



The Chattooga Quarterly

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Pursuing Good Energy



I n s i d e

Director's Page.....	2	Urban Growth Myths.....	9
Green Salamander.....	3	Nuclear Power Play.....	10
Politics of Energy.....	5	Watershed Update.....	11
Green Clippings.....	8		

Director's Page

Buzz Williams

President Bush has a new energy plan. A few of the highlights include increased exploration for oil and natural gas, building more coal, nuclear, and hydro power plants, building more transmission lines, refining more petroleum, and easing the environmental regulations that govern all of the above. So, what's new about it? The truth is there is nothing new in the Bush policy except that it is bigger. This would be a valid solution if the only problem was an energy shortage. But the energy policy as proposed completely ignores the real problems at the heart of the energy crisis, i. e., environmental repercussions and alternative solutions.

The cost of dirty power production should be apparent to anyone who breathes, and thus all should also be aware of the need for alternatives. Moreover, in light of the obvious need for environmental protection and the inherent need to explore clean energy alternatives, one must question the President's motives and/or his wisdom.

On June 6th the National Academy of Sciences declared that global warming is real and further, that green house gases emitted from cars and power plants—mainly carbon dioxide—are major contributors to this problem. Yet President Bush continues to call for more study. In fairness, he has responded to the report with a pledge to look at alternatives. How much is this pledge worth? Perhaps as much as his campaign pledge to cut CO₂ emissions, which he later abandoned. Vice-President Cheney's answers to the energy crisis are equally, or even more, disturbing. Cheney chaired the President's Task Force, which came up with the Bush Energy Policy saying that conservation was not the answer. Therefore, he steered the task force towards promoting more production of the same dirty power generation systems. The Vice President endorses drilling in roadless areas on the national forests, and in the Arctic National Wildlife Refuge. So the plan to solve the "energy crisis" crafted by the Bush administration seems to effectively ignore the science that clearly warns of increased environmental damage at the expense of ecosystems and human health.

Are there viable alternatives? Yes! Experts tell us that our

energy systems in the U.S. are only 2 percent efficient. For example, if we improve the efficiency of our light vehicle fleet by only 0.4 miles per gallon, it would be the equivalent of extracting the 2 billion barrels of oil from the Arctic National Wildlife Refuge. The possibility of switching to an electric car powered by fuel cells is looming on the horizon. Some of these cars are already in production in an experimental stage, and venture capitalists are investing heavily in the technology. But President Bush has cut the research budget for this technology by about 30 percent.

Economist Paul Hawkins points out that high-efficiency buildings alone could save 30 to 50 percent of energy costs.

Simple conservation is also a viable solution. A recent letter in the *Atlanta Constitution* rebuking Mr. Cheney's statement that conservation is not the answer claimed that he reduced his home energy bill by 50 percent by changing his lifestyle to waste less.

The Bush administration energy policy is also modeled to give us low-cost energy. This a dubious claim that may not sit well with the people in California who were gouged by electric power producers as soon as they became vulnerable. There is also the point of view that the true cost of dirty energy

production is not factored into the cost of a kilowatt of electricity. How much does it cost to clean filthy air, and to treat associated respiratory illnesses? A LOT!

A responsible person, when presented with the facts, will probably agree that our current system is inefficient, damaging to the environment, and could be improved. They would also probably agree that there are good alternatives. If this type of logic drove politics, we wouldn't have the "bigger is better" policy as presented by the Bush administration. Unfortunately, the land ethic that could demand alternatives has been overwhelmed by the power that "big business" exercises over our political system. Consequently, we may be destined to bring about reform only after the true costs hit us in the pocketbook and environmental problems surround us. Don't wait that long. Contact your congressional representatives and demand change today.



Green Salamander, *Aneides aeneus*

Chris Wilson

The Green Salamander (*Aneides aeneus*) is distributed from central Alabama to southwestern Pennsylvania along the Appalachian Plateau. A separate and smaller cluster of populations, or "disjunct" population, occurs in the southern Blue Ridge Mountains of Georgia, South Carolina, and southwest North Carolina. It is the only representative of

the genus *Aneides*, or "Climbing Salamanders," in the eastern United States and is also considered a relict of the previously circumpolar "Arcto-tertiary" forest, of which the mixed mesophytic forest community is the closest remaining example. The Green Salamander is primarily considered a rock-crevice dwelling species easily identified by the presence of greenish lichen colored patches on a black dorsum, a flattened body, long legs, and squared toe-tips. Individuals of the Blue Ridge populations typically inhabit shaded rock outcrops in mixed mesophytic forests between 500 and 1,300 meters in elevation. Adults measure 8 to 14 centimeters long, and can be observed (during the warmer seasons) in shaded rock crevices by day, or on rock faces at night.

During the spring and summer, breeding females require cool, clean and moist horizontal crevices or narrow chambers in which to suspend their eggs from an overhead substrate. Such habitat provides a specific micro-climate necessary for successful embryonic development. In fall, individuals of all age classes congregate near deep rock crevices for use during winter hibernation. Due to these unique habitat requirements, the Green Salamander is patchily distributed and uncommon throughout its range.

Blue Ridge populations of *Aneides* experienced a dramatic decline during the late 1970s, which prompted a status review by the U. S. Fish and Wildlife Service for listing under the Endangered Species Act (ESA). Although

Aneides was denied federal status, it was listed as endangered by the state of North Carolina. Recent findings from long term monitoring of 13 *Aneides* populations within the Savannah watershed of North Carolina (the "embayment") demonstrated a 98% decline since 1970 (Corser, J.D: 2000. Decline of disjunct Green Salamander populations in the southern Appalachians. Biological Conservation 97:119-126). Ongoing genetic research

regarding the phylogeny of *Aneides aeneus* shows that the species actually consists of 4 separate species (Corser, pers. com.). Of these four, two occur in North Carolina; one within the embayment and the other within Hickory Nut Gorge. Due to the severe decline within the embayment population and the extremely limited distribution of the Hickory Nut Gorge population, the Green Salamander will likely be petitioned once again for federal listing under the ESA.

The causes for decline are unknown but are believed to involve a combination of factors such as over-collecting, acid rain, climate change, and pathogens. Habitat destruction, as with most imperiled species, is likely the primary culprit. Direct habitat destruction from development and loss of shading due to logging has caused previously occupied rock outcrops to become abandoned. Most

known populations are located on public land and in order to maintain the shading of rock outcrops, the U. S. Forest Service has a policy of leaving a 100 foot buffer around potential habitats when logging. However, the long-term survival of these small colonies may suffer due to a larger problem of depressed populations, limited dispersal, and stochastic events. The rock outcrop "patches" currently inhabited by *Aneides* are essentially islands among a sea of non-suitable habitat.

Many observations from Kentucky, Tennessee, and West Virginia report *Aneides* breeding and foraging under slabs



A disjunct population of Green Salamanders occurs in the southern Blue Ridge Mountains, and is the only representative of the genus Aneides, or "Climbing Salamanders," in the eastern United States.

