

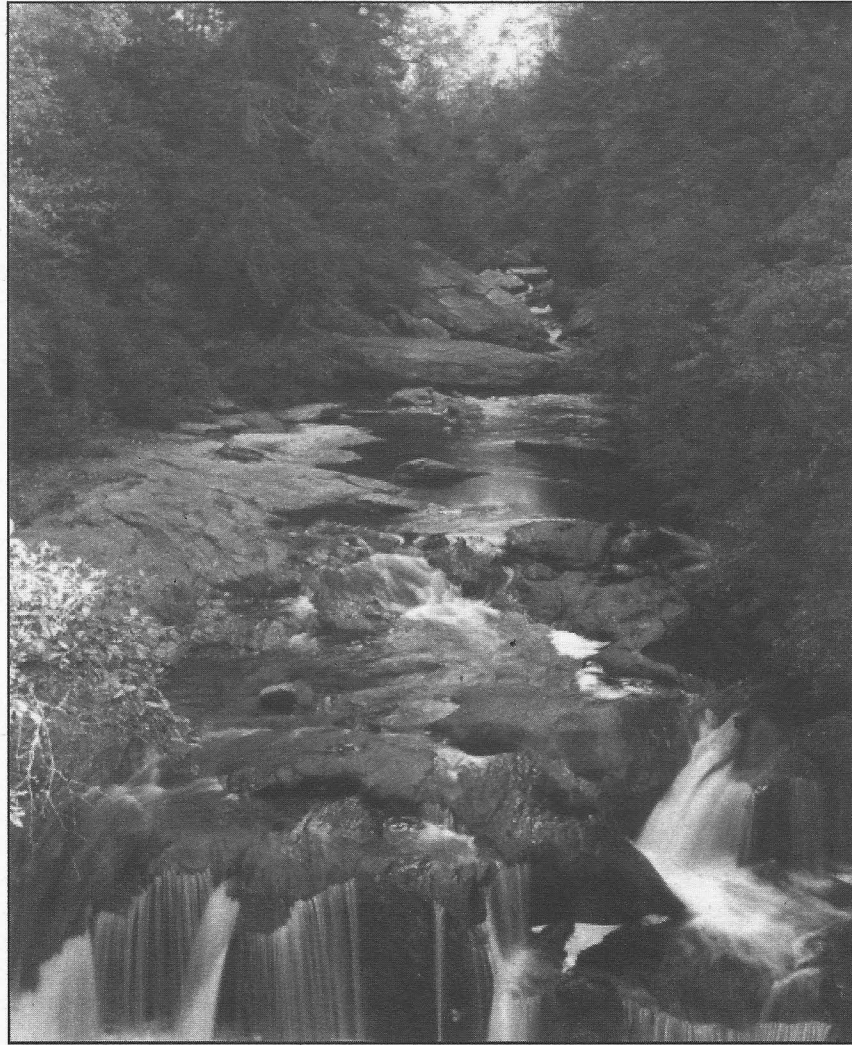


The Chattooga Quarterly

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Conservation: "Hope Springs Eternal"



Potholes on the Chattooga River above the old Iron Bridge on Bull Pen Road

photo by Cheryl Bird

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Director's Page

Buzz Williams

SUSTAINABILITY?

I once heard the principle axiom of capitalism described as "If you're not growing you're dying." I believe this idea spells disaster for the natural world and the associated life support systems upon which we all depend. Start with the obvious. We cannot grow indefinitely. Intellectually we know this just as surely as we understand that if human populations continue to expand, it is simply a mathematical reality that we will run out of living space. Therefore, it should not be that much of a stretch to understand that if we continue to foul the air and water we will soon suffer greatly from disease and famine until we perish. Yet, there are signs all around that this is exactly what is already happening to our fragile planet. I propose that we need to revolutionize our notion of the capitalist system based on the fact that unchecked growth is killing our planet and threatens our own existence. This new ethic should incorporate an axiom that governs economic growth with the objective of maintaining and restoring ecosystem health. This new tenet of capitalism should be "We must stop growing, or we will die."

This is not as radical as it may seem. The axiom doesn't mean we need to stop having children, making a living or building homes or businesses. It simply means we need to balance growth with death within the carrying capacity of the land.

Sustainability, the most often used "buzz" word offered up as a solution to problems associated with ecological degradation, is defined as the ability to "maintain" ecological "systems" that ensure an adequate supply of clean air, water, fertile soil and a diversity of plants and animals from which we derive food and medicine. We even know how to achieve sustainability, yet we lack the political will to implement safeguards to stem the growing tide of environmental degradation that is the measure of achievement in attaining sustainability.

According to Dr. Eugene Odum in his book, *Ecology and Our Endangered Life-Support Systems*, "survival depends on changes now." This landmark book contains a chapter entitled "Economic Growth vs. Economic Development." In this chapter, Odum traces modern thought on sustainability as follows.

The Brundtland Report issued in 1987 by the World Commission on Environment and Development and entitled *Our Common Future* concluded, "...current trends of economic development and accompanying environmental degradation are unsustainable." The report went on to say that this planetary damage contributed to worldwide economic depression.

Later, in 1991 a follow-up report issued by the United Nations entitled *Environmental Sustainable Economic Development: Building on Brundtland* addressed the difference between economic growth and economic development as a difference between quantitative growth or "getting bigger," as opposed to qualitative growth or "getting better." The report defined economic development in terms of improving economies without increasing the total energy and material consumption beyond sustainability. The report concluded that in order to reduce world poverty, which most agreed would require some economic growth in underdeveloped countries, this must be accomplished by "negative through-put growth by the rich," thus avoiding further environmental damage to life support systems.

**The choice
is simple:
quality over
quantity.**

More recently at the 1992 Earth Summit in Rio de Janeiro in Brazil, world leaders met to reach consensus on ways to address world poverty, pollution, and natural resource preservation. The summit split along the lines of rich vs. poor nations, but there was agreement that environmental protection should be a key consideration in economic concerns.

The United States epitomizes the essence of pure capitalist economics in terms of economic growth. The Bush administration touts the premise that economic growth is the answer to generating capital for solving environmental problems. Our country and its leaders also epitomize the ignorance of the difference between economic growth and sustainable economic development. Vice President Cheney is the best example of this ignorance. His statement during the debates about whether or not to open the Arctic Wildlife Refuge to drilling, that conservation was not the answer to oil dependency, underscores a fundamental misunderstanding of the gravity of damage done by excessive fossil fuel burning. In this case I use the word "ignorance" in its kindest sense, in lieu of the other scenario—that he has simply caved in to big business desires at the expense of the environment. Surely he must also care about the human-caused, ongoing mass extinction of species on our planet. This should be apparent to anybody with faculties enough to see the obvious degradation of our air and water.

The upside is the current debate over campaign finance reform and investigations into the Enron debacle. Now let's hope that we wake up before the pending disaster looming on the horizon. In the meantime we will continue diligently with our public education programs aimed at energy conservation. The choice is simple: Quality over quantity. Therefore, getting big business out of politics, so that checks and balances are put in place at the national and the world levels to protect our environment, are essential. This is nothing less than reform of our capitalist system, not to replace it or infringe on democracy, but to improve it and our quality of life.

Cerulean Warbler: *To List or Not to List!*

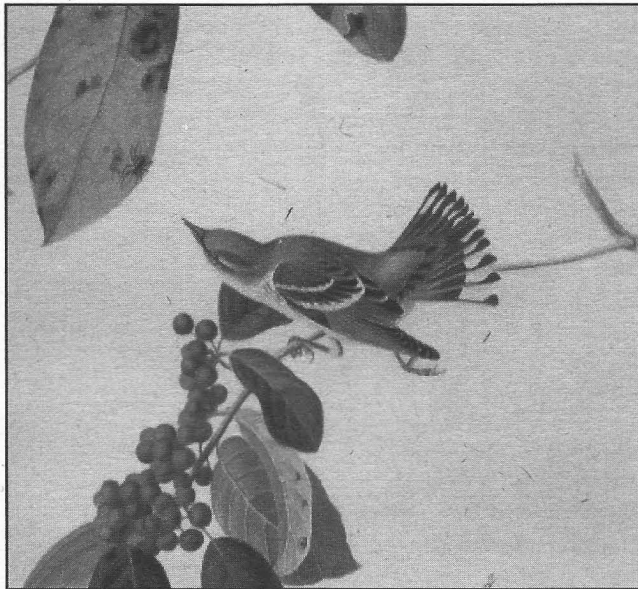
Buzz Williams

The Cerulean Warbler (*Dendroica cerulea*) is a beautiful little migratory songbird that spends the winter in the Andes Mountains, from Venezuela and Columbia to eastern Peru and northern Bolivia, before returning in mid-April to its breeding grounds in North America in the mature, deciduous hardwood forest, usually along floodplains from southeastern Minnesota and western New England south to the northern Gulf Coast states. The Cerulean was once one of the most abundant warblers in the lower Mississippi valley where rich bottomland forest provided ideal habitat during the breeding season. But heavy logging at the turn of the century in North America, and later land-clearing for coffee plantations in South America soon caused the significant decline of the species. The Cerulean made somewhat of a comeback in its North American range with the recovery of the Eastern forest after the logging boom of the early 1900s. There are indications that the species even expanded its range east of the Allegheny Mountains as well as in the Southern Appalachians, only to begin an even more precipitous decline with the return of clear cutting, human population growth and development in recent years.

