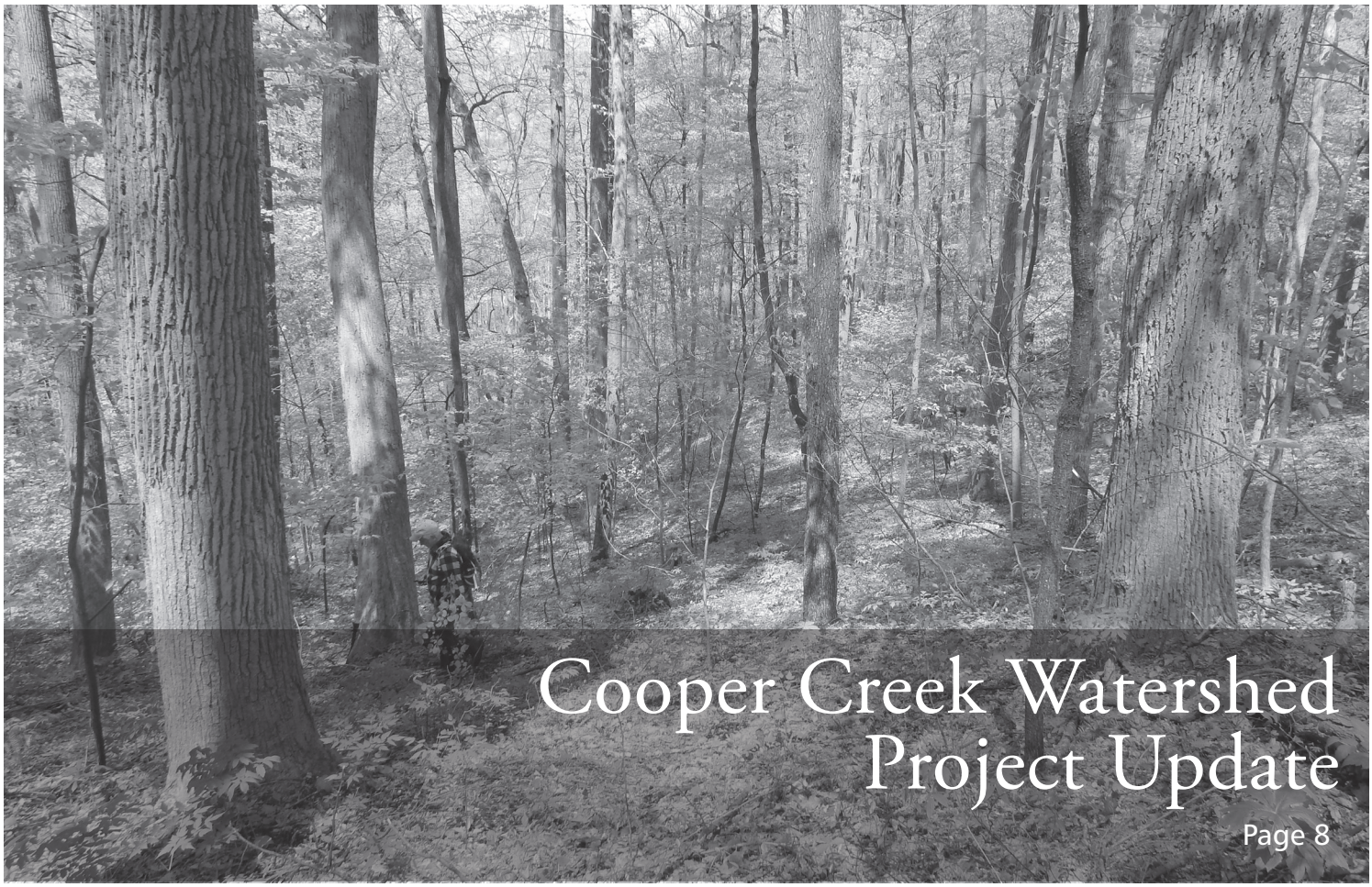
# Forest News

Georgia ForestWatch Quarterly Newsletter Summer 2015



## Cooper Creek Watershed Project Update

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# From the Director

## Help save the Land and Water Conservation Fund

*Mary Topa*
*Executive Director*

The Land and Water Conservation Fund (LWCF) is our nation's most far-reaching land conservation program and is set to expire on September 30, 2015. The LWCF is a visionary idea that has helped protect more than five million acres of land, including such national treasures as the Grand Canyon National Park, the Great Smoky Mountains National Park, and the Appalachian National Scenic Trail, as well as favorite neighborhood parks, ball fields, and trails. Created by Congress in 1964, the LWCF was a bipartisan commitment to provide funding that would safeguard natural areas, water resources and our cultural heritage, and provide recreation opportunities to all Americans.

The vision for the LWCF was simple - a portion of receipts (up to $900 million per year) that energy companies pay the government for offshore oil and gas leases in public waters would be reinvested in the conservation of our public lands and natural resources. Congress designed the LWCF so that there would always be money available, without burdening the American taxpayer.