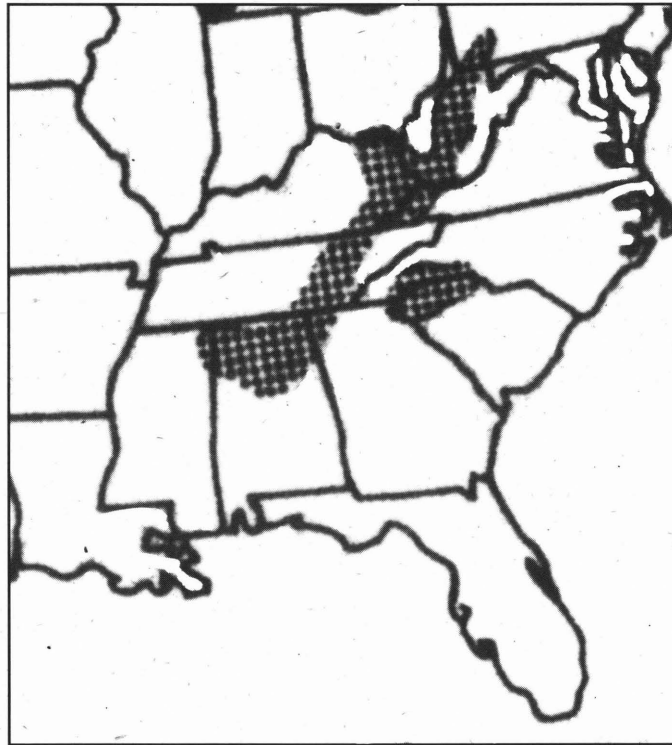
Green Salamander

of exfoliating bark during the early 1900s, when old growth forests were still abundant in these areas. Early observations also report *Aneides* occupying small cavities within standing trees and in the tops of recently felled trees. Such arboreal observations are also emerging within the Blue Ridge disjunct (Wilson C. R., in prep.). One observation, photographed by the late George and Mille Blaha in 1974, documents a female tending a clutch of eggs within the hollowed chamber of a fire-scarred American Chestnut log near Brevard, North Carolina.

These observations support theories that the rarity of *Aneides* is linked to the loss of old-growth mixed mesophytic forests dominated by American Chestnut. The micro-habitat provided under exfoliating slabs of bark or in hollowed cavities is apparently similar to that of a rock crevice. The ideal woody crevice habitat would consist of large, thick slabs of exfoliating bark or hollowed logs. Such features are characteristic of old growth forests. The second- and third-growth forests that currently predominate the landscape contain very little large-woody-debris. Exfoliating bark and hollowed chambers occur during the early decay classes of a dead tree. The previous abundance and rot resistant properties of American Chestnut may have maintained the early decay classes necessary for *Aneides* breeding over a longer time frame than other types of woody debris, making habitat less spatially and temporally patchy. Presumably, there would have been an abundance of breeding habitat immediately after the chestnut blight; however, these habitats quickly disappeared due to culling.

The loss of woody crevice habitat due to logging and the chestnut blight may have restricted breeding to the crevices of rock outcrops. Appropriate rock crevice habitat is patchily distributed and isolated throughout *Aneides*' Blue Ridge disjunct relative to the main range, perhaps making the Blue Ridge population more susceptible to stochastic processes and contributing to the reported decline. Unwitting collectors, both scientific and hobby/pet-trade oriented, may have delivered the "coup de grace" to these already unstable populations. The Green Salamander is a

strikingly beautiful and mysterious animal, much coveted by collectors. The majority of collecting is likely concentrated during the summer months when collectors are free for vacations or research. Because the female remains stationary with a clutch for the entire summer, she and her eggs represent the demographics most vulnerable to collecting. *Aneides* females begin breeding during the second or third year of life; breed on a bi-annual basis thereafter; and are believed to live approximately ten years in the wild. Without recruitment from outside sources, removal of brooding females over several consecutive years from the same site could eliminate the entire breeding population.



Range of *Aneides aeneus*

Due to unique habitat requirements, the Green Salamander is patchily distributed and uncommon throughout its range.

Clearly this animal is in trouble, and some believe it could go extinct in the Blue Ridge at anytime. *Aneides* is a fascinating and particularly difficult animal to study, and there are many gaps in our understanding regarding the causes for its decline. The two most obvious threats are collecting and destruction of habitat by development and silvicultural operations. While these may not be the ultimate causes for decline, they are certainly damaging and controllable. Developers and foresters should survey for potential habitats and avoid disturbance to rock-outcrops. Such steep and rocky areas are often problematic for building, and the developer may benefit by donating those portions to a land trust as a conservation easement. Such a donation would benefit a suite of other rare species, dramatically

reduce income taxes, and increase the value of adjacent parcels. Other immediate recommendations include strengthening and enforcing restrictions on collecting and incidental take, extensive surveys for new breeding sites, and more research regarding the population ecology of *Aneides* and its reintroduction within Blue Ridge. Ultimately, the only way to recover the Green Salamander may be through public education and involvement.

Christopher Wilson is a zoologist with Appalachian Ecological Consultants and a graduate student in the Department of Biology at Appalachian State University. His thesis research involves the status and conservation of the Green Salamander in the Blue Ridge disjunct.

Politics of Energy

Susan Hinchey

The topic of alternative energy has received more attention in the media lately, due to a combination of major political issues. President Bush has been taken to task about his intentions concerning the "energy crisis" and his environmental policies. The fact that both President Bush and Vice-President Cheney are oil men certainly does not help the prospect of alternative energy getting much attention during their administration. So the outlook seems bleak for citizens concerned about conservation of the world's natural resources, and for alternative energy becoming commonplace in America's homes and industry.

Before delving into the latest innovations in alternative energy, the critical need for these alternatives should be addressed, especially with President Bush threatening to diminish environmental efforts of the last eight years. For instance, Energy Secretary Spencer Abraham declared the energy crisis could only be resolved by repealing the environmental and regulatory obstacles to increasing coal and oil supplies, and the Bush administration stated the 45% growth in demand for electricity warrants building 65 to 90 power plants a year. On the local level, the transmission line

controversy represents exactly what could happen in communities similar to Rabun County, all around the country. President Bush also reneged on his campaign pledge to curb carbon dioxide emissions, which is critical for reducing pollution from coal and oil burning plants. And there's the well-publicized debate about the need to drill in the Arctic National Wildlife Refuge. Our growing dependence on natural gas will threaten many other federally protected lands currently closed to exploration.

Whether or not there is a legitimate "energy crisis," surely there is a need for changing our dependence on the 19th century fossil fuel burning technologies that President Bush is intent on expanding. The fact does remain that there is population growth and a greater demand for non-renewable resources. Is there a perfect solution for energy issues? A perfect solution would not produce harmful emissions, dam

ivers, ruin farmland, strip mine, and decimate thousands of acres of land. The solution should also provide jobs and contribute to local tax structures while fueling the national and global economies. The answer may be in the form of combining many options that could suit the particular city, community or individual's needs, specific to the geography and natural resources of the area.

