

ECOFORESTERS WINTER 2024 E-NEWSLETTER



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**Newsletter photography by Pat Barcas*

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Flooding from Hurricane Helene came right up to EcoForesters office door, but thankfully did not get inside the building.

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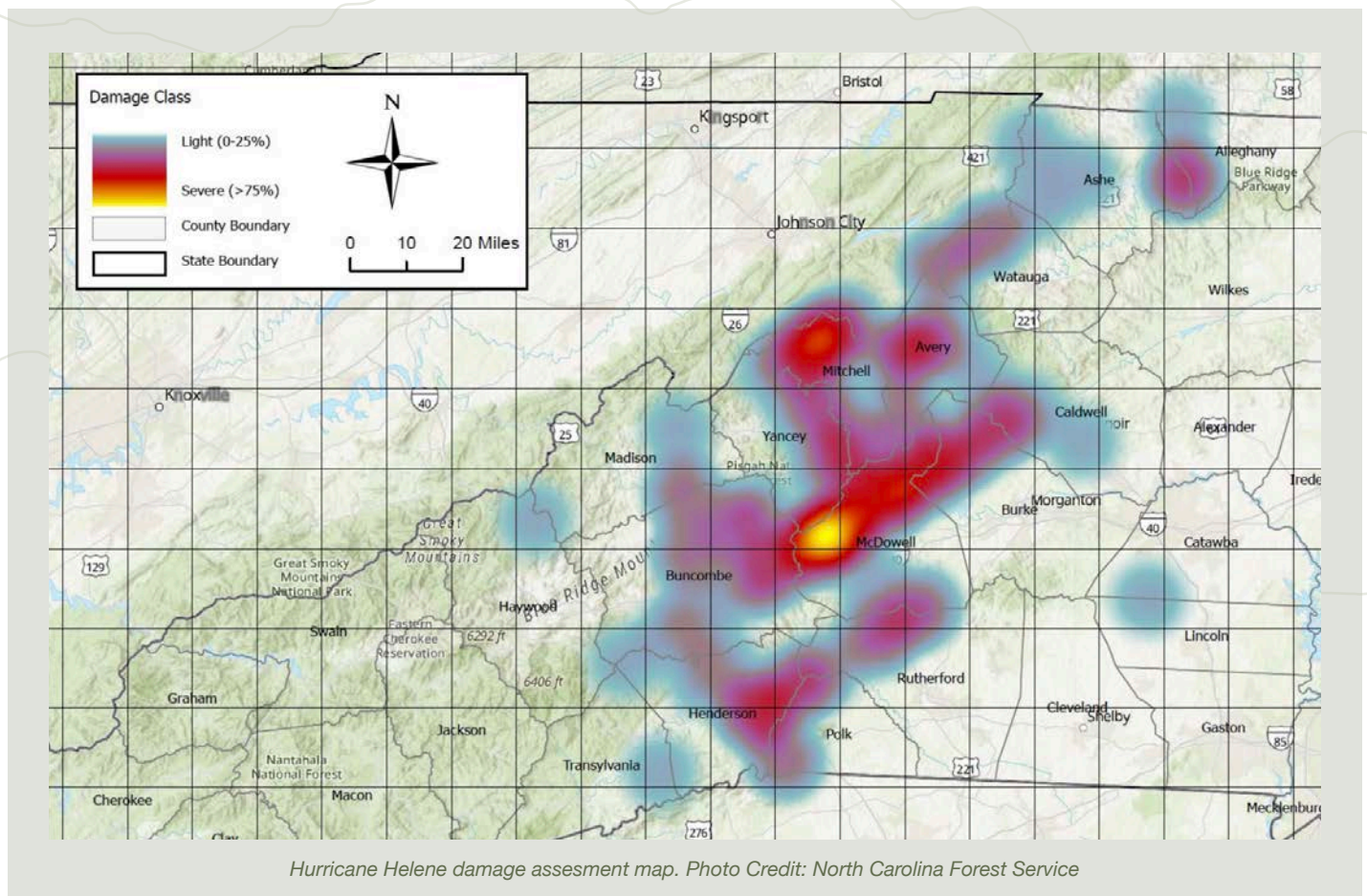
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Post Hurricane Helene

