



# The Highlands Voice

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## Constantz hits homer with baseline study

The Pine Run Ecological Laboratory has just released "Portrait Of A River", their ecological study of the Cacapon. The report is the fruition of four years of field, community and lab work by the staff and many concerned citizens. The baseline has been acclaimed as being the most comprehensive ever assembled for an entire river continuum. By learning a good deal about the river's condition now, we can become aware of present or potential threatening conditions. But it is also a "conservation tool that can be used to trigger enforcement of environmental laws, to help develop new policies, and to involve the public in the process of learning about and protecting rivers."

Although many might consider the science in the report to be the heart of the matter, I was particularly pleased with all the extras: great photos and maps of the river, line drawings of the critters, many enlightening side bars on the geology, fishes, birds, and how the Lost River gets lost. One of the new words I learned was Hyporheos, which is "a vast underground arena in the space among gravel and boulders below and alongside the channel penetrated by animals dependant on the river." This underground world can run laterally for a mile or more. At least a dozen new species (such as blind shrimp and primitive worms) have been discovered living in these hidden waters.

The baseline consists of the results and analysis of hundreds of samples and thousands of water quality tests. Water temperature, turbidity (amount of silt in water), pH, alkalinity, ammonia, phosphate, fecal bacteria, and water flow volume were the parameters that were tested. These specific tests were chosen because of the particular problems that the Cacapon River faces (economic development and poultry, cattle and

other agricultural industries) and because previous tests have shown the river to be healthy as far as dissolved oxygen and levels of chemical pollutants.

After the data was in, it was analyzed from several perspectives, that of the whole river and from each of the four sections or reaches of the river. It was also analyzed as to the effect of total water flow on various parameters.

Several interesting conclusions were drawn from the study. Even though the Cacapon River lies in a region of severe acid rain, tests show the water not to be at all acidic. During periods of high water flow the alkaline (opposite of acid) nature of the water would diminish but still not become acidic. This is of great benefit to snails in the Cacapon, whose shells tend to dissolve in acid waters. The ability of the River to buffer acid deposition is most likely due to the limestone prevalent in the basin.

Most rivers will show an increase in pollution as the water flow decreases - less water and the same amount of pollution. This fact is what's at the heart of the current controversy in the WV legislature over water quality standards. Industry wants the state to define allowable pollution emissions on an average flow, despite the fact that when droughts occur and water flow is minimal, polluters would be allowed to dump the same amount of pollution that is considered barely safe at normal flow. Rivers also tend to become more polluted as they flow downstream. On the Cacapon River, both these patterns are reversed.

Why is this? According to the study, "the answer appears to be nonpoint source pollution. Unlike point source pollution, which comes from an easily identifiable source, such -

*continued on page 8*



Aerial view of the Cacapon River downstream of the community of Forks of Cacapon, Hampshire County. From the front cover of the study. Courtesy of Pine Run Ecological Laboratory.

## !!! Legislative Alert !!!

By Beth Little

The ORV bill (SB 269/HB 2510) is being strong-armed through the Legislature. All pro-conservation bills, such as funding for non-game wildlife, are being held hostage to get the ORV bill passed without needed safety restrictions, environmental protection, public input or balanced funding. Although the WV SAFE KIDS Coalition has called for restricting ATV use to people over 14, the current bill would allow a five-year-old to ride a 3-wheeler down an interstate as long as she has a slow vehicle triangle and says she is going to look at the cows. And under the bill, public funds can be given to private groups as grants to build trails on public lands without public input. Other states that have passed inadequate ORV legislation have had such problems that they have to go through the legislative process again and spend more money to fix it, but the ORV lobby, funded by manufacturers and dealers, is busy painting the rosy picture that building lots of ORV trails will solve all the problems, and they've got the members of ORV clubs calling

and writing to say they want trails. After two years they still don't get it, and there's less than 3 weeks left in this session. Call or write your legislators and let them know you want legislation that regulates ORV use and protects citizens, private property and our natural resources: NOT a bill that provides millions of dollars of funding to promote ORV use. And if they can't fix it, then kill it. (Editor's note - to make it easy for your legislators just tell them to kill it.)

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### WVHC Spring Review April 23-25, 1993

Spring review will be held in Pocahontas County at the Elk River Lodge and Touring Center. Mary and Gil Willis are the proprietors of this country inn that will be open only for Spring Review participants and activities this weekend. All of the gatherings and meetings will be held in the dining room of their new lodge.

Mary Willis is coordinating lodging and outings for us this year and she and her restaurant staff will be serving our meals in the lodge dining room.

