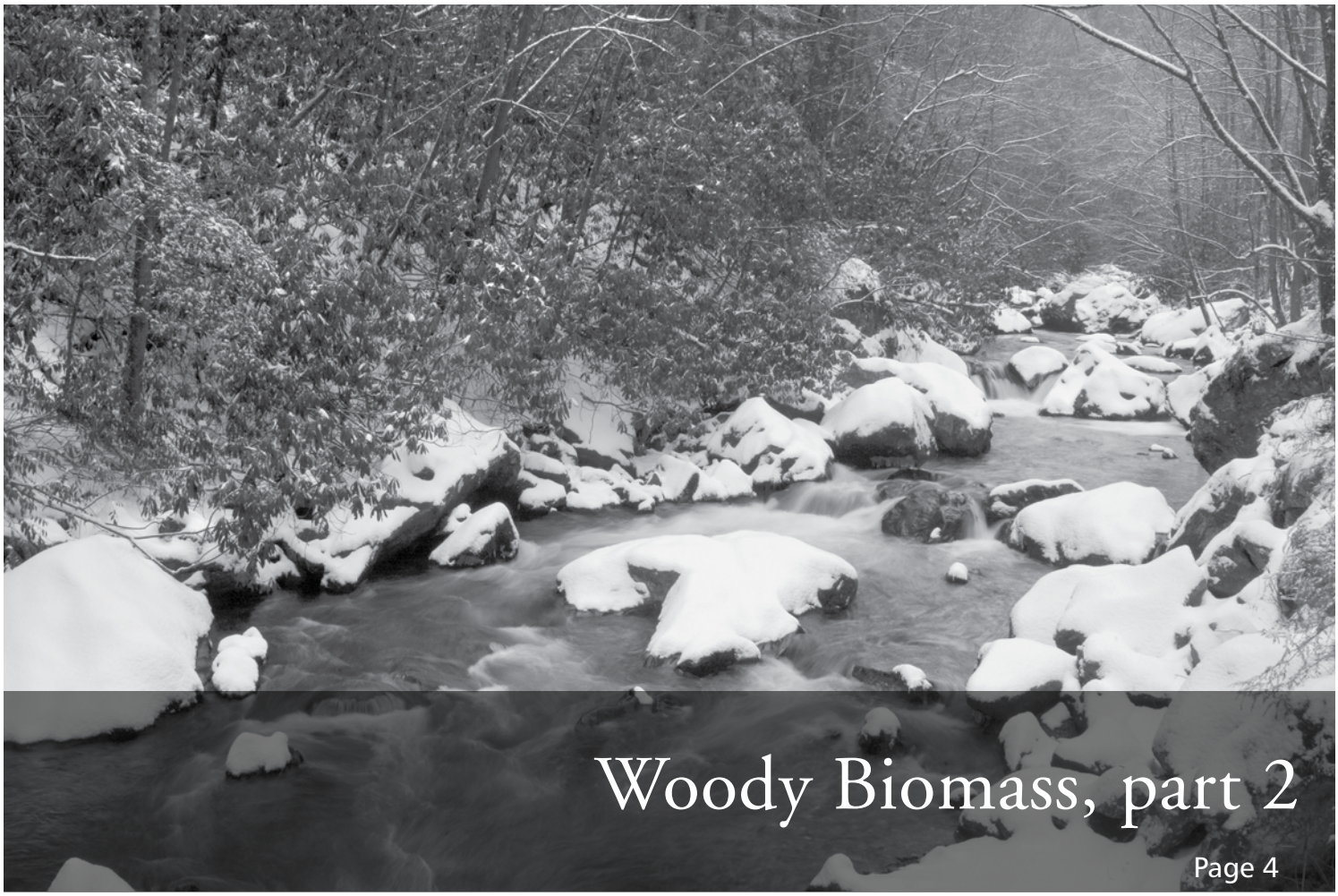
Forest News

Georgia ForestWatch Quarterly Newsletter Winter 2009



Woody Biomass, part 2

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From The Director

End of an error

Wayne Jenkins
Executive Director

As the Bush-Cheney administration is replaced on the national political scene, it leaves behind a sad legacy with respect to its environmental policies. Beginning with Cheney's secretive energy task force comprised only of executives of the oil industry in 2001, and continuing through the last days of 2008 with the rewriting of regulations that will make mountaintop removal easier, the administration abandoned any concern for conservation that once marked Republican administrations such as those of Eisenhower and Roosevelt.

Their disregard for the environment was best exemplified by a Cheney remark that "conservation was a personal virtue and not the basis for a national environmental policy." Bush appointed a former timber lobbyist, Mark Rey, to the sub-Cabinet post that oversees the U.S. Forest Service, responsible for managing the public's 194 million acres of public forest land. At Rey's behest, the Forest Service immediately began rewriting rules and regulations with the aim of reducing public involvement and environmental review of forest management decisions and practices. One of the hallmarks of the Rey era was the overturning of the Roadless Rule. In the late 1990s the agency under Dale Bosworth recognized that the 380,000 miles of existing Forest Service roads that reached well over 140 million acres of land were in terrible condition and causing severe environmental damage. Senior engineers within the Forest Service came to the sober realization that they would never have enough appropriated money to maintain their existing road network much less any additional roads. With these facts in mind and recognizing that the vast majority of Americans did not want more roads on public lands, the Forest Service in the last years of the Clinton administration proposed the Roadless Rule.

