

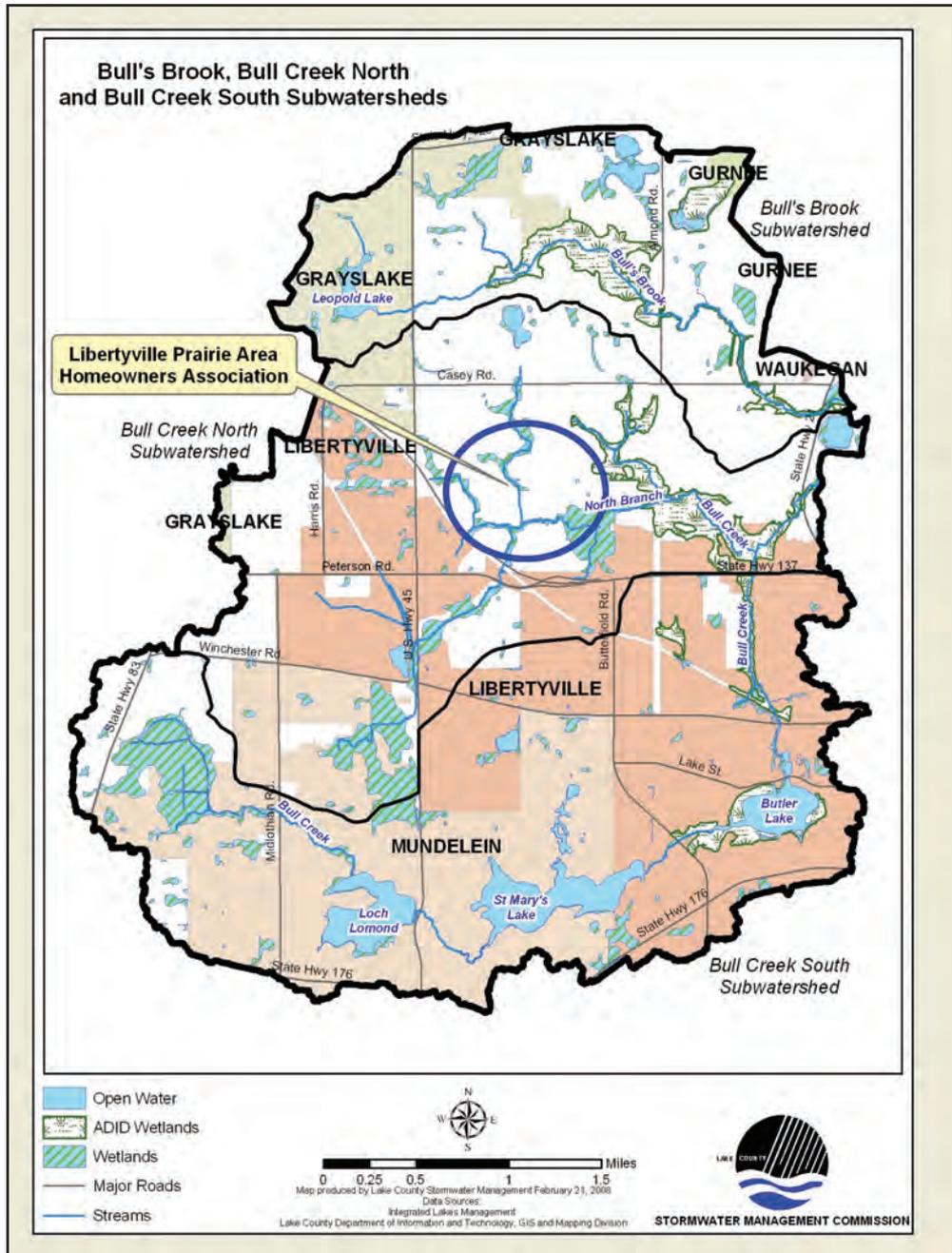


Liberty Prairie Area Homeowners Association
A Homeowner's Guide to
Improving Your Watershed

Funded in part by an Illinois Department of Natural Resources Conservation 2000
Grant and the Lake County Stormwater Management Commission



Bull Creek/Bull's Brook Watershed

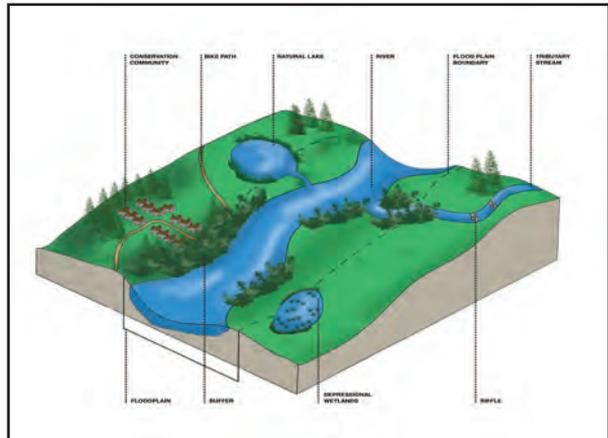


Bull Creek/Bull's Brook Watershed



What is a watershed?

