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Rabun Bald Roadless Area *Spared by Negotiation*



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Director's Page

Buzz Williams

Our collective idea of a land ethic is in a period of transition. The impasse between "industry" and the "environmental community" over federal environmental legislation, which is currently being fought out in Congress has fueled an unprecedented public relations campaign for the hearts and minds of the American public. Here the issues of sustainability, ecosystem management, forest health, and endangered species protection - all which lie at the heart of this debate- are sufficiently complicated and have opened a Pandora's box of misinformation. So much so that a confused and angry public no longer knows who to trust. In an election year when the health of our environment is at stake, this is a critical problem. It is my opinion that living in harmony with our natural world requires the judgment and actions of a well-informed public. However, in November the average citizen may go to the polls and vote for the candidate who has retained the best advertising firm. Therefore, our task should be: to expose the truth.

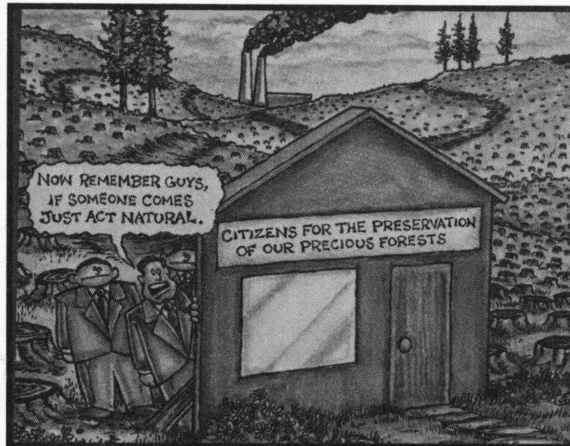


Illustration by Clay Butler

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Yet there is strong evidence that many of our leaders do not adhere to this policy. Recently, Chairman of the House Resources Committee Don Young (R-AK) called Secretary of the Interior Bruce Babbitt a liar. This scene occurred during a congressional hearing pertaining to Secretary Babbitt's numbers on the U.S. Fish and Wildlife Department's expenditures for Endangered Species protection. By the same token, environmentalists have accused the authors of the infamous "Timber Salvage Rider" of lying to Congress. For example, opponents of Representative Charles Taylor (R-NC), a principle author of the rider, have pointed out that he said the Forest Service would not harvest green trees under the mandate of the timber salvage rider. The facts are that since President Clinton signed the 1995 Rescissions Bill, some of the most pristine stands of old growth in the Ancient Forest of the Pacific Northwest have fallen. These living legacies were cut down under the auspices of the salvage rider. We know that many of these law-makers (both Democrats and Republicans) are influenced by large campaign contributions from big industries that are working to maximize their private corporate profits, which oftentimes are gained from public resources. In the case of Representative Taylor - who is also a registered Forester - he claims that the timber salvage rider reflects the best scientific information available. Unfortunately, many people believe this is the truth.

There is more evidence of maligned truth. An

organization named "PR Watch" tracks groups that attempt to fool the public into believing they are conservation organizations, but actually are funded by big businesses who exploit the environment. Former Senator Lloyd Benson calls these false greenies "astro-turf lobbyists". They are prolific in Washington, DC: the Environmental Conservation Organization advocates unrestricted private property rights, the National Wetlands Coalition is a front for oil companies and developers, the Endangered Species Reform Coalition is a group dedicated to the dismantling of the Endangered Species Act, and the list continues.

No wonder people are misinformed and perhaps confused. According to the League of Conservation Voters, the members of Speaker of the House Newt Gingrich's "environmental task force" collectively scored only 19% on pro-conservation votes. Twenty two of these sixty six members scored **zero!** Look around the nation's capitol on "Earth Day" and you may even see some of the same congressmen and senators who have fought to suspend all laws protecting old growth forests sprucing up their image by

planting trees.

Enter the grassroots conservation movement. Exposing the true facts for public consumption requires two basic tenets: identifying the truth, and delivering it to a receptive citizenry. The truth about what is right for the environment is currently an inexact science, and may never be fully revealed in our life times. Admitting this is the first important step. Thus, human intervention into the affairs of nature is best guided by an exemplary land ethic. Aldo Leopold's idea of instilling in citizens a love and respect for the land can only be achieved by cultivating a sense of community, where people recognize the necessity of living within the bounds and carrying capacities of natural processes. This ethic - which is the cornerstone of any sustainable human institution - best begins at the ground level. Many citizens already have a good land ethic, but don't pursue opportunities to exercise this ethic. Too many politicians and public land managers are influenced more by special interests and their PAC money than a land ethic. Often, they are the ones dispensing the so-called facts about conservation issues to the public. This year we will continue to prioritize work that identifies the facts about living in harmony with our environment, and will strive to deliver these facts to our local and regional communities, where people's daily lives and work will inevitably decide these issues.



Rabun Bald Roadless Area

Buzz Williams

On Sunday, August 27, 1995 the headline in the local section of the *Atlanta Constitution* read **"Bald Ambition: Month Long Anti-logging Vigil Kicked Off"**. The author's play on the word "bald" obviously referred to Rabun Bald, the second highest peak in Georgia, where the Chattooga River Watershed Coalition (CRWC) had just begun a vigil to "focus attention on their fight to save a 14,000 acre roadless area from logging". Depending on the reader's perspective, the pun could have reflected the idea of either "bold" or "blind" ambition. The prospect of saving the Rabun Bald Roadless Area was definitely bold, but certainly not blind.

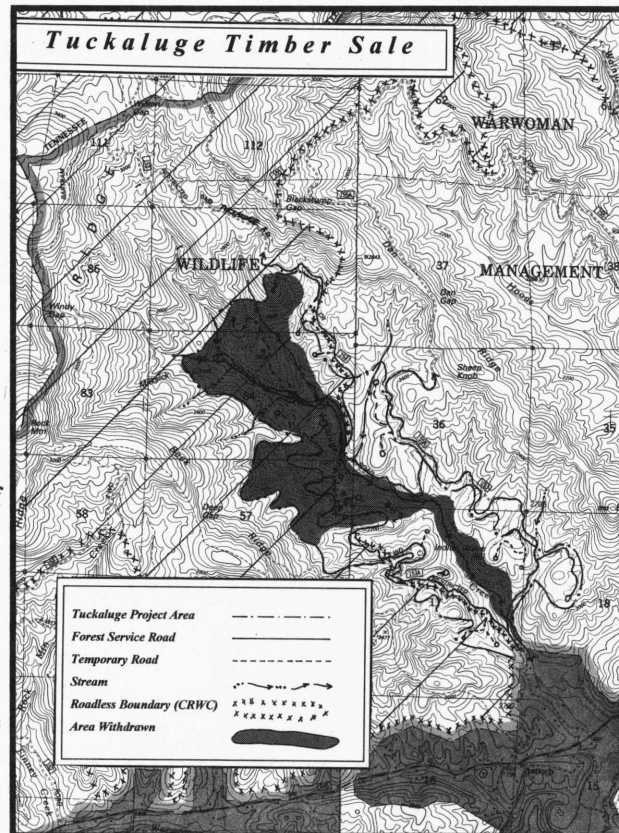
The protesters were well aware of the odds. At a public meeting earlier that summer, local Forest Service officials failed to recognize that the roadless area even existed. How could the Forest Service overlook a 14,000 acre roadless area, and even more curiously, why would they ignore the area, once it was brought to their attention? It began to appear that this oversight involved the planned "Tuckaluge Timber Sale", which was located partially within the boundaries of the roadless area. This timber sale called for harvesting 8.2 million board feet of timber, that would also require 9.1 miles of road construction: the proposed Tuckaluge project was the largest timber sale in the recent history of the Chattooga River watershed. The sale would not only help the Forest Service meet its timber harvesting quotas, it would disqualify the Rabun Bald Roadless Area from meeting the criteria for inclusion in the ongoing, "official" roadless area inventory, now and forever.

The Forest Service, under pressure from Congress and a very powerful timber lobby, pulled out all the stops to keep this sale on track, and to keep the area in the "timber base". These parties were obviously quite concerned that "roadless" status might result in a "Wilderness" or a "Scenic Area" designation, which would effectively take it out of the timber base, therefore making it harder to meet timber quotas. Add to the mix one District Ranger and one Forest Supervisor who are pretty cozy with the timber

industry and bingo! We had all the ingredients for a disagreement.

One of the goals of the CRWC is to work cooperatively with the Forest Service to develop a sound ecosystem management initiative for the watershed. Evidence of this is the Forest Service's 1.5 million dollar "Chattooga River Watershed Ecosystem Management Demonstration Project". The Forest Service has acknowledged that the funding for this project was authorized due to a proposal made by the CRWC. Ironically, during this three-year project, the Forest Service began calling this particular timber sale the "Tuckaluge Ecosystem Management Demonstration Project". The Forest Service's justification for the sale was based on the fact that the forest in the Tuckaluge basin was in transition, recovering from previous destructive management practices. The timber sale was designed to harvest white pine, an early successional species, which would allow the native hardwoods to become dominant, therefore restoring the native forest. However, Forest Service officials did not acknowledge that this much roadbuilding and timber harvesting would also destroy native brook trout populations in Tuckaluge Creek. Our worst fears were materializing: the Forest Service had used tax payer's money to fund research to justify "business as usual".

The value of the Rabun Bald Roadless Area was very clear. The first draft of the "Chattooga River Watershed Conservation Plan" (developed by the CRWC, Clemson University, the Conservation Fund and the Southern Appalachian Forest Coalition) just had been completed in the Fall of 1995. This landscape-level plan revealed that the roadless area is a key component in a proposed matrix of unfragmented native forest, and also is positioned as a core area which easily could be connected by corridors and buffers that would then serve to restore and protect a functioning native forest ecosystem. Two Forest Service studies even support the Coalition's proposal for protection of the Tuckaluge Creek drainage. One study showed that this area contains more old growth forest than any other location outside of the existing Ellicott Rock Wilderness



Rabun Bald Roadless Area *continued*

Area, while another study determined that ongoing soil erosion from new and existing roads constitutes the greatest threat to the "pristine" water quality and the health of aquatic ecosystems in the Chattooga River watershed.