The federal government uses the LWCF to acquire and protect critically important private lands within: our national parks, seashores, forests, grasslands, recreation areas, trails, and wild and scenic river corridors; national historic sites, parks, monuments, military parks and battlefields; national wildlife refuges and other U.S. Fish and Wildlife Service areas; and Bureau of Land Management lands. The LWCF also provides funding to states and territories for species and habitat conservation on non-federal lands (Cooperative Endangered Species Conservation Fund); protecting American battlefields on non-federal lands (American Battlefield Protections Program); providing conservation value to working forests in the face of development pressure (Forest Legacy Program); protecting drinking water supplies in America's most densely populated corridor (Highlands Conservation Act); and protecting and supporting the expansion and development of state and local parks (State and Local Assistance Grants).

The LWCF State and Local Assistance program provides matching grants to help states, District of Columbia, and Territories protect local parks and recreation resources. LWCF funding has benefited nearly every county in America, ensuring that families have close-to-home access to public open spaces. It has built hiking and biking trails, improved community parks, playgrounds and ball fields, and acquired and preserved historic battlefields. This 50:50 matching program has supported over 41,000 projects; over the past 50 years, $3 billion in LWCF grants to states has been matched by more than $7 billion in nonfederal funds.

The LWCF has helped protect some of Georgia's most treasured places. Georgia has received approximately $312 million over the past five decades, protecting such places as the Chattooga Wild & Scenic River, Cumberland Island Seashore, Chattahoochee River National Recreation Area, Okefenokee National Wildlife Refuge, Chattahoochee-Oconee National Forests and more.

Although the LWCF is authorized to receive up to $900 million per year, this level of funding has been met only twice during the program's 50-year history. Congress nearly always diverts the funds for other uses, leaving some conservation projects without adequate funding. In fiscal year 2013, the Department of the Interior collected more than $9 billion from offshore energy production, yet LWCF received only $306 million in 2014. Despite reduced funding levels, LWCF remains the premier federal program to conserve our nation's land, water, historic, and recreation heritage.

The LCWF should be budgeted at the full, congressionally-authorized level of $900 million annually. This funding level was never indexed for inflation and is the minimum necessary to preserve natural areas, historical sites, and wildlife habitat, and ensure that all Americans have access to quality outdoor recreation.

As we commemorate LWCF's half-century track record of success, **please reach out to your members of Congress and urge them to speak up for reauthorization of America's most important conservation and recreation program.** Companion legislation, S.338 and H.R.1814, are bipartisan bills that have been introduced in the Senate and House of Representatives, respectively, to permanently reauthorize the LWCF before it expires in September. Another bill, S.890, was introduced in the Senate and would permanently reauthorize and provide full, dedicated and permanent funding of $900 million annually to the LWCF as authorized by Congress. Please urge Congress to also provide robust funding for LWCF at the full, congressionally-authorized level of $900 million when funding levels for FY 2016 are decided this summer. Critical parks, trails, wildlife and recreation projects are counting on this program to continue!

To learn more about the impact of this visionary bill, read the *Land and Water Conservation Fund: 50 Years of Conserving America the Beautiful*, a report compiled by the Land and Water Conservation Fund Coalition in 2013 at http://www.lwcfcoalition.org/files/LWCF_50thAnniversaryReport_FINAL.pdf. Much of the information in my article is based on this 50th anniversary report.

Mary A. Topa

## UPCOMING OUTINGS & EVENTS

July 18th
Conasauga Snorkeling
USFS Guides

July 25th
Conasauga Snorkeling
USFS Guides

August 11th
Old Growth Hike
Jess Riddle

August 29th
Fire in the Forests
Malcolm Hodges

October 2nd-4th
Fall Retreat at Vogel

*Email llemay@gafw.org*
*to reserve your spot today!*

*We are finalizing the details for more hikes and will post them on our website. To receive alerts and registration information, join our email alert program found on our website at www.gafw.org.*

FORESTWATCH RETREAT

## October 2nd-4th, 2015

Make plans to attend the annual Georgia ForestWatch retreat and membership meeting at Vogel State Park. This year we will be reintroducing Georgia's Mountain Treasures and plans to update the publication to aid in the upcoming Forest Plan Revision process. Bring your friends and family for informative programming and lots of fun. Cabins and campsites have been reserved for Friday and Saturday nights. Be sure to join us Friday night for a meet-and-greet and potluck dinner.

We'll spend Saturday enjoying a variety of speakers, live music, and hikes. Saturday night dinner will be our traditional barbeque followed by fellowship around the campfire. On Sunday you can relax or go on one of our hikes.

**SAVE THE DATE!! DON'T MiSS iT!**

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*Cover photo credit: Forest Ecologist Jess Riddle*

# 2015 Wild & Woolly Forest Festival

by Laura LeMay : Outreach Coordinator

*Fantastic music provided by The Frogwoods!*

*Kitty & Tom Meyers relaxing in their rockers*

The 2015 Wild & Woolly Forest Festival was nestled in the Chattahoochee National Forest at the beautiful Bull Mountain Lodge just west of Dahlonega, Georgia. It was sunny and 75 degrees as members, family and friends rolled in for the pre-event wildflower hike led by Forest Ecologist Jess Riddle – a perfect way to kick off the Forest Festival.