By: Lang Hornthal

Prior to September 27th and the arrival of the most devastating disaster Western North Carolina has seen, our staff and partners were busy. We were not preparing for the coming change the storm would bring but dealing with the change that was already happening: Invasive plants, degraded forests and a diverse landowner base that needed help. There was consensus among forestry professionals that the amount of work needed to restore forest health on a landscape level was more than could ever be done. And now this.

The NC Forest Service has estimated that over 821,000 acres of public and private forests have been damaged in 17 Western North Carolina counties. This is almost a quarter of the trees in the most affected counties. Hardwoods, like oaks, were particularly impacted, making their regeneration as a keystone species even more important. The unprecedented amount of debris on the ground could impact wildfire severity. This largescale disturbance has also created new growing space for invasive plants. So, what now?



This question is being asked throughout mountain communities as we consider rebuilding and restoring our natural environment. We don't expect a silver bullet answer or quick result. Instead, we see a nuanced approach that balances watershed level planning with individual landowner goals. It will require the community spirit in response to this event to continue with neighbors working together to seek solutions and resources to the challenges presented by Helene.

EcoForesters has been galvanized by this event. The pause in our traditional work due to Helene has given us renewed clarity in serving rural communities. Our work in the relief efforts has created new partnerships and opportunities for sharing resources and bringing help to those that need it the most. This powerful event has created powerful alliances that can improve forest resilience over a larger landscape. This storm has changed the forest landscape, but also stands to change the landscape of how we work together for the benefit of future forests.

HELENE DAMAGED OVER 800,000 ACRES OF TIMBER



It's safe to say that the damage from Hurricane Helene is unprecedented, creating challenges that will impact the landscape for generations to come. Our team has been using remote monitoring from satellites and drones to get a better understanding of the destruction, as well as the opportunities for restoration. Each forest stand will have its own unique challenges that EcoForesters and others will be addressing in the coming year and it's important to document any damage done to your forest, infrastructure, or equipment before work is done for possible reimbursement by insurance or emergency relief funds. Here are insights into what we are seeing so far.

- The main current concern to address quickly is the potential for ongoing erosion from badly damaged forest roads, landslides, or just ground disturbance. Any disturbed soil should be stabilized and reseeded as soon as possible.
- Water quality is of utmost concern and state regulations still apply in stream side areas. Even if trees are down in stream sides areas, ground disturbance still must be minimized in these areas to meet environmental regulations.

- Trees that came down or are badly damaged (>50% crown broken off) can be salvage logged, if still solid, but usually at no profit to the landowner. Finding loggers to work on salvage timber harvests could be the limiting factor.
- Clearing passable roads for access in case of fire with increased fuel loads is also important.





For those interested in exploring a salvage timber harvest, here are key facts to consider:

1. Trees/logs need to be at least 12" diameter at the small end and be solid for at least an 8' length to have any value and only logs that are without any significant damage (e.g. no splitting) or major branches are merchantable.
2. Downed timber is only merchantable for about 6 months before it starts to decay and loses all value. Best to harvest high value timber as quickly as possible.
3. The primary merchantable, possibly, profitable species is oak (especially white oak); large yellow poplar and white pine are selling for close to the salvage logging cost (i.e. no profit for landowner).
4. Sites with good accessibility to, and around, them for large machinery are much more feasible. Loggers and mills were already in short supply so only larger tracts with good access may be appealing.

We have also heard from landowners that are concerned about the impacts to wildfire due to the downed woody debris. While the downed trees will potentially increase the severity of a fire, it will not increase the chances of fires starting. Most fires in our region are started by humans. It

is important to understand your risk and what improvements can be made to mitigate wildfire intensity and improve fire breaks. Debris in contact with the forest floor will begin to degrade, lessening its ability to burn hot over time.

