

HAYWOOD COUNTY GROWTH READINESS ROUNDTABLE

NEWSLETTER 5

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Thank you to all of our Roundtable participants who made the project so interesting and successful!

Please keep your eye open for invitations to future public workshops for sharing the Growth Readiness results with others in your community!



PARTICIPANTS DEVELOP ACTION PLAN!

Welcome to our final Growth Readiness Roundtable newsletter!

Approximately 25 people participated in the fifth roundtable workshop on October 4th. Snacks were provided by the Haywood Waterways Association. At the fifth and final Roundtable, Rick Wooten, NC Geological Survey, provided an overview of the Landslide Hazard Mapping that is underway in the mountains. This information was particularly important for discussing slope issues, which were not covered in the better site design principles discussed previously. A summary of Rick's presentation is included within this newsletter, and his slides are posted on the project website.

Participants were asked to briefly discuss a desired future scenario regarding the Growth Readiness project, and to plan for implementing their recommendations. They came up with a great list of ideas for short to long term actions. They also incorporated the information about landslide hazard mapping into their action plan.

The Growth Readiness Report is complete and ready for final review before printing. The Report is posted online for final review by participants at:

We welcome more feedback on the Report- please send comments by January 4. The final Haywood Growth Readiness Report will be completed and printed for distribution to local governments in early 2008.

Since the fifth Roundtable, the project planning team has discussed the action planning ideas from participants, and developed an education and outreach plan for 2008. This will include powerpoint presentations of the final Report to local government elected and appointed officials, citizens, and civic and professional groups to inform them of the issues and collaborative recommendations. Look for these to occur as early as February and March.

We want to thank everyone who participated in the Growth Readiness Roundtable. We commend you on your willingness to learn about the issues related to growth and natural resources, to share your concerns, and most importantly, to listen to others about their concerns.

Haywood County is a special place, and with your concern and willingness to explore innovative land use planning and development ideas, you will ensure that it will remain that way for generations.

Inside this issue:

Overview of 5th Workshop	1
Landslide Hazard Mapping presentation	2-3
Action planning highlights	3-4

HAYWOOD COUNTY GROWTH READINESS ROUNDTABLE

LANDSLIDE HAZARD MAPPING IN THE MOUNTAINS

At the October Roundtable, Rick Wooten, NC Geologic Survey (NCGS), talked to the group about the landslide hazard mapping project that was supported by the Legislature as a result of hurricane impacts. The NCGS maps and describes geologic resources, encourages the wise conservation and use of these resources, and provides unbiased technical and scientific information for public safety and conservation. View Rick's powerpoint slides online at www.ncsu.edu/WECO/haywood.

How are slopes characterized? When discussing slopes, a 45 degree slope (where rise=run) is also called a 100% slope.

Why the concern about development and steep slopes?

- Less margin for error when developing
- Consequences of error can be great
- Potential impacts of slope
- To minimize risk, caution must be exercised about density and location of development

At what percent slope are landslides observed?

Analysis of recent data in the N.C. Slope Movement Deposit Database shows that landslides are observed at slopes of greater than 22 degrees, or 40% slopes. This database contains 4,550 entries.

N.C. Landslides 1990-2006

- 6 fatalities (one from a modified slope)
- 45 structures condemned/destroyed (28 from modified slopes)
- Landslide on Blue Ridge Parkway also had significant economic impact on region

When do these events happen?

During heavy rainfall events (tropical storms, hurricanes), when there are back to back storms, on average once every 23-39 years. We have to assume they will occur again. The threshold for landslides is 5 inches of rain during a 24 hour period.

Disasters waiting to happen?

Rick compared landslides to the impacts from Hurricane Katrina in Louisiana and Mississippi– they knew that sooner or later a storm would hit and affect those living below sea level. Here, a storm of this magnitude may happen in 50 years, or could happen next year.