Many major power companies are searching for the answers, and have spent millions of dollars researching and implementing alternative methods of power generation and storage. Power companies in the West, especially along the Mexican border, have been buying power from smaller

geothermal plants. According to a March 22, 2001 article in the *New York Times*, there are 10 geothermal plants located near the Salton Sea that extract superheated water to create energy, and pay taxes high enough to greatly impact the local economy. Yet an unfortunate domino effect from California's failing power companies is a loss in revenue for the geothermal companies reliant upon selling their power surplus. Some geothermal companies are being forced to cease generating power until they receive payment.

Still, examples remain of communities making

use of their best local and alternative resources. Geothermal energy is more suited to the Southwest; however, we have options unique to our area. Energy-friendly homes are a great place to start, and have been encouraged by our government through tax incentives. Energy saving appliances, light bulbs, and heating/cooling units are well known options for saving money on power bills as well as lessening the impact of inefficient appliances. Providing incentives for contractors to build efficiently, in the form of builder certifications and lending packages offered by banks to the consumer, contribute to a competitive economy as well as conservation efforts. According to Tony Streible, President of the Rabun County Homebuilders Association, "a builder's good reputation is the only reason," albeit a powerful one, to build energy efficient homes in Rabun County. Georgia Power and Habersham Electric



Wind power can be used in alliance with traditional and alternative energy sources to meet a community's electricity demands.

Politics of Energy

Membership Cooperative surveys and tags every house built to establish its efficiency rating, thereby allowing the homeowner to qualify for an amount of money towards their power bills.

Making a difference in your lifestyle is the first, and the easiest way, to bring about a positive impact on the environment. There are many ways to ease the burden of harmful emissions and wasteful energy habits so the power companies do not have cause to over-generate power. At home, start by turning off appliances when not in use. When buying appliances, look for energy-efficient brands. Caulk and weather-strip so heat and cool air do not leak. Consider catalytic converters on woodstove pipes to lessen the emissions of wood heaters. Landscaping with native species can have long-reaching effects by conserving water, cutting fertilizer use and providing shade in the summer. These are a few general ideas that can be explored and implemented in the short term.

What technology is around the corner? Will there ever be a revolutionary change in power generation?

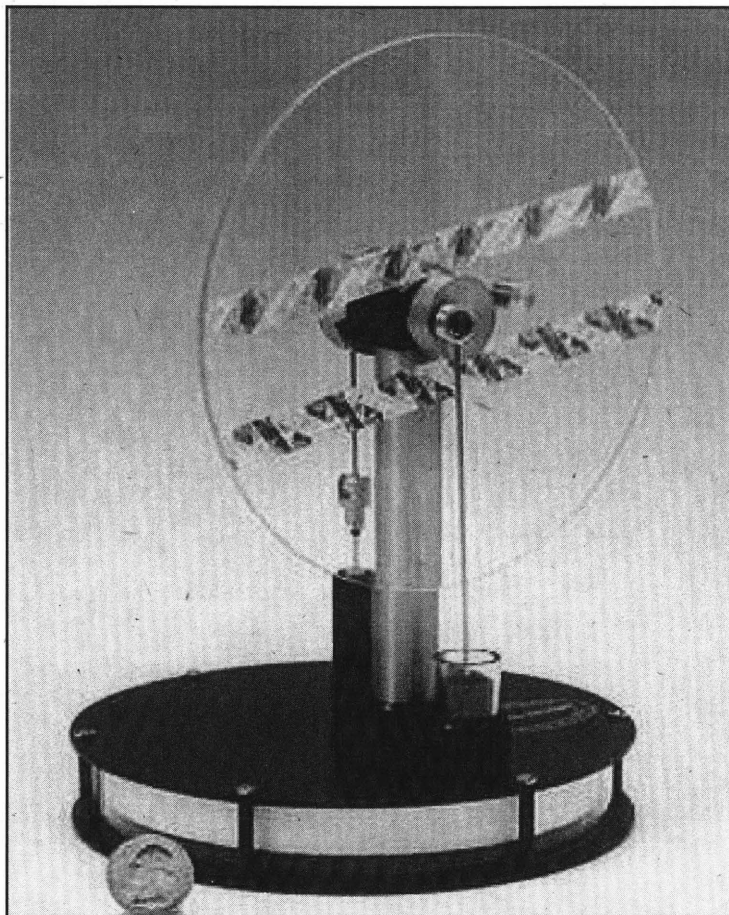
Unfortunately, there are no immediate and inexpensive means to collectively get off "the grid." The conveniences of electricity provided by traditional means are too many to list and implicate everyone, whether at home or work.

However, there are ways to generate power in the form of hydrogen fuel cells, wind power, solar power and many forms of micro power. Some of the most interesting scientific research is top secret due to claims of ownership. Patents and copyrights are heavily guarded before new technology appears in the open market.

Recently an invention known as the Sterling engine, previously used to teach physics students about highly efficient, low-fuel burning engines, has been in the news because renown inventor Dean Kamen advanced the design. Kamen's patented invention known as "It" or "Ginger" is reportedly his version of the Sterling engine. The Sterling

engine can be purchased on American Sterling Company's website (sterlingengine.com) as an aid for physics teachers to demonstrate how highly efficient power generators operate. Sterling engines can be powered by the amount of fuel it takes to fill a coffee cup, and are small enough to fit on top of one. The engine can also be powered by a variety of heat sources including solar heat. Brent Van Arsdale, president of American Sterling Company, explains the impact an advanced Sterling engine could have on society: "Why do I think that this invention could change the world?"

Because the current method of delivering electricity is extremely inefficient. A new power plant will typically burn natural gas, but there are a lot of losses between the power station and your house. It would be much more efficient to generate the power by burning the natural gas at your house. That way the waste heat can be used to heat your water or keep your house warm in the winter. To keep you cool in the summer, the Sterling engine could drive an optional Sterling cooler (which is basically a Sterling engine running in reverse). Besides, the 'refrigerant' used in the Sterling engine is environmentally friendly helium, not freon." Nobody knows for sure when Kamen will reveal his product to the world, but it is eagerly anticipated.



This Sterling engine can be held in the palm of your hand and is powered by body heat (for scale, note the quarter at left).

American Sterling Company also offers waste

heat recovery systems to industries, and they claim to be able to save money for industries by applying the same Sterling engine principles "to recover power from industrial waste heat sources." In addition, the Sterling engine is a cleaner burning engine that could reduce emissions, thereby helping industrial companies meet current clean air standards. This is just one example of the many companies offering money saving and energy efficient solutions to industrial wastefulness.

