

## Winter storm information for North Coast residents

### **Landslides: A natural element in the North Coast Range**

- Landslides have occurred in the North Coast Range for thousands of years, the result of heavy rains, steep slopes and unstable soils. As we live, work and build here, we must remember that this is an ever-shifting landscape, and conduct our activities in ways that minimize risks to our safety.
- The storm of December 2 and 3 was one of the area's most powerful in recent years, and accordingly, we saw more landslide and flood activity than in most years.

### **Timber harvest and landslides**

- Landslides occur in forests of all ages, and in forests that have been harvested and those that have not. However, slides occurring beneath the tree canopy in mature forests are not as readily visible as those in younger stands, such as those that have been recently harvested and replanted.
- A Department study in 1996 showed higher landslide activity in stands that have been harvested in the preceding nine years, and also in stands older than 100 years. Poor design or construction of forest roads also can contribute to landslide risk.

### **Oregon's Forest Practices Act minimizes risk**

- Because landslides are natural, inevitable parts of the landscape, Oregon's forestry rules don't seek to prevent them, but to manage risk to public safety by minimizing forest practices' contribution to erosion and landslide potential.
- Rule protections can include measures such as prohibiting timber harvest in some areas; setting specifications for forest roads – including stream crossings, drainage systems and other features; setting special standards for streamside areas; and requiring use of systems that move logs through the air with cables, rather than along the ground.
- The Forest Practices Act requires reforestation after harvest.
- The Department's geotechnical specialists assist foresters and landowners by providing guidance and assessing landslide and related risks.

### **The Dec. 11 slide on Highway 30**

- The immediate cause was the failure of a tall, old railroad fill, built across a canyon uphill from the highway. The fill's drainage system apparently became blocked, most likely by debris from one or two landslides about a quarter-mile higher upstream, and a large amount of water and debris built up.
- Although landslides occurred on two harvest units upstream of the railroad fill, it is not clear that harvesting caused these slides. Geotechnical experts are still studying the event, but it may not be possible to determine with certainty whether there was a link between the harvesting and the slides at this specific site.

- Studies will continue in coming weeks, addressing questions such as the precise chain of events leading up to the slide across the highway, whether the Department correctly assessed the level of landslide risk in the upstream harvest areas, and whether the Forest Practices Act was properly administered. The Department will make the findings public.
- The railroad fill pre-dates modern construction and safety standards. Fills of this size are generally not built across streams in Oregon's forests any more. The current landowner was diligent in monitoring the fill, attempting to improve drainage following the storm, and notifying public agencies and downstream residents of the situation.

### **Surveys show no other similar situations in the area**

- The Department has conducted aerial surveys and has not found other situations comparable to the one that caused the December 11 event. Monitoring of streams and debris jams is ongoing.
- Although many outmoded railroad fills and similar structures have been removed over the years, some remain. The December storm may prompt additional attention to this issue.

### **Being safe in landslide risk areas during intense storms**

- If you live in a hazard area, such as near the mouth of a canyon or the base of a steep slope, you can take measures such as listening for unusual sounds, such as cracking trees; and watching for sudden increases or decreases in water flow in a channel, or for water accumulation in abnormal places.

### **To learn more**

- For more information about forest practices or landslides in forested areas, call your local Oregon Department of Forestry office. A list of office phone numbers, and other information, is on the Department's Web site, at [www.oregon.gov/odf](http://www.oregon.gov/odf) Additional information about landslides and safety is available on the Oregon Department of Geology and Mineral Industries Web site, at [www.oregongeology.com/sub/Landslide/Landslidehome.htm](http://www.oregongeology.com/sub/Landslide/Landslidehome.htm), and at the Oregon Forest Resources Institute site at [www.oregonforests.org/media/pdf/Fact\\_Landslides\\_web.pdf](http://www.oregonforests.org/media/pdf/Fact_Landslides_web.pdf)

### **The longer view: the role of landslides, and an opportunity to learn**

- Local residents have experienced considerable damage and disruption during the recent storms, and the Department of Forestry, along with other public and private agencies and individuals, continues to assist with the recovery.
- As natural elements, floods and landslides have helped shape the landscape, including attributes that we value, such as habitat for salmon and other fish.
- Events such as the recent storm provide opportunities to learn more about floods and landslides, to evaluate environmental laws and rules, and to continue to seek the most prudent ways for people to live, work and build in this dynamic landscape.