Pressure had been building for some time on the Forest Service, to enter the Rabun Bald area to harvest timber. In 1992, the Rabun County Coalition to Save the Forest (RCCSF) won a lawsuit against the Forest Service, based on a violation of the National Environmental Policy Act. The Forest Service had failed to conduct Biological Evaluations, which are required by this legislation. The Forest Service was forced to correct their procedures, which delayed all timber sales in the Georgia portion of the watershed. After the agency's paper work was upgraded to comply with existing laws, all of the sales moved forward: the trees were harvested and more roads were built. Obviously these lawsuits based on procedural violations serve to delay the Forest Service for only a short period of time - until they comply with procedural requirements.

In 1994 the Forest Service proposed the "Tuckaluge Project", and again there was a valid legal claim for halting the timber sale in the Roadless Area based on the fact that the Forest Service had failed to conduct an Environmental Impact Statement (EIS). Although faced with long odds, the CRWC decided to make a stand to save the Roadless Area. Options to accomplish this were few. Legally, a suit would only buy time. Earlier attempts to convince the Forest Service to modify timber sales had been blocked by the timber industry. In this context, we needed a winable strategy. Our position from the beginning had been to allow a timber sale to go forward in that area which lay outside of the Roadless Area, with the ultimate objective being to protect the integrity of the Roadless Area at all costs. We would compromise - if we had to - in the portion of the sale outside the roadless area, but our hope was that we could hold the timber sale objective to that which was already outlined in the Environmental Assessment - "restoration forestry". On September 11, 1995, the CRWC presented a detailed proposal to the Forest Service.

The CRWC began an active campaign to gain public support, while working with the Southern Environmental Law Center to maintain a strong legal challenge to the proposed Tuckaluge timber sale. Previous experience had taught us that negotiating with the Forest Service, given their strong bent toward the timber interest, must be conducted from a position of power. As it turned out, it

was "people power" that turned the tide.

As the vigil progressed, some truly remarkable things happened. The public was beginning to get involved. More and more people walked to the top of Rabun Bald to protest the timber sale, and they came from all back grounds. One man came from Atlanta - who was over 80 years old - and made the trek in the rain. On another occasion, a local man pointed to a nearby mountain from atop Rabun Bald and said that that mountain was named for his family, who had lived there for generations. An Outward Bound crew that passed through the area donated all of their pocket change to help the cause (totaling \$1.69). Several local loggers even joined in support for protecting the Roadless Area.

"Though we were fully prepared to seek judicial relief, our objective was to work it out within the community."

The end of the vigil had been timed to coincide with a field trip to the Tuckaluge area by Forest Supervisor George Martin, who would make the decision on the proposed timber sale. The Coalition organized a public meeting for citizens to express concerns about the sale to Supervisor Martin. In spite of a huge turnout where there was an overwhelming call for modifying the sale, Supervisor Martin announced shortly afterwards that the sale would go forward as planned.

Martin's decision turned out to be too hasty. The public was incensed. An entire school of 4th graders wrote Martin's boss, Regional Forester Bob Joslin, to protest this decision. Public outcry was quite pronounced, and the media continued coverage of the controversy, resulting in multiple editorials in the *Atlanta Constitution*. Soon, political leaders became involved. Lt. Governor Pierre Howard and Senator Sam Nunn's staff inquired about the conflict; Representative Nathan Deal and staff met with several Coalition representatives, and there was strong evidence that Vice President Al Gore had asked about the Tuckaluge Project. Such strong interest in this proposed sale confirmed that entry into roadless areas was a national issue. One article in the *Atlanta Constitution* began "Tuckaluge Typical of Nation?"

Pressure for resolution was mounting. Though we were fully prepared to seek judicial relief, our objective was to work it out within the community. In November 1995 Regional Forester Bob Joslin provided an opportunity to negotiate. To his credit, Mr. Joslin went against normal procedures and offered to help convene a meeting of

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Update: Monitoring the Forest Service

Cindy Berrier

The following information presents a summary of current U.S. Forest Service projects affecting the Chattooga River watershed. If you are interested in volunteering your time for monitoring these projects, we would love to hear from you!

Andrew Pickens District, SC - Sumter National Forest

Compartments 48, 49, 50 Long Creek Area

Loblolly Pine Thinning- 500 Acres

The Forest Service plans to enter compartment 48 via the infamous Forest Service road 757-C. In 1990, this controversial road was constructed illegally, and was never completed due to two separate rulings rendered in Federal Court in 1990 and 1991. Activating road 757-C would ignore the previous settlements regarding this road, and illustrates the syndrome of the ongoing "tyranny of small decisions". According to the Forest Service this project has been delayed until later this year.

Compartments 42, 43 Crooked Creek Area

On May 1st the Andrew Pickens District released an Environmental Assessment where the "preferred alternative" would allow private interests to conduct industrial-scale gold prospecting activities in the Chauga River watershed, which supplies drinking water for the city of Westminster, SC. To date, there has been overwhelming local opposition to this project due to its potential for damaging the unique flora of this area and for poisoning Westminster's water supply. The Chauga River corridor is also a key ecosystem in the Chattooga River Watershed Conservation Plan, which seeks to link adjacent blocks of native forest with migratory corridors. *Now is the time to turn up the volume on your opposition to this project.*

Southern Pine Beetle Salvage

Current salvage operations are occurring in the area of the Rifle Range Road and Turkey Ridge Road. These salvage operations employ the "cut & remove" and "cut & leave" methods, and include cutting down a 100 ft. "buffer" of healthy trees in an attempt to inhibit the spread of this pest. The method of salvage chosen will be determined by the economic value of the timber: "if it's worth something it will be removed; if it's not, it will be left to rot". It's interesting to note that economics over rides science in determining the course of these salvage actions. Also, (as you may recall) these "salvage operations" are exempt from all environmental laws and citizen appeals, due to the "Emergency Salvage Rider" that was attached to the 1995 Rescissions Bill.

Highlands District, NC - Nantahala National Forest

Salvage Sale -Timber Damaged from Hurricane Opal Eight different areas within the district

The Highlands District deserves commendations for employing "alternative" logging methods in some of these salvage operations. David Matherson, a horse logger from Brasstown, NC, is currently working to salvage some of the damaged trees. The District has indicated it will possibly seek additional horse loggers for these sales.

Big Fodderstack & Little Fodderstack Mountains

The Fodderstack Mountains near Highlands, NC, lie in the Chattooga River watershed, and are for sale. The CRWC is currently negotiating with the landowner to acquire these mountains for the US Forest Service by means of an intermediate land trust.

Tallulah District, GA - Chattahoochee-Oconee National Forest

Compartment 5 Big Creek

Management Area Designation and another proposed Timber Sale

It didn't take the Tallulah District long to put the "withdrawn acreage" (438.57 acres) from the recent compartment 5 timber sale back on the chopping block. The District has issued a proposal to allocate 77% of the newly acquired land to Management Area (MA) category 16, which mandates "intensive" timber harvesting, and to allocate the remaining 33% to a Botanical / Zoological Natural Area. The District has assumed this MA proposal will be approved, so they've outlined an immediate timber sale in the proposed MA 16 area. CRWC submitted comments reminding the District that MA designations and timber sales are two separate decisions, and that proposing these two actions at the same time violates the National Environmental Policy Act. *Please write the Tallulah District and ask that the entire area be placed in the more protected category of a Botanical / Zoological Area.*

Tuckaluge Timber Sale in the Rabun Bald Roadless Area Please refer to page 3 for the latest news.

Compartment 59; Compartments 48, 50; Compartment 49; Compartment 60; Compartment 5

Timber Sales and Road Building

All of these "intensive timber management" projects are ongoing within the Chattooga River watershed, after being delayed due to procedural violations. Progress on these sales has been hampered by *Southern Pine Beetle salvage operations which are district-wide*. When companies are "pulled off" a timber sale for salvage work, they receive an automatic extension on their other timber sales contracts.



Mountain Bogs in Spring time

Reprinted with permission from the U.S. Fish and Wildlife Service with a brief summary of local bogs by Marie Mellinger, noted botanist and conservation activist.

What are Bogs?

Bogs are what most people would call "swampy" spots. They are saturated with water for most of the year, and many have thick layers of sphagnum moss underlain by deep layers of peat and black mud. The word "bog" is of Gaelic origin and refers to something soft and spongy, as the ground in our bogs usually is. In our mountain area, most of these wetlands are acidic.



Bog woodcock

Individual bogs have different types of vegetation, but some of the interesting plants that can be found in them include peat moss (sphagnum), cinnamon fern, royal fern, bog laurel (a smaller and rarer relative of mountain laurel that has dark pink flowers), wild azaleas, golden club, cranberries, orchids, carnivorous plants, bulrushes, and sedges. Shrubs such as rhododendron, alder, red maple, and meadowsweet (spiraea) are often found around the edges and sometime within the bogs.

How are Bogs Created?

The origins of bogs are not well known. Some are extremely old, dating back 11,000 years or more to the last ice age.

Bogs are usually found on fairly flat terrain, where for various reasons, water enters the system faster than it leaves. The reasons for this can be related to topography, geology (a layer of clay or other water-tight material underneath the bog), or climate.

Some speculate that beavers may have played a role in creating bogs. Natural disturbances, such as fire, grazing by native herd animals, or clearing by Native Americans, also may have contributed to their maintenance. Recent modifications such as heavy grazing by cattle and other livestock, ground water pumping, surface water diversion, and increased nutrient input are now changing and degrading many bogs.

Why are Bogs Important?

In spite of the fact that many people have been wrongly taught that wetlands are "wastelands," bogs and other wetlands serve many valuable functions for people and wildlife. Bogs, like other wetlands, act as natural water purification systems, filtering out silt and absorbing many pollutants. These wetlands also function as natural flood control mechanisms; floodwaters are slowed and held, then slowly released into the streams below without causing erosion or other damage.

Bogs and other wetlands provide food and shelter for many important game species, including such fur bearers as mink, muskrat, raccoon, and beaver, and such gamebirds as rails, woodcock and waterfowl. In winter, bogs are a source of fresh green food for turkey and grouse when plants in drier areas have withered. Wetlands, rich in nutrients, form the first step in many food chains. Even small bogs, most of which are located on the headwaters of trout streams, contribute to productivity and high water quality needed by the fish downstream.

These mountain wetlands are also important to many songbirds, providing breeding and wintering habitat and serving as migratory stop over points.

Are Bogs Legally Protected?