Fuel cell technology is another example of progressive alternatives to energy generation issues. There are a wide

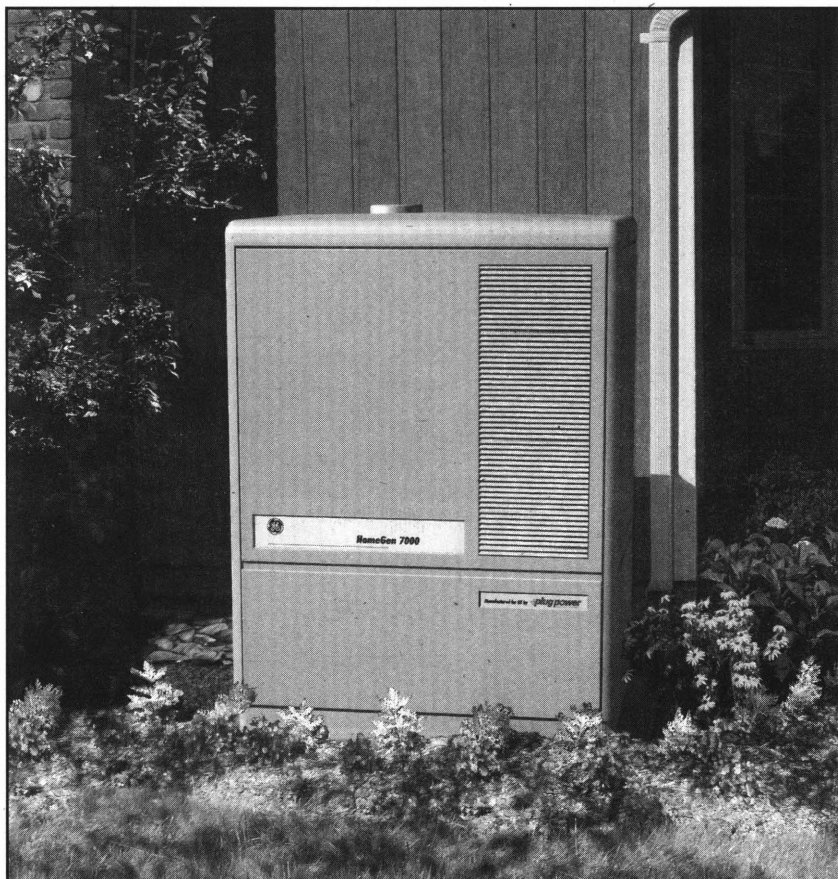
Politics of Energy

variety of fuel cell designs, with hydrogen being the common design element and diversity coming in the form of the catalyst used to create the energy-producing reaction. The heat released by the chemical reactions inside the cell manufactures the energy; multiple sets of fuel cells in a series create a fuel cell stack capable of producing greater amounts of energy. Determining the type of fuel cell necessary for the application also depends on how much heat the operating system can bear in extracting the hydrogen from the source. The catalyst to produce the reaction makes the difference in the type of fuel cell used, with hydrogen being the common denominator.

The types of fuel cells most commonly used include alkaline, phosphoric acid, proton exchange membrane, solid oxide and molten carbonate, and the newer methanol generative system. These fuel cells operate at varying temperatures, which makes a big difference in the type of systems they can be used in. For example, for the space shuttle NASA uses alkaline fuel cells with platinum as a catalyst, rendering it useless for anything else (besides NASA's budget!)

Converting internal combustion engines to fuel cells is simple and reasonably priced; however, hydrogen's extreme combustibility is an issue to be surmounted for the broad application of this technology. The generation of hydrogen is another issue. There is not a single solution for this problem; however, the options reach into solutions for other environmental issues. For instance, making use of photovoltaic solar panels and biomass technology to generate hydrogen is a very real possibility. The Sun may be used to start reactions that create hydrogen as a by-product and that also forms a residue called char, which can be burned to produce more heat.

Fuel cell technology is already a very real possibility for such power companies as Tennessee Valley Authority. According to a November 16, 2000 article in the *Knoxville News*, TVA has plans for a \$25 million plant that will be using fuel cells to store electricity. The plant will be the first of its kind in the United States, and will be located on two acres of land near a substation so as to utilize existing power lines.



General Electric is marketing a proton exchange membrane fuel cell called HomeGen 7000, which they claim "will provide 100% of a home's electrical needs, run on whatever fuel is already delivered to your home, and be available beginning in 2001."

Meanwhile, it is up to the local citizenry to seek alternatives to being on "the grid," if one so chooses. Many alternative energy possibilities are available, and are worth researching to see what is right for the Southeast's climate and your particular budget. Solar power and wind power have their place, and combining solar panels and wind turbines may work to meet a household's electricity needs.

Knowing that fuel cell technologies are vastly improving and will be available for residential applications in the very near future is encouraging. Transforming trash and green waste into electricity is on the horizon as well. Using the gases given off from the

breakdown of garbage in landfills, such as methane, and converting it into usable energy is exciting.

So far there are no limits on consumption in this country for individuals and corporations. The statistics on American consumption are staggering, and quite embarrassing. From a global perspective, the United States seems intent on forwarding oil-based economic principles, and that sends a distinct message to the world. Yet, the United States has many opportunities to integrate alternative energy into the fabric of our daily lives. In the meantime, the best option we have is to conserve energy, and seek and implement alternatives to our current lifestyles as citizens of the world.

Green Clippings: *Environment in the News*

In the recent months, many environmental issues have risen to the forefront of both local and national debates. The Chattooga Conservancy works to keep abreast of this news, and below we present brief summaries of a few clippings that caught our eyes. Even though it's mostly bad news, we remain optimists. It is time to act for positive reform!

Creative Loafing

April 18, 2001 "Chainsaws in the Chattahoochee Forest," by Scott Henry. This article explores the possibility of a return to heavy-handed forest management under the Bush Admin-

istration. A quote from newly installed Chattahoochee National Forest Supervisor Clara Johnson gives us a clue: *We're looking forward to continuing scientifically sound ecosystem management with strong public involvement.*

But if the President states he wants us to cut

a certain number of board feet and move more trees out of the national forest, then we will. Ecosystem management and timber targets? Sounds like an oxymoron!

Atlanta Constitution

May 18, 2001 "Energy Plan Called Dirty, Dangerous," by Charles Seabrook. Charles writes: *The President's plan calls for constructing 1,300 to 1,900 electrical power plants...not only coal...or gas-fired, but also nuclear...the nation would need 263,000 miles of new power lines.* This is particularly bad news for Georgia, since the state has some of the weakest laws in the U.S. for siting of power plants and power lines.

The Highlander

June 5, 2001 "With Dirty Past, Coal Tainted as Energy Savior," by Rick Eodes. This article tells the story of a

slurry pond that ruptured at a coal mine in Martin County, Kentucky. 250 million gallons of coal by-product was spilled, which devastated 75 miles of Appalachian streams. The article states: *the lawyer for Mossey Energy promptly proclaimed this disaster 'an act of God.'*