Consequently, on 30 October 2000 the Chattooga Conservancy joined 27 national, regional and local conservation organizations in the United States to petition the U.S. Fish and Wildlife Service (FWS) to list the Cerulean Warbler as a "threatened" species and designation of

critical habitat under the Endangered Species Act. In November 2000 and again in April 2001, our attorneys received letters from the FWS stating that they did not have funds to meet the requirements of the Endangered Species Act (ESA) to formally respond to our petition. However, the agency explained that they would use funds from their "candidate conservation program" to evaluate the status of the species and to "continue our internal discussions on elevating the Cerulean to candidate status." Then on December 21, 2001 the FWS said that our petition to list the Cerulean Warbler as threatened had been denied, based on insufficient information about the species. As a result of our disagreement with the FWS in this regard, all parties involved in the original petition filed a 60 day notice of intent to file a lawsuit to force the FWS to formally respond to our petition, and to conduct a more extensive and conclusive status review of the Cerulean to make a final determination concerning its listing.

The heart of the dispute between the conservation community and the FWS is related to varying interpretations of the ESA, in regard to the delegated responsibility of the FWS to determine which species are threatened or endangered, and to determine what actions might result in recovery of the species. The Act is clear about the definition of threatened and endangered. An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. Similarly, a threatened species is one that is likely to become in danger of extinction within the foreseeable future throughout all or a significant portion of its range. The dispute is over how the FWS makes these determinations. In so doing, the FWS looks for two types of data: 1) Data showing a continuous reduction in range and/or a decline in population abundance or density that puts the species on the brink of extinction now, or the likelihood that it will be in the foreseeable future, and 2) Documentation of current or imminent threats to the species or its habitat or range that are reasonably likely to result in the range reduction or population decline as above.



Cerulean Warbler watercolor by John James Audubon

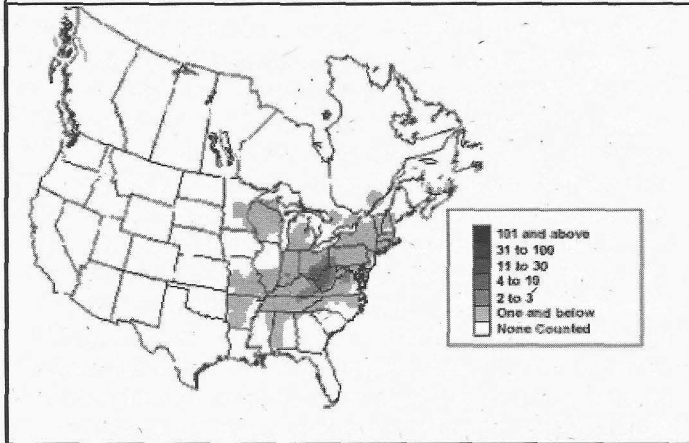
The preponderance of data upon which the FWS relied to determine not to list the Cerulean as a threatened species is known as Breeding Bird Survey (BBS) data. BBS data is a collaborative process between various academic institutions, most prominently Cornell Laboratory of Ornithology, and trained volunteers who conduct annual bird surveys at designated locations. The FWS oversees this program. The data collection for a particular

species in question is conducted range-wide. The FWS typically relies on this information to estimate the size of the population of a species for its range.

In the case of our petition to list the Cerulean Warbler as threatened, the FWS denied the request because they said that BBS data was not reliable for making listing determinations. The agency now claims that BBS data is inaccurate because the sampling points were near roadsides as opposed to interior forests, where the Cerulean is more likely to exist. They argue that often, Cerulean habitat has been lost to development along roadsides and therefore overstates the actual decline of the species. In addition, the FWS claims that state and federal management agencies have shown great interest in investigating and implementing ways to conserve and improve Cerulean Warbler habitat. One example given is of a switch by the Forest Service to

Cerulean Warbler

two-aged shelter wood timber harvesting on the Chattahoochee National Forest.



This map depicts the known distribution of the Cerulean Warbler in North America.

Our side counters with the argument that BBS data has been in the past the primary source for listing determinations by the FWS. While it is true that the more we look the more we find, many credible organizations such as the Audubon Society rank the Cerulean Warbler as a high priority for conservation, citing threats from forest fragmentation and logging as well as nest parasitism by Brown-headed Cowbirds, as major factors in the continuing decline of the species. The Audubon Society ranks the Cerulean at 25 of 30 points on its priority conservation priority list. The fact is that credible data (*i.e.* BBS data) widely recognized by multiple independent sources indicates that the Cerulean Warbler has declined an average of 4% a year for the last three decades, for a total loss of 70% of its population. Other real threats that the FWS is certainly aware of are mountain top removal mining, chip mill proliferation and extensive private land development in the East, as well as continued extensive habitat destruction in South America. Altogether by any evaluation these threats spell big trouble for the dwindling population of Cerulean Warblers.

The argument that state and federal agencies are effectively working to protect the Cerulean is absurd. The example the FWS offers showcasing efforts by the Chattahoochee National Forest and their shift to "Cerulean-friendly" timber harvesting is not supported by any significant actions. The Chattahoochee National Forest has conducted some shelter wood and seed tree timber harvests, but the fact is the Forest Service has been halted from almost any form of timber harvesting (with the exception of fuel wood and salvage logging) since *Sierra Club vs. Martin* in 1999. This was the lawsuit where the judge ruled that the Forest Service was woefully negligent in conducting monitoring for species in peril on the national forests. Thus, the FWS argument that better timber harvesting methods on the Chattahoochee National Forest have led to improving the Cerulean's

chances of survival is not even speculation built on a grain of truth, but are pure fantasy.

We can only conclude that the failure of the FWS to execute its charge to seriously consider our petition to list the Cerulean Warbler as a threatened species is the result of a greatly under-funded agency, under siege by an overwhelming work load because so many species are in serious decline. The fact is, the law is the law. The FWS is required to conduct a formal process of an in-depth status review, and then make a final determination concerning a credible petition to list a species as threatened within 12 months of petition. They have done none of these things. No amount of additional research will ever tell us exactly how many Ceruleans are left in the wild. There is no doubt, however, that a valuable and beautiful songbird is in swift decline in a dwindling forest habitat. The FWS should list the Cerulean Warbler as threatened before it's too late. This is the best bet to get support for funding and more research.

Cerulean Warbler

PHYSICAL CHARACTERISTICS:

Male

Size: 4-4.5 inches long with a 7.5-8 inch wingspan.

Color: Sky blue back with white belly, distinctive dark blue or black line across the throat, dark streaks on sides and back, and two white wing bars.

Female

Size: Slightly smaller than males.

Color: Dull gray-blue above, yellowish below and two white wing bars.

Juveniles

Color: Brownish-gray above, with pale central crown stripe and white beneath. Molting occurs into adult plumage following hatching year, prior to breeding.

CALL:

Buzzing call rising in pitch.

HABITAT:

Mature hardwood forest usually in floodplains.

RANGE:

South America: eastern Andes, Venezuela, Columbia, Peru, and Bolivia. North America: Midwest across to New England, south to Gulf States throughout Appalachian chain to north Georgia.

LIFE HISTORY:

Migratory insectivores. Ceruleans build compact nests from shredded bark, lichens and moss, 3-3.5 inches in length, from 15 to 90 feet from the ground. Egg clutches: 3-5, hatching in 12-13 days. One brood per season.

Sudden Oak Death: *Is it Headed East?*

Carol Greenberger

Tens of thousands of oak trees in Northern and Central California are dead or dying, stricken by a disease discovered less than a decade ago. Scientists fear that the disease could spread to threaten oaks in the East as well. Sudden Oak Death is caused by the fungus *Phytophthora ramorum*, which kills tanoaks and other species of oaks native to California, and infects many other plants. While it may take years for an infected tree to die, only a few weeks separate the first visible symptom of sap bleeding from the trunk to the trees' leaves turning brown, giving the appearance of sudden death.

The disease was first identified in Muir Woods and the nearby Marin County town of Mill Valley in 1995. Tanoaks were the first trees affected, an evergreen species of the beech-oak family, native in the United States to California and southern Oregon. Tanoaks were once used to generate tannin for processing leather but are now considered a trash tree by foresters because they hold little commercial value. American Indians in the region utilized tanoaks by grounding the acorns into flour after leaching the tannin from them. The trees provide habitat for more than 5,000 types of insects and over 300 species of animals.

Since its appearance, Sudden Oak Death has killed tens of thousands of tanoak, coast live oak and black oak along California's coast and in southwestern Oregon. A Wildlife Conservation Society biologist surveyed tanoaks along a 350-mile stretch of California's coast in the summer of 2000, and found that infection ranged from 15 to 80 percent of the trees in the area. There are an estimated 10 to 11 million acres of oak trees along 1,500 miles of the California and Oregon coast, and they are an integral part of the landscape. Preliminary tests show that California's majestic redwoods may also be susceptible to the disease. Scientists discovered dead sprouts from the trunks of redwood trees at a state park. When tested, spores of *Phytophthora* were detected. However, the recognized pattern of mortality has not been found in redwoods, and testing has not yet been completed to determine if redwoods are a host of the Sudden Oak Death member of the *Phytophthora* family. Redwoods belong to the conifer family, unlike the other hosts of the disease. Scientists are concerned about this threat to the state's dwindling old-growth forests as well as the timber industry, but caution jumping to dire conclusions before all the necessary lab work and field observations are completed.

Sudden Oak Death has also infected the leaves and branches of rhododendron, big leaf maple, California bay laurel, Shreve's oak, western azalea and evergreen huckleberry. The fungus causes leaf spots and some twig dieback on these host plants and may produce spores that transfer to the

oaks, which are killed by the disease. The highly contagious disease, first found in European rhododendrons in 1993, has not been seen in European oaks. There is concern however that the disease will spread to forests in areas of Europe with climate conditions similar to California. Scientists are uncertain whether the disease was transmitted from Europe to California, or vice versa, or whether it came from a different unknown location. The disease moved from California into southwestern Oregon.