A watershed is the area of land draining to a river or stream. It includes rivers, streams, lakes and wetlands. These waterways provide drinking water, recreational opportunities, and fish and wildlife habitat that all depend on a consistent supply of clean water. With minimal care and expense, these waterways produce maximum benefits. Ensuring that we retain the appropriate quantity and quality of water in our region is critical to all residents, businesses and industries.



The Liberty Prairie Home-owners Association (LPAHA) is part of the Bull Creek North Subwatershed, one of three smaller subwatersheds in the Bull Creek/Bull's Brook watershed. The Bull Creek/Bull's Brook watershed drains 14 square miles before discharging into the Des Plaines River.

All the water that falls on the land contained in this watershed boundary drains into the Des Plaines River through the many area streams or ground water. The health of the tributary streams, like Bull Creek, directly contributes to the health of the Des Plaines River.

Everything that happens in a stream's watershed has an affect on its health, either positive or negative. Most human-directed tasks in a watershed have a negative effect on its streams, and therefore the recovery of these streams has to be human-directed.

Things you can do to protect and improve Bull Creek

The following pages include actions you can take individually and collectively to improve water quality, reduce the potential for flooding, protect/enhance the natural resources, greenways, and recreational opportunities in your neighborhood and in the Bull Creek/Bull's Brook subwatershed.

Bull Creek/Bull's Brook Watershed



Rid Your Property and the Watershed of Invasive Species

Invasive plants are exotic (non-native) species. Invasive species are like bullies that move into an area, and take over, crowding out the beneficial native plants. Some native plants can also be “invasive,” especially in areas that are disturbed.

TIPS:

- Learn to identify invasive species on your property. Once you have learned what they look like, you can remove these species from your property or avoid introducing them. Invasives can spread quickly and could re-establish themselves even after you remove them. Remove plants by cutting down and/or pulling up their roots. Apply herbicide (RoundUp) on the woody remains to prevent regrowth.
- Educate your neighbors, both up stream and down stream from you, and local nursery owners, about invasive species.
- Fire has been a successful eradication method for many invasive plants, but you need professional assistance, and a permit to conduct a prescribed burn.

Source: Southwestern Illinois Resource Conservation & Development, Inc., Southwestern Illinois Landowner's Guide to Stream Protection and Preservation

Common Invasive Plants in Lake County



Photo by Illinois Nature Preserve Commission

Purple Loosestrife



Photo by W.L. Wagner, NPDC@PLANTS

Box Elder



Photo by Kenneth R. Roberts, INHS

Garlic Mustard

Buck Thorn



See p. 10 for a short list of native and non-native species, and resources for additional information.



Bull Creek/Bull's Brook Watershed

Use Phosphorous-Free Fertilizer

If you must use fertilizer, use phosphorous-free, but get your soil tested first. Most soils in Lake County have adequate phosphorous. Many retailers offer this kind of fertilizer but as a guide, the number “0” should be the middle number on the bag. You can get your soil tested through the Lake County Soil and Water Conservation District. See p. 11 for “Resources.”



Photo Lake County Health Department/Lakes Management Unit

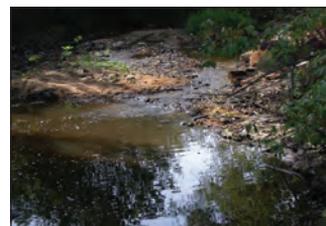
Did you know...Runoff from your fertilized lawn will eventually drain to the street and from there to the nearest water body. Phosphorous turns lakes and rivers green by stimulating algae growth. Nitrogen, not phosphorous, makes grass greener. Phosphorous-free fertilizer still contains nitrogen.

Source: Lake County Health Center/Lakes Management Unit, Phosphorous in Lake County, IL.