Data and Mapping Products

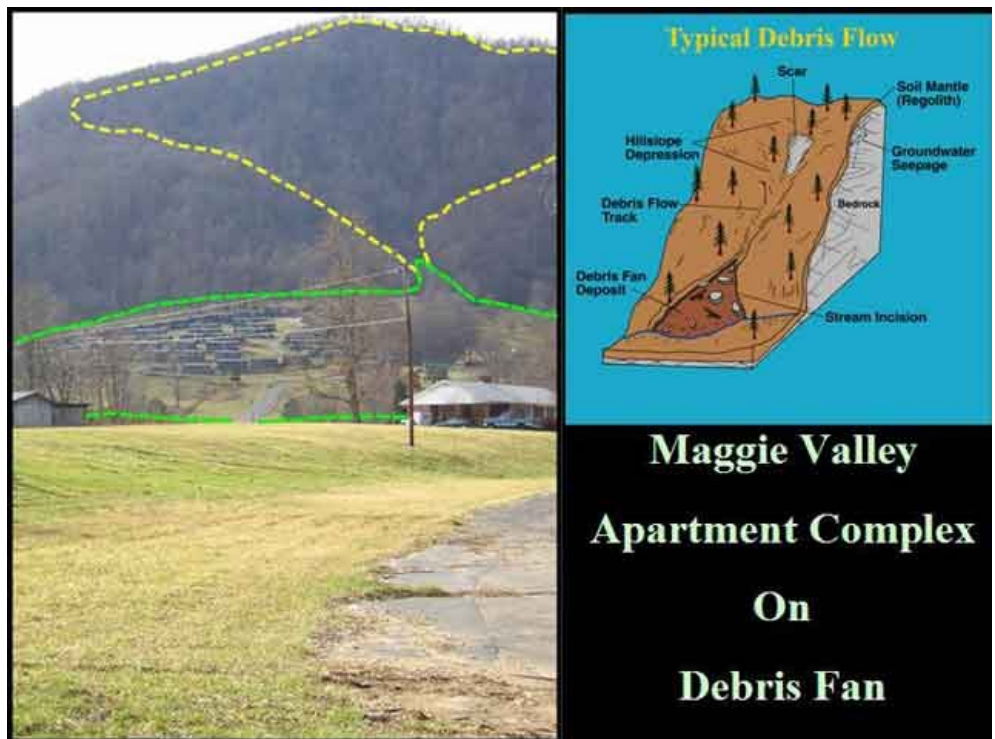
These will include:

- Slope movements/deposits– where landslides have occurred or are occurring
- Stability index map– where landslides might start
- Downslope hazards– where landslides might go
- Bedrock geology– unstable rock formations
- Landslide statistics

Rick shared examples of these products that were recently produced for Watauga County, which has had 2,135 landslides.

(Continued on page 3)

Pictured below: These apartments were built in Maggie Valley on a historical debris flow. Upslope development could be dangerous for downslope residents if not done carefully.



LAND SLIDE HAZARD MAPPING

(Continued from page 2)

Soil on top of a mountain slope becomes saturated and moves down slope. A debris flow does not have to be large to destroy a house.

He showed a map of slope movements and slope movement deposits in Haywood County.

The group discussed the part that local geology plays in the mountains. If a heavy rain event impacts any area with steep slope that has potential conditions for landslides, you may see this happen. One participant pointed out that rain events can result in different amounts of rain in different localized areas.

Suggestions for reducing losses from landslides:

- Landslide hazard maps will show high, moderate, and low potential areas for hazard
- Modified slopes on steep ground of >20 degrees are suspect (a little less than 40%)
- Landslides are more likely in areas of past landslides
- Public education needed- watch where you build, watch how you build
- Local governments- address and use planning and best management practices
- When developing on or below slopes, someone is needed who can recognize problems on the ground (such as scarps, which are cracks in the ground)

Haywood County's landslide hazard maps will likely be completed by early 2009.

