local natural resources. Race, ride, and row your river. If members of the community enjoy the river, they will be more inclined to protect it in the future.

What Can You Do?

Throw a party, have a festival, or plan a group paddle.

For some Wisconsin examples check out:

- Milwaukee Riverkeeper Bash <http://www.milwaukeekeeper.org/civCRM/event/info?reset=1&id=30>
- Big Eau Pleine annual picnic <http://blog.bigeaupleine.org/2010/06/26/bepco-annual-meeting-and-picnic.aspx>

Plan events that encourage community participation, such as an ecology walk, a hike along the river banks, a bike ride that follows the river, or a community clean up of an urban river.

For some ideas on organizing a river cleanup, visit

- <http://www.wisconsinrivers.org/watershed-advocate-toolkit/taking-action-in-your-watershed/organizing-river-cleanups>
- <http://www.wisconsinrivers.org/watershed-advocate-toolkit/getting-your-message-out-and-raising-money/raising-funds-while-increasing-your-visibility>