Sudden Oak Death poses a serious threat to urban and rural forests, as well as California's nursery industry. Oregon has imposed a quarantine on nursery stock, lumber, firewood and bark chips from affected types of oaks from all of California, not just the known infected counties. Canada imposed severe import restrictions on containerized nursery plants from California, and a federal quarantine is being finalized. The disease threatens the forests as the fallen dead trees create fire hazards. Live oaks are fire resistant and actually slow the spread of wildfires under normal cir-

cumstances, but the numerous brown-leaved, dead trees have been described by an ecologist as a "wildfire waiting to happen." The forest ecosystem is affected as wildlife habitats are destroyed and animals' food supplies are disrupted. Wildlife Conservation Society researchers are concerned about the effects of the disease on acorns, and leaf and flower production which provide food to wildlife ranging from bees to mountain lions. Black bears, deer, squirrels and many birds rely on acorns as a crucial food source. Fire hazards, erosion and possible landslides also threaten suburbs as the surrounding woods deteriorate.



Sudden Oak Death is distributed throughout the west coast of California.

The genus *Phytophthora* contains 60 known species that have affected the world in significant ways. A member of this species, *Phytophthora infestans*, caused the 1845 Irish potato blight. The blight of the potato crop left acre upon acre of Irish farmland covered with black rot. The devastation of the potato crop led to the Irish famine that took as many as one million lives. The social and cultural structure of Ireland was changed as a result of the famine, and new waves of immigration to America and England were spurred. *Phytophthora cinnamoni* is a danger to chestnuts and pines. Other members of the genus are linked to the deaths of eucalyptus trees in Australia and oaks in Mexico, Spain and Portugal. *Phytophthora lateralis* has been responsible for the deaths of thousands of Port Orford cedars in Oregon, an ongoing problem since 1938. The Sudden Oak Death microbe is most closely related to this last fungus. This discovery may mean that the microbe changed its genetic makeup and moved from one kind of tree to a completely different species. Scientists know that *Phytophthora* hybridizes very easily. One theory holds that the fungus may have mutated, evolved over time or mated with a different species to cause the new Sudden Oak Death

Sudden Oak Death

microbe.

The fungus attacks trees by destroying the nutrient and water conducting tissues. Tiny, lemon-shaped spores are produced that are activated by water and cool temperatures.

The spores germinate and the fungus secretes enzymes that digest bark and food conducting cells. This causes the first symptom, the bleeding of a dark reddish-brown sap typically on the lower portion of the trees. Young shoot tips of new branches wilt, and leaves and twigs die. The sap of the weakened trees attracts three species of beetles, the western oak bark beetle, the oak ambrosia beetle and the minor oak ambrosia beetle. These small beetles bore into trees and the young beetles mature to adult within the trees' tissues. Sawdust created by the burrowing beetles may cause infection in other trees when it is spread by the wind. Mature beetles fly off to mate and infest another oak. The beetles are prolific and can produce up to two generations per year. The beetle infestation ultimately causes death by completely choking off food and water. Researchers believe that the fungal infection alone would kill the oaks, but the beetles speed up the process. The disease can take anywhere from months to years to kill a tree, but the quickly dying foliage gives the appearance of a sudden death.

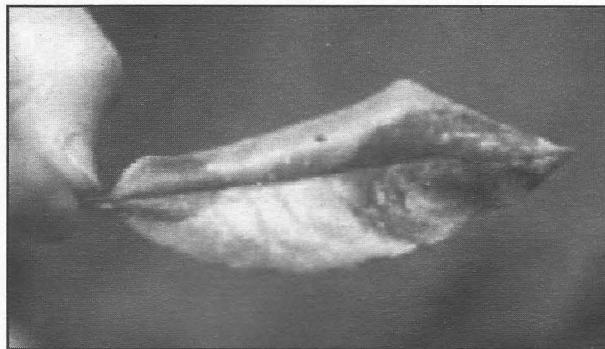
Sudden Oak Death has not been found outside of 10 counties in California and Oregon to date. But scientists warn that the disease could pose a threat in the East, as northern red oaks and pin oaks seem to be susceptible to the disease. Red and pin oaks have a combined range that spreads

from northeastern Texas to Nova Scotia, and are dominant in those forests. Research done by Dr. David Rizzo of the University of California at Davis has shown that seedlings of red and pin oaks can succumb to the disease. Dr. Rizzo said, "That doesn't mean that if the disease makes it to the Eastern forests, it will spread in the same way. The trick is to avoid spreading it, and because it has multiple pathways, that's not easy to do." While scientists are uncertain exactly how the fungus moves from place to place, they warn that the disease may be spread by dirt on car tires, hiking boots and pets' paws, and even firewood. Harvesting foliage for the interstate floral trade may spread the fungus. In 2000, more than 177 tons of foliage, including tanoak and huckleberry branches, was taken from California and Oregon forests. Shane Sela, a forestry specialist with the Canadian Food Inspection Agency expressed concern over the lack of U.S. Department of Agriculture regulatory controls restricting movement of infested materials across state lines. "We'd like to see some interstate controls," he said.

Emergency funds of \$200,000 from the University of California Division of Agriculture and Natural Resources and

the U.S. Forest Service created the Oak Research Team. The 30-member team is composed of botanists, entomologists, foresters, ecologists, geographers and pathologists. Scientists continue to work to discover the pathogen's origin, and methods to prevent the spread of the disease. Aerial surveys of California are ongoing to monitor Sudden Oak Death's progress across the state. Experts fear that if the microbe continues to spread at its current rate it could render California's oak trees virtually extinct. Matteo Garbelotto, a forest pathologist at the University of California at Berkeley said, "The effect to the ecosystem is major. If it's really a new disease and the trees don't have resistance, the same thing could happen here that happened to the chestnut trees on the East Coast. You'd be wiping out the main host as well as all the organisms that rely on those trees".

The California Oak Mortality Task Force (COMTF) was then formed to coordinate the research team's work with public agencies, non-profit organizations and private interests, working together to implement a unified and comprehensive approach for research, education and public policy. A \$1 million grant from a San Francisco based foundation was awarded to scientists on COMTF. Researchers at the University of California Berkeley and Davis will use the funds to try to determine how the pathogen moves, what conditions are necessary for its survival, where it is, and what plants are susceptible.



Leaf spots on rhododendron caused by *Phytophthora sp.*

Senator Boxer of California introduced an emergency supplemental bill that passed in 2001, awarding \$1.4 million to help fight the disease during the wildfire season. The United States Forest Service committed to an additional \$1 million that will be used to implement fire prevention, monitoring, research and treatment measures. Another \$400,000 for further research is in the Agriculture Appropriations Bill for fiscal year 2002. To date about \$ 4.5 million in federal funds have been delivered to fight Sudden Oak Death. Another \$70 million in funding to be used by local, state and federal agencies over the next five years was approved by the Senate and is now being considered by a joint House and Senate Conference Committee.

A search of "Sudden Oak Death" on the Internet yields over 50,000 hits with everything from tips for homeowners on how to identify and treat infected trees to scientific abstracts. Californians are cautioned to inspect their rhododendrons, refrain from transporting wood products from affected areas and to clean dirt from their vehicles and shoes after visiting Sudden Oak Death areas. Foresters, biologists, researchers, nurserymen and homeowners all continue to keep a close watch on this devastating disease.

The American Chestnut Tree

The Chattooga Conservancy is working to bring people together to help restore the American Chestnut (*Castanea dentata*) to the forest of the southern Appalachian Mountains. This beautiful giant was once a keystone species in our forest. Before its demise, the American Chestnut was, from the standpoint of food production, timber and sheer beauty, the most important tree species in the southern Appalachian Mountains. The blight that struck down the American Chestnut was a lethal fungus that entered the United States in New York City by accident in 1904. Nearly 4 billion

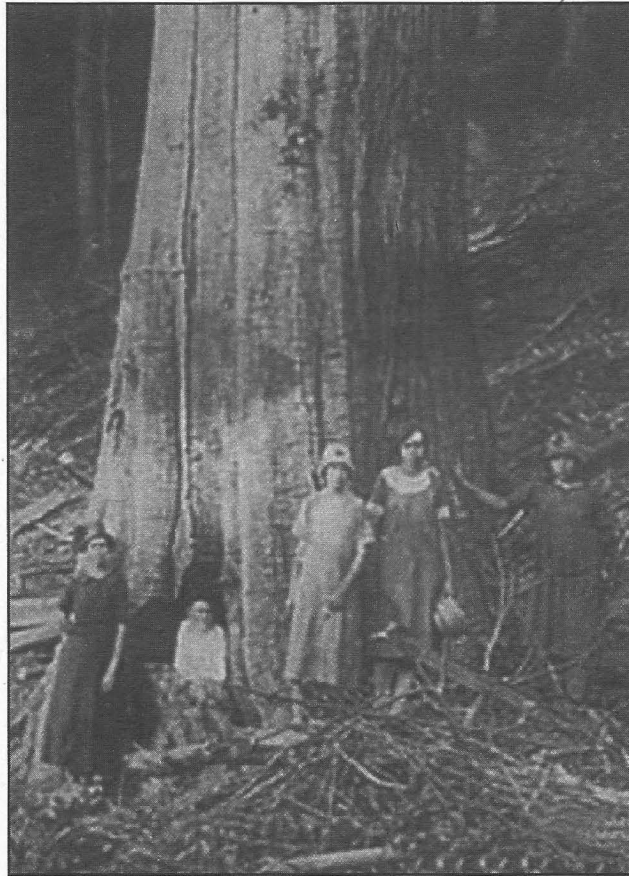
American Chestnuts succumbed to the blight within 50 years, leaving behind ghostly snags where chestnut trees once dominated the forest. Fortunately, the tree has managed to survive underground where the fungus is held in check by organisms in the soil. Occasionally, a sprout from one of these old stumps will survive long enough to produce viable nuts. These few survivors offer a slim chance to restore the American Chestnut.