ACTION PLANNING: BEYOND THE GROWTH READINESS ROUNDTABLE

Participants began the action planning session by discussing a desired future scenario in 2030 regarding the Growth Readiness recommendations. Two suggestions came forth:

Grow in harmony with the environment; and Build the capacity to protect ourselves above and beyond what the government can provide

With this scenario in mind, participants divided into small groups to discuss *what needs to happen to make that scenario a reality?* The resulting action items were posted along a timeline of short term to long term actions, then were discussed by the whole group. These results follow.

Provide presentations to various audiences

PowerPoint presentations to:

- Elected and appointed officials (6 recommendations)
 - Mayors should call joint commissioner/planning board work sessions
 - Provide reports and tri-fold brochures to them
 - Presentation by experts (HWA, WECO, TVA) who can answer questions
 - Host a field day tour
 - Target Council of governments
- Builders (6 recommendations)

- Present at a conference
- Present at HBA meeting
- Realtors (5 recommendations)
 - Present at conference
 - Present at Board of Realtors meeting
- General public/landowners/potential buyers (3 recommendations)
 - Public workshop
 - Present to community groups at their meetings
 - Public schools about sustainable development (1 recommendation)

Workshops/seminars

- Builders/contractors/graders
 - Certify grading contractors & provide continuing education (2 recommendations)
 - Provide funding for continuing education workshops
 - Hold workshops for realtors
 - Market resource assessment to realtors
 - Hold workshops for landowners/buyers

Types of educational materials

- Tri-fold brochure or fact sheet about GRI recommendations
- Powerpoint presentation

(Continued on page 4)

ACTION PLANNING: BEYOND THE GROWTH READINESS ROUNDTABLE

(Continued from page 3)

- County website
 - Could link the existing "Before You Build" WNC document (on HWA site)
 - Provide other educational materials on County website for landowners, newcomers
 - Link GIS to website (see Wake County/Town of Cary websites- note from CP)
 - Education efforts led by: County Engineer and SWCD
 - Educate that site development has associated costs that are often hidden (slopes may cost more)

New recommendations based on landslide risk presentation

- Use landslide risk mapping information (due in 2008/2009)
 - Create maps/brochure of critical areas (3 recommendations)
 - Use in education
 - Document /flyer for potential buyers with what to look for (slopes, soil, etc. and inspectors)
 - County should apply for grant funding to get Parcel Identification Numbers (PINS) from debris fan maps to help inform landowners who are at risk.
 - Use information to inform policy
 - Fine tune Haywood County's slope ordinance
 - Move restrictions above the debris fan?
 - Restrictions on slopes and where you build based on hazard mapping
 - Investigate whether permits require slope consideration
 - Real estate boards to disclose vital issues and potential impacts (disclosure law)
 - Have realtors responsible to advising buyers

Resource Assessment and assistance to realtors, builders, buyers

- Have soil scientists and civil engineers available to educate real estate brokers, lending institutions
- Market the Resource Assessment for Mountainside

Development project (to realtors, builders, buyers)
Link GIS to County and municipal websites

Miscellaneous Recommendations

- Beef up the staffing for implementation
 - Consider Fee Based vs general tax to fund implementation
- More discussion about Floodplain issues*
- Floodplain ordinance restricting filling and development in the 100 yr flood/plain
 - Extend floodplain development restrictions to all lands, not just flood buy-out lands
 - Complete Bethel/Upper Pigeon Floodplain protection plan by Dec. 2007 and implement.

Reconvene the Growth Readiness Group when landslide maps are done, and hold a public event

Epilogue: The project planning team met and discussed the action items, and developed an education and outreach plan for 2008 that incorporates many of the suggestions. Haywood Waterways Association will lead the education/outreach effort, with assistance from Cooperative Extension, SWCD, and other organizations who are interested in participating. This will begin with creation of easy to read and use materials, and informing about the Growth Readiness Roundtable process and results to elected and appointed officials and citizens at targeted workshops.

Presentations to community and professional groups, and a field tour of low impact development sites will follow.

We will keep the listserv active to post updates as needed.