As folks checked in, they wound their way through our silent auction and raffle tables, all filled with fantastic items donated from supporters like Patagonia, local wineries and chocolatiers, photographers Peter McIntosh and Larry Winslett, Len Foote Hike Inn, Patricia Kyritsi Howell, Jan Stansell, and others. Our members always look forward to our raffles and auctions, so we are grateful to all who contributed items.

One of the most popular components of the Wild & Woolly Forest Festival is our Native Plant Sale. This year the sale was put on single-handedly by Sue Harmon, dedicated volunteer and member of Georgia ForestWatch. She connected with Jack Johnston and Natives Plus Nursery who graciously donated numerous native varieties for the sale and our silent auction. Thank you all for making the plant sale a great success!

It was no surprise that we received rave reviews for our speaker Richard Judy, Board President of the Len Foote Hike Inn and author of *THRU: An Appalachian Trail Love Story*. Richard had everyone's full attention as he shared his personal experiences from his thru-hike and read some of his favorite passages in his novel. Proceeds from *THRU: An Appalachian Trail Love Story* go to the Appalachian Trail Museum. Selfless giving to the betterment and protection of special places like the Appalachian Trail fits like a glove with our crowd, and we thank Richard for being a key part of this celebration with us.

The Frogwoods filled the event air with incredible live music that no one wanted to end. They truly helped make the event that much more special by dedicating their time and talents to entertaining the crowd. And with

*Richard Judy speaks on his novel and AT thru-hike experiences*

*Jess Riddle at the Native Plant Sale*

the delectable hors d'oeuvres provided by Shenanigans Irish Restaurant & Pub, everyone left satisfied and ready for a nap!

As always, we could not have a Wild & Woolly Forest Festival without our dedicated ForestWatch volunteers. From start to finish they were there to help with anything they could, and always did so with a smile.

To everyone who participated in our 11th Annual Wild & Woolly Forest Festival – attendees, sponsors, contributors and volunteers – not only does Georgia ForestWatch thank you, but so do our national forests. See you again next year! ■

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# The impact of large competitive events on the forest

by Tom Colkett : District Leader

Georgia ForestWatch has maintained an ongoing dialogue with the Forest Service regarding the increasing number of large-scale, competitive, for-profit events being held in the Chattahoochee-Oconee National Forests (CONF). The events range from foot races to mountain bike races to tri-athletic contests, and some are multi-day endurance races. All involve hundreds of people, including competitors, support staff, organizers, and viewers. The event organizers are required to apply for a Special Use Permit (SUP) to provide details regarding their event. If the application is in order, the Forest Service then sends out a scoping notice for public comment. Since the Forest Service receives many SUP requests throughout the year, each District often includes information on multiple races (occurring during a specific time period) in one scoping notice. Georgia ForestWatch always responds with concerns to these scoping notices, but all too often the events are already advertised on race organizers' websites, and race participants have already registered before the SUP scoping notice is even sent out for public comment.

These events are unavoidable, but some have a harmful effect on the environment and, at times, infringe on the rights of those seeking quiet and peaceful solitude. To many, the forest and mountains are a retreat from the hustle and noise of ever-increasing urban crowding and human competition; the last thing we need to do is bring these large events to the mountains, particularly backcountry areas. We ask the Forest Service to keep this in mind when approving these competitions.

I use the term "unavoidable" because these large race events are part of a human consumption culture of a mutual, valuable resource. The CONF is public land and, as such, we all have ownership and the right to use it in ways that suit our interests – as long as that use doesn't result in the degradation of the resource, or a restriction on other users' interests in the forest. And here's the rub. What usage amounts to "degradation"? What usage constitutes a violation of other people's interests?

ForestWatch has made several points to the Forest Service regarding these matters that we think are important. The Forest Service has implemented some of our suggested changes, and is thinking about others; but other concerns – for example, the timely submission and scoping of SUP applications for public comment – remain problematic. There has been some progress though, and we are glad to see it.