Sacramento Bee

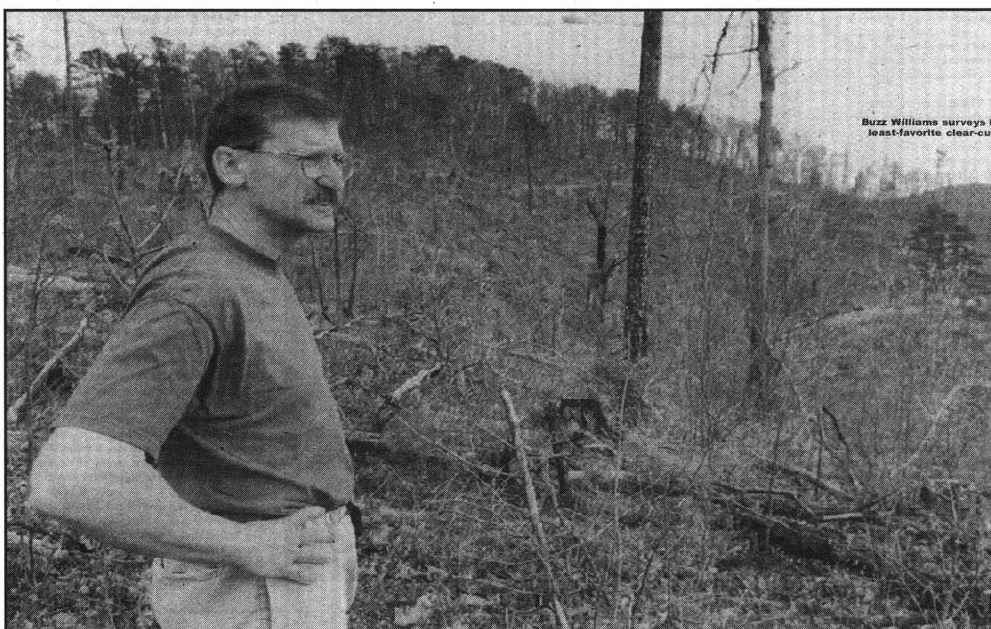
The *Sacramento Bee* published a series of articles by Tom Knudson on April 22nd through the 26th, which analyzed the environmental movement. Some highlights of this controversial series underscore the bloated bureaucracy that much of the "mainstream" environmental movement has become. Knudson writes: *Salaries for the environmental*

leaders have never been higher. In 1999—the most recent year for which comparable figures are available—chief executives at nine of the nation's ten largest environmental groups earned \$200,000 and up, and one topped \$300,000. In 1997, one group fired its president and awarded him a severance payment of \$760,335. Six

national environmental groups spend so much on fund raising and overhead they don't have enough left to meet minimum benchmark for environmental spending—60 percent of annual expenses—recommended by charity watchdog organizations.

New York Times

"Panel Tells Bush Global Warming is Getting Worse," by Katherine Q. Steelye and Andrew C. Revkin. The authors write: *In a much-anticipated report from the National Academy of Sciences, two leading atmospheric scientists, including previous skeptics about global warming, reaffirmed the main stream scientific view that the Earth's atmosphere was getting warmer and that human activities were largely responsible.*



April 2001 *Creative Loafing* cover story "Chainsaws in the Chattahoochee" featured commentary by Chattooga Conservancy Director Buzz Williams. Here, Buzz shows reporter Scott Henry a recent clearcut that is right next to the Chattooga Wild and Scenic River Corridor.

Urban Growth Means Lower Taxes and Other Myths

Donella H. Meadows

We need to bring in business to bring down taxes. This development will give us jobs. Environmental protection will hurt the economy. Growth is good for us. If we've heard those arguments once, we've heard them a thousand times, stated with utmost certainty and without the slightest evidence. That's because there is no evidence. Or rather, there is plenty of evidence, most of which disproves these deeply held pro-growth beliefs. Here is a short summary of some of the evidence. For more, see Eben Fodor's new book *Better, Not Bigger*, which lists and debunks the following "Twelve Big Myths of Growth."

Myth 1: Growth provides needed tax revenues. Check out the tax rates of cities larger than yours. There are a few exceptions but the general rule is: the larger the city, the higher the taxes. That's because development requires water, sewage treatment, road maintenance, police and fire protection, and garbage pickup—a host of public services. Almost never do the new taxes cover the new costs. Fodor says, "the bottom line on urban growth is that it rarely pays its own way."

Myth 2: We have to grow to provide jobs. But there's no guarantee that new jobs will go to local folks. In fact, they rarely do. If you compare the 25 fastest growing cities in the U.S. to the 25 slowest growing, you find no significant difference in unemployment rates. Says Fodor: "Creating more local jobs ends up attracting more people, who require more jobs."

Myth 3: We must stimulate and subsidize business growth to have good jobs. A "good business climate" is one with little regulation, low business taxes, and various public subsidies to business. A study of areas with good and bad business climates (as ranked by the U.S. Chamber of Commerce and the business press) showed that states with the best business ratings actually have lower growth in per capita incomes than those with the worst. Fodor: "This surprising outcome may be due to the emphasis placed by good-business-climate states on investing resources in businesses rather than directly in people."

Myth 4: If we try to limit growth, housing prices will shoot up. Sounds logical, but it isn't so. A 1992 study of 14 California cities, half with strong growth controls and half with none, showed no difference in average housing prices. Some of the cities with strong growth controls had the most affordable housing, because they had active low-cost housing programs. Fodor says the important factor in housing affordability is not so much house cost as income level, so development that provides mainly low-paying retail jobs makes housing unaffordable.

Myth 5: Environmental protection hurts the economy. According to a Bank of America study, the economies of states with high environmental standards grew consistently faster than those with weak regulations. The Institute of Southern Studies ranked all states according to twenty indicators of economic prosperity (gold) and environmental health (green)

and found that they rise and fall together. Vermont ranked third on the gold scale and first on the green, while Louisiana ranked fiftieth on both.

Myth 6: Growth is inevitable. There are constitutional limits to the ability of any community to put walls around itself. But dozens of municipalities have capped their population size or rate of growth by legal regulations based on real environmental limits, and the real costs of growth to the community.

Myth 7: If you don't like growth, you're a NIMBY (Not In My Backyard) or an ANTI (against everything). These accusations are meant more to shut people up than to examine their real motives. Says Fodor, "A NIMBY is more likely to be someone who cares enough about the future of his or her community to get out and protect it."

Myth 8: Most people don't support environmental protection. Polls and surveys have disproved this belief for decades; Fodor cites examples from Oregon, Los Angeles, Colorado, and the U.S. as a whole. The fraction of respondents who say environmental quality is more important than further economic growth almost always tops 70 percent.

Myth 9: We have to grow or die. This statement is tossed around lightly and often, but if you hold it still and look at it, you wonder what it means. Fodor points out, quoting several economic studies, that many kinds of growth cost more than the benefits they bring. So oftentimes the more growth, the poorer we get. That kind of growth will kill us.

Myth 10: Vacant land is just going to waste. Studies from all over show that open land pays far more—often twice as much—in property taxes than it costs in services. Cows don't put their kids in school; trees don't put potholes in the roads. Open land absorbs floods, recharges aquifers, cleans the air, harbors wildlife, and measurably increases the value of property nearby.

Myth 11: Beauty is no basis for policy. One of the saddest things about municipal meetings is their tendency to trivialize people who complain that a proposed development will be ugly. Dollars are not necessarily more real or more important than beauty. In fact, beauty can translate directly into dollars. For starters, undeveloped surroundings can add \$100,000 to the price of a home.

Myth 12: Environmentalists are just another special interest. A developer who will directly profit from a project is a special interest. A citizen with no financial stake is fighting for the public interest, the long term, and the good of the whole community.

Maybe one reason these myths are proclaimed so often and loudly is that they are so obviously doubtful. The only reason to keep repeating something over and over is to keep others from thinking about it. You don't have to keep telling people that the sun rises in the east. There are reasons why some of us want others of us to believe the myths of urban growth.

Donella Meadows recently passed away; she was Director of the Sustainability Institute and an adjunct professor of environmental studies at Dartmouth College.