In 1983 a prominent group of scientists founded the American Chestnut Foundation (ACF), which is dedicated to applying cutting-edge genetic breeding techniques to a restoration effort that gives much hope to the prospect of returning the American Chestnut to the forests of the Appalachians. The ACF is well underway with a breeding program in southwest Virginia at Meadowview Research Farms. American Chestnuts are being crossed with their cousin, the Chinese Chestnut, to produce a resistant strain of trees that closely resemble the American Chestnut. The breeding program utilizes a backcrossing technique that carefully selects descendant trees that show "American" characteristics as well as blight resistance borrowed from the Chinese cousin. The scientists at the ACF believe that the key is breeding for local environments. This strategy of regional adaptability is built on recruiting volunteers to search the woods, and finding surviving chestnuts for local breeding nurseries. Local chapters are encouraged and supported to carry on this important component of the breeding program. The ACF scientists report a need to establish a local effort here in the southern end of the tree's range, where important genetic material for breeding is

lacking.

The Chattooga Conservancy has made a significant breakthrough in the effort to establish a regional restoration effort in the Chattooga River watershed that could play a vital role in the ACF program. We have convinced the Forest Service to set aside \$10,000 for American Chestnut restoration work. To date the agenda for spending this money has not been established. We need your help convincing the Forest Service to set aside a breeding nursery

in the Chattooga watershed for providing trees to the American Chestnut Foundation. ***Please call the Tallulah Ranger District (706-782-3320) and speak with Randy Fowler, Chattooga River Watershed Restoration Project Coordinator, and endorse a cooperative project with the American Chestnut Foundation to establish American Chestnut nurseries in the Chattooga River watershed today.*** The American Chestnut is an essential part of ecosystem restoration efforts in the Appalachian mountains. On the following pages are articles originally published in 1915, in American Forestry.



A family standing in front of a dead American Chestnut tree portrays the immense size these trees were known to achieve.

“THE AMERICAN CHESTNUT TREE”

*Samuel B. Detwiler
Reprinted from American Forestry,
October, 1915.*

Our native chestnut tree is one of our best known and best loved trees because of its beauty

and utility. It grows from southeastern Maine west to southern Michigan and south to northern Virginia, southern Indiana and along the Appalachian Mountains to northern Georgia, Alabama and Mississippi. The bright foliage, attractively-shaped leaves, toothsome nuts and stately form give distinction and character to this highly valuable commercial tree of our forests.

The finest chestnut trees in the world are found in the southern Appalachian Mountains, especially in western North Carolina and eastern Tennessee. A tree with a diameter of 17 feet has been recorded from Francis Cove, North Carolina. Commonly, the mature trees are 3 to 5 feet

The American Chestnut Tree

in diameter and 60 to 90 feet in height, but there are numerous specimens 7 feet or more in diameter, 100 to 120 feet high. In Pennsylvania, New York and the New England States chestnut trees have mostly grown from stump sprouts, and are therefore comparatively small.

When growing in the forest, a chestnut tree will bear only a moderate amount of shade, and the crowding of adjoining trees causes the early death of the lower branches. For this reason forest-grown chestnut trees nearly always have long, straight, clear trunks, branching out into rather small, rounded tops. In the open the trunk is short, dividing into three or four heavy horizontal branches to form a broad, beautifully rounded head.

The chestnut has many features that distinguish it from its neighbors at every season of the year. Its grayish brown bark somewhat resembles that of the red oak because of the broad, flat, irregular ridges, but is readily known by the darker gray color, deeper fissures, and the smaller and more flaky scales of bark on the ridges. Very young trees have smooth bark. Later the ridges develop, separated by shallow fissures, and in old age these fissures become quite deep.

The buds are one of the best means of identifying this tree in winter. They are dark brown, about one-quarter inch long, egg-shaped but usually sharply pointed. The buds stand singly on strong-growing branches. Every fifth bud stands directly above the one from which counting begins, and if a string is drawn from bud to bud it will form a spiral, passing twice around the branch from the first bud to the fifth one.

After most of the trees have well developed foliage, but before the oaks have put forth their leaves, the chestnut buds open and the tiny leaves unroll. Though inconspicuous, there is grace and beauty in the artistic symmetry and delicate coloring of the baby leaves—rose, yellow and exquisite shades of green. On short branches that bear the fruit, the leaves form a leafy star, giving variety to the appearance of the foliage.

In form the leaves are slightly like those of the beech. They are six to eight inches long and about two inches wide, wedge-shaped at the base and tapering to a sharp point. The margins are coarsely toothed and the veins prominent and regular. The "ant cows" (plant lice) love to feed along the veins on the lower surfaces of the chestnut leaves. In the

Fall the leaves assume soft shades of yellow and red, but soon lose their brilliancy.

Early in July the chestnut tree becomes one of the most striking features of the landscape. Long after other trees have bloomed, it suddenly blazes into a wealth of odorous, cream-colored blossoms. These are the clustered catkins of the pollen-producing flowers. The flowers that produce the nuts are separate from the others and much less noticeable, because they consist of small spikes with a few green, scaly blossoms. These two kinds of blooms do not usually appear at the same time on one tree. The wind carries the pollen from tree to tree and thus effects cross-pollination.



This young chestnut tree's bark shows the deadly blight. Photo Courtesy of the American Chestnut Foundation.

Two or three, or sometimes only one, of the nut-producing flowers are fertilized and grow into prickly burs. At first the young burs are very small, but by the middle of August they are full-sized. The sharp spines which make the bur a sort of vegetable porcupine are Nature's protection against injury to the sweet nuts until they are fully ripe. The Indians called the Chestnut tree "O-heh-yah-tah"—"the prickly bur." The first heavy frost of Autumn causes the bur to separate into four parts, disclosing two to four shining nuts resting in a bed of soft brown velvet.

Chestnut trees do not grow well if the soil around their roots is disturbed, as is shown, in regions where blight is not prevalent, by the dead tops of many trees in closely grazed pastures and on the road sides. They are easily injured by fire and have many insect enemies. Various species of borers injure the bark, the wood is very apt to be perforated by small worm holes, the foliage is frequently injured or destroyed by leaf rollers and leaf-eating

insects, and the nuts are often infested with the chestnut weevil.

The most serious enemy of the chestnut tree and one that apparently means its ultimate extinction in this country is the chestnut bark disease or "chestnut blight." All species of chestnut and the chinquapin are susceptible in varying degrees to the bark disease. The chestnut bark disease was brought to this county from China or Japan, and the Chinese and Japanese chestnuts are highly resistant. The chinquapin is slightly resistant, but the American and European species of chestnut have thus far shown no power to withstand the disease.

The American Chestnut Tree

Although comparatively little has been heard about the chestnut blight in the past two or three years, there is no evidence that it is progressing more slowly or that it is less virulent than formerly. The bark disease is generally prevalent from Maryland to Connecticut, as far west as the mountains, and scattered infections occur as far west as eastern Ohio and eastern West Virginia, and in southern Virginia and North Carolina.

The chestnut tree is noted for rapidity of growth and for its ability to sprout freely. The rate of growth varies with the conditions under which it grows. An average growth in diameter is about one inch in three years. Under normal conditions the chestnut tree lives to a great age. It grows on a great variety of soils, but does best on porous soils of moderate depth and fertility. It is well suited with rocky hillsides and gravelly or even sandy soils, but it is seldom found on limestone soils.

The chestnut produces great numbers of vigorous sprouts from the stumps of young and middle-aged trees. These sprouts grow more rapidly than seedlings during the first thirty years of their life, and in the past, because of this valuable characteristic, the chestnut has been one of the most profitable trees in the farmer's woodlot. It is easily grown from seed but natural seedling growth is usually not abundant because the nuts are so highly prized for food by squirrels, mice and other animals, as well as human beings. In view of the relentless destruction of the chestnut by the bark disease and its many other enemies, the planting of this species is not advisable.

The wood of the chestnut is of a brownish color, light in weight, coarse grained, fairly soft, of medium strength, easily worked, and the grain has a pleasing pattern. It is durable in contact with the soil, on account of the high tannic content, which ranges from five or six per cent in young trees to ten to fourteen percent in very old trees. The wood has a great variety of uses.

The nuts of our native chestnut are superior to the European and Japanese species, and to a less extent, to the Chinese. Chestnuts are an important article of food in Italy and some other foreign countries. They are made into flour from which bread is made. They are also served for food in a variety of other forms and possess a high nutritive value.

There are a number of varieties of cultivated chestnuts mostly derived from the European chestnut. Until the advent of the blight, chestnut orchards for the production of nut crops offered a source of revenue from waste land. Chestnut orchard trees must be grafted, as varieties do not come true from seed.

The chinquapin is the chestnut's nearest relative, native to this country, that assumes tree form. It is usually a shrub and the leaves and burs cause it to resemble a chestnut in miniature. The nuts are small and shaped like an acorn, but are very sweet and delicately flavored. It is possible that a variety of chestnut immune to the bark disease may be bred by crossing the Japanese or China species with the chinquapin, creating a variety superior to any which now exists.