*(continued on page 10)*

# Status of hemlocks, HWA and biocontrol in Georgia

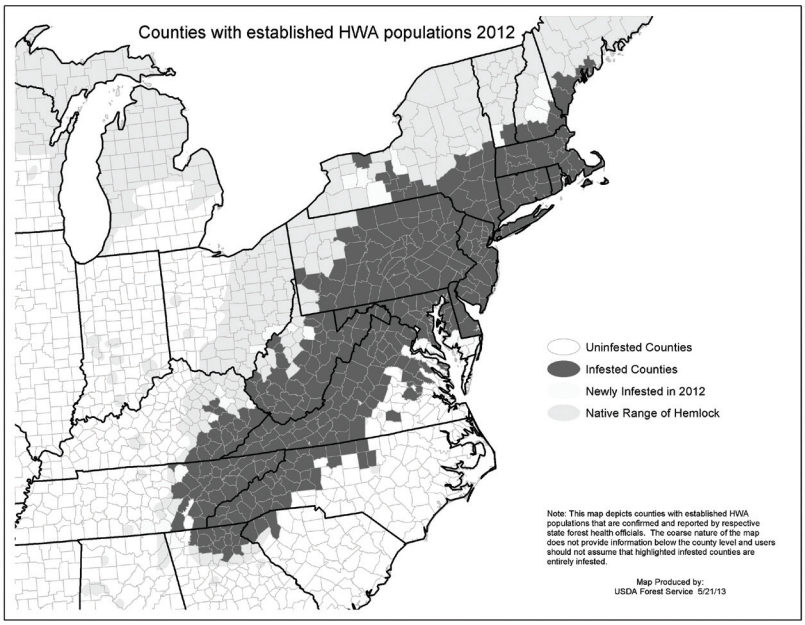
by Mark Dalusky : Research Professional IV (retired), Forest Entomology, UGA

*Note: This assessment is basically the same as 2014 with a few edits. There is a resurgence of new growth on hemlocks at all elevations. We had significant cold weather again in Jan/Feb, enough to cause HWA winter mortality for the second year running.*

Hemlock woolly adelgid (HWA) was found in the northeast corner of Georgia in 2002. No labs in Georgia, either state, university or federal were working on HWA biology or any biocontrol aspects of this pest at this time. Federal money, state matching funds and significant contributions from the private sector, including Georgia ForestWatch, got the ball rolling in 2004 at Clemson, in 2005 at Young Harris College, at University of Georgia (UGA) in 2006 and at the University of North Georgia in 2008. During the last 12 years, 95% of state, federal and private hemlock stands have been severely infested by HWA. Surviving hemlocks in the eastern-most third of the state are undergoing their third round of recovery and re-infestation. The most recent decline is much farther west in the Cohuttas. Hemlock resources near the Alabama/Tennessee borders are relatively healthy but make up less than 5% of hemlock stands. Mortality across the state is extreme. A very conservative estimate of dead trees from all categories of land ownership is 500,000 trees. I would not be surprised if the actual number is closer to one million dead hemlocks.

Georgia is on the front lines in this battle against HWA. We have a much longer growing season than many of our northern colleagues, and although water is abundant, annual droughts of varying severity are common. We are no stranger to longer-term droughts (the last one occurred from 2005 to 2009) which accelerate hemlock decline and mortality.

Georgia's hemlocks commonly support HWA densities nearing 30 HWA nymphs per cm of new growth. Trees remain relatively healthy even at HWA densities of 10 to 15 per cm of new growth; in contrast, hemlocks farther north exhibit decline symptoms (loss of new growth, needle loss, stagnation) at only five HWA per cm of new growth. Pest populations can build to incredibly high numbers over large areas, and just as rapidly, collapse, leaving very sick and dying hemlocks in their wake.




The University of Georgia, in conjunction with the aforementioned labs, has aggressively pursued biological control with three of the available predators (*Laricobius nigrinus, Scymnus sinuanodulus* and *Sasajiscymnus tsugae*), and a fourth predator discovered by Dr. Richard McDonald assisted by Dr. Michael Montgomery (retired). This fourth predator, *Scymnus coniferarum*, is from the Pacific Northwest where it has co-evolved with HWA and its predator guild for geologic time. At UGA, we eliminated *Sasajiscymnus tsugae* early on for a number of good reasons including weak establishment at field sites and genetic stagnation in all lab colonies. We tested the other Asian lady beetle (*Scymnus sinuanodulus*) over four years, releasing several hundred thousand at multiple sites but never made a single field recovery. This predator was also dropped.

This left us with *Laricobius nigrinus* and *Scymnus coniferarum,* which work exceedingly well in concert in the Pacific Northwest to control HWA. We have every reason to believe that this combination of predators gives us our best chance at establishing biocontrol across north Georgia. *Laricobius* is already well established in a significant number of sites (175 total release sites), and we have field evidence supporting increased tree health with establishment of predators.

Ours has been a very blue-collar operation in Georgia. We didn't look for any long-term research to occupy our time because of the urgency of the situation – hemlocks were dying by the thousands every week. We use what is available and try to apply our collective experience and common sense to address this monumental problem. We do survey work year-round assessing tree health, predator establishment and predator efficacy on the fly.

The past 12 years has shown us that as long as *Laricobius nigrinus* is actively feeding on HWA (during October through early May in Georgia), HWA density is held to an acceptably low level that hemlocks tolerate well. Unfortunately, *Laricobius* drops to the soil and remains there during pupation and adult emergence from early May to mid-October. The second generation of HWA (Progrediens) is active until the end of June/mid-July, and there does not seem to be significant predation on this second generation of HWA. Consequently, HWA densities skyrocket, resulting in huge population increases when the entire system (trees/pests/predators) becomes active again in October.