Keep the Streambank Healthy

Healthy streams provide effective conveyance of precipitation and runoff while supporting good aquatic habitat. When the streamflow increases as a consequence of runoff, it is not unusual for the stream channel to “remodel” itself by widening and deepening to accommodate the higher flows. As the banks wear away during the widening process a tree’s roots are exposed and damaged. The trees becomes unstable and can topple into the channel causing debris jams. While some organic debris is needed for habitat, debris blockages reduce channel capacity to convey water causing elevated flood stages, and diminished aeration of water. Debris can also deflect streamflows causing increased streambank erosion. TIPS:

- The LPAHA schedules stream cleaning activities. Get involved in clearing woody vegetation and garbage from Bull Creek.
- Routinely check the stream near your home for fallen branches and excessive debris.



Bull Creek/Bull's Brook Watershed



Maintain a Healthy Stream Buffer on Your Property

Dispose of yard waste compost away from the channel. Streambank erosion can be worsened by leaves, grass clippings, and other yard refuse placed along streambanks. Existing vegetation and stabilizing roots are killed under piles of clippings and branches, which also causes an excess of nutrients that are washed into the stream. TIPS:

- Establish a buffer area of native plants along the stream corridor to filter out pollutants. The buffer should be at least 25' on each side of the channel if possible.
- Stockpile firewood, and leaves, grass clippings and other waste away from the streambank. Logs and floatable materials, when washed into the stream, contribute to debris jams and possible flooding. They also add excessive nutrients that lower dissolved oxygen in the water, thus limiting habitat and water quality.
- Do not burn yard refuse on or near the streambank. It pollutes the water and destroys stabilizing vegetation.
- Be sure that any storage buildings, sheds, etc., are not constructed within the floodplain. A floodplain is any land area susceptible to being inundated by flood waters from any source.





Bull Creek/Bull's Brook Watershed

Reduce Non-Point Source Pollution

When it rains, the stormwater runoff can pick up debris from yards and streets; chemicals, dirt, and other pollutants and flow into culverts or storm sewers drain directly to the nearest stream, river, wetland or lake. This untreated flow enters those same waterbodies we use for fishing and recreation.

Polluted stormwater can create many adverse effects on plants, fish, animals and people. Algal blooms, sediment, pesticides, fertilizers, oil, and bacteria impact water quality, fish and animal habitat.

In addition to the actions already noted in previous pages, here are some additional things you and your family can do to prevent and reduce the amount of nonpoint source pollution around your home, neighborhood and watershed.

Source: U.S.Environmental Protection Agency
After the Storm: A Citizen's Guide to Understanding Stormwater

Install a Rain Garden

Rain gardens soak up rain water and runoff from your roof, driveway, lawn and even your sump pump. They are landscaped with native plants to soak up the water and allow it to slowly filter into the ground rather than running off into the storm drain. Compared to a patch of conventional lawn, a rain garden allows about 30 percent more water to soak into the ground.

Yard Care

Use water from a rain barrel or use a soaker hose to water your garden wherever possible.

Use organic mulch to reduce weeds and maintain moisture. Use safer pest control methods whenever possible.

Compost or mulch yard waste. Don't leave it in the street or sweep/rake it into a roadside ditch, storm drain, or stream.

Pet Waste

Pick up your pet waste and dispose of it properly. Leaving pet waste on the ground will likely wash fecal coliform into the storm drain or roadside ditch and pollute Bull Creek.

Permeable Pavement

Your next patio or driveway could be a permeable pavement. A permeable pavement allows rain and snowmelt to soak into the ground, decreasing stormwater runoff.

Reduce Salt Use in Winter

Salt causes the salinity in the creek to rise reducing oxygen and water quality. Alternative salts with less harmful affects are calcium magnesium acetate (CMA); calcium chloride (CaCl_2); and magnesium chloride (MgCl_2).

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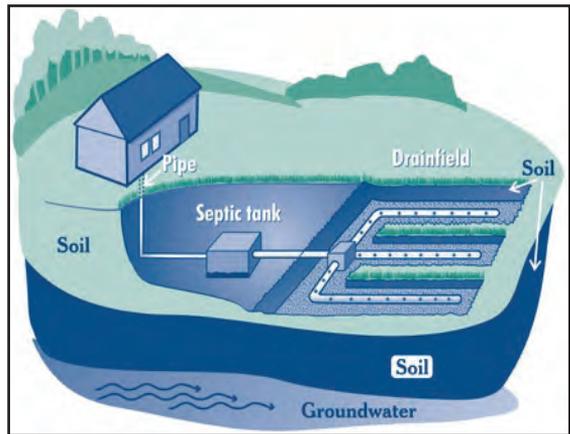
Maintain Your Septic System

The Lake County Health Department provides guidelines for installing and maintaining septic systems to help keep Bull Creek healthy. As a homeowner, you are responsible for maintaining your septic system. Proper septic system maintenance will help keep your system from failing and will help maintain your investment in your home. Failing septic systems can contaminate the ground water that you or your neighbors drink and can pollute beyond Bull Creek/Bull's Brook subwatershed. TIPS:

- Locate your septic tank and drainfield. Keep a drawing of these locations in your records.
- Have your septic system inspected at least every three years. Pump your septic tank as needed (generally every three to five years).