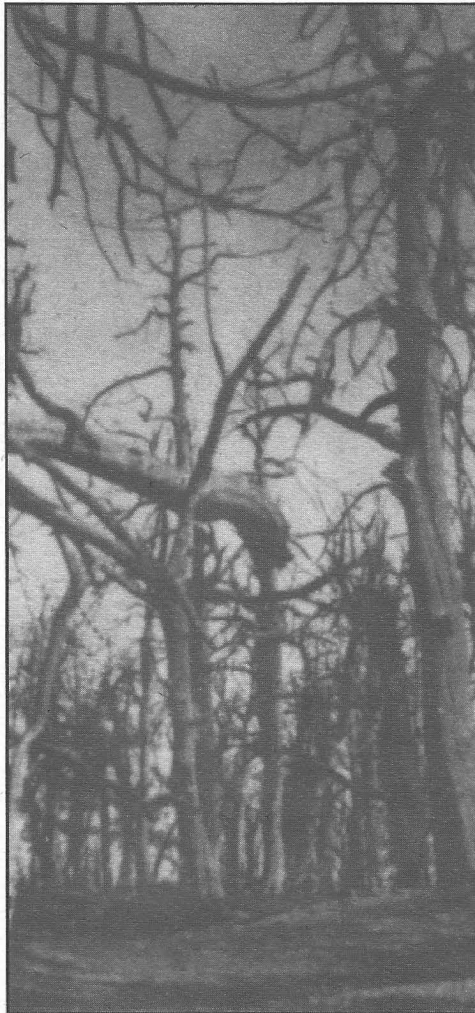
"CHESTNUT IN THE FUTURE"

P.L. Buttrick

*Reprinted from American Forestry,
October, 1915.*

Aside from its value for all sorts of uses, chestnut was long regarded as a valuable woodlot tree, because of many of its other qualities. A tree to succeed in the average farm woodlot must be quick growing, and chestnut is easily that; there are few hardwoods in its range which grow faster. In the South chestnut sprouts frequently attain fence-post size in 10 or 15 years, and tie size in 25 years. In the North farmers used to be able to depend on obtaining ties from chestnut trees 35 or 40 years old. Another fact which gave the tree such a value in the woodlot was the prolificness with which it sprouted. If you cut down a chestnut tree, you get many chestnut trees in its place, for, unless the tree is very old, a large number of sprouts spring up from the stump and grow like weeds, in a few years forming a group of thrifty young trees. In New England and the Middle States farmers took advantage of this

sprouting capacity, which is possessed to a lesser degree by the other hardwoods of the region, and cleared off their woodlots every 30 or 40 years, trusting to the sprouts to grow up and form a new stand. It was a rough application of the well-known forestry system known as the *simple coppice* system.



A blight devastated stand of American Chestnut casts a ghostly image.

The American Chestnut Tree

The combination of desirability for many uses, particularly those not requiring extensive manufacture, together with its rapid growth, have made chestnut the leading woodlot tree of the Northeast. When foresters began to study woodlot conditions, they discovered much about the chestnut which the farmers already knew, and they advocated not only favoring the tree in the woodlot, but its extension, and many chestnut plantations were made as a result of their advice.

But its popularity was short lived, for today, notwithstanding all its good points, it is no longer upon the forester's list of desirable trees, and, far from encouraging it, he is advocating its removal from the woodlot as speedily as possible. Enemies now attack this tree on every side, and it is very poor forestry to favor a tree against which nature has so definitely set her hand. The chestnut has been practically exterminated over whole sections where formerly it was common, and in many others it is now being destroyed by the wholesale. Its enemies bid fair to destroy it as a commercial tree, perhaps to push it to the borders of extinction.

One of these enemies has risen with almost drastic suddenness. Less than fifteen years ago the chestnut blight was unknown to the scientist or the woodsman. Seven years after the discovery, in 1904, near New York City, of this undesirable alien from northern China it was conservatively estimated to have done \$25,000,000 worth of damage. At present it is found from Maine to North Carolina, and it is thought that it will all but exterminate the chestnut in the Northern States, where already it has destroyed its commercial value in many places, and may invade the South with like disastrous results. At a recent meeting of the lumbermen of southern New England it was the consensus of opinion that ten years or less will see the end of chestnut as a commercial species in that section, for no way has been found to definitely check its ravages, although the National Government and some of the States have spent large sums in the attempt.

So the forester is recommending the removal of all chestnut of commercial value in the region of blight infestation in order that it may be marketed before it is destroyed, for dead chestnut deteriorates rapidly in value. At the same time the removal of much of the chestnut may help to check the rapid spread of the disease.

The other enemies of the chestnut have confined their attacks largely to the southern portion of its range. They have been at work much longer than the blight and have in the aggregate caused a much greater damage, but their ravages spread less rapidly, and have not been as fully discussed or studied. In fact, there is much that we do not know about them. There seems to be a combination of insects, fungous diseases and fire, or perhaps something more deep seated, such as a widespread but obscure soil or climatic change, of which the others are but manifestations of subordinate causes, destroying the chestnut in the South. The trees generally die in midsummer and, unlike blight-killed trees, seldom sprout from the stump after the trunk is killed. Certain insects, notably the two-lined chestnut borer (*Agrilus bilineatus*), are almost always found under the bark of the dead or dying trees, but whether as cause or effect has sometimes been a matter of dispute. Formerly chestnut grew pretty well over the entire South, east of the Mississippi River and north of Florida. But about seventy-five years ago it began mysteriously to die out throughout the lowland portions of the region and today it is a disappearing straggler of no commercial importance everywhere except in the mountains, its former abundance being attested by old stumps, rotting logs, weathered fence rails, and the tales of the old inhabitants. Even in its Appalachian stronghold, where it reaches its greatest development and abundance, this strange dying off is going on in a few sections. At this time it is particularly active along the lower slope of the eastern side of the Blue Ridge, where whole mountain-sides are covered with gaunt white trunks of trees killed within the last few years.



Burs and leaves of a healthy chestnut exhibit features useful for identifying the tree. Photo courtesy of the American Chestnut Foundation.

Thirty years or less at the present rate of cutting will exhaust the supply of virgin chestnut timber in the Southern

Appalachians, and outside of that region there is little to fall back upon save the second growth from such scattered woodlots as have escaped destruction. If the blight and the other agents of destruction continue their devastation, it looks as though within our lifetime the chestnut will have to be added to that melancholy list of American plants and animal, like the buffalo and the black walnut tree, of which we say "formerly common, now rare."

Please visit the American Chestnut Foundation (TACF) at <http://www.acf.org/>, or contact:

TACF

P.O. Box 4044 Bennington, VT 05201

tel: 802-447-0110

Email: chestnut@acf.org

Mining of the National Forest

Joe Gatins

A series of recent court actions playing out in federal courthouses across north Georgia are billed as little more than legal housecleaning—to secure clear and complete title to mining and minerals rights on Chattahoochee National Forest land. That’s how the USDA Forest Service sees it.

But some in the conservation community wonder if the legal maneuvering is quite as routine as the Forest Supervisor’s office in Gainesville would make it out to be. “I’ve got a serious concern about it,” said Ralph Shaw of Habersham County, a trophy fishing guide, chef and forest activist who’s previously tangled with forest officials over local timbering programs. He’s concerned the Forest Service might encourage mining in the Chattahoochee after all the drilling rights are secured. He points to events in adjacent Sumter National Forest, where a private concern recently sought a permit to mine a commercial vein of gold on public forest lands. “I really wonder why those mineral rights are so important now,” Shaw said.

Currently, there are no permits for commercial mining or exploration on the Chattahoochee National Forest. As explained by the Forest Service and the U.S. Attorney’s office shortly after the court cases were initiated in October of 2000, the court proceedings represented a legal housecleaning. “Clearing the title will enable the Forest Service to more effectively manage the land and restrict mineral development to areas appropriately designated by the Forest Land and Resource Management Plan,” a Forest Service spokesman said two years ago. That’s still the goal in the wake of the September 11 attacks, a spokeswoman for the Forest Supervisor’s office in Gainesville said in early February. “It’s more like a pre-emptive thing,” said Patrick Crosby, a spokesman for the U.S. Attorney’s office in Atlanta, whose assistants are filing the cases. “It’s a routine type of thing...to make sure someone won’t tear up the land.”

At issue in the latest round of legal cases (a similar round of suits was filed in 1994), are the remaining subsurface mining and mineral rights to some 63,000 acres of forest land stretching from Rabun to Murray counties, 15 counties in all. As explained by Forest Service officials, the title problems arose in the early 1900s, when the USDA Forest Service acquired or condemned the more than 750,000 acres that now comprise the Chattahoochee National Forest. In many cases, the mineral rights belonged to someone other than the owners of the land itself and were not properly transferred to the government’s possession generations ago.

At issue in the latest round of legal cases are the remaining subsurface mining and mineral rights to some 63,000 acres of forest land stretching from Rabun to Murray counties.

The court cases, all based on the state of Georgia’s Dormant Minerals Act, allow today’s landowner, the Forest Service, to claim underlying mineral rights if the minerals have not been taxed or worked within the preceding seven years. A Forest Service consultant has done the painstaking legal research to prove those facts in the case of each tract in question, according to court affidavits. (The same law also is used, if infrequently, when private landowners want to make sure they own the mineral rights under their land.)

It’s instructive to see how such a case proceeds. In Rabun County, which takes in the Georgia portion of the Chattooga Wild and Scenic River corridor, a total of 59 landowners and former owners and their descendants, involving 28 tracts of land, were listed on the court pleadings. The defendants

(mostly descendants of the original owners) do not have to be served in person. The government is given leave to publish notice of the suit in local newspapers. Only two sets of descendants questioned the Rabun case, suggesting in letters to senior U.S. District Judge William C. O’Kelley that they intended to eventually mine the land. But by the time the case closed about a year later, neither of the two family descendants had appeared at the federal courthouse in Gainesville—both were from out of state—and the federal government had won its claim.

The United States had successfully acquired “all rights, titles, interests in the subsurface and mineral rights” of the Rabun land in

question, Judge O’Kelley said in his court order of August 8, 2001. The Forest Service anticipates similar outcomes in the other cases. But Shaw, the forest activist, wants to stir the pot on this. “I definitely want to know more about this,” he concluded.

WHAT KIND OF MINING IS ALLOWED?

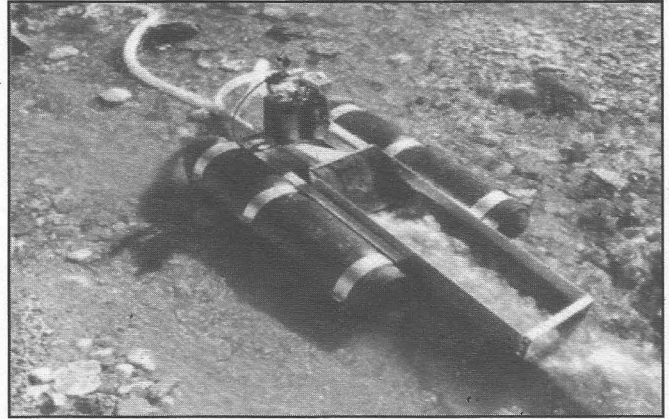
According to the Chattahoochee National Forest website, mining and mineral laws govern commercial mining on public forestland. Exploration to determine a mineral’s presence in commercial quality and quantity “may be conducted with a Forest Service permit.”