Our dire need in the deep South is for a second-generation (late spring/summer) predator. Based on seven years of collecting in the Pacific Northwest by McDonald and Montgomery, *Scymnus coniferarum* may fill that hole very nicely. We have encountered baffling resistance to our Native Predator Model from some institutions in the national Hemlock Woolly Adelgid Initiative (in particular, the U.S. Forest Service and some of the major research universities) where the focus is now on Foreign Predator Model (FPM) (see http://www.na.fs.fed.us/fhp/hwa/pubs/other_info/2014-18%20HWA%20National%20Initiative%20Strategic%20Plan_FINAL.pdf). It makes me wonder if the FPM program (initiated in 1995) has too many resources invested in it to admit failure.

Based on my experience in Georgia (and three other biocontrol projects during my career), the foreign predators are a total failure and complete waste of time. Georgia currently has dozens of sites that have received two Asian lady beetles and two native predators in substantial numbers. Of our 175 plus predator-release sites, all of them have received at least one native and one foreign predator. Going forward, we will concentrate on the second-generation native predator, and release this predator in as many existing sites as possible. National Forest cooperators in Georgia fully support our efforts, and are excited regarding the possibility of a native predator solution for the HWA problem.

We will continue to seed new release sites with the native predators as they become available. New release sites will not be easy to locate now that all of the contiguous National Forest lands are infested with varying states of hemlock decline. Dumb luck has already yielded two new sites in the Hale Ridge Road/Overflow Creek Road area in the Warwoman drainage. Additionally, we established one new site in the Davidson Creek drainage in 2014.

Areas that might yield new release sites are in and around older beetle release sites and soil-injection sites. As the soil-injection sites near time for re-treatment, HWA will begin to recolonize the hemlocks when the imidacloprid titer drops below toxic levels. Predator beetles could be included on trees in these areas following several simple protocols (see below) which rely on either an adequate buffer zone of untreated hemlocks, OR a one-year time delay in releasing beetles on untreated trees within a soil-injected site. Isolated hemlock watersheds that have recovered from initial HWA infestation and are not experiencing significant HWA reinfestation pressure certainly exist on the National Forest. Our level of commitment will determine whether we find such sites in a timely fashion.

## TRIAL PROTOCOLS FOR ESTABLISHING NATIVE PREDATORY BEETLES IN AND AROUND SOIL-INJECTED AREAS

As protection wanes in soil-injected areas due to loss of efficacy of the insecticide, hemlocks begin a reinfestation phase that is largely determined by surrounding HWA population pressure. During the time frame six to eight years post-treatment, we can select hemlocks to withhold from re-treatment allowing recolonization by HWA to serve as prey for our native predator beetles. Several ways to attempt this follow.

I. Retreat entire site with soil injection and search the perimeter for infested trees to release the native predators; dozens of hemlocks with adequate numbers of HWA is preferable to just a few.

II. Withhold a percentage of hemlocks in soil-injected area (20 to 30% at least) from retreatment and release predators; timing can be manipulated but injection in late Spring followed by predator release in November/December might work well.

III. If the surrounding forest is in good shape and *Laricobius* has been collected there, consider withdrawing the entire site from retreatment with insecticide and supplement with native predator releases, in particular *Scymnus coniferarum* (Scw).

IV. If new drainages with no current soil-injected sites are found and hemlocks are considered to be in reasonably good condition, treat new site with insecticide in year one then follow-up with native predator releases in year two on select groups of untreated trees.

Trees selected for recolonization by HWA should have ample foliage accessible from the ground, OR be on an edge of some opening. Continuity of untreated hemlocks might be important so trees in small groups are preferable to scattered, single trees. All of these and most other treatment strategies require significant manual work in surveying and assessing hemlock and HWA condition on the ground in real time. There is no substitute.

## WINTER MORTALITY

Last year's flirtation with arctic conditions in the deep South resulted in a tremendous bump for our hemlocks. Below 2,400' in elevation, there was measurable winter mortality. Hemlock regrowth did occur, but HWA rebounded vigorously by the end of the Progrediens (second) generation. Between 2,400' and 2,700' in elevation, there was substantial HWA mortality resulting in substantial foliage regrowth, but again the HWA had a strong resurgence in the second generation. We managed to locate four new predator release sites in areas fitting this description. Above 2,700' moving into 3,000' and above, HWA was in very low density and virtually impossible to find. Surveys at this elevation showed multiple growth flushes and no measurable recolonization by HWA. It is bound to be out there, but we could not find it. Good news indeed, and we should hope for similar conditions this coming winter ... briefly of course! These elevations are not spot on, but of course are moderated by aspect (south/southwest-facing slopes are warmer than north/northeast-facing slopes), steepness of the slope and openness of the forest.

## HWA PREDATORS AND FIRE

Currently, we recommend avoiding fire in beetle release areas. Additionally, predator release sites should have a 1-2 acre circular buffer zone in which no fire and soil treatments are used. When and if predators become established, they need adjacent areas for expansion. The area currently occupied by beetle release sites is minuscule compared to the total acreage to be burned, so this should not be an unreasonable parameter when preparing for prescribed burns.