Nuclear Power Play

*Jerry Taylor and Peter Van Doren
reprinted with permission of the Cato Institute*

The political drive to revive nuclear power is in full swing. Unveiling his energy plan yesterday [May 17], President Bush said, "America should also expand a clean and unlimited source of energy, nuclear power." Vice President Cheney says, "We must seriously question the wisdom of backing away from what is, as a matter of record, a safe, clean and very plentiful energy source." But why conservatives are so in love with nuclear power is a mystery.

Aren't conservatives supposed to be skeptical about having the federal government pick winners and losers in the marketplace? Isn't it best to leave such decisions to investors, not politicians? If nuclear power is a better investment than gas or coal-fired power, then no amount of government help is necessary. If it's not, then no amount of government help will make it so.

The Bush administration maintains that the only reason investors haven't been jumping at nuclear power is because the government has effectively shut down the industry. Cheney, for instance, laments that "the government has not granted a single new nuclear power permit in more than 20 years." But there's a reason for that; no utility company has submitted an application for a nuclear power permit in more than 20 years.

Investors have stayed away from nuclear power because nuclear-fired electricity is about twice as expensive as coal or gas-fired electricity. The marginal costs of nuclear are indeed lower, but the capital costs are much higher. For instance, electricity costs skyrocketed by 60 percent between 1978 and 1982 largely because of a wave of nuclear power plants that came online in the late 1970s.

Another reason investors have stayed away is because of the shift to competitive generation markets. In the old regulatory world, public utility commissions guaranteed quick returns on capital investments through the rate base. The more capital you spent, the more you made, and a \$1 billion nuclear power plant offered a far better return than a \$200 million coal-fired plant, regardless of total costs. In a deregulated market, investors think long and hard about investing in plants that might take decades to pay off under ideal conditions.

Proponents counter that nuclear power would be far less expensive were it not for needlessly burdensome safety and maintenance regulations. While you can certainly make a strong case for that, it's unclear whether government has really harmed nuclear power more than it has helped.

The administration should recall that the Atomic Energy Commission [now the Nuclear Regulatory Commission], beginning in 1957, directly subsidized the construction of reactors by private utilities. A year later, the "Euroatom" program was adopted, which gave federal subsidies to

NATO allies to purchase American light-water reactor technology.

Here at home, the federal government took responsibility for the supply and enrichment of uranium but failed to charge nuclear power plants anything for the capital or inventory costs of the program. And just since the establishment of the Department of Energy in 1978, more than \$20 billion of taxpayer money has been spent on nuclear power research and development.

Then there's the grand daddy of all subsidies, the federal assumption of high-level radioactive waste-disposal responsibilities. If the feds had stayed out of this and simply required the industry to secure its own waste disposal through

private arrangements, who doubts that the construction costs for such facilities and, more important, the liability costs would greatly exceed the fees the industry currently pays the federal government? In fact, it's extremely doubtful that the industry could insure itself against the possibility of accidents in waste disposal facilities, which could remain highly radioactive for thousands of years.

Perhaps new advances in technology will remedy the environmental and economic problems that plague the industry. If so, fine. Investors will respond with orders for new nukes and we'll have no complaint. But in the meantime, the feds shouldn't try to ram this technology down the market's throat.

In the final analysis, the nuclear industry is purely a creature of government. The administration needs to practice the free-market rhetoric that it preaches and put away its nuclear pompoms.

Jerry Taylor is director of the Cato Institute's natural resource studies; Peter Van Doren is editor of Regulation.

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Watershed Update

RABUN COUNTY POWER LINE CONTROVERSY

The battle to stop an unneeded 115 kilovolt transmission line from plowing through Rabun County (Georgia portion of the Chattooga watershed)

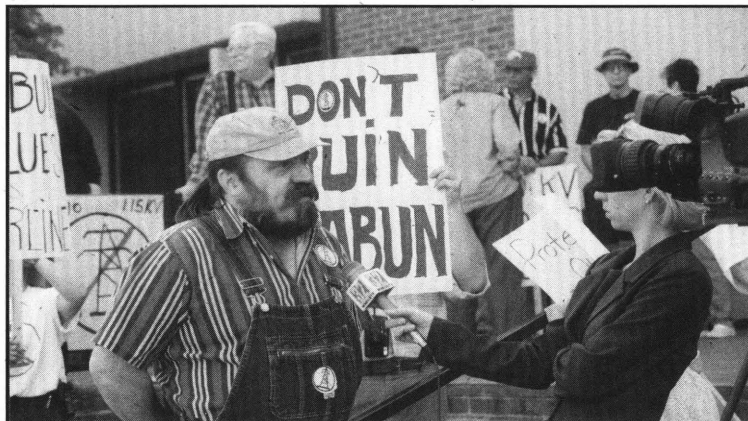
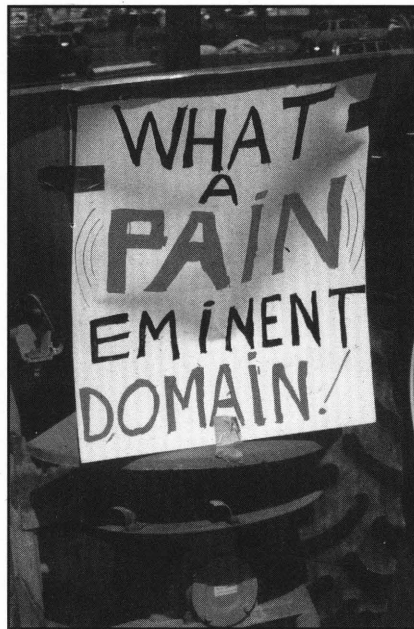
has reached a new level of intensity. On May 14th the Citizens for Rabun's Heritage, the Chattooga Conservancy and the Rabun County Commissioners sponsored a presentation by Dr. Broadwater, a well respected electrical engineer from Virginia

Polytechnical Institute. Dr.

Broadwater studied the county's projected power demand, and proposed to solve the electricity needs by upgrading existing distribution lines. This alternative would provide for the increased power demand without destroying the cultural and scenic beauty of the county. Dr. Broadwater's presentation to a full court room was preceded by a "tractor-cade," which circled Clayton and the courthouse in an overwhelming show of support by the citizens of Rabun County for protecting the rural character and cultural heritage of the area. The county's moratorium against the 115 kilovolt line remains in place, and Citizens for Rabun's Heritage and the Chattooga Conservancy are dedicated to work to pass legislation for regulating the siting of high voltage power lines throughout the state of Georgia.



Tractors carrying protest signs circled through Clayton.



Dr. John Woodward voices opposition to the powerline on channel 32 news.

CHATTOOGA WATERSHED RESTORATION PROJECT

Frustrated by the continued lack of communication from the Forest Service, the Chattooga Conservancy has recently sought the legal counsel of Troutman Sanders LLP out of Atlanta, regarding the Forest Service's expenditure of funds appropriated for the Chattooga Watershed Restoration Project. We are concerned that the lion's share of this money is being used for projects that should be considered general maintenance and recreation infrastructure construction, not ecosystem restoration, and about the Forest Service's use of "categorical exclusions" that have made this possible.

