

Keeping a watch on water

Thurston County's Environmental Monitoring Program is among the best in the state, and is often used as an example for other counties. The program collects, archives, processes and posts environmental and ground water data for the public to view and download free of charge.

With just a few clicks, residents and agencies can access daily ground water data; hourly precipitation and stream flow records; and water-quality information from Thurston County Environmental Health.

Thurston County began collecting data on streamflows, precipitation, water quality, and lake levels in the late 1980s with six data collection stations in the northern part of the county. Since then, the program has grown substantially and now includes monitoring in Olympia, Tumwater and Lacey. Monitoring in the cities is performed in partnership with city stormwater programs.

Thurston County and its cooperating agencies use the data to track water quality in streams and water bodies, plan for development, and monitor changes in watershed characteristics after development has occurred.

The program also collects and tracks water levels in areas that are prone to ground water flooding, such as the Salmon Creek Drainage Basin south of Tumwater. Thurston County uses the data to forewarn residents about possible ground water flooding.

Today, the county and its partners operate 13 precipitation stations, 11 streamflow stations, and 12 ground water monitoring stations. In 2006, the county also added a real-time weather station to the county courthouse complex on Lakeridge Drive S.W. in Olympia.

To view the monitoring data, visit www.co.thurston.wa.us/monitoring.



Monitoring data is used to assess the health of Thurston County's rivers and streams.

Storm and Surface Water Utility services

The Thurston County Storm and Surface Water Utility is a ratepayer-financed program of the Department of Water and Waste Management. The utility provides programs and projects to reduce flooding, erosion and pollution caused by stormwater runoff, while protecting and enhancing aquatic habitat. The services are designed to comply with National Pollutant Discharge Elimination System (NPDES) requirements. Among other things, the utility:

- ◆ Provides on-site consultations for ratepayers who have drainage problems.
- ◆ Builds projects to reduce local stormwater flooding and pollution.
- ◆ Organizes "Stream Team" volunteers to protect streams.
- ◆ Performs water-quality monitoring to protect streams and drinking water supplies from polluted runoff.
- ◆ Develops basin plans to guide future actions that might affect hydrology.
- ◆ Develops policies to reduce erosion and runoff caused by new development. (Policies are subject to review by the public and approval by county commissioners.)

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SPLASH Newsletter

Thurston County
Storm and Surface Water Utility
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Olympia, Washington 98502

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Thurston County Storm and Surface Water Utility News

February 2008

You're in the Stormwater Utility

Thurston County is growing – and not just in the north area surrounding Lacey, Olympia and Tumwater but all over, including areas surrounding Yelm, Tenino, Rochester and Rainier.

With this growth comes more hardened, impervious surface such as roofs, roads and driveways. Rainfall which previously soaked into forest and pasture soils travels along these hard surfaces, picking up motor oil, pesticides, fertilizers, trash and bacteria from pet waste. The runoff is often conveyed directly into a stream or river, creating pollution and sudden, localized flooding. In other cases, the runoff flows to a stormwater pond, where it soaks into the ground, the source of our drinking water.

Stormwater pollution threatens the quality of water we need for our health, recreation and livelihoods. Rainwater infiltrates into the ground water table and becomes our drinking water. Ground water, in turn, flows into our lakes, streams and rivers, contributing cool water that supports an abundance of aquatic life, including threatened species of coho and steelhead salmon. These waters recognize no lines on a map.

As Thurston County grows, it must meet new federal and state regulations, including the National Pollutant Discharge Elimination System (NPDES). The NPDES requires cities and counties of a certain size to meet regulations for managing stormwater runoff.

In response, Thurston County commissioners adopted an ordinance to expand the Storm and Surface Water Utility boundary. Today, the utility encompasses the entire county, not just the more urbanized areas.

With an expanded, countywide stormwater utility, Thurston County is better equipped to meet regulations and manage stormwater pollution – from its source to its final destination. This effort is especially important, because stormwater runoff is the leading source of pollution in Puget Sound.

For the average single family residence, the stormwater fee equates to approximately \$3 per month. For more details, see the back page – or better yet, dive into the entire publication to learn how utility services can help protect your health, property, and the environment.



Most of the oil pollution in water bodies comes from vehicles, not oil tankers.

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Stormwater fee appears on tax statements countywide

If you live in the northern part of Thurston County, around the more urbanized areas of Lacey, Olympia and Tumwater, the stormwater portion of your property-tax statement is nothing new. But if you live in the outlying portions of unincorporated Thurston County, you may see a new fee included on your statement. The reason: The programs, services and rates of the county Storm and Surface Water Utility now apply to all developed properties in unincorporated Thurston County.