Bole and foliage scorch height defines the vertical kill zone for both HWA and predator larvae. Residency time of fire on the ground is also vitally important. Predator larvae feeding in foliage above a fire

*(continued on page 11)*

# Cooper Creek Watershed Project update

by Jess Riddle : Forest Ecologist

## PROJECT OVERVIEW

If you want to see a classic Southern Appalachian spring wildflower display, the rich soils on the north side of Duncan Ridge support large populations of spring ephemerals and several rare species. If you want to catch Georgia trout, Cooper Creek is one of the state's largest trout streams and the tributaries support native brook trout. If you want to go on a multi-day backpacking trip, the Duncan Ridge Trail offers a quiet alternative to the Appalachian Trail.

In May 2014, the Blue Ridge Ranger District proposed a prescribed burning and silviculture project that will impact all of these areas. That initial scoping for the project, located between Blairsville and Suches, generated 585 public comments. Since then, Georgia ForestWatch staff and volunteer District Leaders have visited dozens of stands in the project area, and recently met with the Forest Service, Southern Environmental Law Center (SELC), and the Sierra Club to hear about possible changes to the project and discuss in the field potentially problematic treatments.

The Forest Service states that the goals of the Cooper Creek Watershed Project are "to: (1) restore native plant communities, (2) enhance wildlife habitat conditions, and (3) improve forest health." The scoping notice also lists several more specific forest plan goals that the project would ideally contribute to, such as "reduce stem density on 5,500 acres" of oak and oak-pine forest and create "canopy gaps within closed-canopied mid- and late-successional mesic deciduous forest" on 10,800 acres. To achieve those goals, the Forest Service has proposed supplementing existing prescribed burning with a wide variety of silvicultural treatments that fall into two general classes: commercial treatments, which remove cut trees from the site; and non-commercial treatments, which leave the cut trees. Commercial treatments in the project include regeneration harvests and various forms of thinning. Non-commercial treatments include midstory removal, release treatments, and the cut and leave versions of woodland thinning and canopy gap creation.

*Photo credit: Jess Riddle*

*Morel mushroom*

## PROPOSED TREATMENTS

As planned in the most recent version of this still evolving project, woodland treatments make up the single largest proportion of the project at 764 acres, with over 500 of those acres in commercial treatments. All of the woodland thinning is planned on the Cooper Creek side of the project. Woodlands provide unique habitat where individual and clumps of trees have large, open, sunny areas between them. They naturally occur in areas where the balance between growth, related to soil fertility, and disturbance, such as fire, is such that trees have difficulty establishing and growing to maturity. In this region, moist sites support high rates of growth and have relatively few disturbances that affect seedlings and saplings. Hence, moist sites support forest, but questions remain around how many and which dry sites would naturally support woodland rather than forest. The Forest Service has presented these treatments as "restoration," indicating they believe these stands were once woodlands. Restoration inherently includes the idea of a reference

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condition, which provides both a goal for restoration and a means for evaluating restoration success. The lack of good reference conditions complicates restoration of dry sites in the mountains. The Southern Appalachians have gone through periods of both fire suppression and European burning. Consequently, we do not have sites today that show what dry sites would look like under a natural fire regime, and early European fire use influences much of our historical information. Due to the generally fertile soils and high precipitation this region receives, we believe that woodland is naturally scarce in the region and that many fairly dry sites would naturally be forest.

Pine/pine-oak thinning makes up nearly as much of the project, 740 acres. Like woodland thinning, pine thinning is heavily concentrated in the Cooper Creek watershed part of the project area, and is often directly downslope of the woodland thinnings. The Forest Service suggests white pine, the only pine of any abundance in the project area, is "off-site" and removing it will improve forest health. White pine can tolerate a wide variety of soil moisture levels, but fire easily kills saplings. Industrial logging of the early 20th century produced high-light environments that the extremely fast growing species could take advantage of, and the Forest Service experimented with white pine plantations in the area. Hence, those factors have likely allowed white pine to increase in abundance in the Cooper Creek area over the past 100 years, particularly on drier sites. However, white pine was a component of pre-settlement forests, and moist, well-drained areas in the Cooper Creek watershed provide excellent white pine habitat. The Forest Service will also target tuliptree and red maple for removal using a similar rationale, though the same caveats apply.

*Photo credit: Jess Riddle*

*Barred owl*

Regeneration harvests on average remove 80 to 90% of the canopy to produce habitat for wildlife that benefit from very young forest. The roughly 250 acres proposed for this treatment include both stands that the Forest Service clearcut in recent decades and stands that have not been cut since the era of broad-scale industrial logging.

Many wildlife species make use of the areas where the fall of one or a few trees produces a patch of higher light and rampant growth of plants that require high light conditions. The commercial canopy gap thinning aims to artificially produce habitat for those wildlife species by combining a general thinning, where roughly every other canopy tree would be removed, with half-acre clearcuts (i.e. gaps). Natural canopy disturbances such as wind storms differ from this treatment in that they typically produce smaller gaps within an otherwise closed canopy, and fallen trees are left as a resource for fungi, insects, and animals that feed on them. The non-commercial canopy gap treatment more closely resembles natural disturbance because cut trees will be left and no thinning will occur outside the canopy gaps. However, those gaps will be relatively large, about half an acre.