Because bogs are wetlands, they are protected and regulated under the federal Clean Water Act. Activities resulting in the alteration of bogs and other wetlands require a permit from the US Army Corps of Engineers.



green pitcher plant

Mountain Bogs *continued*

Rare and Unique Species Live in Bogs

At least one third of the nation's threatened or endangered species live in wetlands. Southern Appalachian bogs, in particular, support a wealth of rare and unique life forms, many of which are found in no other habitat type. Some of these include gorgeous orchids, plants that eat insects, beautiful and unusual lilies such as the swamp pink and Gray's lily (which serves as a nectar source for hummingbirds), and several species of wild azalea. Other rare and unusual inhabitants of bogs include species such as the bog turtle and two small mammals known as the bog lemming and the water shrew. In North Carolina alone, bogs are habitat for over 90 species of plants and animals that are considered rare, threatened or endangered by the North Carolina Plant Conservation Program, the North Carolina Natural Heritage program, the North Carolina Wildlife Resources Commission or the U.S. Fish and Wildlife Service.

What You Can Do to Help Protect Bogs

An estimated 5,000 acres of bogs were once found in North Carolina. Today, only about 500 acres remain - most in poor or threatened condition. Many land owners have no idea of the treasures they possess. Some drain, fill, flood, or otherwise destroy these delicate habitats without ever knowing what wonderful things lived there.

To protect bogs, it is very important not to alter the hydrology (water flow patterns) of the area. Culverts, ditches and other drainage devices destroy bogs and their unique species. It is also important to leave at least a buffer of vegetation around bogs, to maintain natural water flow patterns and decrease siltation from adjacent slopes.

If you have a wet area on your property that you think might be a bog, contact a biologist for verification and management assistance. Not all wet areas are bogs, of course, but small and seemingly insignificant wetlands often contain some of the world's rarest creatures. Spread the word to your neighbors. **Teach your children that wetlands are not wastelands.**

Local Mountain Bogs

Marie Mellinger

Among the most unusual areas of the Appalachians are the mountain bogs. We have three within the Tallulah District of the Chattahoochee National Forest - two high mountain bogs - Keener Creek and Tom's Swamp. The James Bog is at lower altitude, and is located on private land. All are characterized by beds of sphagnum moss.

Tom's Swamp is the highest, at 3,200 feet on the border between Rabun and Habersham Counties. It is almost inaccessible, reached by a hazardous trail road. This bog contains the bog laurel (*Kalmia polifolia*), and

the northern pitcher plant (*Sarracenia purpurea*). Old timers say the bog once contained the cotton grass (*Eriophorum*) which actually is a sedge.

The inaccessible Keener Creek bog is actually the beginning of the Little Tennessee River. It has the rare, painted trillium, and the bog turtle (*Clemmys*).

The James bog once contained the bog laurel, the northern pitcher plant, the swamp pink (*Helonias*), and the whorled pogonia orchid. However, it has been vandalized by those who collect rare plants, including a botany professor who tried to collect a lot of pitcher plants to make chromosome counts.

Many former bogs have dried up, or have changed plant succession over times of draught. There was once a very small bog on Boggs Mountain, where the woodcock nested. There are stories of a bog on Charlie Mountain, but its location has not been substantiated. Hopefully it is lost, and will remain lost. All bog environments are so fragile they must be protected from all intrusion.



grass-pink (a wild orchid)

For further information, contact:

*U.S. Fish and Wildlife Service, Southeast Region
1875 Century Boulevard, Atlanta, GA 30345*

*U.S. Army Corps of Engineers
37 Battery Park Ave., Asheville, NC 28801*



Interview with Mr. Bill Guthrie, Forester for T&S Hardwoods

The following interview was conducted by Don Sanders of the Chattooga River Watershed Coalition. Here, Don and Bill discuss T&S Hardwoods' operations on our national forests.

Don: Thank you for joining me here today, Bill. Can you tell me your back ground, and where you are coming from today?

Bill: I work with a company called T& S Hardwoods, and the company is based in Milledgeville, Georgia. We operate saw mills in Milledgeville, Georgia, and Sylva, North Carolina, and also have an affiliated mill in McRae, Georgia that T&S's foresters are responsible for providing resources for. I manage a log concentration yard in Alto, Georgia, and it provides logs primarily to our Sylva, North Carolina facility, but also supplies logs to our Milledgeville plant. The logs to Milledgeville are primarily just the southern species, but we generate all species on an "as needed" basis. I'm a graduate of the School of Forest Resources at the University of Georgia; also, I have an AS degree in Forest Engineering from Lake City Community College in Lake City, Florida. I have been associated with T & S Hardwoods for approximately 12 years - I started with them in 1984. I've been in the North Georgia area for approximately four years.

Don: I want you to freely express yourself on how you see the timber market, the Forest Service and various things. Now - as we have discussed - because of the competitive situation, you can't discuss pricing details, but in a general sense we would like to know the kind of timber that you are interested in, who your competitors are, and how much you rely on the national forest for your hardwood timber.

Bill: What we process in our Sylva, North Carolina mill primarily comes out of western North Carolina and north east Georgia. At one time in western NC we were very dependent on timber sales coming off of the national forests to supply that mill. The sales program on the Nantahala-Pisgah and some of the other national forests up there have been reduced over the last 5 to 8 years, so it's forced us to really concentrate more on private lands. We have to a large extent gotten away from buying public timber in western NC, due to operational constraints. It is very expensive to operate on public lands - alot of the sales they put up will have good units that are profitable, yet there are also alot of what I would call "garbage units" that are prohibitively expensive to operate on. In northeast Georgia I buy very little standing timber, but I do buy logs on the open market. Due to the diversity of the resource in north east Georgia, some percentage - but not a very high percentage - comes off of the public

lands. However, we do get a fair amount of logs coming off Forest Service sales in and around the Blue Ridge / Blairsville area through some associated dealerships. In terms of the competitive nature of the markets up here, there are quite a few small hardwood saw mills in this area, most notably Powell Industries in Waynesville NC, Murphy Lumber in Murphy, NC, Canton Hardwoods in Canton, NC, West Union Hardwoods in West Union, SC, Boone Creek Hardwoods and Cecil Durham Hardwoods in Pickens, SC, and from time to time some other manufacturers come from further away to tap into the resource up here.

Don: I believe you told me - in the hardwood area, that Forest Service timber cost is about as much or more than private land owners.

Bill: The landed cost of the hardwood logs we generate off national forest land is generally higher than the logs we generate off of private lands, and so to me this whole concept that we are being subsidized by government is a fallacy. I know in the circles we operate, it costs us more to operate and the logs end up costing us more landed at our mills coming off public lands than they do coming from private lands.

Don: Do you sell any hardwood over seas?

Bill: What T&S Hardwoods does is produce kiln dried, high grade hardwood lumber. About 25 to 30 % of our lumber does go to overseas markets.

Don: Has it been processed?

Bill: Yes.

Don: You don't sell raw logs?

Bill: We are not in the business of marketing logs, our chairman's philosophy is that we are saw millers, and we don't stand to gain much by high-grading our log piles. By high-grading, I mean selling the good logs to someone else and keeping the lower grade logs for ourselves.

Don: What percentage of your operation comes off of national forest land?

Bill: Right now, very little. We have backed off the national forest land, and tried to get a jump on our competitors - who are still dependent on national forest lands - and move to the private lands. We still have a very keen interest in what's going on with regard to the public lands, due simply to the fact they own such a high percentage of the land in the areas in which we operate out of for that North Carolina mill. We realize that in the

Interview *continued*

future we will probably again have to depend on that resource, if it's available. We still try to maintain a keen interest in what's going on in those lands, and try to ensure and seek that those lands are managed responsibly.

Don: In the years past, was it an appreciable percentage of your operation?

Bill: Yes, I would venture to say it was upwards of 45% to 50%.

Don: What about pulp wood, do you handle pulp wood?

Bill: On some of the tracts of standing timber that we do buy, we sell the pulpwood. In terms of our own uses, we don't handle or process any sort of pulp wood.

Don: What do you see in the hardwood / pulp wood market? Is it being chipped, and/or sent overseas?

Bill: A little of both. There are export pulp markets and chip markets, as well as domestic pulp and chip markets. The hardwood is primarily used in the finer papers, and papers where print quality is important - due to the shorter fiber length, it fills the gaps better. Containers such as the cups you get at fast food restaurants, or other containers for other products contain a high percentage hardwood fibers. So right now, the bulk of the market is still domestic.

Don: One of my concerns is that our young hardwood forests are being harvested for pulp, and it just bothers me because at least some of that timber would be potentially more valuable to the nation in the future as hardwood lumber.

Bill: In our management and procurement activities, we make ourselves available to land owners to assist them in management of their hardwoods on private lands. There are not many resources out there for the land owner, and to a large extent there is a lot of bad information. There are a lot of people out there trying to convince the land owners that with hardwood pulp wood values what they are, they're better off cutting it today than leaving it for the future. However, we have the numbers, and we try to show land owners that the present value of a lot of their hardwood stands is maximized by carrying it through a longer rotation. But again, there are not a lot of resources

out there, and only eight of us in terms of foresters for T&S Hardwoods, so we do what we can.

Don: I've heard some people complain, particularly in areas where the Forest Service has a high percentage of land in the county, that timber sales off of public lands might drive down the price that the private land owners could get for their timber. What is your reading on that?

Bill: Well, I've stated that it is so expensive to operate on Forest Service lands, so I don't know if that is a real concern. The bottom line is the market place is so competitive now, that we are basically operating in terms of "landed" costs at the mills being at or near the maximum allowable level. So while the Forest Service still has a lot of timber, the "stumpage" value that the Forest Service is receiving is a lot of times lower than on private lands. There again, there is such a competitive market place now that the demand is out there, so I don't see that as being a real problem.

Don: I've heard you talk about your cable logging system that the Forest Service, in a way I guess, encouraged you to purchase to operate on some of their sales. I've heard that you have experienced some difficulty -- would you talk about that?

