



Washington Conservation District Conservation Connections

FALL 2009



The waterlilies here have dried up, but the roots will survive, ready to adapt to the return of water. New species like smartweed or Bidens grow on the exposed mudflat. These plants offer valuable food for migrating shorebirds, and will go dormant when water returns.

Water Above, Water Below

Understanding the connections between groundwater and surfacewater.

Washington County is home to an abundance of groundwater-dependent resources, from the spring-fed streams flowing into the St. Croix River to the low lying swamps of Hugo and Forest Lake and the tamarack bogs around Scandia.

Groundwater flows to the surface in these areas, supporting plant and animal life that benefit from cold groundwater. “Many people are aware of cold, groundwater-fed streams that support trout,” said WCD’s Jyneen Thatcher. “Other examples include fens, which are formed when a constant seepage of groundwater creates a buildup of peat soils on a sloping landscape, creating conditions for plants you don’t see in other wetlands.”

Wetlands and ponds that are dependent on groundwater may change their appearance over the summer. As the groundwater level falls in its seasonal pattern, so does the water in the wetland.

Over the past several years of drought, many ponds have gone dry. Though landowners may be concerned, the change is part of a natural cycle that allows new vegetation to grow in the mudflats. This vegetation will either die back when higher water levels return, or will maintain a root-hold as wildlife food and cover, with the added benefit of stabilizing the soil from erosion caused by waves or changing water levels.

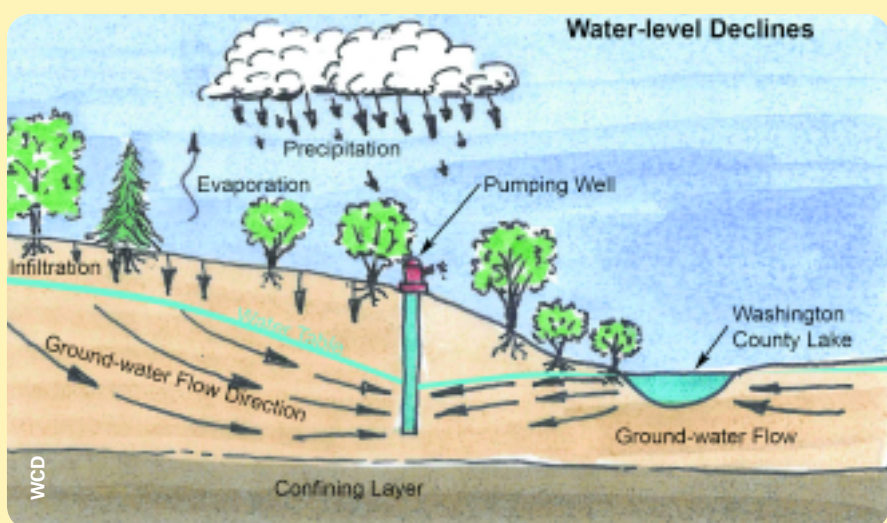
Groundwater is recharged and replenished when water pools in a surface depression and trickles down through the surface and sub-surface layers of soil, into deep aquifers that supply our drinking water. If the soil has small particles packed tightly together, infiltration can take so long that the water can form semi-permanent or permanent waterbodies such as wetlands or even lakes. As the water is drawn deeper into the soil by gravity, it is filtered

and cleaned by the soil particles and microbial action. In between the ground surface and the aquifers, narrow lenses of groundwater can become trapped between restrictive layers of compacted soil or bedrock. These lenses can form a sub-surface water table, which is usually not suited as drinking water but which can affect landuses such as development or agriculture.

Because of the complex processes involved, groundwater-dependent lakes, wetlands and streams may take awhile to “bounce back” from low water levels. With increased rain and snowmelt — and time — our resources will return to their pre-drought levels.



The groundwater-fed wetlands along Brown’s Creek tributaries contain Joe-pye weed, turtlehead and other unusual plants.



In times of drought, water levels decline in surface waterbodies and eventually in groundwater. When water levels become low enough, groundwater stops feeding lakes and streams — and well pumps generate air instead of water.

TIME TO ORDER TREES!



Look for new species this year, including bitternut hickory and black maple — which are both native to Minnesota, including Washington County, but

relatively uncommon here. Like all species, these trees have specific soil and moisture requirements and will do best if planted in the correct conditions. From the list of less-frequently offered species, we will have butternut, black spruce and American basswood (the native linden tree). Visit our website for more information.

Stormwater Audit Update

Thank you to the residents near Long Lake, Benz Lake and McKusick Lake who participated in our Stormwater Audit Pilot Program. This program offers free property visits that help landowners learn about protecting water quality. Stormwater Audits will be offered through the fall to residents living along Perro Creek (Bayport) and Lily Lake (Stillwater). WCD is conducting this program in partnership with the Middle St. Croix Watershed Management Organization and the Brown’s Creek Watershed District. The program will be open to more areas in the County in the early spring of 2010. For more information, contact WCD’s Wendy Griffin or Amy Carolan. This program is funded by the Board of Water and Soil Resources Clean Water Legacy Program.

STAFF UPDATES:



Lynnae Howe joined us as a Seasonal Water Quality Technician, and has been pulling lake and stream samples for testing, entering water quality data into our database and helping with raingarden designs.

After receiving a B.S. degree in Agricultural Education from the University of Wisconsin-River Falls, Lynnae spent three years as a High School/Middle School Agriscience teacher in Wisconsin. She is currently finishing the Master of Agriculture in Horticulture Program at the University of Minnesota.