Some headway was made in a meeting on June 6th between Forest Service officials Tom Speaks (Deputy Forest Supervisor, Chattahoochee National Forest), John Ramey (Forest Supervisor, Nantahala-Pisgah National Forest), Jerome Thomas (Forest Supervisor, Francis Marion and Sumter National Forest) and Randy Fowler (Chattooga Restoration Project Coordinator), attorneys with Troutman Sanders, and Chattooga Conservancy Executive Director Buzz Williams. In the meeting Buzz expressed concern that projects in the watershed such as construction of the Pinnacle Mountain Trail, construction of the Dick's Creek observation deck, and the Rocky Gap Horse Trail rehabilitation project were being given precedence over restoration of the watershed's natural ecosystem, while efforts to restore native species such as the Brook Trout, American Chestnut and native river cane were not receiving due regard. Buzz urged the Forest Supervisors to take a more ecological approach in managing the watershed, and

requested documentation of project expenditures for the fiscal year to date. Forest Service officials indicated that they would like to move towards more open dialogue and stewardship projects with private land owners in the area, but eschewed discussing the recent flood of categorical exclusions that have been attached to many recent, heavy-handed management proposals in the watershed. These categorical exclusions sever all public discussion of a project, and are severely limiting the dialogue that our Forest Supervisors seek with citizens in the area.

The establishment of Mr. Fowler's position as Chattooga Watershed Restoration Project Coordinator is a significant step towards open communication between the Forest Service and citizens concerning

Watershed Update

the Restoration Project. Mr. Fowler has been receptive to discussing management alternatives, and we look forward to working with him as well as other Forest Service decision-makers in the future.

FUNDING FOR THE CHATTOOGA WATERSHED

We would like to express our gratitude to Senators Cleland, Edwards, Hollings and Miller for co-signing a letter written to Secretary of the Interior Gayle Norton in March that requested \$4.3 million of Land and Water Conservation Fund (LWCF) money for public land acquisition in the Chattooga River watershed. This request, and its support from senators of all three states in the watershed represents a bold and promising step forward for preserving ecologically significant land the Chattooga watershed. Unfortunately, this good work by our senators was not replicated in the House, where the Chattooga's land acquisition budget was slashed to less than \$1 million. However, the LWCF is part of the President's Budget and the final figure is subject to approval by the Interior Appropriations conference committee, which is expected to begin negotiations in mid-June. *Please join us in thanking these senators from your own states, while urging Representatives Deal (R-GA), Graham (R-SC) and Taylor (R-NC), and Senators Thurmond (R-SC) and Helms (R-NC) to join their colleagues in supporting the original \$4.3 million figure.* Let's continue to show Washington that the Chattooga River watershed is worthy of their attention.

PAVING PARADISE

Three road-paving projects have been proposed by both the Highlands and Tallulah Ranger Districts of the USDA Forest Service for the summer and fall of 2001, including sections of Bull Pen Road, Sarah's Creek Road, and Burrell's Ford Road. These proposals have given the Conservancy ample opportunity to reflect on the advantages and disadvantages of such heavy-handed maintenance of gravel roads in the watershed. For especially steep grades, such as the Bull Pen Road as it climbs north out of the Chattooga gorge away from the iron bridge, paving is a viable alternative to perpetually eroding gravel roads that contribute to excessive sedimentation in delicate riparian areas.

The Chattooga Conservancy has expressed its support to the Forest Service for this type of paving where it is truly needed, in moderation at selected spots. However,

unnecessary paving can easily lead to more problems than solutions, if its ecological impact is not fully considered at the outset. The Burrell's Ford Road paving project proposal, for example, expresses the Forest Service's intent to widen as well as pave the road, even though they claim the project's aim is to reduce the negative impact of the roads on water quality and aquatic habitat. How does widening a road reduce its impact on the surrounding ecosystem? Regardless of where or why a road is paved, its traffic speed will inevitably increase, posing a threat to wildlife and possibly more traffic accidents, and promoting convenient access to wilderness areas. Convenience and maintenance that caters to increased human traffic in wilderness areas clearly degrade the isolated, pristine and wild characteristics of the watershed. We feel that Forest Service project proposals in the Chattooga watershed that include widening and excessive maintenance and paving of any kind require close scrutiny. For more information about

these projects or others like them, please contact the Conservancy office.



Georgia DOT plans to replace the Russell Bridge and widen it by 13.6 feet.

BRIDGES ON THE HORIZON

Both the South Carolina and Georgia Departments of Transportation (DOT) have put forth nebulous plans for bridge maintenance in the Chattooga watershed within the next seven years. In the year 2005 Georgia DOT intends to replace the Russell Bridge on Route 28, which crosses the Chattooga at a "recreational" section of the river near the site of Cherokee

Old Town. While the project is in the very earliest stages of development, it does have a project identification number (P.I.), and the Georgia DOT is currently requesting public input on the project. As it stands, the project notification includes intent to widen the bridge by 13.6 feet. If you or your organization wish to be listed as a consulting party on this project, please write:

Harvey D. Keepler
Department Of Transportation
Office of the Environment/Location
3993 Aviation Circle
Atlanta, Georgia 30336-1593

Attn: Phillip Mark
Refer to P.I. 0000306

Considerably less information is available about South Carolina DOT's proposed widening of the highway 76 bridge, which crosses the Chattooga below Bull Sluice rapid and delineates Section IV from Section III, but the project is

Watershed Update

most likely included in a very aggressive road maintenance campaign being implemented by the DOT called "27 in 7." The \$5 billion project promises that 27 years of road maintenance will be consolidated into 7 years, through new financing plans and by taking advantage of current low interest rates. Look for more information on these projects in the next *Chattooga Quarterly*, or contact our office for current updates.

JOCASSEE GORGES

The South Carolina Department of Health and Environmental Control (DEHEC) has threatened to fine the South Carolina Department of Natural Resources (DNR) for erosion and sedimentation violations concerning the building of three helipads in the Jocassee Gorges. The monster V. I. P. helipads ranging from 3 to 4 acres apiece were built by the National Guard, in conjunction with road maintenance on the 138 miles of roads into 33,000+ acre Jocassee Gorges property. The poorly built helipads sent a virtual mudslide into the surrounding forest. The DNR, which has been criticized for its heavy handed management of the Gorges property, claims that the

helipads were needed for fire management and search and rescue operations. DNR also claims it is exempt from erosion and sedimentation safeguards, and the agency is fighting DHEC's Notice of Violation. The Jocassee Gorges area is one of the most biologically diverse and wild land left in the entire Blue Ridge Mountain ecosystem. The Chattooga Conservancy is asking for the support of South Carolina citizens and legislators to have the Jocassee Gorges tract dedicated as a Heritage Trust Preserve, to protect it from the DNR "hook and bullet" crowd and the SC Forestry Commission.