Bill: We purchased a sky line system to operate exclusively on public lands in western North Carolina. Sky line yarding is much less disruptive to soils than ground-logging operations. The machine we purchased was a Thunderbird TMY70, which runs in the neighborhood of a half million dollars. In the period of time that it took for us to depreciate that machine off the books, the sale program for the Forest Service changed so much that we could no longer make a living with that piece of machinery. It's an expensive means of logging, and pulp wood is generally a low enough value product that you cannot handle it with that machine in a cost effective fashion. We agreed from a management standpoint that the forest canopy needed to be open so sunlight could get to the forest floor, and the pulpwood needed to come down, but we disagreed that it needed to fly up the mountain on a cable. We even offered to pay the Forest Service the same stumpage value for the pulpwood to just cut it and leave it there, but they said they did not want the public to perceive us as wasting anything. So, they had us

" I think that overall, the Forest Service is to a large extent - especially at the administrative level - trying to seek the path of least resistance, rather than promoting projects based on their technical merits."

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Biorealism: *Reading Nature's Blueprints*

Robert Frenay

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"We need a new design." William McDonough's voice carries above the crowded pews of New York City's Cathedral of St. John the Divine. McDonough, an architect, is speaking at the cathedral's centennial. But by *design* he means something more fundamental than architecture. McDonough believes there are logical principles in how the earth creates and maintains life, principles that could give new shape and meaning to human endeavor. Nature is a proven concept, he says, a system that works. McDonough is part of a loosely affiliated group of biologists, chemists, physicists, economists, engineers, designers, city planners, corporate executives, and government officials who in recent years - with no common plan - have found themselves becoming a movement.

That movement stands at the juncture of technology and biology, two fields whose interaction has traditionally meant the conquest of nature. But McDonough and his associates reject the view that there's an intrinsic conflict between a healthy environment and a healthy business climate. Instead, they're calling for a new way of thinking...using nature as a model for reshaping science and industry.

In doing so they are going beyond the old romantic notion of living in tune with nature. With the current explosion in knowledge of how nature actually works, today's biorealists have access to deeper and more precise insights as they design new industrial materials and processes. They have also developed a new vocabulary - with terms like *industrial ecology*, *technical cycles*, *living machine*, *dematerialization*, *throughput*, *externalization*, *waste equals food* - which helps simplify and clarify the sometimes complex ideas involved. Biorealism is a nascent idea, but its potency as a unifying concept, the quality of the minds it attracts, and its potential for reshaping culture suggest that it could become a guiding

theme for the next century.

Mysteries of the Organism

"The information of nature is not just beauty," says Tom Eisner, a Cornell University entomologist. "And harvesting the information of nature doesn't have to be as invasive as harvesting the minerals of nature." People tried making gold for centuries, he points out; in fact, chemistry was born through the failure of alchemy. But the new alchemy, as he calls it - which is resynthesizing the chemicals of nature - is generating piles of gold undreamt of by medieval tinkers.

What is the property, Eisner asks, of a fly's wing that allows it to beat hundreds of times per second without breaking? Resilin, the stuff fly and dragonfly wings are made of, is the most perfect rubber ever found. Or consider spiderwebs: The dragline silk of the Golden-silk spider has a tensile strength greater than that of steel, and it can stretch to and rebound from 20 percent beyond its original length. Lynn Jelinski, a biophysicist at Cornell, is

exploring how spiders make that silk. She sees a time when genetically altered plants will produce the feedstock for spider-like silk to be used in the fabric of sails and even in the construction of bridges.

At Oak Ridge National Laboratory, in Tennessee, biophysicist Elias Greenbaum and his colleagues have devised practical ways to mimic plant photosynthesis and channel the energy to electrical terminals. Their work opens the door to the development of "biomolecular electronic devices," such as optical sensors, organic solar cells, and computer "biochips." Developments like these suggest powerful reasons for fully understanding organisms and the diverse habitats that support them. They give scientists like Tom Eisner new ground to stand on when they talk about the need to preserve the "natural library" of information.

Natural Cycles

"Earth knows no desolation," said the poet George Merideth. "She smells regeneration / In the moist breath of decay." Merideth's graceful line points to one of the defining qualities of living systems: their perpetual



Biorealism *continued*

conversion of energy and material into different forms, with the decay of one organism serving always as a bed from which new life springs. From the global to the microscopic, nature is permeated by cycles within cycles. And as our knowledge of those cycles has grown, it has cast growing doubts on the linear thinking that virtually defines the world economy. Even such recent concepts as cleaner production through cradle-to-grave product analysis come up short. As McDonough often remarks, "It's not cradle to grave, it's cradle to cradle."

German chemist Michael Braungart heads a research center in Germany, the Hamburg Environmental Institute, which has designed a small farming system based on several natural cycles that intersect through a connected series of deep ponds. The ponds process local sewage and farm waste by growing aquatic plants and algae. As the plants grow, they draw off excess nutrients from the water, leaving it clean enough to provide habitat for fish. The plants are harvested to provide food for livestock or are used with waste from the livestock as fertilizer for nearby fields. Pigs feed on vegetables and snails that grow at the site; ducks and geese consume the algae and provide nutrients for the fish. Water purified by the process flows back into the local watershed.*

A leader in this field is biologist John Todd, a lifelong proponent of cleaning water through the use of treatment facilities he calls "living machines." "These are different from ordinary machines", says Todd, in that "most of the parts inside them are alive." In one [John Todd] treatment plant, in the entrance atrium of a Toronto high school, wastewater moves through a descending spiral of large, translucent cylinders as it passes along a carefully designed food chain that begins with bright green layers of algae and duckweed, then features higher plants such as bulrushes and, eventually, clear water populated with minnows.

Magical transformations of that kind are routine in nature, and they are now being tried by human designers who have begun to understand, as McDonough puts it, that "waste equals food." But however remarkable, those efforts work within long-standing natural cycles, which biorealists see as only half the issue. As Socolow puts it, "We and the plants both speak organic carbon, but only we speak PCBs." Just as there are organic cycles and organic nutrients, says McDonough, we need to start thinking in terms of technical cycles and technical nutrients.

* Treatment of secondary waste water by constructed wetlands was proposed in the Spring '95 *Chattooga Quarterly* as a potential aid to Clayton, GA's troubled waste water treatment facility.

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Industrial Ecology

In 1990 three school kids [in Kalundborg, Denmark] got an assignment to prepare an environmental report on the area's industries. They produced a model showing how wastes were being exchanged among several companies - a power plant, an oil refinery, a pharmaceutical plant, and a wallboard manufacturer. In each case, the recipient used the waste as a raw material, uniting the companies through a web of material flows. The students likened the system to the food webs in the natural world. That was news to Kalundborg's business leaders. Their integration of water, energy, and solid waste - their "industrial ecology" - had evolved piecemeal over three decades through informal talks among managers and CEOs who meant only to save a few kroner here and there.

Water drawn from a nearby lake enters the system at one point through a Statoil refinery, which uses it for cooling, then pipes it down the road to the power plant, where it's used as coolant again. The local power plant, Asnaesvaerket, burns coal to make electricity, but - as is typical of coal-fired plants - it converts into electricity only about a third of the energy released. The rest is thrown off as waste heat, which is then absorbed by the coolant water. The steam produced in that

process is pumped through pipelines back to the Statoil refinery as well as to Novo Nordisk, the pharmaceutical company; both use it to drive their internal processes. Another pipeline supplies steam heat to most of the town, eliminating the need for some 3,500 oil-fired furnaces. The power plant also draws salt water from the fjord and, after heating it, feeds it into the 57 ponds of a nearby fish farm. Fish grow more rapidly in the warmed water, enabling the farm to produce 250 tons of sea trout and turbot each year.

Back at Statoil, sulfur is removed from the refinery's waste gas, which was formerly burned off from a tall stack. The purified gas is now used internally; it's also piped as fuel to Gyproc, a nearby wallboard maker, and to the power plant - where it saves some 30,000 tons of coal a year. The sulfur Statoil removes from the gas gets trucked to another company, Kemira, which produces sulfuric acid.

Asnaes, the power plant, cleans sulfur from its emissions with a stack scrubber that converts 90 percent of the sulfur into calcium sulfate, or industrial gypsum. Gyproc buys as much as 85,000 tons of the gypsum each year to make wallboard.

Biorealism *continued*

A meandering green pipeline from Asnaes delivers live steam to Novo Nordisk, where the steam is used to make insulin and enzymes. The fermentation vats at Novo also yield 700,000 tons each year of a thin, nitrogen-rich slurry that was once dumped in the fjord but is now piped free to local farmers, who use it as fertilizer. They in turn grow biomass for the fermentation vats. Yeast cakes from the vats are used to feed rural Kalundborg's hogs.

Compared with natural systems, industrial ecologies like this still have some distance to go; as Hawken points out [*The Ecology of Commerce*, by Paul Hawken], we have yet to design anything even remotely as complex as the interactions in a single cubic foot of rich soil. Still, "the Kalundborg success speaks to the wealth of exchanges that are possible between industries, without design or pre-planning," he says.

Technical Cycles

"Industrial ecosystems are an exciting development," says Don Huisingh, a Dutch environmental engineer and consultant, "but they are no excuse for carelessness about energy and resource use." These are urgent problems. The growth of consumption has begun to slow in the West, but the sheer quantity of products - and the amount of solid waste produced - remain almost beyond comprehension. [What's more,] the General Agreement on Tariffs and Trade and the World Trade Organization - through a series of international treaties aimed at eliminating trade barriers - now seek to extend that unsustainable system throughout the developing world. "In order to give everyone our standard of living, we'd have to increase our throughput by a factor of twenty," says Hawken. "That's impossible."

Concern about the overall amount of material, labor, and energy used by today's industries, and the waste they produce - their "throughput" - has helped spur a global search for cleaner production methods. Cleaner production is a hot topic in the United States, where 3M Corporation is one of the more prominent success stories. During the past 20 years 3M has launched some 4,200 cleaner-production projects company-wide; as a result it has cut pollutants released into the air, soil, and water by 1.3 billion pounds and realized savings of \$750 million.

Socolow acknowledges that cleaning up production lines is an important accomplishment but adds that it's only a first step. "They get awards for being clean," he says, "but the products they make are still not clean." That is, the products themselves are a prime source of the solid waste piling up in landfills and of the toxins disrupting the

natural systems that support all life.