Finally, the release and midstory treatments differ from the other treatments in that they will not cut mature overstory trees. The release treatment focuses on stands that were clearcut within the last few decades and tries to increase the proportion of oak in the future stand by cutting other species currently surrounding young oaks in the canopy. The midstory treatment also tries to increase oak regeneration, but does so by focusing on oak seedlings and saplings in the understory of mature forests. This treatment removes competing trees growing below the main level of the canopy, which can provide enough light to increase growth and survival of oak seedlings and saplings but not so much light that tuliptree starts regenerating. The scoping notice implies the midstory treatment is intended to prepare for future "stand regeneration."

## OUR CONCERNS

We have recently learned of changes to the project that the Forest Service is considering in response to public scoping comments. These changes would address some of our concerns by dropping almost all treatments on the rich upper slopes on Duncan Ridge's north side. That change will help protect most of the rare species in the area, protect the most diverse forests in the project, and drastically reduce soil erosion. Potential changes would also shift the regeneration harvests away from mature stands on the most fertile sites, stands of high biological value.

While these changes are a welcome improvement, the project could still result in significant ecological damage. A few of the most mature and rich stands are targeted for non-commercial canopy gap treatment. That treatment is not as damaging as regeneration harvests, but we believe healthy stands with significant wildlife value are not appropriate sites for silvicultural management. Instead, canopy gap treatments should target uniform stands with little structural diversity (i.e. little variety in tree size and few gaps), such as old-field tuliptree stands.

The overall shift in the location of regeneration stands is also an improvement, but some newly proposed regeneration harvests target mature forests, primarily oak stands. Regeneration harvests can be implemented immediately in literally any forest, but only long periods of time can produce mature forests. More appropriate stands that would benefit from management have also been selected for regeneration harvest, including recent clearcuts and white pine plantations with low diversity and wildlife value. We believe the project should focus all regeneration harvests in such stands.

The potential changes make much less progress in addressing other issues, such as the sheer scale of the timber harvests. The Forest Service plans to cut overstory trees on just over 2,000 acres, highly concentrated in the upper Cooper Creek watershed. Treatment stands form an irregular, contiguous swath over two miles on a side. To be fair, riparian corridors will split up the treatment areas and reduce the acreage somewhat. Conversely, the "high to moderate fire intensities" planned "for the south- and west-facing xeric ridges"

*(continued on page 11)*

## The Impact of Large Competitive Events

*(continued from page 5)*

It has also been an educational process for us, as we've come to better understand the thinking of some of the race organizers and the Forest Service and the finer points of the application process. The interest of Georgia ForestWatch is the health and conservation of the forest itself, and therefore we have less of a "stake" in protecting certain personal recreational uses that may have significant environmental impacts. The predominant use of the CONF by our membership is hiking, although all recreational uses are represented in our membership, including camping, hunting, fishing, floating on the rivers, trail biking, and horseback riding. All of these uses are valid, yet not one of these pursuits is without impact.

Our focus is on the sustainability of these recreational activities when large numbers of participants are involved. For example, hundreds of runners racing over miles of backcountry trails have an impact on the condition of the trails themselves, especially when there are multiple events on the same sections of trails throughout the year, and if the trails are wet. Consequently, we ask the Forest Service to require event organizers to keep the competitions on less environmentally-sensitive trails and on Forest Service roads as much as possible.

In addition to trail degradation, large races through riparian and biologically-sensitive areas could impact local plant or aquatic species through trampling, soil erosion and/or stream sedimentation, particularly if these races are held immediately after or during a heavy rain event. Because there is a greater impact on wet soils, we have asked the Forest Service to require rain dates for most of these events, or that alternate rain routes be established, moving the actual running off the forest trails and onto the forest roads. This latter request has seemed to catch on, and we have noticed that most event proposals now contain such a provision. We'll be interested to follow up on how well it is being observed.

As the number of events increases, not only are trails impacted, but fewer days are available for other users who are there seeking solitude and communication with nature. The Benton MacKaye, Duncan Ridge and Bartram Trails are examples of the absolute purest experience of backcountry solitude and wilderness available in Georgia. The running of hundreds of competitors through and over sections of these pristine trails seems completely contrary to their intended purposes.

The Benton MacKaye, Duncan Ridge and Bartram Trails are all maintained by volunteer groups focused on keeping these Georgia treasures in excellent condition. Their dedicated volunteers spend many hours of their own time clearing away deadfalls and maintaining the overall tread of the trail. We have asked the Forest Service to require a certain amount of give-back in volunteer hours from race organizers to help counter the wear and tear on all trails used for these events. This is particularly critical for those races with multi-year SUPs as it would show a long-term commitment to trail maintenance. There has been some movement on this issue, with race organizers and running clubs offering some financial assistance and on-the-ground trail maintenance on the Duncan Ridge and Benton MacKaye Trails and elsewhere.