- Don't dispose of household hazardous wastes in sinks or toilets. Keep other household items, such as dental floss, feminine products, diapers, and cat litter out of your system.

- Plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the system. Also, do not apply manure or fertilizers over the drainfield.



- Keep vehicles off your septic system. The weight can damage the pipes and tank, and your system may not drain properly under compacted soil.
- Keep gutters and basement sump pumps from draining into or near your septic system.
- Check with the Lake County Health Department before using additives. Commercial septic tank additives do not eliminate the need for periodic pumping and can be harmful to your system.

Sources: U.S. Environmental Protection Agency, <http://cfpub.epa.gov/owm/septic/homeowners.cfm>; Lake County, IL Health Department, Environmental Health, www.co.lake.il.us/health/ehs/isd.asp. Graphic: St. Clair County, MI, Septic System Maintenance Guide, www.cis.stclaircounty.org/planning8451155.asp.

Desirable Native Plant Species

There are many more desirable native plants. The following is a short list.

| Trees | |
|-------------------------|---------------------------|
| <u>Common Name</u> | <u>Genus/species</u> |
| Red Maple | Acer rubrum |
| Swamp White Oak | Quercus bicolor |
| Bur Oak | Quercus macrocarpa |
| Basswood | Tilia americana |
| Shrubs | |
| <u>Common Name</u> | <u>Genus/species</u> |
| Buttonbush | Cephalanthus occidentalis |
| Red-Osier Dogwood | Cornus stolonifera |
| Elderberry | Sambucus canadensis |
| Arrowwood Viburnum | Viburnum dentatum |
| Emergent Wetland Plants | |
| <u>Common Name</u> | <u>Genus/species</u> |
| Sweet Flag | Acorus calamus |
| Water Plantain | Alisma subcordatum |
| River Bulrush | Scirpus fluviatus |
| Arrowhead | Sagittaria latifolia |
| Shoreline Flowers | |
| <u>Common Name</u> | <u>Genus/species</u> |
| Blue Flag Iris | Iris virginica |
| Yellow Coneflower | Ratibida pinnata |
| Black-Eyed Susan | Rudbeckia hirta |
| Shoreline Grasses | |
| <u>Common Name</u> | <u>Genus/species</u> |
| Big Bluestem | Andropogon gerardii |
| Bluejoint Grass | Calamagrostis canadensis |
| Switch Grass | Panicum virgatum |
| Prairie Cord Grass | Spartina pectinata |

Learn About Native Plants

Illinois Native Plant Guide

USDA Natural Resource Conservation Service Downloadable in PDF format
www.il.nrcs.usda.gov/technical/plants/npg/index.html

Information on Purchasing Native Plants

Illinois Native Plant Society link
www.ill-inps.org/

Illinois Native Plant Suppliers

www.co.lake.il.us/smc/bmp/Nat-PlantRes_1206.pdf

Wild Ones

www.for-wild.org/land/nbird-scaping.html

Native Plant Suppliers

www.co.lake.il.us/planning/wtrshdmgmt_default.asp

Information on Non-Native Species

Chicago Botanic Garden
www.chicagobotanic.org/research/conservation/invasive.html

Aquatic Invasives

www.epa.gov/owow/invasive_species

Chicago Wilderness Plants of Concern

www.plantsofconcern.org/

Undesirable Non-Native Plant Species

| <u>Common Name</u> | <u>Genus/species</u> | <u>Growth Form</u> |
|-----------------------|-----------------------|--------------------|
| Box Elder | Acer negundo | Tree |
| Garlic Mustard | Allilaria officinalis | Groundcover |
| Tartarian Honeysuckle | Lonicera tatarica | Vine or Shrub |
| Reed Canary Grass | Phalaris arundinacea | Grass |
| Common Buckthorn | Rhamnus cathartica | Shrub |
| Glossy Buckthorn | Rhamnus frangula | Shrub |
| Multiflora Rose | Rosa multiflora | Shrub |
| Purple Loosestrife | Lythrum Salicarai | Flower |