In its simplest form, it forbade any new road construction on 58 million acres of remote rugged Forest Service land. Over 600 public hearings were held around the country over a two year period and millions of Americans submitted written comments on the rule. About 80 percent of the comments submitted were in favor of the rule, in the largest outpouring of public support for a rule change in our nation's history.

Despite all of this the Bush administration under Rey immediately revoked the rule with no public hearings and replaced it with a bizarre and unwieldy plan that would have required the governors of the various states to petition the administration for protection of roadless areas within their states. This action was challenged in court by conservation organizations and in 2006 a federal magistrate ruled the Bush-Rey rule illegal. Recently a federal judge in Wyoming ruled that the original Clinton era Roadless Rule was illegal leaving the whole matter in legal limbo as a new administration takes over the reins.

Thanks to the tenacity of the conservation community, however, the net effect of all the Bush-Rey effort was only eight miles of new roads being built in roadless areas in eight years. Georgia ForestWatch has carefully monitored the 63,000 acres of roadless areas on the Chattahoochee National Forest and has turned back one attempt to intrude into the Mountaintown Roadless area. As Mark Rey moves off the scene it is heartening that his major priority for the past eight years was a complete failure. The conservation community should pat itself on the back. ■

Chattooga boating update

By the time you read this, several possibilities might have occurred regarding the U.S. Forest Service's review of proposals to permit boating on the 21 miles of the Upper Chattooga River:

a) The agency finally will have issued a final recommendation for permitting some limited boating, limited as to times of year, numbers of boats and stretches of these headwaters. This would follow the preliminary recommendation made by the agency last summer.
b) The Forest Service will perhaps decide to continue the ban on boating on this part of the Wild and Scenic river. (Not very likely.)
c) The agency will not have issued a final decision at all, and would apparently be conducting further internal review of its plans.

Originally expected in December, the agency's decision was kicked over into 2009 at the last minute. "Our timeline has slipped for several reasons," Jerome Thomas, forest supervisor for the Sumter National Forest, announced on December 19. "We're working hard to complete our work, but we won't be releasing our final decision until next year."

So, we wait, like everyone else who has been waiting for this long, drawn-out process to reach its next phase.

What Georgia ForestWatch does know is that it is still committed to the position that it has held all along during the past three years – that there are good and valid environmental reasons to continue the 30-year-plus prohibition on all boating on this pristine and very wild stretch of water, which include the Chattooga Cliffs, Big Bend, the Rock Gorge inventoried roadless areas and the Ellicott Rock Wilderness.

During the last comment period, ending August 18, we were joined by an impressive array of like-minded conservation organizations, including Wilderness Watch, the Georgia and North Carolina chapters of the Sierra Club, the Georgia Wildlife Federation, and the Western North Carolina Alliance in seriously questioning the Forest Service's preliminary plans.

Additional, various member organizations of the Georgia Environmental Action Network, including Altamaha Riverkeeper, Center for Sustainable Coast, Georgia Conservancy and Southern Alliance for Clean Energy, urged their individual members to file comments seeking a non-boating future for these headwaters.

Opposing views are still being pushed primarily by the American Whitewater lobby group.

Whatever further decision is handed down by the agency, stay tuned. This controversy is not yet over. And whatever "final decision" is issued by the Forest Service, it is subject to possible administrative appeal. ■

Contact Information
Georgia ForestWatch

www.gafw.org

15 Tower Rd. Ellijay, GA 30540
706-635-TREE (8733)

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Forest News edited by Joe Gatins, Wayne Jenkins and Lori Martell. Layout by Eleanor Thompson.

STAFF
Wayne Jenkins, Executive Director
Lori Martell, Outreach Director
Darren Wolfgang, Forest Ecologist
Jill Gottesman, Office Manager

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ADVISORS
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GEORGIA FORESTWATCH DISTRICT LEADERS

Chattooga Ranger District
Joe Gatins 706-782-9944
(Rabun & Towns counties)
Dudley Sisk 706-754-0955
Wally Warren 706-754-0150
(Habersham, Stephens & White counties)
Honor Woodard 706-212-7924
(Rabun County)

Conasauga Ranger District
Robin Hitner 678-294-3256
(Chattooga, Gordon, Murray, Floyd, Walker & Whitefield counties)
David Govus 706-276-2512
Wayne Jenkins 706-635-8733
Dennis McClure 404-728-1970
(Fannin & Gilmer counties)

Oconee National Forest
JP Schmidt 706-613-8483
Caleb Walker 706-248-4910
Larry Winslett 404-375-8405
(Greene, Jasper, Jones, Monroe, Morgan, Oconee, Oglethorpe & Putnam counties)

Blue Ridge Ranger District
Howard Markel 770-781-5418
Dennis Stansell 706-747-5892
(Dawson & Towns counties)
Jim Walker 706-273-3465
(Fannin, Gilmer, Lumpkin and Union counties

Cover photo: By Peter McIntosh, www.mcintoshmountains.com. A winter view of the Tallulah River. After being chosen as a winner of our photo contest, this photo was featured as the January cover shot for the 2009 Goergia ForestWatch calendar/day planner.