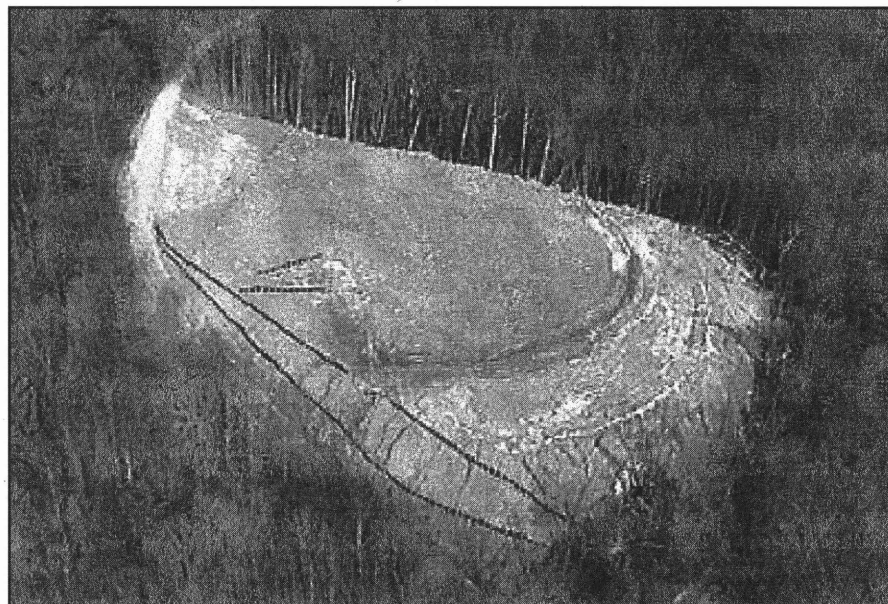
ROCKY GAP DISGRACE

On February 26, 2001 the Andrew Pickens Ranger District issued a revised proposal for a \$75,000 trail rehabilitation project on the Rocky Gap Horse Trail. Excessive use on this ill-placed horse trail has caused severe erosion on the north side of the Big Island ford. Until recently, district

rangers have been unable to come up with a solution for the continued erosion. In December of 2000 a trail maintenance specialist inspected the site and outlined some possibilities for its reconstruction; his comments and suggestions helped form the current project proposal. As it stands, the proposal includes importing 2,200 cubic feet of crushed rock, \$8,200 worth of vinyl matting, and several new culverts. Heavy machinery including a demolition hammer and a vibratory self-propelled roller will be used to break apart natural rock formation in the area, and harden the soil. Large river rocks will be used in the construction of new retaining walls.

The average slope of the proposed project area is 25 percent; far too steep to be able to sustain heavy horse traffic. It is

our recommendation that the trail be either moved or closed. According to the Development Plan for the Chattooga Wild and Scenic River Corridor that became public law on May 10, 1974, "Alteration of the stream bed or modification of bedrock will not be permitted." Thus, using a demolition hammer to break apart rock for trail maintenance in a section of the corridor that is classified as wild is illegal. Recently, the Forest Service



SC Department of Natural Resources allowed the National Guard to build several 3 to 4 acre helipads in the Jocassee Gorges tract, sending a virtual mudslide into the surrounding forest.

has indicated that they are considering rerouting this problematic trail, instead of trying to fix the unfixable. For further information, please contact the Conservancy.

THE NICHOLSON TRACT: WHAT NOW?

After a long, arduous battle to help the USDA Forest Service acquire the 229 acre Nicholson tract on the Chattooga's West Fork, we and all those involved in the fight have reached a crossroads. What will become of the land now? Proposals for use and management of the property by the Tallulah Ranger District are all in the early stages of planning, and the more encouragement they get in the immediate future to restore the native ecosystem in the area, the better. We feel strongly that the Nicholson tract's flood plain, which has predominantly alluvial soil deposits, offers a prime opportunity for the Forest Service to begin studying the effectiveness of native cane species

Watershed Update

Arundinaria gigantea in stream bank restoration. Rehabilitation of stream banks in the area would enhance stream quality, and help create optimal conditions for the reintroduction of native Brook Trout. We also would like to see native trees used to reforest the many open fields on the property. Though the Tallulah Ranger District has "scoped" the public to explore options for restoring native cane, native trees (including American Chestnut) and Brook



The old Nicholson house may be removed, in the course of managing the tract as part of the Chattahoochee-National Forest.

Trout, their language has been non-committal to date. The Nicholson tract offers potential for implementing these projects. There are also a few hastily constructed roads that should most certainly be closed down and rehabilitated.

Regardless of what is done on the newly acquired tract, it is paramount that any maintenance or development pursued by the Forest Service adhere to the parameters of the Chattooga Wild and Scenic River Corridor Development Plan, a document that expresses the original intent of the Wild and Scenic Rivers Act. For this area, which lies in a "recreational" section of the Chattooga, the Development Plan includes guidance stating that: *The main attraction of the Chattooga River is its recreation opportunity—the chance to visit a whitewater river and experience solitude, adventure, and challenge. Protecting and maintaining*

the aesthetic values of the river must remain of paramount importance. Development within the boundary of the Chattooga River must not detract from, or destroy, the natural beauty that makes this river different from other rivers. (Federal Register, Vol. 41, No. 56). Please write or visit David Jensen and Randy Fowler of the Tallulah Ranger District, and let them know that you would appreciate future management of the Nicholson property, and the rest of our national forest, to focus on restoring and preserving native ecosystems. Contact the Conservancy for more information about protecting our new asset.

DÉJÀ VU ALL OVER AGAIN

After relocating our office to Clayton's Main Street this spring, we have up and moved again! Now, we announce our new headquarters for the years to come are located at 2368 Pinnacle Drive, directly off of Warwoman Road at the eastern edge of Clayton's city limits. This attractive brick building was built shortly after World War II and served as an American Legion Post; many local residents fondly recall attending dances and other social functions here in years past.

Recently renovated, our office sits on an acre of land and offers an excellent venue for community gatherings and programs. For instance, we're currently planning a series of educational presentations addressing topics such as energy alternatives and conservation. We invite our supporters and other community members will drop by to see our Community Conservation Center and get the latest news about environmental issues, national forest initiatives and our program activities!



The Chattooga Conservancy's new office is located on the corner of Warwoman Road and Pinnacle Drive, right at the Clayton city limits. Come visit our Community Conservation Center!

Chattooga Conservancy

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Spring/Summer 2001

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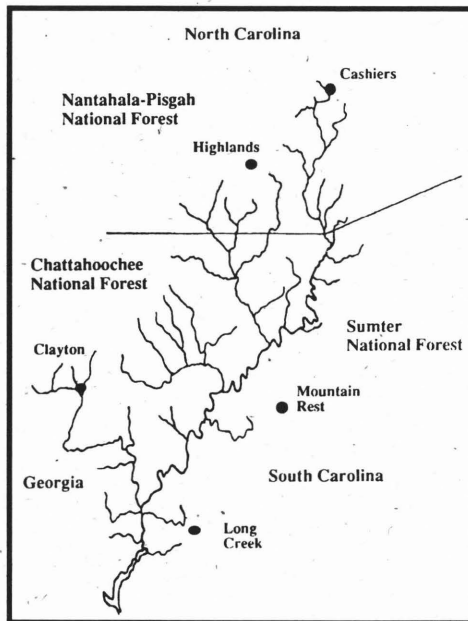
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(706) 782-6097 tel. (706) 782-6098 fax crwc@rabun.net Email www.chattoogariver.com

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:

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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

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