We also expect to see a severe response from invasive plants to this widespread disturbance. If you have non-native invasive plants present, it is important that they are carefully monitored and controlled as needed. We are fortunate that our region regenerates forests naturally, but we must keep invasive plants at bay to give them the chance to regrow.

Our work is just beginning. We will be surveying landowners soon to better understand needs, but please reach out to our staff if you have questions or need assistance. Financial assistance is available for forestland owners impacted by Helene through the Emergency Forest Restoration Program. Contact Your local county USDA office for more information or reach out to EcoForesters for help.

Photo above: Aerial view of milepost 318 on the Blue Ridge Parkway. Photo Credit, National Park Service

Photo left: EcoForesters Crew Leader, Joel Legg, cutting up a fallen oak tree.



WATER, WATER, WATER

By: John Schuler
EcoForester of the Year

As a resident in Western North Carolina who experienced recent flooding, I have some observations about water and influencing outcomes. While no one controls the weather nor rainfall, influence can be exerted when rain becomes surface water. The idea is focusing on 'S' techniques to reduce water velocity and promote sequestration.

First, my only way to describe the river valley flooding is an inland tsunami. To gain perspective, one inch of rain on one acre is 27,000 gallons of water or 215,000 pounds of water. Over several hours, our area received 30 to 36 inches of rain, and the math is astounding once scale is 36 inches of rain, and the math is astounding once scale is applied.

Each surface acre received over 900,000 gallons of water during the recent hurricane event. Think about amount that over tens of thousands of acres across three counties and add the elevation drop from 4,000 feet to 1,500 feet with homes, trees, cars, telephone poles, barns and other man-made structures in its path and you get some idea of what an inland tsunami means, feels like and the force. It is hard to describe yet I hope this conveys the concept.

Second, every event has its learning from various perspectives and below are some observations of techniques that helped reduce the impact of the water.

1. **Slow Down** – Landscape elements that slow down or break the water force reduce erosion. Brush fencing along higher slope areas or repositioning fallen trees horizontal to the slope to break the force is helpful. During the recent hurricane, having late autumn tall field grass and robust buffer zones along the creek assisted in reducing the water force. The taller grass acted as not just a force reduction and absorbed water and pooled it in the field.
2. **Store** – Good soil health with porosity and organic matter promotes water absorption yet requires time and care to establish yet will store more water than ‘hardpan’ or compacted soil. Also, designed flood areas or water catchments and retention ponds store and then release water at a lower velocity. While the amount of water was unprecedented, storing in the ground, in trees and retention areas reducing downstream impacts.
3. **Silva Cover** - Trees absorb water and during rainfalls break the overall rain’s force as gravity exerts its force. A healthy forest promotes water absorption as mentioned. It is not coincidence people plant weeping willow around wet springs given its water absorbing qualities due to its root structure. In general, trees will absorb and process water as an ecosystem service.
4. **Shift** – Redirecting water into fields, designed flooding areas or ponds allows water a chance to be stored and sequestered. This is a high intervention technique and requires planning and observation and some equipment.
5. **Streamlining** – Removing culverts, debris and flow constraints prevent damming effects during high rains. Many roads were destroyed as culverts became debris filled and then washed out the road adding to access and recovery issues.

The ‘S’ techniques or strategies are useful and can assist in reducing the force of the water. While no one can control the weather or rainfall nor amount of rainfall, one can take steps in a management plan to reduce the force upstream from massive aggregation points. In addition, I recognize these types of interventions are landowner scale.

On a personal note, I believe many of you are helping with the recovery efforts and myself, family and local community that has been impacted thank you and your organizations for caring and being stewards of not just the forest yet of the people too.



Photo left: US-70 near Silver Creek, NC. Photo Credit, NC DOT

Photo right above: Roads and building washed out in Chimney Rock, NC. Photo Credit, Meteorologist Vernon Turner

Photo right below: Flooding in the River Arts District of Asheville, NC. Photo Credit, Jordan Kudisch



ECOFORESTERS HELPS WITH HURRICANE RELIEF WORK

Hurricane Helene brought tree loss that amounted to deforestation in parts of Asheville and Buncombe County. Trees came down in populated as well as wilderness areas, public and private land. With EcoForesters' stocked trucks and rugged crews, the right equipment, and relevant tree knowledge, we were well-poised to respond to the disaster in a meaningful way.