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PROVIDING QUALITY TECHNICAL AND EDUCATIONAL SERVICES FOR THE
CONSERVATION OF NATURAL RESOURCES IN WASHINGTON COUNTY SINCE 1942.

1380 West Frontage Road / Highway 36 / Stillwater, MN 55082 / 651-275-1136 / www.mnwcd.org

TREE ORDER FORM ENCLOSED!

Check our website for updated information on seedling availability.



The summer field season is over, but fall continues to be busy here at WCD. In the coming months we will be analyzing water quality data, generating reports and designing projects for construction next summer. Call us for early planning assistance.



Washington Conservation District
1380 West Frontage Road, Hwy 36
Stillwater, Minnesota 55082

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PARTNERS IN CONSERVATION

First Presbyterian Church of Stillwater

The First Presbyterian Church of Stillwater is demonstrating a strong commitment to stewardship of our land and water. With assistance from WCD staff and the Association of Metro Soil and Water Conservation Districts, the church converted 2,000 square feet of its grounds from turf grass into two beautiful raingardens.

The raingardens capture and filter rain and snowmelt from more than 32,000 square feet of land. WCD estimates that each year the gardens keep one pound of phosphorous and 60 pounds of sediments from flowing into the St. Croix River.

Located near the Washington County Government Center, the church raingardens offer a high visibility demonstration site for county residents — and church officials have made the gardens available for public tours. Local boy scout troops have volunteered to pull weeds in the garden, and members of the church congregation are actively engaged.

The church has expressed continued interest in innovative stormwater management techniques for a potential parking lot reconstruction, and WCD staff will continue to provide technical assistance as they move forward.

“First Presbyterian Church of Stillwater has gone above and beyond local stormwater management requirements to plan, install and promote conservation practices,” said WCD Engineering Specialist Peter Young. “The church raingardens are some of the most visible and well-maintained conservation projects in Washington County thanks to church staff, church members and volunteers from the local community.”



In fall 2007, one month after the project’s installation, the “spillway” connecting the two raingardens was still clearly visible.



In summer 2009, nearly two years after installation, thick vegetation has covered the spillway and coneflower and butterfly weed can be seen in bloom.

? Conservation Quiz

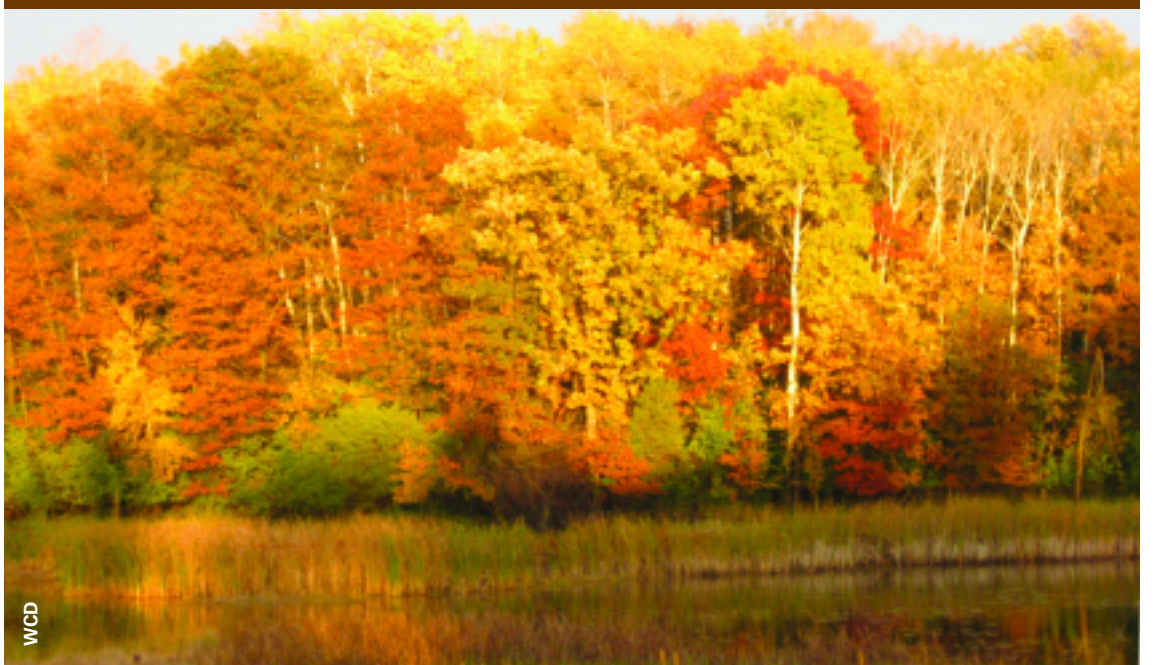


What is this?

- A. Watertable observation well
- B. Frog elevator
- C. Game called “hide the string”

A. By dropping a measuring tape into this simple tube, our staff can directly measure the depth and presence of water. The Minnesota Department of Natural Resources or local watersheds track the measurements to document changes in the pattern of water table elevation, or current conditions.

PLANTING FOR CLEAN WATER IN WASHINGTON COUNTY



This year, more than 150 people attended Blue Thumb – Planting for Clean Water workshops in Washington County. The workshops, held in Afton, Cottage Grove, Forest Lake, Lake Elmo, Lake St. Croix Beach and Stillwater, provided information and resources for people to plant native gardens, raingardens and shoreline projects at their homes. Thanks to these and other outreach efforts, the WCD and local watershed agencies are working with county residents to install more than 100 projects this year. Look for similar workshops in your area beginning in early 2010. You can also stop by our office in the Valley Ridge Mall to view our window displays of weeds or other natural features.