No such permits are currently in force, whether for commercial mining, or commercial mining exploration, according to a Forest Service spokesman. Nor has anyone applied for such a permit as of the date of the interview, February 5, 2002. Recreational mining and “rock-hounding” are allowed, though. As follows:

Mining of the National Forest

- Recreational panning for gold in most streambeds is allowed, without need for special permit, permission or fees "as long as significant stream disturbance does not occur, and when only a shovel and a pan are used."
- **In-stream sluices and suction dredges are NOT allowed** (emphasis in original).
- "Rock hounds" should check with the local district ranger office to make sure the location in question is on the National Forest, that rock hounding is permitted in the area, and that the mineral rights are not privately owned.
- "Special permission, permits or fees are not required to take a handful of rock, mineral or petrified wood specimens... as long as the specimens are for personal use, non-commercial gain and significant surface disturbance does not occur."
- "In addition, no mechanical equipment may be used and any collection must not conflict with existing mineral permits, leases, claims or sales."

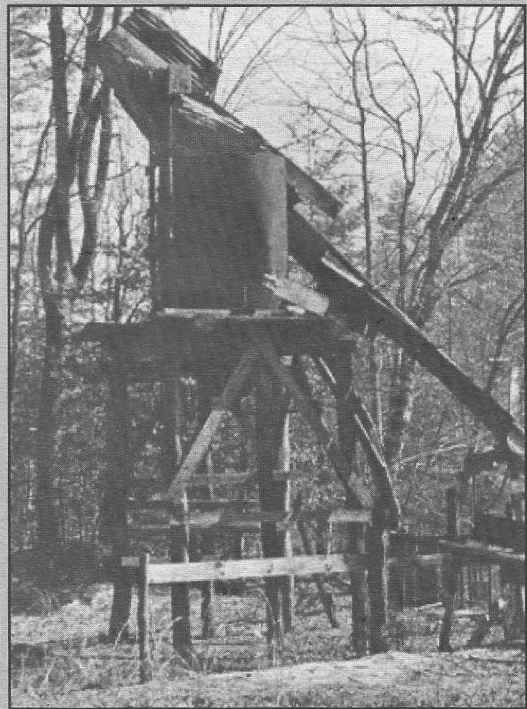
Changes might be afoot in coming years, though. As part of the revision to the existing forest plan, Chattooochee National Forest planners are entertaining proposals to allow "recreational suction dredging" of some streambeds, with the use of so-called "backpack dredges."



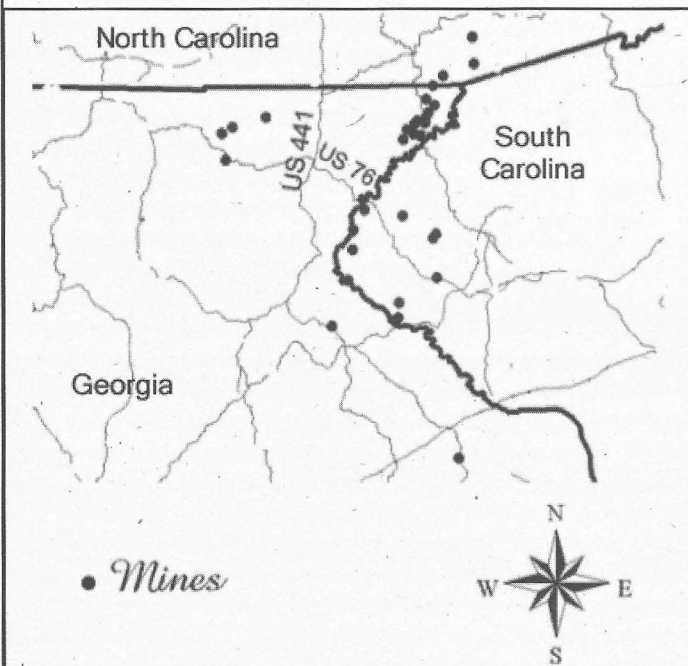
Future use of backpack dredges like this may be allowed on some streams in the Chattahoochee National Forest.

NEW AMERICAN GOLD RUSH

The administration's aggressive management plan is a severe blow to the environment. Among Bush's proposed changes are plans to grant and expedite permits for hundreds of mining operations, including projects on sensitive federal lands. Bureau of Land Management (BLM) lands "were designated at their inception as multiple-use lands. We look at them as working landscapes," said P. Lynn Scarlett, assistant secretary for policy, management, and budget. William J. Snape, Defenders of Wildlife head of litigation, said, "By the sheer volume of it, it's going to be very difficult for people who care about the environment to fight this."



Abandoned mining equipment on the West Fork of the Chattooga River.



Historical mine sites are found throughout the Chattooga River watershed.

Biomass: A Cleaner Alternative

Eric Orr

When people think of alternative energy, biomass is often overlooked. What is biomass? It's something that's been used for thousands of years to heat homes and cook food. Biomass is simply plant matter or animal waste. And its potential extends far beyond its ability to produce heat.

Biomass can be burned to generate electricity or converted to liquid and gaseous fuels. Currently, the most cost effective and common way to produce electricity with biomass is by "cofiring" with coal. Wood wastes are generally combined with coal and burned in boilers to make steam, which in turn generates electricity. This not only decreases the cost of energy production, but also reduces emissions. A combustible gas can be rendered from biomass through a process known as gasification. Gasification involves heating the organic material in a low oxygen environment. The end result is a mixture of solids, liquids, and a gas that harbors 65 to 70 percent of the original solid's energy. The gas can be used in fuel cells or to power highly efficient turbine systems. It can also be used to fuel vehicles. Fermenting biomass produces ethanol, another renewable vehicle fuel, which is usable by itself or mixed with gasoline to reduce car-related pollution.

In the Southeast, the most abundant source of biomass is in the form of wood. With numerous sawmills throughout the region, wastes such as cut offs and sawdust are readily available. In urban areas, lawn clippings, tree trimmings, and other organic municipal wastes are viable sources of fuel. By utilizing this otherwise untapped resource, precious landfill space is saved. Methane from animal waste and decaying matter in landfills can be trapped for use, as well. As the demand for feedstock (any source of biomass) rises, various plants and trees may be cultivated specifically for biopower. Any fast growing species such as poplar, willow, and switch grass is a good candidate for an energy crop.

More mainstream use of biopower could drastically reduce the environmental impact of energy production. When coal burns, it releases sulfur dioxide and mercury, among other gases and particulate matter. The combustion of any fossil fuel produces nitrogen oxides. Both sulfur and nitrogen oxides are blamed for causing acid rain, which is responsible for soil degradation, severely weakened trees and other vegetation, and poor water quality. High elevation Appalachian forests, as well as

sparsely buffered water bodies, are particularly susceptible. Biomass does not produce sulfur dioxide when it burns, and direct-fired biomass plants (power plants which use only biomass as fuel) typically produce 80 percent less nitrogen oxides than coal plants.

Fossil fuels are also notorious for emitting large volumes of greenhouse gases. Among them are methane and carbon dioxide. When the fuel is burned carbon that has been dormant for millions of years is suddenly released into the atmosphere, resulting in an unbalanced carbon cycle. Its high rate of escape makes it impossible for vegetation to recapture all of the carbon. Although biomass combustion generates large quantities of carbon dioxide, the carbon can be sequestered at generally the same rate of release. This is

possible only if the biomass is replaced, and vast deforestation is halted. Methane is also released as coal is mined, when it is transported over long distances, and once again when it is burned. Not only could using biomass reduce methane from combustion, but transportation related emissions would also decrease since most feedstock would be obtained locally. By trapping methane from landfills and "manure lagoons" on animal farms, methane emissions could be further reduced.

Cultivating energy crops will also enhance soil and water quality. They can be planted in floodplains and sensitive riparian zones lacking adequate buffers. They would prevent sediment and nutrient runoff in

waterways, keep fragile trout streams shaded and cool, stabilize soil, and provide habitat for numerous species of wildlife. Since most suitable energy crops are perennials, their soil remains relatively untouched by heavy farm equipment. They can also be used to control erosion in areas that have been severely disturbed.

It costs about 9 cents per kilowatt-hour (kWh) to generate electricity in a direct-fired biomass power plant today. This is considerably more expensive than the 2.3 cents per kWh spent in a coal plant. However, cofiring can lower the price to 2.1 cents per kWh. According to the Department of Energy, through gasification we may be able to produce clean biopower for 4 to 5 cents per kWh in the future. While this seems pricey, the real cost is currently absorbed as damage to our ecosystem.

Rural economies would benefit tremendously from biomass.

Presently 4 percent of the energy generated in the U.S. is made from biomass. We have the potential to increase biomass energy to 20 percent, which could replace nuclear power.

Biomass

To avoid transportation costs, biomass can be converted to fuel gas and ethanol close to where it is harvested. Energy crop cultivation, harvest, and conversion facilities would provide jobs to the communities. According to the American Biomass Association, we could reduce our need for imported oil by more than 50 percent or 50 billion dollars. Part of that money would be redirected into rural areas.

Presently 4 percent of the energy generated in the U.S. is made from biomass. We have the potential to increase biomass energy to 20 percent, which could replace nuclear power. The Burlington Electric Département of Vermont built McNeil Generating Station, a direct-fired biomass plant, in the early 1980s. It is capable of generating 50 megawatts (MW) of electricity at full load. That's almost enough to supply Burlington, Vermont's biggest city. The plant is now testing a biomass gasification system, which will be able to produce enough fuel to generate 12 MW of cleaner energy. The gasifier will also allow McNeil to use a wider variety of feedstocks. McNeil's wood fuels consist of wood chips, sawdust, and urban wood wastes. Most of the trees come from private lands. Emissions from the plant total only one hundredth of the federally allowable level, and the discharge water is required to be drinking quality. The final step of the cycle involves mixing the waste ash with limestone to sell as a soil conditioner and road base.