Life Cycle Analysis [LCA] is an effort to monitor the streams of energy, materials, and information that feed into and emerge from a manufacturing process. One outcome of life cycle analysis has been a rising interest among manufacturers in design for disassembly and recycling. Audi, the German automaker, has displayed a prototype for a fully recyclable sports car. It is also joining with Volkswagen and Preussag, the steel company, to set up 80 auto-disassembly plants. Mitsubishi makes washing machines that can be fully disassembled with only a screwdriver. Xerox now recycles nearly 1 million used parts each year, for savings of \$200 million. AT&T Bell

Labs is using LCA to develop a "green telephone." IBM used LCA in the design of its Personal System / 2 computer, which, among other innovations, uses a single, recyclable polymer for all its plastic parts.

Still, McDonough has concerns about much of the recycling now practiced by industry. If the recycled materials are good only for making park benches or packing materials, he says, they're still going to end up in a landfill sooner or later - the problem is only being put off. "That's not recycling," he says, but "downcycling."

He would prefer to see 800 numbers on all products. When a television is beyond repair or a synthetic rug wears out, customers would call the manufacturer and the items would be reclaimed, then used to make something else. Eventually, McDonough believes, increasing numbers of products will be leased rather than purchased outright. Just as nature combines elements such as nitrogen, oxygen, and carbon to make a cherry blossom or a dragonfly, then reabsorbs them when their lives are done, materials in a fully evolved technical cycle would take specific form only to provide services - a car for transportation, a washing machine for cleaning clothes, a phone for communications - before being absorbed back into the web of material flows.

Changes of the magnitude and complexity sought by biorealists - which are not only technological and economic but cultural as well - will take time. Large companies project their capital investment over decades. And simple human habit is a powerful force: Many people take pride in doing things as they've always done them, and they will continue that way until change is unavoidable. Hawken quotes a Somali saying: "You can't wake a man who is pretending to be asleep."

"Industrial ecosystems are an exciting development," says Don Huisingh, a Dutch environmental engineer and consultant, "but they are no excuse for carelessness about energy and resource use."

Biorealism *continued*

"Expectations over the past fifty years have been shaped by an unsustainable structure," says Braden Allenby, a research Vice-President in AT&T's technology and environment division. But the industrial world has now reached a stage similar to the mature phase in an ecosystem, and with that the rules of the game are changing. Resources are no longer plentiful, so the waste-equals-food equation emerges. Quality becomes a more effective survival strategy than sheer numbers.

McDonough tells a story from anthropologist Gregory Bateson about New College in Oxford, England. The main hall there was built in the early 1600's with oak beams 40 feet long and two feet thick. Recently they began to suffer from dry rot, and administrators couldn't find English oaks large enough to replace them. A young faculty member said, "why don't we ask the college forester if some of the lands given to Oxford might have enough trees to call upon?" They brought in the forester, who said, "We've been wondering when you would ask this question. When the present building was constructed three hundred and fifty years ago, the architects specified that a grove of trees be planted and maintained to replace the beams in the ceiling when they suffered from dry rot." Bateson's comment was "that's the way to run a culture."

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The question facing our culture is, what kind of foundation are we laying for the world of three centuries from today? To anyone concerned about the future of plants, animals, and habitats, the use of nature as a model means new hope. For it suggests a philosophical basis for human endeavor that runs deeper than arguments over exploitation or regulation. It offers a new design, a set of principles from which we may yet raise a greater structure, one that will fit human enterprise to the highly evolved lessons of the natural world.



Rabun Bald *continued from page 4*

interested parties to discuss a solution to the ongoing controversy. After several meetings with the timber industry and other appellants, both in the field and in conference, a compromised was reached. About half of the sale would go forward as planned, but the Roadless Area would be protected and remain eligible for confirmation as a Roadless Area during the upcoming Forest Plan revision process. The CRWC made it clear that the type of harvest methods proposed part of the sale which would be allowed to go forward were still too heavy-handed. Furthermore, some temporary roads and timber thinnings would be allowed from existing roads on the fringe of the Roadless Area; however, these activities would not disqualify the area from being considered eligible for roadless designation. The Coalition made it clear that plans to monitor what effects the sale will have on the ecosystem would be forthcoming. This notwithstanding, the agreement was made. The agreement was viewed by most of the conservation community as a victory. Yet some people felt that we had gone too far in the settlement agreement.

In a perfect world, the best decision for the Tuckaluge would probably have been one with much less even-age timber harvesting and road-building. However, those participating in the conflict resolution process agreed that we took the best tack possible against strong incentives to exploit our national forests for the benefit of private industry. What did we learn? A lot. First, that negotiations are best conducted from a position of power. In the case of the Tuckaluge, that power came from learning the facts about the project from frequent visits at the ground level, using good science, and being willing to treat those who disagree with respect. But by far the most important lesson was that our real strength lies with people at the grassroots level in our own community. We were able to save a very important place through diligently adhering to these principles. However, the incentives for mismanaging our public land are still there. As long as we have weak laws, an industry-controlled Congress and a Forest Service bureaucracy which is budget-driven, we are destined to fight the same battles over and over again. Under this system, intensive timber harvesting will continue at an incrementally excessive rate until there is nothing left. Now, we should concentrate our efforts in getting these facts to the people. With strong public support we were able to save a very special forest from destruction, but only until they come back for the other half. Our hope is that the fight to save Rabun Bald has sufficiently raised public awareness to a higher level. The goal now should be to insist on permanent protection for the Rabun Bald Roadless Area, and to elect public officials with the integrity to change the system.



Spring Warblers: *Jewels of the Treetops*

Scott Weidensaul

Excerpted with permission from the March/April 1996 issue of the Country Journal.

Warblers, every bird watcher will agree, are the feathered jewels of the forest. Hummingbirds may be flashier, chickadees saucier, tanagers and orioles gaudier - but spring warblers are the gems, winking through the woodland canopy like precious stones trickling through a monarch's fingers.

There is the emerald flash of a black-throated green, the cool sapphire of a cerulean, the fiery opal of a Blackburnian's throat. And gold, gold everywhere - crowning a chestnut-sided warbler, splashed across the undersides of a magnolia warbler, cowled in black like a monk on the hooded warbler. Living gold cloaks nearly every feather of the dazzling prothonotary warbler, a creature that looks like something made from the sun's blood itself.

They are jewels indeed, and after a monochromatic winter of gray and white, their arrival with spring is an annual miracle.

With 50 species breeding north of Mexico, not every warbler is colored like a child's paint set, of course. There is the ovenbird, whose olive-brown color blends seamlessly with the forest floor where it patiently hunts. Nor are the females generally as extravagantly attired as their mates; their colors run more to camouflaging shades of green or dull yellow, perfect against the leaves of summer.

With only one or two exceptions, warblers are small, active birds, averaging about five inches long - frenetic bundles of energy, constantly zipping through the treetops or understory vegetation, foraging endlessly for insects. If the vivid colors of the males seem more akin to a rain forest than a New England mountain or Montana cottonwood grove, it's because this large successful group apparently evolved in Central America, spreading north after each ice age to colonize the newly thawed land.

Almost all warblers still return to the tropics each fall, but during the summer they are especially abundant in the cool forests of the northern United States and Canada, the Rockies, and the Appalachians. One common species,

the yellow warbler, occurs as far north as Labrador and Hudson Bay in Canada, and the shores of the Beaufort Sea in Alaska's north. Those yellow warblers traveling from their traditional winter range in Central and South America face a journey of at least 3,000 miles to reach these northern outposts. For a creature that weighs about 10 grams - less than the weight of two quarters - it is a breathtaking achievement.

Why would a tropical tribe travel so far each year? The answer, as anyone knows who has swatted blackflies through a long northern woods twilight, is food and sun. The high latitudes offer very long summer days for food gathering, and an incredible abundance of insects - both essential elements in raising a nest of voracious chicks.

Although the northern woods hold the mother lode of warblers, the family has a toehold in almost every corner of North America. The common yellow throat, with its black robber's mask and rollicking *wichity-wichity-which* song, is found in almost every weedy field, fencerow, and marsh from the southern Yukon to Florida. The ovenbird, famous for its loud *tee-churtee-CHUR TEE-CHUR!* song, is common in most mature hardwood forests east of the Rockies. At the other end of the scale is Kirkland's warbler, a federally protected endangered species. Numbering about 600 pairs, it nests only in a small area of central Michigan.

Because few birders live in the Northern forests where many of the most spectacular warblers breed, enjoying them is a seasonal rite, when they are passing through on migration. Here in mid-Atlantic states, where I live, the somberly

colored pine warblers are the first, arriving from the Gulf states in early April. The pace quickens toward the end of the month, however, as migrants flood north across the land.

There are few marvels like a dawn in early May, with a velvet south wind blowing and a fuzz of green on the hills. I rise before full light, drawn out of bed by the precocious songs already filtering through the mild air.

The sunrise brings with it a gift - treetops full of songbirds, making the air flicker with their movement and their music. This transformation never ceases to astonish me. Last evening these woods were empty, bereft of bird song. The night brought not only the warming breeze, but



Spring Warblers *continued*

a rolling wave of migrants surging back from the tropics, traveling by the crystalline stars of May.

Even though they are normally active by day, warblers, like most migratory songbirds, are nocturnal travelers. Navigating by a host of clues, including the position of the stars and moon, polarized light from the setting sun, the Earth's magnetic field, and wind direction, the tiny birds launch themselves into the sky for a night of travel. The first hours of darkness are the peak, and a knowledgeable birder with a keen ear can pick out the thin

sharp flight notes of many species as they pass overhead.

By dawn the warblers have landed, often having traveled more than 100 miles. Exhausted and hungry, they roam through the treetops in mixed flocks that sometimes number in the hundreds, frantically searching for insects. It is a delight to the eye - and the ear, for many of the males will be singing, even though they may be far from their breeding grounds.

Of course, the trick is getting a clear view, and that's not always easy with spring warblers. Few other vertebrates are such bundles of boiling energy, never sitting still for a moment. Spot a flash of color over head, and by the time you swing the binoculars onto it and focus, it zips away. Repeat the process, and it ducks behind a concealing leaf. And again, and again, until you start muttering under your breath.

Just when you want throw a tantrum, however, one of the beauties flits out into the open and poses - maybe a Canada warbler with it's necklace of black against a lemon breast, or a female black throated blue warbler dressed in warm buffs and browns with a white "pocket handkerchief" spot on her wings. Then you remember why you are in the woods, and all is forgiven.

A Declining Family

For all their beauty, some warblers, like many birds that migrate to the tropics, are in trouble. Birders have been complaining since the 1970's that the magnitude of spring "warbler waves" was diminishing, but only in recent years have scientists uncovered hard evidence that the populations of many species are declining sharply.

