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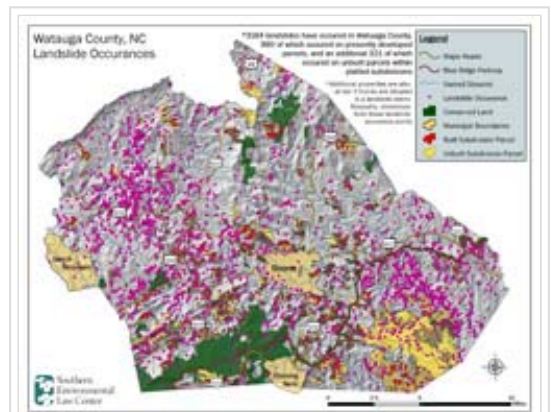
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New Maps Help Pinpoint Landslide Hazard Risk

Story by Kathleen McFadden

Staff members at the Southern Environmental Law Center have been working on maps to more accurately and adequately identify landslide risks in Watauga County. The SELC has developed this information at the request of three grassroots groups in Watauga County—Partnership for Watauga’s Future, Western North Carolina Alliance and MountainKeepers—with funding from the Watauga County-based Clabough Foundation.

The SELC maps overlay Watauga County subdivision data with the landslide hazard maps the North Carolina Geological Survey developed last year. Because the subdivision plats are marked on the SELC maps, they pinpoint the degree of risk for a particular



The purple dots on this map of Watauga County show NC Geological Survey-identified places where landslides have started in the past. Currently, 990 houses in major subdivisions (this does not include non-subdivision lots) are on lots where landslides have started in the past, and 321 lots with historic landslides on them have been subdivided but not yet built upon.

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piece of property.

The subdivision data used for the maps came directly from the county and the landslide hazard information came directly from the state.

According to SELC Senior Attorney D.J. Gerken, the principal focus in assessing landslide risk has historically been at the point of origin, but most damage occurs in the debris path, the downslope areas from the origin. Calling attention to these debris paths and alerting property owners and prospective property owners to the risk, he said, is one goal of the mapping project, along with identifying unstable slopes where landslides could originate. “Lots currently on the market have this risk,” Gerken said, “and buyers have no way to find out. These are slopes you do not want to disturb without thinking about it.”

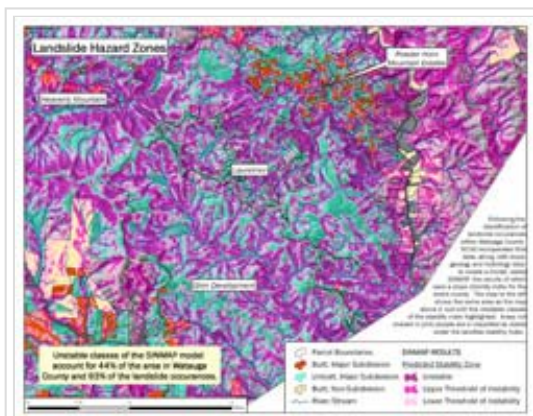
Gerken said that just because a tract has an identified landslide risk doesn’t mean it can’t be developed, but such a risk indicates a need for an engineering assessment to determine the best way to build that will cause the least disturbance and risk to properties downslope. “We want people going in with their eyes wide open,” Gerken said.

About 17 percent of Watauga County is platted in major subdivisions of more than 10 acres, with approximately two-thirds of those plats unbuilt, Gerken said.

Thanks to the work of the North Carolina Geological Survey, Gerken continued, Watauga County has the advantage of having the best information available in western North Carolina about the nature and extent of landslide risks in the county, and the county has a range of options for addressing that risk.

One option, Gerken said, would be to identify landslide hazards on subdivision plats, just as floodplain risks are required to be identified now. “We already plan for 100-year risks in the floodplain, and there is no reason why we shouldn’t plan for 100-year risks when it comes to landslide hazards as well,” he said.

Another option is to require builders to consult a geotechnical engineer before building in the highest risk areas.



This map zooms on the southeastern corner of the county that has by far seen the most subdivision development in recent years. It shows the overlap between areas identified by the NC Geological Survey as being in the “unstable” classification with comparatively higher risk of landslides and lots that have been subdivided but not yet built upon.



This map shows the overlap between unbuilt subdivision



The SELC's work doesn't end with the production of these landslide hazard maps. Currently, a survey of Watauga County residents is being conducted to ascertain their opinions on development in the county. The survey results will be available in April.

parcels in the southeast of the county and the potential debris flow pathways where landslides might go once started.

The SELC plans to explore other development issues, including a look at whether the state's degradation of some area streams correlates to development and graphic presentations of how subdivisions currently planned for High Country viewsheds would look if they were built.

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