Inquiry into biomass utilization for the production of goods and energy, Part 2 of 2

by Darren Wolfgang : Georgia ForestWatch Forest Ecologist

Did you miss Part 1? Read it at www.gafw.org/newsletters/2008fall_newsletter.pdf

Research and Science:

CASE 1 –

A study conducted by Silkworth and Grigal, 1982, explored the impacts of whole tree harvest on trembling aspen stands in Minnesota. This study proved that the leaves of aspen hold high quantities of N and P, and that the bark held high levels of Ca. This case example was critical in illustrating the need to assess nutrient inputs and losses associated from exporting wood products from an ecosystem.

The study also found that it took the following length of time in years to replenish the nutrients lost due to whole tree harvesting operations:

N = 48 years, P= 18 years, K= 24 years, Mg= 118 years

For Ca or Calcium the study concluded *"The normal leaching loss of Ca is approximately balanced by inputs; therefore the loss of Ca in harvested biomass and accelerated leaching cannot be replenished."* This basically means that when Ca is gone, it's gone, period, unless one manually "limes" the soil; hence the necessity of keeping it on site.

CASE 2 –

According to a collaborative study between USFS Southern Research Station and Louisiana State University entitled: "Energy trade-offs between intensive biomass utilization, site productivity loss, and ameliorative treatments in loblolly pine plantations" conducted by (Scott and Dean, 2004) *"Harvesting tree crowns in addition to the merchantable bole had a negative impact (18%) on pine biomass accumulation by age 7-10 years on 15 of 19 research blocks."* This study also suggested that sites with lower fertility to begin with, would in fact yield the greatest loss in productivity, due to the fact the land was marginal to begin with.

Confirmation of the fact that tree crowns, fine branches, and foliage contain high quantities of nutrients is found in the following passage: *"However, tree crowns and small-diameter trees contain a disproportionately greater quantity of site nutrients compared to their biomass, and the removal of these small trees and tree crowns may reduce long-term site productivity."* On numerous occasions throughout this study there is heavy emphasis on fertilization to offset the negative impacts on site productivity caused by nutrient loss.

It would seem that if land is to be used in an agricultural fashion, it should be managed in that fashion. Take for example a field dedicated to the production of some type of silage *(corn or hay for example)*; If the land was repeatedly used for production and no fertilizer or nutrient amendments were applied, over the course of several crop harvests one would expect to produce less and less silage.

CASE 3 –

Table 8-9 and 8-10 (below) are taken from "Forest Measurements" (Avery and Burkhart, 2002.)

These tables chosen for introduction are based on data collected from an 11-year-old plantation in Georgia. The tables depict green and dry weight of plantation grown sycamore trees at varying heights and diameters. The table reinforces the actual weight of harvested biomass pre- and post-drying. The numbers in the dry-weight table are particularly interesting in the fact that a sycamore tree that is 80 feet tall and 10 inches diameter at breast height only produces 517 pounds of dry material. To put this amount in perspective the University

(continued on page 6)

TABLE 8-9
GREEN-WEIGHT TABLE FOR PLANTATION-GROWN SYCAMORE, IN POUNDS*

	Total height (ft)							
dbh (in.)	45	50	55	60	65	70	75	80
4	80	92	104	117	129			
5	143	162	181	201	220	239		
6		247	275	303	331	359	387	
7			387	425	463	501	539	
8			515	565	614	664	714	764
9				723	786	849	912	975
10					978	1,056	1,133	1,211

*Equation: $W = -32.35109 + 0.15544\ \text{dbh}^2H$, where W is green weight (including bark) to a 3-in. top dob; coefficient of determination = 0.99.
Source: Belanger, 1973.

TABLE 8-10
DRY-WEIGHT TABLE FOR PLANTATION-GROWN SYCAMORE, IN POUNDS*

	Total height (ft)							
dbh (in.)	45	50	55	60	65	70	75	80
4	30	36	41	46	52			
5	58	66	74	83	91	99		
6		103	115	127	139	151	163	
7			162	179	195	212	228	
8			218	239	260	282	303	325
9				307	334	361	388	415
10					417	450	484	517

*Equation: $W = -17.67910 + 0.06684\ \text{dbh}^2H$, where W = dry weight (including bark) to a 3-in. top dob; coefficient of determination = 0.99.
Source: Belanger, 1973.

Rabun bio-energy plant secures EPD air permit

by Joe Gatins : Co-district Leader

The state of Georgia issued an air pollution permit on September 8 of last year to a Virginia firm establishing a 20-megawatt, wood-fired electricity co-generation plant on the old Fruit of the Loom textile mill property in Rabun Gap.