At first the trouble was thought to lie primarily in the wintering grounds; most warblers migrate to tropical forests, and much of this habitat has been destroyed. But more recent research also points a finger at land use practices in the United States and Canada.

Most of the declining species depend on huge, unbroken tracts of forest for their nesting grounds. Construction, logging, road-building and other forms of development have fragmented many once-large forests into small patches. This encourages nest predators like house cats, crows, raccoons, grackles and blue jays that usually avoid deep woods.

The fragmentation also brings in brown-headed cowbirds, a nest parasite. Cowbirds leave their eggs in the nests of other species for these unwitting hosts to raise. Prairie songbirds have become wise to the cowbird's ways, and often jettison their eggs. Once restricted to the Great Plains, the cowbirds have moved east as the forests were fragmented, encountering woodland songbirds with no instinctive defense. In some areas, parasitism rates approach 90%, meaning that warblers, thrushes, and other species are raising mostly cowbird chicks, rather than their own offspring.

Fortunately, though many species of warblers are declining, most are still common, and conservationists across the western hemisphere are trying to reverse the trend. If you're interested in learning how to help migratory songbirds, you can contact Partners in Flight, an international conservation program linking private individuals, organizations, and government agencies. Call the National Fish and Wildlife Foundation @ 202-857-0166.

If you are interested in becoming involved in the Chattooga River Watershed Coalition's bird monitoring program, please refer to p. 19 in this issue.

RECOGNIZING SPRING WARBLERS

Here's a rundown of some of the most commonly seen spring warblers. Beginners should get a good field guide - either Roger Tory Peterson's classic *Field Guide to the Birds* (eastern or western editions) or the National Geographic Society's *Field Guide to the Birds of North America*.

Northern parula *Habitat:* hemlock/hardwood forests, especially along streams. Male is gray blue, with a yellow breast, crossed by orange band. White eye ring and wing bars. Greenish patch on back. Female lacks orange. *Song:* a rising trill with a hiccup at the end.

Black-and-white warbler *Habitat:* mature hardwood forests, especially moist coves. White with heavy black streaking; male has a black throat. Creeps on tree trunks like a nuthatch. *Song:* a high wee-see wee-see wee-see.

Yellow-rumped warbler or Myrtle warbler *Habitat:* wide spread in wooded habitats; prefers moist bottomlands to dry uplands. Blue-gray with yellow on rump, top of head and sides. Female is browner.

continued on next page

Spring Warblers *continued*

Eastern birds have a white throat, western birds have a yellow throat. *Song*: a slow trill that drops at the end.

Black-throated green warbler *Habitat*: mainly above 2000 ft. in coniferous or mixed forest, especially hemlock and white pine. Male is greenish, with a yellow face and black throat, which the female lacks. *Song*: sounds like "zee zee zee zo zee".

Hooded warbler *Habitat*: found in swamps and moist woodlands. Male has an extensive black hood and yellow face and belly, with a rich olive back. Female lacks hood; both have conspicuous outer tail feathers in flight. Found in swamps and moist woodlands. *Song*: loud, musical "ta-wit ta-wit ta-wit tee-yo".

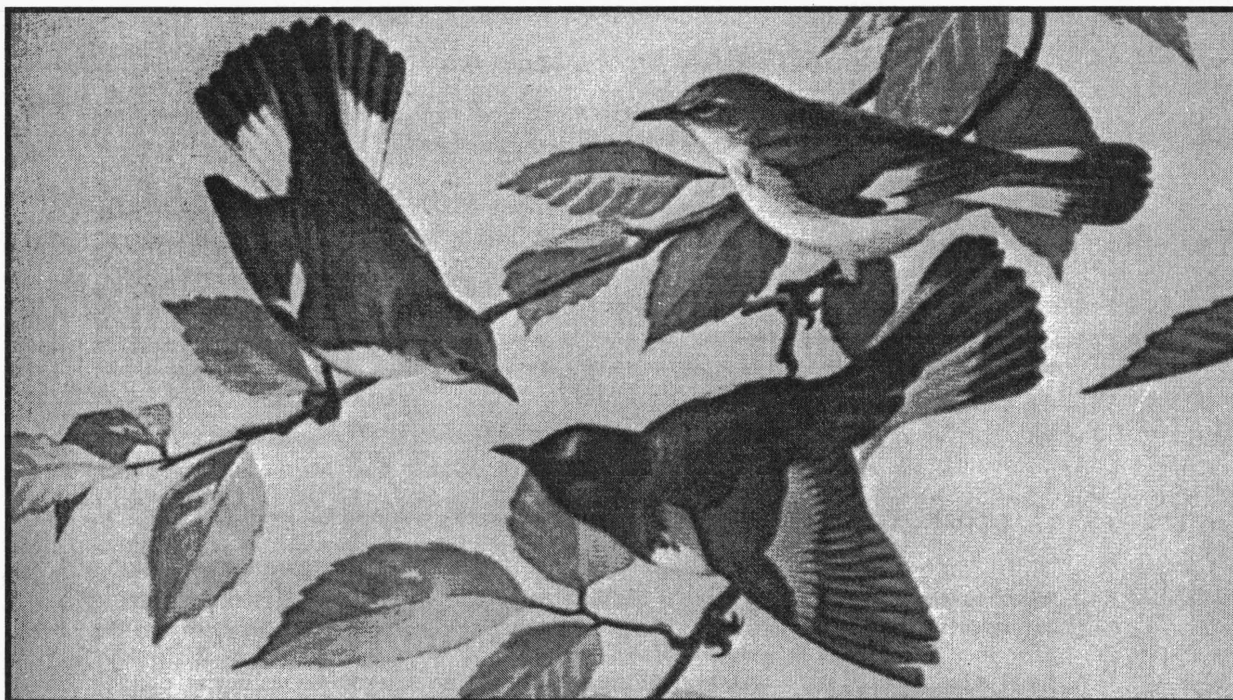
Blackburnian warbler *Habitat*: coniferous or mixed forest. Fiery orange throat and cheek, and a broad white wing patch conspicuous on the male; females are softer gold. *Song*: varies but is often a series of "seet-say" notes followed by a high trill.

Canada warbler *Habitat*: favors ravines and cool slopes with a dense understory, especially rhododendron or mountain laurel. Black "necklace" on a bright yellow breast identifies the male; also, bold yellow spectacles. Female's necklace is dusky and indistinct. *Song*: a rich and variable warble.

American redstart *Habitat*: is in open areas of hardwoods along streams (not heavily wooded areas). Male

is black with orange patches on wings, tail and sides.

Female is gray, white below, with yellow patches. *Song*: a series of zee notes that slurs up or down at the end.



Interview *continued from page 9*

wasting \$30-\$40 a cord so it didn't look like we were wasting anything. They also instituted thinning programs rather than clear-cutting programs on their cable sales. Thinning is extremely difficult to do with that type of system. Felling the trees becomes extremely dangerous, and trying to pull the trees through residual standing timber with the cable system is extremely difficult and cost prohibitive. So, as a result that machine is now sitting in a shed in Sylva waiting to find a buyer. We simply dissolved that logging crew, laid off eight people, and got away from company logging.

Don: We have been working together on the question of the Forest Service's proposed "Tuckaluge Project" in the Chattooga River watershed and how, exactly, to manage it. Regional Forester Bob Joslin set up a facilitated meeting between the timber industry, the Chattooga River Watershed Coalition and the other groups that filed an appeal on this proposed project. Right now, after looking at it and studying it, are you still interested in the Tuckaluge Project as a timber project?

Bill: In terms of acquisition, it's not the type of material that we buy. The Tuckaluge Project consists of an extremely high percentage of white pine. The reason I have taken interest in this project is that one of its stated objectives was conversion of white pine sites back to their native hardwood species. This is of great interest to me, long term, and also just as a management objective. Again, my past experience has been to a large extent hardwood management on company land. In terms of a compromise, I think that if we weren't willing to compromise we would not be at the table. We realize that we are not going to walk away with everything, and I hope the other groups realize that they are not going to walk away with everything. I think it's a constructive process for all of us to sit down and discuss these issues openly and honestly, and hopefully come to some resolution that may not be exactly what we all had wanted, but something that is certainly acceptable to all interested parties and acceptable to the public at large.

Don: I really appreciate your efforts, and I think that working together we will get a lot further along than we do pointing fingers at each other. I know you came up to the Horse Logging Demonstration we had up above Clayton, Georgia. The CRWC would like to see horse logging in the future, particularly on some areas of public lands where

we could cut down erosion and reduce the amount of roadbuilding. Also, we would like to see hardwood management stressed, so that we could have a more natural forest composed of diverse species of trees, and all other native woody plants and wildflowers. We think that the hardwood canopy promotes this, plus also provides mast [acorns, etc.] for wildlife. Do you see a future in this, or any other "alternative" harvest methods?

Bill: Specifically with regard to the horse logging, I think there probably is a niche that can be filled by that type of harvesting system. The down side I saw to it was twofold.

One, decreased productivity, which increases the logging cost, which decreases the amount of available capital for the landowner. As long as the landowners are fully aware that it is a more expensive means of logging, and will basically take some money out of their pocket, it's fine. The second thing - being the most serious consideration - was the safety factor. We in industry have spent the last 40 years trying to get people up off the ground to keep them safe. You are dealing with being in a business that is inherently dangerous, just in felling and moving large stems. Basically, that type of logging system puts people back on the ground, and the limitations of the horses in terms of

" I think it's a constructive process for all of us to sit down and discuss these issues openly and honestly..."

what they can pull has allowed the people to engage in what I would consider to be a dangerous activity, simply due to the fact they don't have the mechanized machinery to pull the stems to a safer position before they are cut, and other such things. From an industrial standpoint, horse logging is not the type of logging operation that our insurance companies would let us contract - plain and simple. The independents would be able to do it and sell their logs in the available markets, but in terms of T&S Hardwoods buying a sale that has been designated as a horse logging sale, and then contracting a horse logger, that simply could not happen due to the liability constraints we live under.

Don: What about dealing with the Forest Service? Would you like to make a statement about how you can influence their management practices on public lands, - what has your experience here?

