



# GEOLOGICALLY HAZARDOUS AREAS

Updated June 21, 2012

## A 2012 Critical Areas Update Fact Sheet

### WHAT IS A GEOLOGICALLY HAZARDOUS AREA?

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Geologically hazardous areas are places highly susceptible to erosion, landslides, earthquakes, lahar flows or other geologic events. Their designations are dependent upon slope, soil type, geologic material, and hydrologic conditions. In Thurston County, the most hazardous of these areas are typically found along steep slopes, marine shorelines and stream valleys. In many cases, these areas may be extremely desirable for development because of the scenic view or water and beach access, but their development may endanger people, property, and water resources.

Geologically hazardous areas only become “disasters” when people, property and infrastructure are vulnerable or are located on, or near, the hazardous area. In 1999, for example, heavy rainfalls caused the slope at Carlyon Beach to give way, destroying several homes. Also, earthquakes can cause severe

damage to structures built on unstable soils, such as fill and river deposits. Thurston County, particularly properties in the City of Olympia, incurred significant damage from the effects of the 2001 Nisqually



earthquake. A Mount Rainier lahar (debris flow from volcanic activity) could send mudflows down the Nisqually River Valley and sweep away trees and structures in its path.

The potential Critical Areas Ordinance amendments seek to protect people and their property, and minimize the impacts of geologic hazards.

### HOW DO I KNOW WHETHER I HAVE A GEOLOGICALLY HAZARDOUS AREA ON MY PROPERTY?

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Approximate locations of some critical areas in Thurston County are available in the Resource Stewardship Permit Assistance Center and may also be shown on Thurston County’s GeoData website: [www.geodata.org](http://www.geodata.org). It is important to note that maps are intended to be used as a guide and do not provide a definitive designation. You may call the Thurston County Permit Assistance Center at (360) 786-5490 or visit the Permit Assistance Center in Building 1 of the Thurston County courthouse complex, 2000 Lakeridge Drive S.W. in Olympia. The Permit Assistance Center is open from 8 a.m. to 12:30, Monday through Friday.

Thurston County also offers a critical area review service whereby a staff member will visit a property to help identify critical areas and the possible buildable area before a property owner submits a permit application. This service, subject to fees, helps property owners develop better site plans. A more rigorous environmental review of the site plan itself is conducted during the permit-review process.

# IMPORTANT THINGS TO KNOW

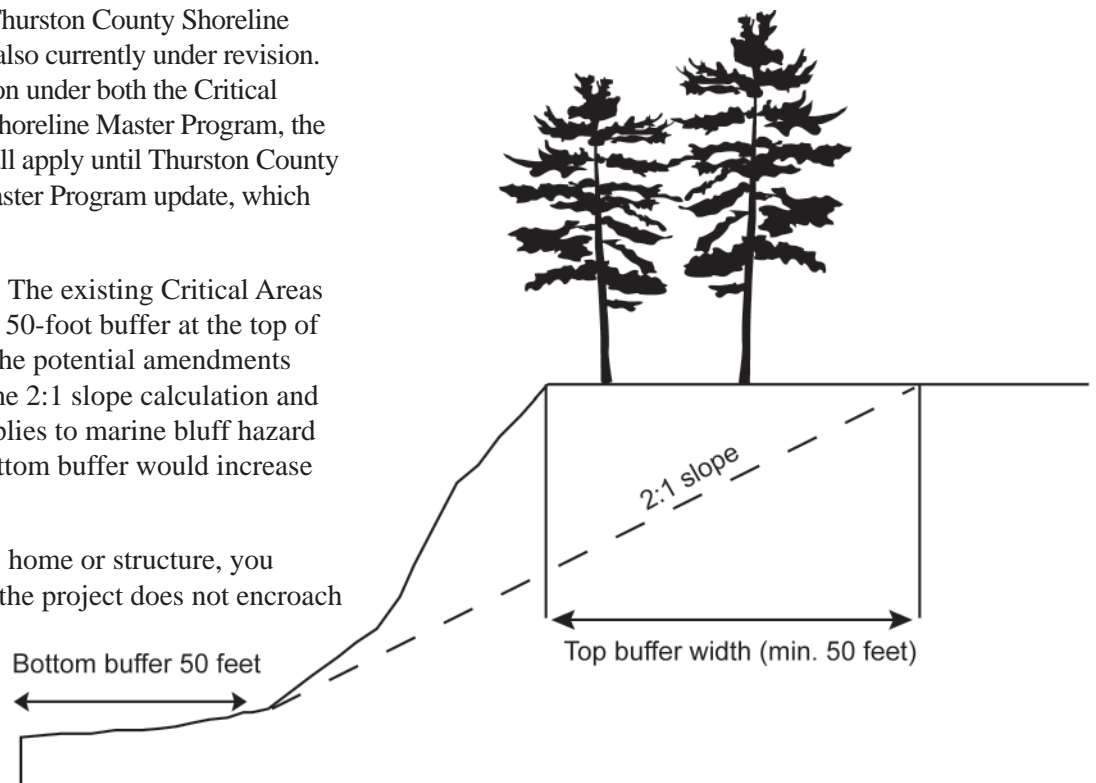
- Marine bluff and landslide hazard areas are determined by the steepness of the slope and the stability of the soils. Generally, the amendments would apply to slopes of 40 percent or greater. Currently regulations are applied to slopes of 50 or greater. If the soils are unstable – for example, if they contain sand, gravel or springs – the amendments would generally apply to slopes that are 15 percent or greater (currently 30% or greater).
- **Marine bluff hazard areas:** To protect the safety of residents and their properties, the existing Critical Areas Ordinance establishes buffers at both the top and the bottom of marine bluff hazard areas. In other words, property owners can't build too close to the top of the slope because the slope could give way, or too close to the bottom of the slope where a slide could submerge their property.