For the average single family residence, this fee equates to approximately \$3 per month. To look at it one way, for about the price of a gallon of gas, ratepayers will help safeguard groundwater aquifers that supply our drinking water and help protect local rivers and streams.

(Note: Qualified seniors and disabled property owners may be exempt from stormwater fees.)

See how stormwater rates are calculated by visiting the "Stormwater" link of www.co.thurston.wa.us/wwm.

Property Address	
Calculation of Taxes and Charges	
Land	
Buildings	
Personal Property	
Total Taxable Value	
Regular Tax Rate	
Voted Tax Rate	
Total Tax Rate	
Regular Taxes	
Voted Taxes	
Total Taxes	
State Forest Fire Protection Conservation District	
Noxious Weed	
Stormwater	Some Thurston County residents will see this line for the first time on this year's property tax statement.
Total Other Charges	
Due April 30, 2007	
Due October 31, 2007	
Total Amount Due 2007	



Research before taking the plunge

If you're thinking about buying property or a new home, be sure to research water issues before taking the plunge. A great way to start is to visit Thurston County's GeoData Web site at www.geodata.org. While the maps are not 100 percent accurate for every parcel, they do provide a wealth of information about flood zones, high ground water areas, watershed boundaries and nearby water bodies – even zoning and school districts. You may also be able to see an aerial photograph of your land. Here's how:

Click on www.geodata.org and select "parcel search."

Enter your street number only, such as "2709" (the street name is not required), and click "go." Scroll until you find your address, then click on the parcel number to see details. (Hint: Adding your street name can be problematic, because the Web site is sensitive to punctuation.)

Read down the page to see information about your property, or click "zoom map to parcel" at the top of the same page to see a map. Click the square and the circle next to the feature you want to see on the map, and click "refresh." (Hint: To understand color-coding on zoning maps, click "legend" at the top of the page.)

River flooding not the only kind

This past December, many south county residents were devastated by Chehalis River flooding after a period of extreme rain.

When most people think of flooding, they envision this type of event; however, Thurston County experiences other types of flooding, determined mostly by soil conditions and terrain.

Much of the soil in southern Puget Sound is glacial outwash, which is loamy sand or gravelly-sandy soils that drain well; however, the loose soils allow water to travel in both directions. The water travels down through the soils easily, but it also resurfaces easily if it meets an underlying layer of compacted soil or rock. These soil conditions can cause water to flow over surfaces during heavy storms.

In some areas, the gravelly-sandy soils drain into underground water tables, which rise and flood low-lying pockets of land. If the water tables are naturally close to the surface of the land to begin with, heavy and prolonged rainfalls are more likely to cause the water tables to rise and cause flooding. These "high ground water hazard areas" are identified on Thurston County's Geodata Web site.

Problems with drainage? Give us a call!

If you have questions about drainage problems, water pollution, or how to comply with county stormwater standards, give us a call. Staff from the county Storm and Surface Water Utility will provide free technical help for any ratepayer. To schedule a time, call Jim Bachmeier at 754-4275 or e-mail bachmej@co.thurston.wa.us.



In all high ground water areas, water will surface much faster if the aquifer was already high because of previous, prolonged rains.

The size and steepness of a watershed also contributes to the timing and severity of flooding events. The Salmon Creek Drainage Basin, south of Tumwater, drains very slowly because it is wide and flat. Storms that cause "gullywashers" in smaller, steeper watersheds can leave water sitting underneath properties in the south, waiting for the next storm and the next.

Before buying a home or property, check the county's GeoData Web site to see whether the property is located within a flood zone or high ground water area. (See the sidebar to the left.) Properties in these areas are identified and protected through land-use planning and zoning regulations. The major high ground water flooding areas are the Salmon Creek, Chamber's Creek, Yelm Creek, Thompson Creek, and Scatter Creek drainage basins.

Even if the property is not identified as a high ground water area, check out the soils and landscape position in the watershed. Homes on tight clay soils may experience surface flooding during heavy storms.

Project protects Pattison Lake

Each year, the Storm and Surface Water Utility designs and builds projects to protect our water resources. Recently, the utility completed a project at Lakemont and 49th, on the northeast shore of Pattison Lake.

The project involved replacing failing catch basins (storm drains) and drywells with a new system that reduces flooding and removes pollutants with a special separating device.

Today, the local community is better protected from flooding, while Pattison Lake and the surrounding ground water aquifer are less likely to receive sediment, debris and oil from stormwater runoff.

