



Times-News

Looking for Stable Ground: Landslide Protections are Vital for Public Health and the Environment

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ECO NOTES



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The State of North Carolina wisely launched a state-wide landslide unit after 400 landslides occurred in Western North Carolina in 2004 as a result of several hurricanes, which lead to the death of 11 people, the destruction of 60 homes, and the loss of over \$90 million in tourist revenue. According to Senior Geologist Rick Wooten who works for the North Carolina Department of Environment and Natural Resources, there is a significant slope movement hazard in the mountainous region of North Carolina every year and 534 significant landslides and/or debris flows have occurred since 1990.

According to Wooten, the primary consideration for predicting potential landslides is slope steepness. Soil type, how water moves through soil, the type of bedrock and the amount of vegetation and the strength of the vegetation's roots all factor into the probability of landslides in any particular area. Interestingly enough, 72% of all slope movements occurred on modified slopes, making it clear that development on steep slopes can have severe consequences.

The value of landslide mapping is that past landslides are predictive of future landslides. The vast majority of recent landslides and mudslides occurred in places where there was a history of slide activity. Mapping predicts where they might occur, but it can't tell us when. Major storms, rain fall, development and removal of vegetation can all factor into making landslides more than likely in areas that already have a strong propensity. Given that storm volatility has increased over the past few years, likely a result of climate change, there may be a growing tendency towards landslide activity in the future. Additionally, the modeling done by the landslide mapping unit connected rainfall of 5 inches or more in a 24 hour period with an increased preponderance of landslides.

Landslide mapping was planned for 19 counties in WNC based on the Hurricane Recovery Act of 2004. However, given political considerations in the NC General Assembly, anti-regulatory fervor trumped health and safety considerations and the landslide unit was shut down this summer with only four counties mapped. Not only does this deprive landslide-prone counties with an effective warning tool which helps with future planning and aids homeowners in taking preventive measures, it eliminates the availability of reconnaissance teams of trained geologists from being available to survey landslides after they happen to aid residents and policymakers so they can be better prepared in the future.

Fortunately, Henderson County's landslide mapping was completed just before the unit was disbanded. What the maps tell us is that approximately 20 percent of the county is either in a hazard zone or is in a debris flow pathway. Henderson County has had 88 landslides in the last 94 years, 73% of these landslides have occurred on modified slopes. Three homes have been destroyed and six people have lost their lives in these incidents. Past landslides occurred on and around the Hungry River, the Green River, the Broad River, and the south fork of the Mills River. Several of them occurred on Pinnacle Mountain and Bearwallow Mountain in the past, the sites of several developments.

In order for local residents to make intelligent decisions and plan for our future given the threat of landslides in Henderson County, ECO is holding a steep slopes forum on Monday, September 26th at 6 PM at the main branch of the public library featuring Rick Wooten, the geologist who developed our county's landslide maps and D.J. Gerken an attorney with the Southern Environmental Law Center and a regional expert on effective development rules that protect communities from the threat of landslides and mudslides. Unless residents and planners are armed with the facts, catastrophic slope failures could be in our future. I hope you can join us. For more information, contact ECO at 692-0385 or www.eco-wnc.org.

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