Issuance of the permit by the Air Protection Branch of the Environmental Protection Division of the Georgia Department of Natural Resources capped a months-long review process that involved a public hearing in Clayton and detailed input from Georgia ForestWatch.

The co-generation company, headquartered in Virginia, Multitrade Rabun Gap LLC, began working on the new equipment early in November. According to a company spokesman, start-up activities are scheduled for early June of this year, with commercial operations estimated to begin by the end of June. The new power plant is going to create 20 full-time jobs and promises up to 80 more seasonal jobs for truck drivers who will be ferrying woody biomass to the plant's boiler. About 17 megawatts of the plant's capacity are to be sold to Green Power EMC, the consortium of 38 Georgia-based electric member cooperatives interested in "cleaner and greener" electric power."

That wood supply, as detailed in the permit, is limited to "untreated wood biomass from forestry residue, mill residue and clean urban wood waste," thus answering a good bit of the questions posed by ForestWatch during the permit comment period.

The permit also calls for significant monitoring of emissions at the plant, and an outside limit of 200 tons of "criteria pollutants" per year, a situation that we will continue to review with the help of our legal partner in this process, the Atlanta-based GreenLaw firm. ■

Species spotlight:

Wounded darter, *Etheostoma vulneratum*

Home: The Toccoa River features Georgia's only known population of wounded darters (as well as olive and tangerine darters). Outside Georgia, wounded darters are found in the upper Tennessee River system in east Tennessee, North Carolina and Virginia.

Appearances: No longer than about 3.4 inches. Adult males sport bright colors, including a green breast, red tail and red spots along the body and first dorsal fin. Females are a duller brown, but also have red spots in the first dorsal fin.

Hangouts: Deep runs in moderate to large rivers featuring boulders and large cobble.

Eats: Mayfly nymphs and tiny aquatic insects like midge larvae.

Rocky start: In spawning, females deposit egg clutches on undersides of rock ledges. Males defend the eggs, sometimes deposited by several females, until they hatch. Wounded darters may live four to five years.

Status: State-listed as endangered. The American Fisheries Society considered the species vulnerable across its range in a 2008 review of all North American fishes.

Threats: Historically, impoundments destroyed a large amount of free-flowing, large river habitat throughout the wounded darter's range. The species requires un-silted cavities underneath rocks for spawning, making it ultra-sensitive to sedimentation.

The latest: A summer 2008 study by the Georgia Department of Natural Resources Wildlife Resources Division found wounded darters at nine of 29 sites checked, all upstream (or south) of Lake Blue Ridge, which alters stream flows and temperatures. The project led by Brett Albanese also cited the destruction of riparian zone habitats along the Toccoa as cause for concern.

Outlook: The study suggests that the river upstream of Lake Blue Ridge is critical for wounded and tangerine darters. Albanese is planning a workshop in spring 2009 to inform Toccoa River landowners of study findings and conservation needs.

Source: Georgia DNR nongame e-news, December 2008

Virginia Fish and Wildlife Information Service photo

Inquiry into biomass utilization

(continued from page 4)

of California's Cooperative extension site lists that California biomass plants use about 5 million "bone-dry" tons of biomass per year.

If there are 2,000 pounds in one ton, it will take roughly 3.8 trees that are 80 feet tall and 10 inches diameter at breast height to produce one ton of dry biomass. If we continue the calculation, it will then take about 19 million trees to produce 2 percent of California's total electricity output. The Energy Information Administration produced feasibility models for hypothetical plants in Tennessee. The level of biomass demand for a single plant was estimated to be 100,000 to 630,000 dry tons per year. In order to produce 630,000 dry tons per year it would require 165,789 of those sycamore trees that are 80 feet tall and 10 inches diameter at breast height. Some plans for future biomass utilization facilities indicate that only the tops or "slash" from harvested trees would be utilized, as well as other "forest residues," due to the poor energy efficiency of whole-tree chipping operations. If only the "slash" or by-products of regional timber harvesting projects are to be utilized, it is likely that significantly more trees will be logged in order to produce the same volume of material from "slash" as from whole tree harvests. The result of these activities would be the production of an extremely small percentage of a given state's supply of electricity.

The California Cooperative extension also addressed additional concerns about biomass utilization. The issue of proximity of biomass supply to the utilization facility was addressed as follows: *"The market structure will not support transport of much more than 50 miles from the forest to the biomass power plant."*

Additional considerations:

One final and rather critical area of concern to members of the public is the issue of air quality preservation. The Georgia Environmental Protection Division and the U.S. Environmental Protection Agency do have regulations already in place to prohibit burning of OSB (oriented strand board, widely used in commercial and home construction industries,) and other types of treated wood waste. It is important to be aware of the potential negatives that accompany biomass utilization because current state and federal laws are not adequate to fully address certain environmental issues. Since biomass utilization facilities incinerate large quantities of wood, and potentially associated recycled construction waste, it is likely that some contaminated materials unintentionally and unknowingly could be burned. It is difficult to sort every piece of the multiple tons of wood delivered each day to a given biomass plant. For the general health and well being of the public it is important to continue to evaluate and discuss the potential threats that woody biomass projects could pose to air quality and human health as they may arise.