Starting the week after the storm, EcoForesters worked with several local non-profits to cut and haul downed trees, clear trails, and distribute food. This work was furthered by a generous grant from the Community Foundation of Western North Carolina.

Two trucks were dispatched to Buffalo Creek Park in Lake Lure to help the Carolina Climbers' Coalition clear the trail to a boulder field. EcoForesters sawyers wielded chainsaws to clear fallen trees from the trail in the park, which was created in 2014 by the Town of Lake Lure.

"It was amazing having EcoForesters out at Buffalo Creek Park. Not only did they help clear about one-third of our total tree damage in one day, they also brought an enthusiastic energy for helping get our natural areas back open," said Dan Van Brocklin. "As the fog from the storm begins to clear, people will need ways to relax and step back in their own way, and for many that involves a connection to nature. People will need to refill their glasses with something positive, and this work helps us get one step closer."

Closer to town, EcoForesters worked with CiMA, an immigrant rights non-profit in Asheville's Emma neighborhood. Crews were dispatched to cut and clean up downed trees from yards and houses, and also volunteered sorting goods in the distribution warehouse and delivering food. EcoForesters crews also volunteered with Southern Appalachian Highlands Conservancy, Sandy Mush Landowners, and the Bull Creek Community.

In the immediate future, we'll be helping clear more trails with our land trust partners, and cleaning up Helene storm damage.

Photos top and bottom right: EcoForesters Stewardship Director, Krishun Karau, bucking up a large fallen trees in Buffalo Creek Park.

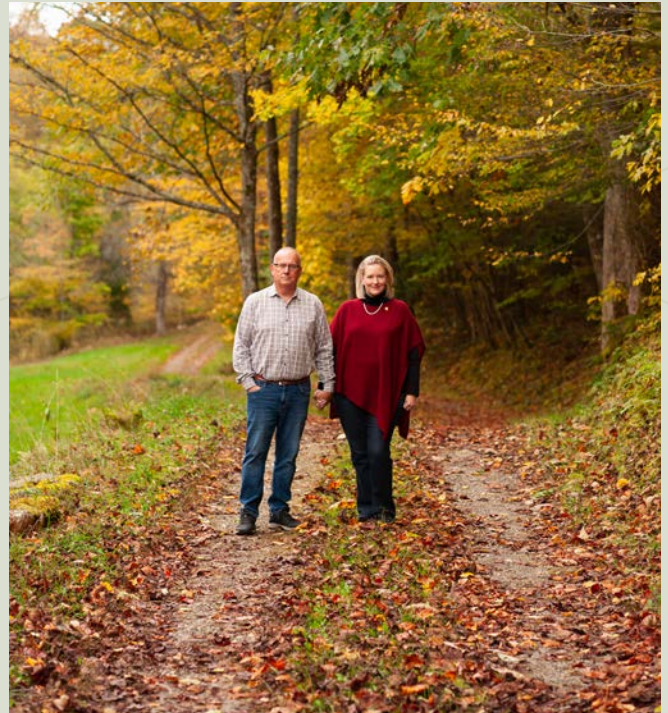
Photo top right: The EcoForesters and CiMA crew that worked together in the days right after Hurricane Helene.

Photo bottom left: EcoForesters Crew Leader, Joel Legg, climbing through downed trees at Strawberry Gap.