To learn more about capital facilities projects and how they are evaluated and prioritized, visit the stormwater page of www.co.thurston.wa.us/wwm.



Construction at Lakemont and 49th.

Help for Yelm and Thompson creeks

Thurston County will be collecting data on the changing hydrology along Thompson Creek near Yelm thanks to a grant from the state Department of Ecology. Homes, roads and bridges in the area have been damaged over the past several winters due to localized flooding.

The county will be gathering streamflow, precipitation and ground water data to help planners shape current and future land-use decisions.



Flooding near a housing development in Yelm.

SSWAB wants you!

If you live in unincorporated Thurston County and are interested in stormwater issues, consider joining the Storm and Surface Water Advisory Board (SSWAB).

SSWAB is a group of volunteers who advise the utility on issues such as rates, construction projects, public information efforts, staff work plans and stormwater policies.

SSWAB is seeking two new members from the expanded utility area, especially in areas previously outside the utility boundary. Nominees are appointed by county commissioners.

The city and Thurston County will also use the data to re-evaluate flood zone maps and update jointly-adopted flood hazard plans.

The Thurston County Storm and Surface Water Utility is also providing funds for the project, along with the state grant.

Meetings are scheduled for 5:30 p.m. on the following days: Feb. 14, March 13, May 8, June 12, Aug. 14 and Oct. 9.

Meetings are usually held at the Roads and Transportation Building, located at 2404 Heritage Court, a cul-de-sac located off of Evergreen Park Drive S.W. in Olympia. This year, several meetings will also take place in Yelm, Tenino and other south county locations, to be determined at a future date.

Please call the Storm and Surface Water Program at 357-2491 if you're interested in volunteering for SSWAB, or to verify meeting locations.

Tanglewilde fix to benefit Woodland Creek, Puget Sound

Good news! The state Department of Ecology has awarded Thurston County a \$750,000 grant to tackle stormwater pollution that enters Woodland Creek from the Tanglewilde area. The stormwater enters the creek from an outfall pipe on Martin Way, which is the single largest source of fecal coliform bacteria in the creek.

Woodland Creek is targeted for action because fecal coliform bacteria levels exceed state standards. Also, the creek flows into Henderson Inlet, where hundreds of acres of tidelands are now closed to shellfish harvesting because of high levels of fecal bacteria.

Many of Tanglewilde's residential and commercial developments were built 30 to 50 years ago, when the county had fewer regulations for land use, septic systems, and stormwater management. Years ago, a system that infiltrated stormwater into the ground failed, and the solution at the time was to collect and send stormwater directly into Woodland Creek. Today, the Tanglewilde stormwater system contributes nearly half of the bacteria load to the creek during the wet season.



A well-maintained swale in the Countrywood Park neighborhood.

The grant funds will be used to build 20 rain gardens and repair 83 drywells and 5.5 miles of bioswales in the Tanglewilde area.* The project will take three years and will also be funded, in part, by the county Storm and Surface Water Utility.

The grant is the latest chapter in a long effort to reduce pollution in Woodland Creek. In 2006, Thurston County, in partnership with the City of Lacey and the LOTT Wastewater Alliance, hired consultants to examine the sources of pollution in Woodland Creek and recommend ways to reduce the contamination. The grant-funded projects described here are based on the recommendations.

Thurston County continues to work closely with the Tanglewilde community to find solutions to protect Woodland Creek and Henderson Inlet. For more information, visit the environmental health page of www.co.thurston.wa.us/health.

* Drywells and bioswales capture and infiltrate stormwater runoff. Typically, drywells are perforated pipes dug into the ground, and bioswales are shallow, grass-lined ditches.

Create a rain garden!

Join Stream Team for a hands-on workshop where you'll learn how to design and install a beautiful rain garden. Building a rain garden is an attractive, effective way to manage your home's drainage while protecting our local waterways, including Puget Sound!

Choose one of the following sessions, each from 6:30 p.m. to 9:30 p.m.

- ◆ Monday, Feb. 25, in Yelm
- ◆ Thursday, March 6, in Olympia
- ◆ Thursday, April 3, in Tumwater
- ◆ Thursday, April 17, in Lacey

Workshops include free manuals and other materials to help you start designing a rain garden in class.

Workshops are free, but registration is required so we can tell you what information and samples to bring from your yard.

Participants are invited to gain further experience by helping create rain gardens at local schools in April and May.

Contact WSU Thurston County Extension, Native Plant Salvage Project to register or for more details: 754-3588 ext. 110 or ericag@wsu.edu.