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Resources

- **Bull Creek/Bull's Brook Watershed Management Plan**
Chapters, Appendices downloadable in PDF format
www.co.lake.il.us/smc/shedprofiles/BullBrkDP/BullBrookPlan.asp
- **Libertyville Township Open Space District**
www.libertyvilletownship.us/
- **Fremont Township**
www.fremonttownship.com/
- **Why Stream Corridor Restoration is Important**
Indian Creek Watershed Project, Ltd.
To request a copy, email: cleanwater@indiancreekwp.org
- **Living With Wetlands: A Handbook for Homeowners in Northeastern Illinois**
The Wetlands Initiative. Downloadable in PDF format.
www.wetlands-initiative.org/
- **Septic Systems Installation, Permits, Maintenance**
Lake County Health Department, Environmental Health
www.co.lake.il.us/health/ehs/isd.asp
For Libertyville Township residents: (847) 984-5000
- **Household Chemical Waste and Electronics Collection, Paint Disposal, Other**
Solid Waste Agency of Lake County (SWALCO)
www.co.lake.il.us/swalco/ or call (847) 336-9340
- **Pesticide, Sodium Chloride and Fertilizer Options**
Lake County Health Department, Lakes Management Unit
www.co.lake.il.us/health/ehs/lakes.asp or call (847) 377-8020
- **Southwestern Illinois Landowner's Guide to Stream Protection and Preservation**
Southwestern Illinois Resource Conservation & Development, Inc.
www.swircd.org or call (618) 566-4451
- **Riparian Area Management: A Citizen's Guide for Stream Management**
Lake County Stormwater Management Commission (SMC)
www.co.lake.il.us/smc/publications or call (847) 918-5260
- **Watershed Plans, Stream Restoration/Bio-Engineering**
Lake County Stormwater Management Commission (SMC)
www.co.lake.il.us/smc or call (847) 918-5260
- **Nonpoint Source Pollution Best Management Practices**
U.S. Environmental Protection Agency (EPA)
www.epa.gov/owow/nps/
- **WI-IL Upper Des Plaines Ecosystem Partnership**
<http://www.upperdesplainesriver.org>
- **Rain Gardens**
University of Wisconsin Extension Service. Homeowners manual available to download in PDF.
<http://clean-water.uwex.edu/pubs/home.htm#rain>

Bull Creek/Bull's Brook Watershed

Glossary

Algal Bloom - Some algal blooms are the result of an excess of nutrients (particularly phosphorus and nitrogen) into waters. Higher concentrations of these nutrients in water cause increased growth of algae and green plants. As more algae and plants grow, others die. This dead organic matter becomes food for bacteria that decomposes it. With more food available, the bacteria increase in number and use up the dissolved oxygen in the water. When the dissolved oxygen content decreases, many fish and aquatic insects cannot survive. This results in a dead area.

Conveyance - The act of carrying or transporting water from one water body to another.

Native Plants - Native plants are those that evolved naturally in North America that grow in communities with species adapted to similar soil, moisture, and weather conditions.

Invasive Plants - An invasive plant has the ability to thrive and spread aggressively outside its natural range. They produce large numbers of new plants each season. They can tolerate many soil types and weather conditions. Invasives spread easily and efficiently, usually by wind, water, or animals. They grow rapidly, allowing them to displace native plants. Invasives at their worst spread rampantly when they are free of the natural checks and balances found in their native range.

Nonpoint Source (NPS) Pollution - Unlike pollution from industrial and sewage treatment plants, non-point source pollution comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include: excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from urban runoff and energy production; sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks; salt from ice melting procedures; bacteria and nutrients from livestock, pet wastes, and faulty septic systems.

Runoff - Water from rain, snowmelt or irrigation that flows over the land is not absorbed into the ground, but flowing into streams or other surface waters or land depressions.

Swale - A shallow trough or depression lined with vegetation that carries water during rainstorms or snow melts.

Watershed Plan - A watershed plan is developed to provide direction and target resources for better management and restoration of the watershed. The plan serves as a blueprint for improving water quality, reducing flood damage, and protecting natural resources in a watershed — and for preventing existing watershed problems from worsening as a result of future land development. Additionally, watershed planning offers an opportunity for multiple jurisdictions and other stakeholders with varying priorities to coordinate their efforts and accept their responsibility for the impact their actions have both up and downstream.

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A Homeowner's Guide to Preserving Your Watershed

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