To date the consequences of burning large quantities of woody debris, and particularly woody construction scraps, have not been fully evaluated. Sources of potential biomass that could be utilized by some facilities nationally include OSB, which is held together by resinous compounds that if burned in large quantity, could reduce air quality in the vicinity of the facility. The risk of negative health effects is increased if inadequate emissions- reduction systems are not employed on the smokestacks of a facility. In most cases, state and federal permit processes require that wet electrostatic precipitator technology be employed. The risk for compromising human health and air quality standards depends largely on the type and source of the OSB. It is important to note that there are in fact numerous types and associated methods for producing OSB. The factors defining the hazard potential of a given type of OSB lie in the specific type of resins and adhesive materials used during manufacture. Additional considerations should be made for the preservatives present in the product and the associated chemical properties of those preservatives. Unfortunately not all OSB products are created equal, and it is necessary to note that OSB products could contain numerous hazardous substances including: zinc borate, chromate copper arsenate, and three variants of formaldehyde based compounds. Since private citizens might consider burning OSB and other treated wood products in an open pit fire on private property, it is in the interest of the general public that such materials have been found to have the following negative health effects. These effects are those that lead the EPA to pass regulations on the use, burning, and general disposal of OSB and other related materials.

According to MSDA-021 *(Material Safety Data Sheet)* the following hazard advisory designations for OSB containing formaldehyde-based compounds have been assigned:
MAK-3B *(Substances for which in vitro tests or animal studies have yielded evidence of carcinogenic effects.)*
EPA-B1 ("Environmental Protection Agency- *limited evidence of carcinogenicity from epidemiological studies.*)
IARC-2A (International Agency for Research on Cancer – *Probably Carcinogenic to Humans.*)
NIOSH-Ca (Nat. Institute of Occupational Safety and Health – *Potential occupational carcinogen, with no further categorization.*)
NTP-R (National Toxicology Program – *Reasonably anticipated to be a carcinogen.*)
TLV-A2 (Threshold Limit Value – *Suspected Human Carcinogen.*)

Discussion and preliminary conclusions:

Upon assessment of current biomass proposals, it is strongly advised that additional long-term supply feasibility studies be conducted. The associated consequences of such actions on public and private lands, as well as the potential health hazards to the general public need to be more thoroughly evaluated. It is necessary to clearly identify the possible negative environmental, economic, and social impacts in a factual and objective manner, before any further steps are taken to produce electricity from forested ecosystems, especially state and national forestlands. ■

Herbicides on our forests

The still-evolving policy position of Georgia ForestWatch is that we support the safe and legal limited use of herbicides on national forestlands to help the U.S. Forest Service meet very specific goals, such as eradication of non-native invasive plants.

Imagine our surprise, last October, when two of our co-district leaders inadvertently found themselves in the middle of national forest undergrowth that had just been liberally sprayed with Arsenal AC, an herbicide whose location had not been properly posted to notify members of the public who might pass through the area of application. The hands, arms, legs and faces of the co-district leaders became spattered with the blueish-green "surfactant" used to identify where the spray was applied by Forest Service contractors. They were left with a metallic or "just not right feeling" in their mouths.

Subsequent checks with the Chattooga River Ranger District disclosed that a scheduling conflict had prevented a Forest Service technician from posting the area against entry, as the herbicide's label requires users to do (for 12 hours, in the case of forestry applications.) The contractors' employees who applied the chemical were not geared up to do the posting themselves because they did not speak (or write) English, we were informed. The area was being sprayed as part of a project to "regenerate" native shortleaf pine on the Chattooga River Ranger District.

The district subsequently promised verbally to ensure that such areas will be posted properly, even when scheduling conflicts arise.

Georgia ForestWatch also has made several suggestions to the agency as it moves to greater use of these noxious chemicals, particularly in trying to eradicate and better control the invasives. We are recommending, and asking the Forest Service to implement, a plan that would:

- Permit contract employees to post the spray areas themselves.
- Require the agency to leave the posted warnings up for a minimum of 48 hours beyond the herbicide label's requirements.
- Consider leaving the posting notices up indefinitely, as these are usually made of biodegradable cardboard and such postings would give better notice to the public about whether they wanted to enter such areas of our public forests.

Georgia ForestWatch made the point that some people legally use the forests for foraging and harvesting of wild fruit and/or medicinal or edible plants – and might not want to consume or handle material that had been sprayed, regardless of how long ago it had been applied. As of this writing, the agency has not specifically responded to these suggestions.

We also filed a formal complaint about the situation with the Georgia Department of Agriculture, the agency designated to receive herbicide and pesticide complaints in the state. The agency, in a response of January 15, commented that "the state of Georgia does not require that forestry applications be posted." The 12-hour restricted entry interval "only applies to agricultural workers ...."