A question that we consistently ask the Forest Service is, "How much is too much?" There are relatively few impartial studies of the impacts of large, concentrated events on forest soils, stream sedimentation, and local plant and animal life. However, we feel that it may be better to err on the side of caution, at least until such studies are done. At the very least, baseline conditions should be established along the sections of trails in the Chattahoochee-Oconee National Forests that are used in these races to monitor potential impacts. And progress is being made in this area. The Forest Service is not only working with some trail maintainer groups to monitor trail sections before and after race events, but they are also setting up their own monitoring guidelines.

If you would like to get more involved with the process of commenting on the scoping notices for these events, contact the appropriate Forest Service District in which you have an interest, and tell them you would like to receive all scoping notices that impact that forest. ■

## WELCOME NEW MEMBERS!

Nick Bernier
Pamela Brisky
Suzanne Brosche
Bull Mountain Lodge
Vanessa & Ian Cowie
Sarah Dickerson
Keith Eck
Gregory Gilbert
Kelly Hale
Holy Names Mission
Lyn Hopper
Laurel Johnson
DuAnne Kaiser
Simon & Patti Locke
Young Marker
David Paddock
The Parker Ranch
Pine Forest Garden Club
Raspberry Moon
Jess Riddle
Beth Roberts
Julia Serences
Shenanigans Irish
Restaurant & Pub
Clayton Webster

## Status of Hemlocks

*(continued from page 7)*

can be directly killed where they feed, and most have a drop response to disturbance – not a good response with fire on the ground. All predator larvae at all heights end up on the ground where they pupate and aestivate (entomological equivalent to 'hanging out' for an extended time) at or near the soil/duff interface layer. Slow moving fires from late April to November have the potential to kill predator pupae where they lay in the soil. Concurrently, a real goer such as a head fire racing up a steep slope will have such tremendous foliage and bole scorch as to preclude anything surviving.

Until studies are conducted to assess these potentially deadly scenarios, it is better to err on the side of caution. My recommendations are solely based on my 38 years of intermittent experience with prescribed fire going back to my undergraduate days at UGA, and on one superb, controlled study in longleaf pine at the Savannah River Plant conducted by an extremely capable postdoctoral associate in our lab, Brian Sullivan. For an enjoyable read, see http://www.researchgate.net/profile/Mark_Dalusky/publication/223398516_Association_between_severity_of_prescribed_burns_and_subsequent_activity_of_conifer-infesting_beetles_in_stands_of_longleaf_pine/links/00463528653a3d0601000000.pdf.

This assessment of where we are with HWA, hemlocks and predatory beetles is my take on the subject, and is most definitely still a work in progress! ■

## Cooper Creek Watershed Project Update

*(continued from page 9)*

will likely kill canopy trees in and adjacent to the silvicultural treatment areas, further opening the canopy. Natural disturbances, even hurricanes, rarely produce such concentrated blocks of canopy disturbance in the Southern Appalachians, and this approach differs from the more scattered cuts the Forest Service has used in past decades.

The location of specific treatments also raises concerns. The pine/pine-oak thinning on Bryant Creek, the largest tributary of Cooper Creek in the project area, encompass excellent white pine habitat. White pine is not "off-site" in these areas, and the forests are mature enough that natural canopy gaps are beginning to form on their own. Given the extent of other canopy disturbances elsewhere in this project, we believe these stands have their greatest value if simply left alone.

Similarly, most of the woodland thinning treatments seem a poor match for site conditions. In attempting to visit all of the stands where mature canopy trees would be cut, we have seen only two stands with stunted oak canopies where we believe an historic fire regime would be sufficient to maintain woodlands. The generally rich soils and high rainfall across the higher elevations of the project area mean tree growth rates are moderate to high in most stands targeted for woodland, and we believe enough trees could regenerate between historic disturbances to maintain a closed canopy. These treatments would also remove mature oaks, which would be a significant loss for wildlife, and appear to be woodland creation rather than restoration.

In addition to ecological issues, the current location of treatments appears to conflict with the 2004 Chattahoochee-Oconee National Forests Land and Resource Management Plan. The plan, which sets goals, objectives, and rules for managing the forest, describes management prescription 7.E.1 (dispersed recreation areas) as "unsuitable for timber production; not suitable" with a caveat for other plan goals and objectives. The entire project area north of Duncan Ridge is within a 7.E.1 prescription, and includes commercial treatments in 14 stands.

Cooper Creek and adjacent sections of Duncan Ridge provide both exceptional recreational opportunities and exceptional biological value. Past timber harvests, settlements, and altered disturbance regimes have changed this unique landscape and created forest health issues. The Forest Service's goals in this project of improving wildlife habitat, improving forest health, and restoring ecosystems are certainly commendable goals. However, care must be taken to ensure that the restoration is truly restoration and that the scale of the treatment matches the scale of the problem. ■

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**Tom Vilsack**
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