2024 EcoForester of the Year

Tending to our region's forest is no small task, and no single organization or person can fix decades of neglect and poor management practices. In honor of those who have shown their dedication to the restoration of Appalachian forests. We are excited to announce that our EcoForester of the Year for 2024 is John Schuler, a model steward in Western North Carolina dedicated to improving forest health on his family's property. John has spent the last 40 years on his property working tirelessly to promote and improve biodiversity. Thanks to his extensive restoration efforts, such as encouraging early successional habitat, removing invasive plants, and increasing pollinator presence, unique species of flora and fauna (such as the near threatened Golden Winged Warbler) are thriving on his property. The biodiversity and habitat variance of John's forest are a testament to his dedication and hard work. This resilient ecosystem he has so carefully tended to sets a model example for landowners to strive towards.



EcoForester of the Year award winner, John Schuler and Paige Scott.

Root Cause Award



Chris Henline leading a tour of the Sandy Mush Game Lands.

In preparing our forests for the coming threats of climate change, invasive species, and development pressures, we must work to restore both private and public forests. The Sandy Mush Game Lands is a 2800 acre public property managed by the NC Wildlife Resources Commission (NCWRC), consisting of mixed hardwood and pine forest and old farmland. For his exemplary stewardship and commitment to promoting wildlife habitat on the Game Lands, this year's Root Cause award winner is Chris Henline of the NCWRC. The Game Lands are home to an abundance of wildlife, including over 150 species of birds. Many of these bird species, as well as pollinators and small game like quail and rabbits, rely on early successional habitat to thrive and reproduce. This type of habitat cannot be created without disturbance; otherwise, the Game Lands would consist of nothing but mature forest. To maintain the biodiversity of the Sandy Mush Game Lands, Chris and the NCWRC have fostered a variety of early successional stages through prescribed burns, mowing, and small timber harvests, rotating techniques to create a patchwork of successional stages. His dedication and expertise have helped make the Game Lands an exceptional display of biodiversity and a model example of varying successional stages for increased wildlife habitat.

WHAT NOW?

We need your help!

We have not seen disturbance on this scale since the turn of the 20th century when most of the region was clear cut. Given the beauty of the forests we see today, that gives us hope. However, today's forests look much different that what was here prior to those cuts in the late eighteen hundreds; then, we still had the dominant American Chestnut in the forests, invasive plants were yet to be established, and our climate did not have the rapid swings we see today. All of these things present today have contributed to current forest conditions and the challenges landowners are facing.

The most recent damage assessment by the North Carolina Forest Service shows over 820,000 acres in 17 counties receiving some level of damage, with almost 80% being on private lands. There is incredible satellite imagery available that shows where most of the disturbance happened and an enormous number of trees littering mountainsides like matchsticks. Buncombe and McDowell counties alone account for over 180,000 of those acres. But what now?

The result of this disturbance creates unique challenges and opportunities for landowners interested in keeping their forest healthy.

They include:

- Salvaging timber in support of landowner objectives
- Reducing the risk of severe wildfire and ladder fuels
- Preparing for the non-native invasive species response in disturbed areas
- Assessing & mitigating future water runoff issues
- Maintaining & restoring disturbed areas for wildlife habitat

Another positive outcome in this sometimes-hopeless feeling situation is that landowners are more connected to their land. Communities that came together and supported one another during relief efforts are now talking about the future resilience of the watershed they live in. Neighbors are planning around invasive plant control and helping each other to get more work done. This silver lining can be expanded to help more people and share more resources. But we need your help too.

EcoForesters is rooted in the immediate relief efforts and the long-term engagement needed to steward the region's forests. Funding forest stewardship remains the biggest hurdle. Our success to date is due to supporters like you who appreciate that intentional planning and engagement is needed given the challenges that lay ahead. Thank you!



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EcoForesters.org

OUR MISSION

EcoForesters is a 501(c)(3) non-profit professional forestry organization dedicated to restoring and conserving our Appalachian forests through education and stewardship.

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Our office has been supplied with 550 gallons of potable water, thanks to the kindness of Jack Temple at Tailored Chemical in Hickory, NC! In addition to stopping by our office, they donated even more potable water to families throughout the area. We are so grateful for this gift that will help keep our office running for the coming weeks.



EcoForester's Lang Hornthal, with Tailored Chemical's fleet manager, Jason Hensley.

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