The top buffer is calculated by drawing a line at a 2:1 angle from the ordinary high water mark upward to where the line intersects the surface of the ground at the top of the slope. The minimum top buffer is 50 feet. This provision would remain the same. The buffer at the bottom of the slope, however, would increase from 25 feet to 50 feet. Marine bluff hazard areas also frequently overlap with marine riparian areas (see the companion “Riparian Areas” fact sheet by clicking the “Critical Areas Update” link of [www.ThurstonPlanning.org](http://www.ThurstonPlanning.org)).

Note: Marine bluff hazard areas are also regulated under a different ordinance: the Thurston County Shoreline Master Program, which is also currently under revision. In areas subject to regulation under both the Critical Areas Ordinance and the Shoreline Master Program, the most protective criteria shall apply until Thurston County completes its Shoreline Master Program update, which will then take precedence.

- **Landslide hazard areas:** The existing Critical Areas Ordinance sets a standard 50-foot buffer at the top of a landslide hazard area. The potential amendments would instead use the same 2:1 slope calculation and 50-foot minimum that applies to marine bluff hazard areas (see above). The bottom buffer would increase from 25 feet to 50 feet.
- If you plan to build a new home or structure, you would need to make sure the project does not encroach on the buffers.

- Houses and other structures that are already located within buffers could stay where they are. If a portion of the house or structure is outside the buffer, the property owner could also expand the footprint in that area.
- In most cases, grading activities and removing native vegetation and trees would be prohibited in the buffers – this is true in the existing ordinance as well. Property owners could, however, continue to maintain existing lawns, landscaping, gardens, athletic fields, playgrounds and parks, provided the work did not involve further expansion beyond the existing developed area.
- Thurston County could allow the trimming or removal of vegetation to the minimum extent necessary to provide an approved pedestrian access or view corridor.
- Thurston County could authorize the stabilization of a steep slope or marine bluff in order to protect an existing structure, depending on alternatives as well as impacts to ecological functions.
- To protect property owners from physical harm and property damage, a geologic assessment would be required when a property owner applies for a building permit within or adjacent to a geologically hazardous area.



## BEST AVAILABLE SCIENCE

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The potential amendments are based on scientific information that is already deemed Best Available Science by the state and federal governments, Growth Management Hearings boards, courts, and other western Washington counties. A list of sources is posted on the “Critical Areas Update” link of [www.ThurstonPlanning.org](http://www.ThurstonPlanning.org).

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