

## Groundwater Flooding Information

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Thurston County  
Emergency Management  
754-3360

## Thurston County



Emergency Management

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# Groundwater Flooding

Frequently Asked Questions, Winter 2011

**W**e've sent you this information because your property is in or near an area prone to groundwater flooding. The La Niña winter of 2010-11 promises to continue to be a wet one. With heavy rainfall comes the threat of groundwater flooding. The area's last major groundwater flooding in 1998-99 damaged homes, other structures and septic systems, contaminated wells and contributed to landslides. We've prepared this information to answer frequently asked questions about groundwater flooding and your safety.



Smith Prairie, 2007

## Q What causes groundwater flooding?

Groundwater flooding happens when soil becomes too saturated from rainfall to absorb more water and the water table rises to the surface. Much of the soil in Thurston County is glacial outwash—loamy sand or gravelly-sandy soils that drain well. The loose soils, however, allow water to travel in both directions. Soils that allow water to easily soak into the ground also allow water to rise to the surface when it hits an underlying layer of compacted soil or rock.

## Q How high are local water table levels?

As indicated on page 3, groundwater levels in several locations in Thurston County are less than 10 feet from the surface. Put into perspective, these levels are as high as last year's peak at the end of the rainy season in April. This is concerning as we are only half way through this year's rainy La Niña season.

Groundwater levels rose as much as three feet over 10 days in mid-December following 7.5 inches of precipitation that fell in this time span.

The county's Resource Stewardship Department operates monitoring stations across the county. Water level measurements are collected hourly through electronic devices inserted in a well network. This data is used to create a monthly hydrograph of water level elevations. Details are available at [www.co.thurston.wa.us/monitoring/](http://www.co.thurston.wa.us/monitoring/)

## Q What can I do to protect my home and property?

The best long-term solution to groundwater flooding is to elevate your home on a new foundation. Tips and details on home elevation are available by contacting the county's Resource Stewardship Department at 754-3355, ext. 6647. In the short term, we recommend the following measures:

1. **BUY FLOOD INSURANCE** (see information, page 2).
2. Elevate furnaces, water heaters, appliances and electrical panels.
3. Store paint, pesticides, fertilizers and other hazardous materials in plastic buckets or off the floor. Take unwanted hazardous items to the HazoHouse. Details at 754-3354.
4. Store important documents and irreplaceable personal objects where they won't get damaged.

## Q Can pumps and sandbags prevent groundwater flooding?

Unfortunately, sandbags are ineffectual in stopping groundwater from coming to the surface. When water is pumped, more groundwater is likely to rush in to fill the void. Unlike river flooding, groundwater flooding takes a while to subside because water has to find its way out of the groundwater basin toward the river.

## Important Contact Numbers

- National Flood Insurance: 1-888-379-9531
- Building Information:  
Resource Stewardship: 754-3355, ext. 6647
- Well Safety and Septic System Information:  
Environmental Health: 867-2673
- Emergency Management: 754-3360
- Ditches and Culverts: Roads Maint: 786-5495
- HazoHouse: 754-3354



**Q** Will flood insurance cover groundwater flooding damage?

Yes! The National Flood Insurance Program offers insurance that covers damages due to groundwater flooding. National Flood Insurance, a federal program, is sold through many private insurance companies. It is the only dependable form of financial protection against flood damage.

The Standard Flood Insurance Policy defines a flood as, *A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or two or more properties (at least one of which is your property) ... from unusual and rapid accumulation of runoff of surface waters from any source.*

Through mitigation and preparedness actions, Thurston County has earned a 25% discount for flood insurance rates available to residents in the unincorporated areas. This translates into an average annual savings of \$238 per property. Complete details are available at [www.floodsmart.gov](http://www.floodsmart.gov) or at 1-888-379-9531.



**Important:** Act today! There's a 30-day waiting period after the first premium is paid before the policy is effective.

**Q** How do I find out if my property is in a groundwater flooding zone?

Major groundwater flooding areas are drainage basins of the following creeks: Salmon, Chambers, Yelm, Thompson and Scatter. High groundwater hazard areas are identified on the county's GeoData website, [www.geodata.org](http://www.geodata.org) While the maps are not 100% accurate for every parcel, they do provide a wealth of information about high groundwater areas. Here's how to find information on your property:

- Click on [www.geodata.org](http://www.geodata.org) and select parcel search.
- Enter your street number such as "2709" (street name is not required), and click "go." Scroll until you find your address; then click on the parcel number to see details.
- Read down the page to see information about your property, or click on "zoom map to parcel" at the top of the same page for a map. Click the square and the circle next to the feature you want to see on the map. (Hint: to identify the color coding of the maps, click on "legend" at the top of the page.)

**Q** Is my well contaminated?



If floodwater pools around your well casing or enters through the vents, treat the water as contaminated. Don't use it to drink, to wash, or to prepare food. Test it as soon as possible. Drink bottled water until you're sure your well water is safe.

Complete details on drinking water safety and well testing are available at the county's Environmental Health Lab at 786-5465, or visit [www.co.thurston.wa.us/health/ehdw/lab.html](http://www.co.thurston.wa.us/health/ehdw/lab.html)

**Q** What should I do if my septic system floods?

Signs of a failed septic system include water over the drainfield, a sewage odor, sewage backing up into the house, and slow running drains especially after taking a shower or doing the laundry.

If your drainfield is saturated or underwater, keep water use to a minimum. Reduce toilet-flushing, use paper products rather than washing dishes, avoid prolonged showers and baths, and doing laundry at home.

Most standard, gravity septic-systems recover fairly well; an occasional flush, shower, or rinse won't cause serious problems. However, pump systems – such as mounds or pressure distribution systems – require additional care.

If you have a pump system, turn off power to the system if the septic tank, drainfield, or pump station is underwater. Otherwise, groundwater can leak into the pump chamber, triggering the pump to operate even when you're not producing wastewater.

Once the floodwaters recede, switch the pump on and let it run for three or four minutes then turn the pump off. Repeat this cycle every six hours until the pump shuts off automatically. For more information, call Thurston County Environmental Health at 360-867-2673, or visit [www.co.thurston.wa.us/health/ehoss/index.html](http://www.co.thurston.wa.us/health/ehoss/index.html)

Salmon Creek Basin - Thurston County - Groundwater Elevations - December 19, 2010