What the agency did find as it investigated the incident was that the contractor whose employees applied the Arsenal herbicide "was not licensed in the state of Georgia as a contractor, but only as an "applicator." The company, identified as Garcia Forest Service, has since "attained their contractor license, and they are currently a licensed contractor in Georgia." ■

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Endangered habitats: mountain bogs

by Charlie Seabrook : Board Member

Several Georgia ForestWatch members recently made their way to a remote swath of the Chattahoochee National Forest in Rabun County to help save one of Georgia's most endangered habitats – a mountain bog.

Working alongside state and federal employees and a handful of members from other conservation groups, ForestWatch volunteers clipped, whacked and tugged to remove or incapacitate alien plants threatening to choke out the small wetland known as Hedden Creek Bog.

The aliens included Japanese knotweed, Montana grass and Chinese privet -- fast-growing exotics that threaten to crowd out native bog species such as the yellow-flowered Fraser loosestrife, which is on Georgia's protected species list.

While some of the volunteers pulled up privet, others cut off the seed heads of the Montana grass growing thickly in clumps along a Forest Service road. Without its seed heads, the grass cannot spread. The Japanese knotweed -- a fast-growing shrub with hollow bamboo-like stems -- proved particularly tenacious. A winch had to be used to pull out several of the plants by their roots.

Because of such run-amok nonnative vegetation and other threats, mountain bogs like Hedden Creek are some of the "most critically endangered habitats" in Georgia, said Mincy Moffett of the Georgia Department of Natural Resources. The situation is of great concern to wildlife biologists, who say that the bogs are crucial to the survival of several rare and threatened species.

In addition to Fraser loosestrife, other such species include swamp pink, Cuthbert's turtlehead, mountain purple pitcher plant and Carolina sheep laurel. In particular, mountain bogs harbor the bog turtle, Georgia's smallest turtle and its most endangered reptile.

Restoring and protecting the bogs are vital for saving the turtle and other bog-loving species from extinction, says DNR herpetologist Thomas Floyd. That's a major reason why the DNR is aiming to restore and protect as many of the remaining mountain bogs as possible.

Ranging from about a half acre to 5 acres in size and covered by thick carpets of sphagnum moss, "relatively few" high-quality mountain bogs remain in north Georgia, Moffett said. Several are

DNR photo

Covered in mud after hours of woody plant removal at Nichols Bog, Darren Wolfgang, ForestWatch ecologist, was one of several ForestWatch volunteers who recently assisted the DNR with mountain bog restoration at two different sites.

within the confines of the Chattahoochee National Forest, but most are in private ownership.

In addition to Hedden Bog, other top priority sites include Rock Creek Bog in Fannin County; Nichols Bog in Union County and Hale Ridge and Keener bogs in Rabun. In addition, surveys are being conducted to assess the status of mountain wetlands throughout Rabun, Towns, Union, Fannin, Gilmer and portions of Murray, Pickens, Dawson, Lumpkin, White and Habersham counties.

Several factors, such as drainage for agriculture and homesites, led to the loss of mountain bogs, but the major reason probably was a drastic decline in beaver populations from overtrapping and other causes. With their dams and

impoundments, beavers probably were the dominant force in creating and maintaining the bogs, biologists theorize.

According to the DNR's "project statement" on mountain bog restoration: "Historically, it is believed that beaver activity was perhaps the dominant force in creating and maintaining mountain bogs. Although beaver ponds per se are not good mountain bog habitat, they do provide some marginal habitat around the shallower edges of their impoundments. Once the beavers abandon the site, the impoundments eventually break and the pond becomes a mudflat that supports re-colonization of sphagnum moss and other bog vegetation."

Other "natural disturbances" that may have helped maintain mountain bogs in an "early stage of succession," said the project statement, included grazing by bison and elk and burning by natural fire. However, bison and elk no longer roam the Southern Appalachians, and fire largely has been excluded from the landscape, the statement said.

Some biologists and foresters have suggested re-establishing beaver populations in the mountains to help restore and maintain mountain bogs. The DNR project statement, however, says that "given the paucity of undisturbed riparian corridors and wetland bottoms in the Southern Appalachians, and the relatively low beaver populations at higher altitudes and steeper gradients, beavers can't be relied upon to provide the necessary disturbance for mountain bog creation and maintenance."

Therefore, the statement concludes, the managers responsible for the bog restoration project "need to inject disturbance into the system using other methods." Those methods include manual clearing (such as was done recently at Hedden bog and Nichols Bog), herbicide use and prescribed burning.

While manual clearing usually generates little controversy, there is considerable disagreement over the use of herbicides and prescribed fire in the forest. As the DNR's statement acknowledges: "There are scant studies and limited data available regarding artificial disturbance/ management treatments (for example, herbicides and fire) in Southern Appalachian mountain bog systems." ■

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Which way the wind blows

by Bob Smiles : Board Member

The beauty and bounty of the Chattahoochee National Forest have been a mixed blessing. The trees provide solitude and habitat for a wide range of terrestrial creatures and birds and, as lumber, serve as an important industrial input. The streams provide tranquility and some of the most biologically diverse aquatic habitats in the world and, upon converging into rivers, serve as critically important sources of drinking and industrial water. So it is with the air, or more specifically moving air, or wind. Certain recent studies have identified mountain ridges in the Chattahoochee as potential areas for the construction of industrial wind farms.