Biomass is well suited to provide industrial power, as the heat by-product can be used to warm large buildings. Georgia currently hosts 20 companies that take advantage of biopower. Their combined generating capacity is 837,845 kilowatts (kW). Most are paper or timber businesses using forest residues as fuel. Two companies use captured landfill methane. North Carolina has a capacity of 404,150 kW generated by 14 companies, and South Carolina has 6 facilities that are capable of producing 375,600 kW.

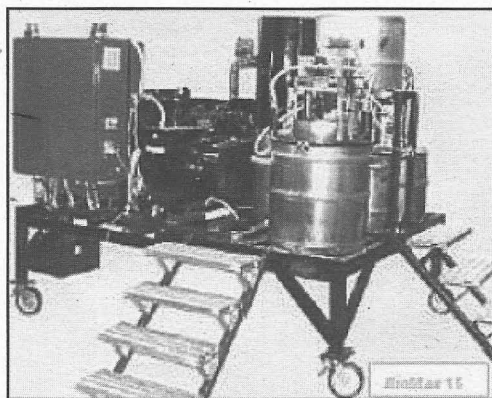
The Department of Energy (DOE) is working to increase biopower through the Regional Biomass Energy Program (RBEP). Their focus is to educate potential biomass users on the benefits of conversion. Near term solutions such as cofiring are stressed by the program. The Small Modular Systems Project, another DOE program, is helping private industry develop small biomass systems, with a wide range of applications. A small system could provide power to remote and underdeveloped areas. Community Power Corporation of Aurora, Colorado, with the aid of the DOE program, has been working on a small unit that includes a

gasifier and internal combustion engine. They deployed the first prototype in the Philippines in 2001. The final product will be available in the 5 to 25 kW range at a cost of about \$2,000 per kW. This unit will be used initially to supply power to communities in the Philippines, Indonesia, and Brazil. It would also allow individual consumers in industrialized areas to produce their own off-grid electricity. Community ownership of larger systems could provide power to rural towns in the U.S., letting them take advantage of local resources and reduce their dependence upon big utility companies.

While biomass can be beneficial, we must approach it with caution. Any resource is subject to abuse. President Bush's proposed FY 2003 budget will eliminate the DOE's Regional Biomass Energy Program and allot \$5 million to the Forest Service for bioenergy research, which may be

construed as timber subsidies. The last thing our public lands need is another reason to be exploited. If biomass receives too much of the energy production burden, the demand for energy trees would easily exceed the demand currently imposed by development. Sustainable harvest is a key factor in assuring that biopower continues to be renewable. Perhaps biomass cultivation is best left to the private sector, while we use only the wastes generated by logging operations on public lands.

Responsible use of biomass is a smart way to generate cleaner power, but it cannot satisfy all of our energy requirements. We have a voracious appetite for electricity. To fulfill our needs we must diversify our resources and strive towards limiting consumption. The best way to produce sustainable energy is to draw upon numerous and varied renewable resources. But the quest for alternative energy should always be coupled with a push toward simpler living.



Community Power Corporation's biomass generator prototype is a trailer unit capable of producing 15 kW from wood scrap, coconut shells, or just about any organic material.

For more information on biomass, check out these websites:

American Biomass Association

<http://www.biomass.org/>

Community Power Corporation

<http://www.gocpc.com/>

The Department of Energy's BioPower website

<http://www.eren.doe.gov/biopower/main.html>

The Department of Energy's Regional Biomass Program

<http://www.ott.doe.gov/rbep/>

Watershed Update

POWER LINE FIGHT: JUDGE DENIES GTC REQUEST ROUND ONE IS WON!

On February 19th 2002, an important victory in the power line battle was won. Senior Superior Court Judge Robert Struble denied Georgia Transmission Corporation's (GTC) motion for an injunction to invalidate Rabun County's moratorium prohibiting high voltage power lines.

GTC filed a lawsuit against Rabun County that was heard on January 30th by Judge Struble. GTC contended that Rabun County's 3-year moratorium, passed in June of 2000, banning construction of power lines over 35 kV was unconstitutional. GTC filed for an injunction and declaratory judgment that would allow them to proceed with their proposed power line. GTC claimed that their right of eminent domain is restricted by the county's moratorium and that since Georgia law authorizes them to distribute electrical power, the county cannot regulate them.

The Rabun County Board of Commissioners, defendants in this case, argued there was no emergency that would require the granting of an injunction at this time. Robert Denham, attorney representing the county, explained that an Interlocutory Injunction is granted when a plaintiff is in danger of suffering irreparable harm. In this case, GTC cannot proceed with its proposed transmission line until a permit is obtained from the US Forest Service allowing the use of public land for the power line (GTC switched their proposed route from private to public land in an attempt to diffuse controversy).

A decision from the Forest Service is not expected before May or June of 2002. Therefore, Denham contended, there is no emergency that would necessitate an injunction. The county also argued that the power of eminent domain in Georgia is restricted to what is reasonably necessary and appropriate.

Judge Struble said he would have to rule on two matters:

1) Is the moratorium constitutional? 2) Is the time right for a decision since the Forest Service permits still must be obtained?

In his ruling, Judge Struble found that any act of the Court to declare the moratorium unconstitutional would be of no consequence if the Forest Service denied GTC's permit. He concluded, "... a decision of the Forestry Service must precede this court's decision, else such decision would be premature." A trial date has been set for May 28, 2002 but will be continued if a Forest Service decision has not been received by then.



This beautiful waterfall lies just outside of the proposed GTC power line route through old growth forest and sensitive habitats in the Chattahoochee National Forest. For scale, note the man standing (circled in white) at the base of the falls.

Two bills that could affect this issue have been introduced in the Georgia General Assembly this year. If passed, House Bill 1319 would prohibit the use of the power of eminent domain to acquire any property for the construction of an electric transmission line without a certificate of "public convenience and necessity" from the Public Service Commission. The applicant would be required to show that the proposed corridor is the least disruptive to the rights of private landowners and that all reasonable construction alternatives have been considered, specifically including both above and below ground construction. House Bill 1273 requires the approval of a county or municipality prior to condemning property for power, telephone or telegraph lines.

Citizens for Rabun's Heritage and the Chattooga Conservancy have been pushing for this type of legislation, and ask citizens to support it by contacting their statehouse representatives.

STEKOA CREEK LAND SWAP

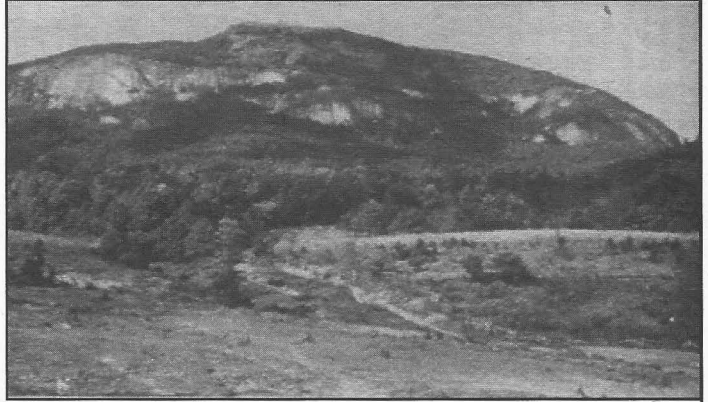
A proposed land swap between the Rabun County Board of Education and the US Forest Service raises concerns its potential impacts to the already impaired Stekoa Creek. The Board of Education is trying to acquire 45 acres of land, which would be given to the school system under the Education Land Grant Act. Under this law, the Forest

Watershed Update

Service can grant land to local school systems who can demonstrate a need for the land and the financial ability to build a school. The County wants the land on Boggs Mountain Road to build an elementary school.

This proposed land swap would in turn isolate other tracts of public land on Boggs Mountain, making them ripe for another land swap, which the Forest Service would like to see happen. The Forest Service maintains that isolated parcels of land are hard to properly manage, and would swap them with private individuals or county governments for land adjacent to existing, large Forest Service tracts.

One of the Chattooga Conservancy's concerns is the nature of the property that lies above and along the steep slopes of Stekoa Creek. Stekoa Creek is on EPA's 303(d) list, which means that its water quality is severely impaired. Further development along the creek threatens to worsen the current pollution problem. The Conservancy has requested that the "disposal" plans for this area be updated to remove the public lands north of Boggs Mountain in order to protect Stekoa Creek from further impairment.



The ancient Whiteside Mountain crowns the Chattooga River watershed, and overlooks the "Peregrine" development site.