Bill: I think that overall, the Forest Service is to a large extent - especially at the administrative level - trying to seek the path of least resistance, rather than promoting projects based on their technical merits. It seems that just through the pendulum effect, their management activities

Interview *continued*

seem to go from one extreme to the other. There seems to be very little of what I would consider "middle-of-the-road" management. They have gone from what the public sees as an over-use of clear cutting to no clear cutting at all and now, to a large extent, to

categorically excluding clear cutting as a management alternative. To me, through that concession and through the extreme use of that concession, they have eliminated a valuable tool with regard to management of the public lands. I'm afraid that long term productivity of the lands could be seriously

compromised. I know there are arguments that the public lands in the state of Georgia make up a very small percentage of the state, but in certain portions of the state, they make up extremely large percentages of the total land holdings. In north and north east Georgia, 25% of the timber harvested comes off public lands. If you take 25% of your pay check and throw it out the window on Friday, it would seriously effect your financial viability. I know that in south and central Georgia, public lands have very little impact, but in north Georgia they are extremely important, especially in light of the development that has taken place that is fragmenting the private resource for the future. I'm afraid the public lands will have to take a larger role in the contribution of resources, just to maintain existing industries and lifestyles. I have a problem especially with second home development, where the same people who are providing the demands for the products that we produce are criticizing me for providing it for them. We are talking about people that are consuming at a rate of at least twice the rate that I consume to support my family. I maintain just one household, and I have people who maintain two and sometimes multiple households criticizing the timber industry for providing them with what they want.

Don: Bill, I really do appreciate you taking the time to help us understand the situation from your view point. I hope we will be working together in the future - I think we will, and I

"I have a problem especially with second home development, where the same people who are providing the demands for the products that we produce are criticizing me for providing it for them."

think that is the route we should go.

Bill: I appreciate the opportunity to talk with you, and I certainly hope we can work together in the future. Hopefully, not on the tail end of projects - I think we would be more effective working together on the front end of projects. I welcome the opportunity to discuss the Tuckaluge Project, yet I think we are too late in the doing. I think we would have a much more beneficial effect on the process as a whole if we would agree to meet periodically, or on the front end of proposed projects to discuss our differences and possible compromises there, rather than on the tail end.

Don: I sure agree with you. I think that's the way to go about it, and I'm glad the Regional Forester got us together - finally - but it would have been an easier process if we would have been involved up front. Thank you very much.



ANNOUNCEMENTS

CRWC Research Fund

The Coalition has decided to set up a RESEARCH FUND for the purpose of funding scientific research projects within the watershed. If you would like to make a tax-deductible contribution, please send to:

CRWC-RESEARCH FUND
P.O. BOX 2006 Clayton, GA 30525

KAYAK RAFFLE

The CRWC will be holding a raffle for a **brand new "CROSSFIRE" KAYAK** donated to us by DAGGER, INC. Tickets will go on sale in May at a cost of \$2.00 each. We will hold the drawing on September 2, 1996, which is Labor Day. All proceeds will be earmarked for the CRWC Research Fund.

CRWC Staff Changes

All of us at the Coalition have bid farewell to one of our staff, Rick Hester, and wish him Good Luck and Peace on his new journey in life.

We also welcome Cindy Berrier, who has been working part time for the CRWC, and now will come on board as a full time staff person. She will assume many of Rick's duties, and also will continue in her capacity as Administrative Assistant.

We are pleased to announce that Chaz Zartman will be joining the CRWC staff in August, after completing studies to obtain a Master's Degree in Biology.



Biological Monitoring Strategies in the Chattooga: Opportunities Abound for the 1996 Summer Season

Chaz Zartman

One evening early last September, during the Vigil, I sat with Thorpe Moeckle on Rabun Bald's Big Ridge. We were both prepared for a night of rain as dark clouds crowded the southwestern horizon, but minutes before dusk the sun pierced through the front, and the illuminated clouds parted like an incandescent stage curtain to reveal the main character in the play that sparked the Vigil. As the clouds seceded to the prominent ridges of the Warwoman Wildlife Refuge, one word rang through my head: *Tuckaluge*.

This upcoming summer season, the Chattooga River Watershed Coalition intends to develop a biological monitoring and research program in the watershed. Although still in its seminal stages of development, the program will primarily consist of two components, both of which depend on assistance from volunteers willing to work with biologists and experienced field researchers.

Our first priority is to implement objective and rigorously defined field investigations in areas within the watershed subject to impending Forest Service timber harvesting (and road building) activities. The Tuckaluge Creek watershed in the Warwoman Wildlife Refuge is the site of the Forest Service's controversial "Tuckaluge Project", and will take priority in the Coalition's monitoring efforts this summer. The 450 square acres in the Tuckaluge watershed ranges over 2000 to 2200 feet of elevation, and currently hosts a relatively contiguous woodland tract harboring a diverse assembly of fauna and flora. The Coalition plans to set up monitoring stations within and outside the compartments affected by the timber cutting and road construction, to document the effects of timber extraction on the breeding densities of eastern songbirds, the habitat "partitioning" of certain salamander species, and the dynamics of forest succession and recovery. We will model our sampling processes after methods published in scientific literature, to ensure that our results can be evaluated in light of similar studies conducted elsewhere (*see right column for details*).

Our secondary goal, which will come to fruition as we identify appropriate areas for intensive study, will involve long-term monitoring of unique, protected and relatively undisturbed forest and aquatic communities in the Chattooga River watershed. Ultimately, we envision this component as a scaled-down model of the long-term monitoring strategies that are being conducted in the Great Smoky Mountains National Park (in Tennessee) and the Coweeta Hydrological Laboratory (in North Carolina). In the Chattooga watershed, the "Wild and Scenic" River Corridor and Ellicott Rock Wilderness Area are currently protected from human-induced disturbances, thus providing ideal localities for establishing ecological control sites. These control sites can be utilized to compare to

other areas disturbed by timber harvesting and road building. The data which results from this comparison will be used to determine the short term impact as well as the long term effects of the Forest Service's timber extraction program on the national forests of the Chattooga River watershed. We want to contribute to the database on long term monitoring regimes primarily because a greater number of sites which provide scientifically credible

Bird Monitoring Workshop

Taught by Trevor Rundle, Ecology Instructor at Western Carolina University

Saturday May 25th - 8:00 am at the CRWC Office

Population dynamics and community structure of birds are known to be affected by forest fragmentation. Habitat alteration can limit territories of some species, while opening up areas to other species. Generalist predators (crows, blue jays, cats, raccoons) and nest parasites (brown headed cowbirds) living in the matrix around forest fragments increase nest failure within the fragments, and may exclude certain interior forest bird species entirely. As part of an ongoing program to study the distribution and abundance of breeding birds in southern Appalachian forests, I am interested in the impact of timber harvesting on these populations, and thus, in contributing to the development of sound forest management policy. In the past, much data have been collected by volunteer bird watchers, and participants in the Christmas Bird Counts and the Breeding Bird Surveys. However, the data have suffered due to a lack of coordination, and limited training for the volunteers. I believe these problems can be overcome. The Tuckaluge and Rabun Bald area is earmarked for a significant timber harvest - to the tune of 3-4 million board feet of timber. Volunteer bird watchers, with the proper training, can generate reliable population counts in sampling areas in the Tuckaluge Creek drainage. If you are interested in birding with a mission, you can help.

Salamander Workshop

Taught by Mark Hopey, Masters Degree student at Western Carolina University

Saturday June 1st - 8:00 am at CRWC Office

Fourteen or more species of terrestrial salamanders inhabit the forest floor and streams of the Tuckaluge drainage. Each animal has an ecological niche and role in the complex forest ecosystem, serving as both predator and prey for a wide variety of forest inhabitants. When disturbance occurs, be it from fire or timber harvest management, it alters the moist forest floor microhabitats and causes movement and shifts within this community. Many studies in past years have documented the effects that timber harvest inflicts on certain salamander species, usually after disturbance has occurred. In the Tuckaluge harvest plan, we have a unique opportunity to objectively evaluate the effects of specific timber harvest techniques on salamander communities, by sampling the area before and after disturbance. In this way, we can begin to understand and recommend which harvest techniques are least damaging to this integral community of the forest ecosystem.

biological records can more effectively determine large-scale ecological patterns. The success of implementing and following up on any and all of these projects partly depends on a fusion of active public interest and the willingness of scientists and experienced field observers to become involved in monitoring regimes and field research in the Chattooga River watershed.



"Southbound" Film Review

William Clay

After I watched this video documentary about the large scale chip mill operations locating in the Southeast, I did a little background research on the historical precedent for such improvident abuse of Southern forests. History indeed affords needful perspective here: If we allow these chip mills to chew up large tracts of native woodland to feed the wood products industry's rapacious appetite for fiber, it won't be the first time that we good Southern folk have sacrificed our living forests on the altars of large-scale industrial forestry. Just before and after the turn of the century, we surrendered our once magnificent forests to northern lumber barons who bought and logged off huge tracts of mountain timberland, devastating southern forests in what has been called "one of the most frenzied timber booms in American history". Moreover, that first logging frenzy pales in comparison to this latest assault, which with its new state of the art machinery can cut down, chew up and spit out whole trees, literally eating forests at an unprecedented rate.

This video well conveys the magnitude and urgency of this modern attack upon Southern forests, forests which are only now beginning to recover from the monumental havoc wrought upon them before. The video presents graphic footage of these mills and the damage they do, which is convincing in itself, but perhaps even more importantly, it succeeds in presenting a full range of thorny issues which we must address if we really hope to safeguard our recovering wild and natural forests.

The format consists of interview clips, taken from a wide variety of interested parties both pro and con, including environmental activists, foresters, scientists, as well as loggers and other timber industry representatives. Some in this latter group are predictably glib in support of chip mills, including the President of the National Woodland Owners Association, who sees "no reason why these greater mills should translate to a degraded resource", but will instead "be the key to a better environment"! A former Alabama state forester at one point even says that "people need to get used to seeing clearcuts". Indeed!

Ironically, some of the more telling testimonials come

not from environmentalists or scientists but from people within the forest products industry who are opposed to chip milling, as for instance a young man who shut down his family mill rather than sign on to the stratagem proposed to him by one multi-national paper company, to convert his sawmill operation to a chip mill:

"It didn't take me long to figure out that there was no way you could feed a chip mill past three years...a chip mill can totally demolish two hundred square miles inside of three years. They always say [of the mill] that they're only gonna run it eight hours, and then lengthen that out to eight or nine years. But it was discussed with me to run it 24 hours a day, six days a week, and on the seventh day do maintenance to make sure we could run it another six days. I was told to put my profit in there, and that after three years we'd close it down and sell it for scrap metal...that's about all that would be left".