Wind farms

What is a wind farm? It is a group of wind turbines and related infrastructure that are designed to generate electricity by collecting and converting the kinetic energy of the wind. Windmills? Yes, sort of. Really BIG windmills. The turbine consists of two main parts, the tower and the blades. The tower is often over two hundred and fifty feet tall and the blades are often between one hundred twenty to one hundred sixty feet in length, giving many turbines a total height of over four hundred feet.

Although the wind turbines are mostly vertical in nature, they also possess a significant horizontal footprint, especially during the construction phase. An area of between one or two acres or more may need to be clear cut of all trees for each turbine. Multiply this by the number of turbines, anywhere from a couple to over one hundred, and then add to this the acreage of clear cut necessary to construct the miles of transmission lines and access roads, which, unfortunately, do not usually follow the same route, and you begin to get a sense of the footprint. Wind farms can be substantial, sprawling industrial undertakings, but wind power might be worth it.

Why wind power?

Wind power has many advantages over fossil fuel power. First, it is renewable. As long as there is weather on the planet, there will be wind, unlike petroleum, which is finite. Second, it does not require destructive extraction practices in order to acquire fuel, unlike coal-fired power plants, which require coal, which will likely be extracted through the devastating technique of mountain-top removal. Third, it emits virtually no pollution. And fourth, it uses almost no water.

In addition, many states, although not yet Georgia, have adopted Renewable Energy Portfolio Standards, which are state policies that require electricity providers to obtain a minimum percentage of their power from renewable energy sources, such as wind, by a certain date. Furthermore, the

Peter McIntosh photo, www.mcintoshmountains.com

In the event wind farm projects are proposed on the Chattahoochee-Oconee National Forests, ForestWatch will be there to ask the hard questions about appropriateness of the site and the scale of impact on land, water, wildlife and people.

Federal Government and some State Governments have provided significant tax incentives to companies seeking to develop wind farms. The combination of the Portfolio Standards and the tax incentives has sparked such a demand for wind turbines among wind farm developers that earlier this year back orders for turbines from one of the largest turbine manufacturers were estimated to be at more than 18 months.

Why wind power on national forestlands?

Geographically speaking, the reason is tied to the history of the U.S. Forest Service. The agency was established primarily to address (and going forward, to prevent) the cataclysmic erosion

and flooding that devastated the mountain and downstream communities when clearcut logging by private companies left many mountains bare of vegetation. Most of the original national forest lands were mountainous, and are still mountains. It is these higher elevation mountain ridges that tend to receive stronger and more-sustained winds than lower areas, thus, the interest from those who want to capture this resource.

However, there are many mountain ridges outside our national forests, so why the focus on them? Politically-speaking, there are likely two primary reasons. First, Forest Service regulations have for a long time been interpreted to allow energy development and related activities to take place on our public lands. Therefore, it is only natural from that perspective that wind farm development would fall within that tradition. Second, recent policy pronouncements and laws, such as the National Energy Policy Act of 2005, have made it clear that, as part of its push toward alternative energy technologies, the Federal Government will make certain public resources available to speed the conversion. Or, perhaps more cynically, one of the hallmarks of the current, outgoing Administration has been to facilitate the energy industry's exploitation of public lands and waters. Therefore, these actions can be seen as roads that are being paved (literally) for the wind power segment of the energy industry.

Wind farms on the national forests

Although to date no wind farms have been proposed on the Chattahoochee National Forest, there are a few projects on national forests in other states, which are in various stages of consideration. In Vermont, a municipality has submitted the necessary paperwork to obtain a permit to construct a wind farm in the Green Mountain National Forest. The Forest Service released a Draft Environmental Impact Statement for public comment in September 2008. The municipality will, however, first need to obtain the required consents from the state's Public Service Commission.

The Green Mountain National Forest wind farm project consists of the following: 72 acres of public land impacts (plus 84 acres of adjacent private land), 17 turbines of approximately 384 feet in height, 5.4 miles of transmission lines, 4.3 miles of new roads, plus the widening of another 1.2 miles of existing roads, and an additional four-acre construction staging area.

In Michigan, a subsidiary of BP Alternative Energy intends to construct a wind farm on the Huron-Manistee National Forest along the Lake Michigan shoreline. The project will cover approximately 75 acres, have about twenty-four 420 foot wind turbines, will require approximately 40 miles of transmission lines and 14 miles of road construction and renovation, and will include an area of about five acres for an electrical substation. The Forest Service is currently holding public hearings on the project and anticipates releasing a draft Environmental Impact Statement for public comment by December, 2009.