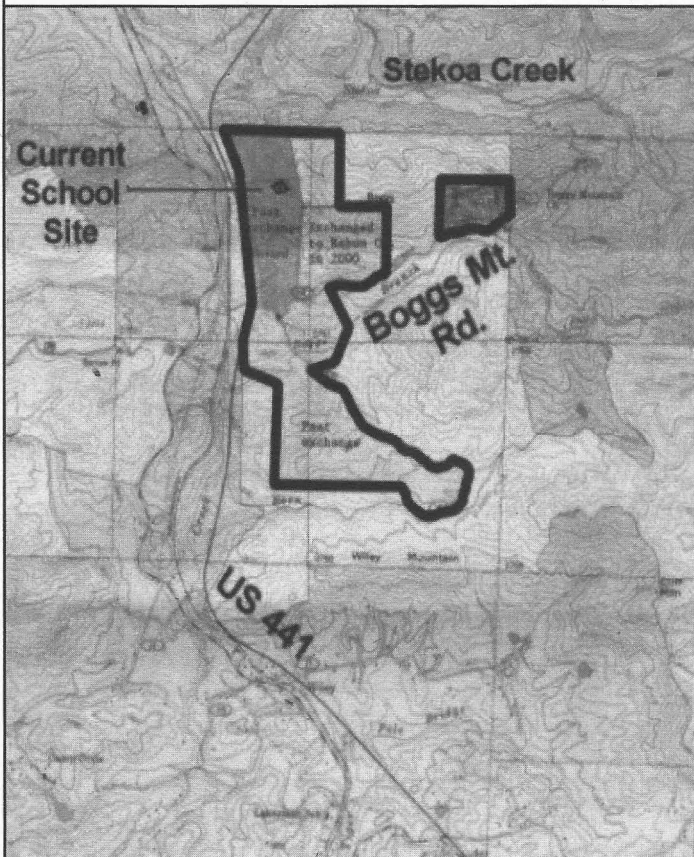
"PEREGRINE" DEVELOPMENT

At the base of Whiteside Mountain, the head of the Chattooga River watershed, a subdivision named "Peregrine" is being laid out. Road building, surveying, well drilling and marketing are ongoing in an area that discharges into a tributary of Green Creek, which is classified as an Outstanding Resource Water (ORW) in the state of North Carolina. After researching the site plan for the development, the Chattooga Conservancy wrote a letter to the Water Quality Division of the North Carolina Department of Environment and Natural Resources (DENR) pointing out that an additional storm water permit needed to be issued, with provisions to insure protection for ORW and to allow for public input as prescribed by the Clean Water Act. A stop work order was also requested. Although the Division of Water Quality did issue a permit specific to the Peregrine development, it did not provide stringent requirements for insuring adequate protection for ORW, or to allow public input. The Chattooga Conservancy has now joined with the Jackson-Macon Conservation Alliance in requesting that the State of North Carolina amend storm water permits specific to ORW that are in compliance with the Clean Water Act, and to issue a stop work order until these actions are taken.

CHARTER FORESTS

Two sentences tucked in to President Bush's lengthy 2003 budget proposal could change the face of the nation's national forests. The plan would create "charter forests" out of public national forest land. The proposed pilot program would operate in a fashion similar to charter schools. The forests would be turned over to local trusts, which would be responsible for managing the land and complying with all necessary environmental rules. The budget says charter forests are needed to "overcome inertia and an excessive decision making structure" at the U.S. Forest Service.

Mark Rey, the agriculture undersecretary who oversees the



This map shows land slated for Rabun County's new elementary school. The large area outlined in bold is land currently owned by Rabun County; the smaller tract is the 45 acres being considered for acquisition.

Watershed Update

Forest Service, said the idea came from local groups and insists that local trusts would have to follow federal laws. Rey, a former timber industry lobbyist, admits that the timber industry supports charter forests. Environmentalists have criticized the Bush administration for being too eager to give timber, mining and oil companies access to national forests. Green groups fear the plan would turn local forests over to groups that could become fronts for the timber industry, opening the national forests to increased logging. The Chattooga Conservancy is adamantly opposed to the idea of charter forests. Without strong national oversight, local commercial interests could co-opt control and dominate management of our national forests.

TAHOE LANDOWNER RIGHTS IMPORTANT LAND MANAGEMENT CASE PENDING

The U.S. Supreme Court will consider a case this year that may impact government regulation of private property. In *Tahoe-Sierra Preservation Council v. Tahoe Regional Planning Agency*, the U.S. Ninth Circuit Court of Appeals declared in favor of the planning agency, that the government can deny use of private land without compensation, as long as the denial is temporary. The Tahoe-Sierra Preservation Council appealed this decision to the highest court in the land.

The Tahoe-Sierra case involves approximately 450 owners of residential property and improved lots near Lake Tahoe, who hoped to build vacation or retirement homes. Legislation passed by Congress in the late 1960s created a California-Nevada bi-state agency to protect Lake Tahoe and its surrounding basin. The Tahoe Regional Planning Agency (TRPA) passed a series of moratoriums in the 1980s that stopped owners of certain single family lots near Lake Tahoe and in its watershed from developing them. The owners, plaintiffs in the case, alleged that they were robbed of their property rights and should have received compensation. A federal judge and the Ninth Circuit held that the government did not have to compensate property owners when the restrictions are "temporary" and the possibility of future use exists. The landowners in this case have been waiting 18 years to use their property.

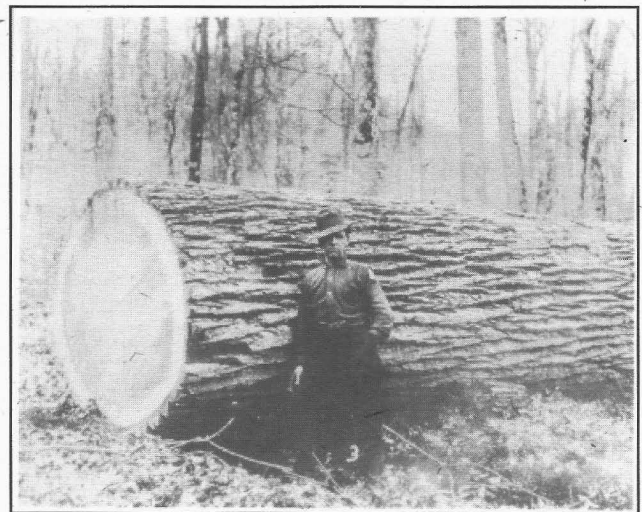
The Fifth Amendment, in what is referred to as the Taking Clause, states "nor shall private property be taken for public use, without just compensation." The Agency argued that planning moratoria do not constitute a taking. Precedents have been established by the Supreme Court that "there is no difference between a temporary taking and a permanent taking" in regard to compensation. Landowners worry that the use of planning delays and temporary regulations would allow local, state and the federal government to restrict land use without paying for it. Stay tuned: this may be one of the most important cases yet before the Supreme Court concerning land use and development.

SOUND WORMY MANUSCRIPT PUBLISHED

Set in what remains some of the wildest country in the United States, *Sound Wormy* recalls a time when regulations were few and resources were abundant for the southern lumber industry. In 1901 Andrew Gennett put all of his money into a tract of timber along the Chattooga River watershed, which traverses parts of Georgia, South Carolina and North Carolina. By the time he wrote his memoir almost forty years later, Gennett had outwitted and outworked countless competitors in the southern mountains to make his mark as one of the region's most seasoned, innovative, and successful lumberman.

His recollections of a rough-and-ready outdoor life are filled with details of logging, from the first "cruise" of a timber stand to the moment when the last board lies "on sticks" in the mill yard. He tells how massive poplars, oaks and other hardwoods had to be felled and trimmed by hand, dragged down mountain slopes by draft animals, floated downstream or carried by rail to the mill, and then sawn, graded, and stacked for drying. He tells of buying timber rights in a land market filled with "sharp" operators, where titles and surveys were often contested and kinship and custom were on an equal footing with the law.

Gennett saw more than potential "boardfeet" when he looked at a tree. He recalls, for instance, his efforts to convince the U. S. Forest Service to purchase undisturbed areas of wilderness at a time when its mandate was to condemn and buy up farmed-out and clear-cut land. One such sale initiated by Gennett would become the Joyce Kilmer Wilderness in North Carolina. Filled with logging lore and portraits of the southern mountains and their people, *Sound Wormy* adds an absorbing new chapter to the region's natural and environmental history.



Nicole Hayler edited *Sound Wormy* for the Chattooga Conservancy. UNIVERSITY OF GEORGIA PRESS is publishing the book, which can be ordered by calling 1-800-266-5842.

Member's Page

MANY THANKS to all who recently renewed their membership, or joined the Chattooga Conservancy. Your generous contributions will help us continue to work on all of the important conservation issues facing the watershed.

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The Chattooga Conservancy is seeking volunteers to rescue plants (with permission) from slated development sites.

If you are interested, please contact us at 706-782-6097 or crwc@rabun.net.

Chattooga Conservancy

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Renewal

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Winter 2002

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Join the CC and help protect the Chattooga River watershed

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Donations will be used to support the Conservancy's work, and guarantee you delivery of the *Chattooga Quarterly*. We're a non-profit organization, and all contributions are tax-deductible.

THANK YOU!

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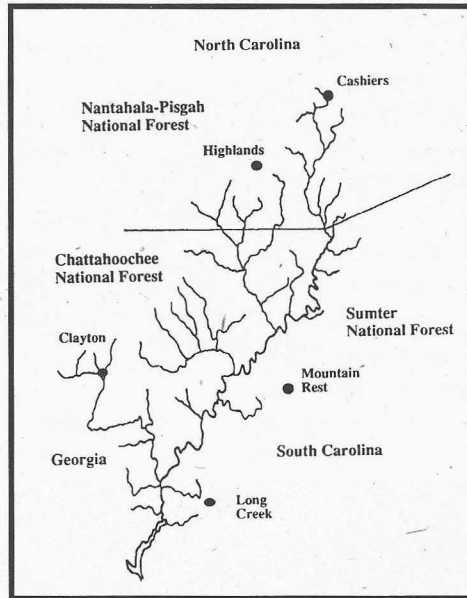
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Purpose: To protect, promote and restore the natural ecological integrity of the Chattooga River watershed ecosystem; to ensure the viability of native species in harmony with the need for a healthy human environment; and, to educate and empower communities to practice good stewardship on public and private lands.

Made Possible By:

CC Members and Volunteers
Merck Family Fund
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Norcross Wildlife Foundation
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Goals:

- Monitor the U.S. Forest Service's management of public forest lands in the watershed
- Educate the public
- Promote public choice based on credible scientific information
- Promote public land acquisition by the Forest Service within the watershed
- Protect remaining old growth and roadless areas
- Work cooperatively with the Forest Service to develop a sound ecosystem initiative for the watershed

Chattooga Conservancy
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