Much of the discussion contained in the video centers around economics, though political issues, policy, natural science and ethics are touched on too. There is promise here in that the case against chip mills is so strong: Even just in pure economic terms, there can be no financial case for clearcutting on such a massive scale. And this not even to speak of the larger questions that go deeper than clearcuts, such as how do we protect our few remaining patches of eastern old growth, and how do

we guard against the cumulative loss of diversity and the enduring forest degradation that this kind of massive logging brings. In other words, how do we care for one of the most biologically diverse ecosystems in North America?

Nevertheless, however high the arguments stack up against chip mill logging, perhaps our greatest worry is that public perception of the problem falls so short of the reality of the threat. If we do not heed the alarm sounded by this timely and well done video we could gain the dubious distinction here in the South of squandering our priceless forests not once but twice within a little more than a hundred years. Watch the film and spread the word; let's not let outside timber interests make fools of us all over again.

Southbound

a video documentary by Doug Hawes-Davis
Soundtrack by Ned Mudd
Videography by Eric Gravley



"It's a shame to see high quality material chipped, but the market dictates what kind of products are produced"
Jim Lyons, Assistant Secretary, USDA



"In the Southeast our real issue is restoration and that certainly doesn't mean cuttin' 'em all down trying to get at the stuff that's of value right now to the timber markets"
Buzz Williams, former employee, U.S. Forest Service



Score Card: How Did Our Members of Congress Vote?

Many of our Members of Congress are continuing to work diligently to dismantle the environmental laws of the past 25 years by way of a legislative tactic that employs "riders", which can be attached to other (unrelated) bills. A number of anti-conservation riders have been attached to the current 1996 Omnibus Spending Bill. There have been some good attempts by a few pro-conservation legislators to reverse or modify the destructive riders and moratoriums passed in 1995; however, none of these attempts have succeeded, and in fact some have not even been allowed for debate. Who is controlling our Congress, corporate America and extractive industries, or citizens? Please let your Members of Congress know that you support conservation and preservation of our natural heritage!

In the House	key votes		conservation score	In the Senate	key votes			conservation score
watershed Representatives	1	2		watershed Senators	1	2	3	
Nathan Deal (R-GA)	-	+	50%	Sam Nunn (D-GA)	+	+	-	= 66 %
Charles Taylor (R-NC)	-	+	50%	Paul Coverdell (R-GA)	-	-	+	= 33%
Lindsey Graham (R-SC)	-	+	50%	Faircloth (R-NC)	-	-	-	= 0 %
				Jesse Helms (R-NC)	-	-	-	= 0 %
				Ernest Hollings (D-SC)	+	+	+	= 100 %
				Strom Thurmond (R-SC)	-	-	-	= 0 %

1. National Wildlife Refuge Reform Bill H.R. 1675

This bill changes the current management priority of these areas, from conserving wildlife to jeopardizing wildlife, by opening up the refuges to "multiple use" management. This means that hunting, recreation and other activities will become the primary purpose of these lands. This bill was opposed by many environmental, conservation, and wildlife organizations.

2. Sugar Subsidies Amendment to H.R. 2854 - Agricultural Marketing Transition Act. The amendment was rejected by a vote of 208-217. This amendment would have phased out Federal subsidies for the sugar industry in the heart of Florida's Everglades, which is very damaging to this fragile ecosystem, and would have prohibited any Federal loans to sugar producers in the year 2000 and beyond.

Details of the Senate

1. Endangered Species Listings Moratorium An attempt by Senator Reid (D-NV) to lift this moratorium was replaced by an amendment sponsored by Senator Hutchinson (R-TX) to restore only "emergency" listings and extend the moratorium through Sept. of 1996, while providing **ONLY \$1 IN FUNDING TO SAVE SPECIES** in "emergency" situations and creating even more bureaucratic hurdles. Sen. Reid's motion to kill the Hutchinson Amendment failed by a vote of 49 to 51. The failure to "table" this amendment will continue the decline of species that are eligible to be listed.

2. Murray Bill to end Logging without Laws (the Timber Salvage Rider) An attempt was made by Senator Patty Murray (D-WA) to end "logging without laws" in our national forests, and to replace it with an expedited timber salvage program. The amendment failed on March 14, 1996 by a vote of 42-54. Lawless logging of our national forest continues!

3. Public Rangelands Management Act This affects nearly all national forests, grasslands, and public rangelands. The bill *expands Federal subsidies* for livestock grazing on public land, and attempts to bar meaningful public participation in the planning process for national forests, grasslands, and BLM managed public lands by undercutting the NEPA process for Forest Service and BLM actions. On March 21, 1996 this bill passed by a vote of 51 to 46. This is yet another example of corporate welfare, and silencing the public.

Senator Craig's "Forest Health" Bill S. 391 *This bill is in the works, but has not been voted on yet.* The bill claims that the health of the public's national forests is so bad that environmentally questionable timber and salvage sales are justified. The bill is clearly industry-backed, and its author and sponsors are ignoring all scientific data to the contrary. Forest Service scientists have stated that there is no forest health emergency, and that the only **"real forest health emergency is that of the habitat loss, fragmentation, and degradation that inland forest and associated aquatic ecosystems have experienced after a century of intensive commercial extractive uses, including livestock GRAZING, LOGGING, AND MINING."** Contact your Representative to voice your opposition to this bill.



Making Waves in the Watershed

Chattooga River Watershed Coalition receives Forest Conservationist of the Year Award

The Georgia Wildlife Federation recognized the Chattooga River Watershed Coalition with their award "Forest Conservationist of the Year" for 1995.

The award was presented at the Georgia Wildlife Federation's Georgia Conservation Achievement Awards Banquet on April 18, 1996. Governor and Mrs. Zell Miller hosted the Banquet in their home at the Governor's Mansion in Atlanta, Georgia.

The Georgia Conservation Achievement Awards "honor outstanding environmentalists committed to the protection of our natural resources".

Horse Logging Workshop Airs on CNN



Richard "Snuffy" Hall explains to CNN reporter Natalie Pawelski the advantages of a portable band saw, which he demonstrated during the CRWC's Horse Logging Workshop.

CNN produced a five minute story about the workshop which aired for several days on their "Earth Matters" program.

CALL TO ACTION

The fight to keep the Forest Service from cutting timber and building roads in the Rabun Bald Roadless Area was a hard fought two year battle. **Thanks to those dedicated citizens who donated their time to this cause, we have succeeded in achieving our goal.** This is a victory!

Now we have the opportunity to push for permanent protection for this key piece of the Chattooga River ecosystem. ***What can you do? Stay involved in national forest management issues,*** and write the Forest Supervisor of the Chattahoochee National Forest at:

Attn: Supervisor George Martin
508 Oak Street, NW
Gainesville, GA 30501

Tell him that ***you support the inclusion of the Rabun Bald Roadless Area in the current inventory of qualified roadless areas. Then, during the upcoming revision of the Chattahoochee Forest Plan we will have the option to request permanent protection for the area as a Wilderness, Scenic, Recreational or Research Natural Area.*** Please write today, and send a copy to Regional Forester Bob Joslin and your Congressmen & Senators.

Again, thank you and let's finish the job!

Chattooga River Watershed Coalition

*We are a 501C3 non-profit
organization incorporated in
Georgia.*

Staff:

*Executive Director,
Buzz Williams*

*Development Director,
Nicole Hayler*

*Administration & Program,
Cindy Berrier*

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*Friends of the Mountains
GA Forest Watch
Western North Carolina*

*Alliance
SC Forest Watch
Sierra Club*

*The Wilderness Society
Association of Forest Service
Employees for Environmental
Ethics*

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Nicole Hayler*

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CRWC Staff*

Printing, J&M Printing

Endorsing Organizations

*Foothills Canoe Club
Atlanta Whitewater Club
Georgia Canoeing Association
Higgins Hardwood Gear
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Atlanta Audubon Society
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*Georgia Environmental
Organization, Inc.
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America
Carolina Bird Club
Government Accountability Project
Turpin's Custom Sawmill
Dagger, Inc.
Lunatic Apparel*

Membership

Join the Coalition and help protect the Chattooga Watershed!

Your contribution is greatly appreciated. It will be used to support the Coalition's work and guarantee you delivery of our quarterly newsletter. We're a non-profit organization, and all contributions are tax-deductible.

Name _____
Address _____

Phone number _____

Send to:
Chattooga River Watershed Coalition
P.O. Box 2006
Clayton, Georgia 30525

Individual: \$7.00

☐

Group: \$14.00

☐

Sustaining: \$45.00

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Thank You!

Chattooga River Watershed Coalition

PO Box 2006
Clayton GA 30525
(706) 782-6097

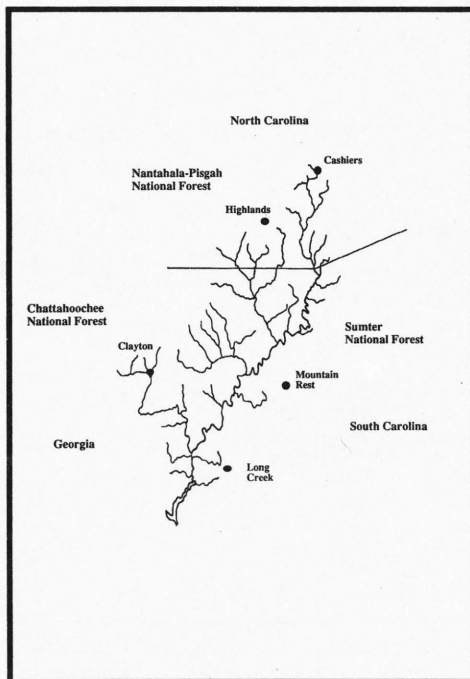
(706) 782-6098 fax crwc@igc.apc.org Email

Our 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."

Our Work Made Possible By:

CRWC Members
The Grassroots and Volunteers
Turner Foundation, Inc.
The Moriah Fund
Norcross Wildlife Foundation
Lyndhurst Foundation
Patagonia, Inc.
Town Creek Foundation



Our 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 River Watershed Coalition
PO Box 2006
Clayton, GA 30525

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