A couple of projects are currently being considered in and next to the George Washington National Forest in Virginia and West Virginia. Little information is currently available about the projects, but they will likely include large segments of private land. One of the wind farms may contain as many as 131 turbines and 18 miles of ridgetop roads. The other project elicited a letter from the United States Fish and Wildlife Service suggesting that an alternative location be chosen due to concerns about the impact of the turbines on certain populations of bats and birds.

Conclusion

Although there are many benefits to wind power, other considerations justify taking a slower, more reasoned approach when a wind farm project is proposed on National Forest lands. Some of these considerations will be discussed in the next issue of *Forest News* together with a review of the possibly-soon-to-be-finalized Forest Service regulations related to wind farms. ■

District Offices of the Chattahoochee-Oconee National Forests

Ranger, Michelle Jones
USFS Conasauga River
Ranger District
3941 Highway 76 • Chatsworth, GA 30705
mjones@fs.fed.us
706-695-6736

Ranger, Alan Polk
USFS Blue Ridge Ranger District
1181 Highway 515
P.O. Box 9 • Blairsville, GA 30512
apolk@fs.fed.us
706-745-6928

Ranger, Dave Jensen
USFS Chattooga River Ranger
District
809 Highway 441 South
Clayton, GA 30525
dwjensen@fs.fed.us
706-782-3320

Ranger, Erin Bronk
USFS Oconee National Forest
1199 Madison Road
Eatonton, GA 31024
ebronk@fs.fed.us
706-485-7110

Forest Service Contacts

George Bain – Forest Supervisor
USDA Forest Service
Chattahoochee – Oconee National Forests
1755 Cleveland Highway
Gainesville, GA 30501
gbain@fs.fed.us
770-297-3000

Elizabeth (Liz) Agpaoa – Regional Forester
USDA Forest Service – Region 8
1720 Peachtree Rd., Room 760-S
Atlanta, GA 30341
404-347-4177

Tom Vilsack
Secretary of Agriculture, USDA
James L. Whitten Bldg.
1400 Independence Ave., SW
Washington, DC 20250

ForestWatch Fall Retreat!

Lori Martell photo

One of several educational hikes included this one to the Tatum Lead Trail, where brothers David and Tom Govus taught the group about illegal ATV activity and plant identification. L to r: David Govus, Dennis McClure, Jim Poulos, Tom Govus.

Lori Martell photo

Quentin Bass, USDA Forest Service Archeologist for the Cherokee National Forest, gave a provocative keynote address on the natural and cultural history of the Southern Appalachians according to the archeological record. Other lodge-based programs included Jim Costa's entomology and Patricia Kyritsi Howell's medicinal herbs presentations.

Hikers on the herb walk taste delectably tangy sumac berries. L to r: Charlie Seabrook, Brad Martell, Annelle Saunders, herbalist and hike leader Patricia Kyritsi Howell, and Joe Gatins.

Lori Martell photo

Lori Martell photo

After torrential rains Friday night, the weather cleared just in time for the hikes to begin on Saturday morning. The sun poked through as the last mists were rolling away, creating hauntingly beautiful light in the woods.

Brad Martell photo

The ForestWatch Fall Retreat is a fun weekend for adults and children alike. Here, outreach director Lori Martell sneeks in a hug for Shiloh, a committed ForestWatch youth volunteer who has helped at events and served as a contributing writer for a ForestWatch Alert. We love you Shiloh!

Lori Martell photo

Board member, Carol Kemker, moderated the final session, "New Issues Confronting Our National Forests," where we explored issues such as wind energy, conflict between recreationists, and biomass for power generation.

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2008 Financial Report

Income	
Contributions	$72,455
Grants	85,000
Membership Dues	16,315
Program Fees	9,068
Sponsorships	13,450
Investment Income	5,202
Earned Income	1,950
Total Income	**$203,440**
Expense	
Program	$156,230
Admin	64,357
Total Expenses	**$220,587**
Net Income	- $17,147
Total Assets	**$211,555**

Georgia ForestWatch welcomes the following new members

Thomas Bennett
Jim Chapman
Jen Cleere
Richard Hawkins
Joel Hitt
Laurence Holden
Howard Lewis
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Donis Rasmussen
John Schendel
Don Schwarz
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Kim Smith and Tom Owens

NOTICE:

We've changed to a new database. Please contact us if you notice any issues with your contact info, membership status, or communications from us.

A fond farewell and a warm hello

We bid a fond farewell to Kathy Herrygers, who served for more than three years as ForestWatch office manager. Kathy inspired us with her creative storytelling and her huge capacity for helping those in need, especially the many hours each week she volunteered for the local animal shelter, Homeward Bound. Thanks to Kathy's tireless effort as an animal rescuer, countless abandoned and neglected dogs now have homes. Kathy, thank you for everything and we wish you a good journey – know that you are loved!

As this issue was going to press, we hired a new office manager. We welcome Jill Gottesman, who has already stolen our hearts! You will learn more about Jill in the next issue, but in the mean time feel free to call or stop by the office and say hello. ■

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