The scheduled outings include participating in the Great Greenbrier River Race, a trout fishing expedition, a caving trip and a forest hike.

Call Mary Willis to reserve lodging and meals. They have a variety of lodging accommodations for small or large groups or singles (304) 572-3771. Your Spring Review Brochure should arrive momentarily. To instigate a formal canoe or bike trip call Donna, or just bring them along for informal fun. For further information call Mary Willis or Donna Borders at 428-4746.

*---from the heart of the mountains---*

by Cindy Rank

OF ELEPHANTS, GNATS, AND THE W.V.  
LEGISLATURE

Walking from the house to the mailbox and stream the first day of spring, i marveled at how much easier it was to maneuver even in a foot of white snow-turned slush-than it was to plow through the thigh-high snow that blew in from the south just a week before.

For most of us in West Virginia, the "blizzard of '93" didn't create extreme hardship, but it did slow life down to a snail's pace for a few days.... Here on our hillside, the thick blanket of white brought a return of winter's silence and some delightful scenes like the one at the bird feeder where feeder and surrounding trees were filled with hundreds of birds who braced the winds for a few sunflower seeds and the scraps that fell to the ground were shared by pesky squirrels who have invaded the garden shed for the third straight winter, one of many groundhogs who normally feast on the best of our garden fare, and a small band of big bird turkeys on their daily trek through the area.

But, even though folks along the east coast saw far more damage than most of us in W.V., the big white dump surely brought a hefty dose of reality to anyone packing away winter woolens, and combing the malls for the latest in summer fashions.

In Charleston several overly zealous daffodils lay flattened on the ground outside the state capitol giving witness to the crushing weight of that reality, while inside the marble halls the daffodils of hope for economic sanity were also feeling the crushing blows of reality -- not of mother nature in her last blast of winter, but the traditional reality of the mammoths of power and greed.

The harbingers of spring in the economic realm came in the Governor's State of the State address and budget that followed. The unexpected glimmer of hope was the proposal to plug a major portion of the 82 million dollar a year hole in the budget (caused by super tax credits) by increasing the severance tax on coal by 75 cents a ton for the industry that benefits the most from those tax credits without delivering the promised return investment of increased jobs.

It was a praiseworthy gesture that promised to strike a blow for fairness and equity in the tax revenues of West Virginia .

However, the reality of coal weighs as heavy in the halls of the state house as it does our local roads, and it seems to be squashing those harbingers of spring leaving behind a creative accounting project of dismal proportions. Where a month ago over 30 million dollars was to be got in one fell (and justified) swoop, legislators are now scrounging for pennies from every corner of every program in the state.

County governments will see less money than ever; home care for the elderly will be cut; in education the gifted program and class size limitations will suffer, not to mention promised pay raises. We're scraping for money for health care, and every environmental enforcement program will see consolidation rather than increases. Consideration is even being given to selling off our state parks and forests to private interests....Imagine a Westvaco controlling the future of the old growth in Cathedral State Park, or the treasures of Kanawha State Forest!!

Our illustrious vice president for state affairs likens the whole scenario to a comparison of elephants and gnats. At this point in time it seems that all the gnats in West Virginia cannot begin to equal or overcome the mass or might of this single elephant.

Just when we might have thought the backbone of state government had strengthened. recent x-rays are showing the disappointing and debilitating presence of the same old mush.

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# WVDOH Picks Scheme D5 for Corridor H

As many of you may know the Corridor Scheme selection has been made for the West Virginia section of the highway. Virginia is supposed to make its decision in May. The scheme selected avoids the worst of the environmental damage but still has problems. In comparison to the other "D" schemes it does avoid Greenland Gap, but like all "D" options it runs up the Lost River for many miles. One of the 'features' of this particular scheme is its 'short cut' from Kerens to Parsons along Shavers Fork.

The Conservancy and many other groups still have problems with deficiencies in the SDEIS. What follows are extracts from WVHC's comments and two letters from folks living close to the 'chosen' route. First Cindy's letter.

Mr. VanKirk, Commissioner  
West Virginia Division of Highways  
February 18, 1993

Dear Commissioner VanKirk:

I am writing to you on behalf of the West Virginia Highlands Conservancy [WVHC] in regard to the Supplemental Draft Environmental Impact Statement [SDEIS] for the proposed construction of Corridor H linking Elkins with I-81 in Virginia.

The West Virginia Highlands Conservancy is a 25 year old volunteer organization that represents over 600 individual and organizational members, many who live and work in the state, and others who come from surrounding states to enjoy the special places West Virginia has to offer.

The Highlands Conservancy has a long history of involvement with the Appalachian Corridor H Project. The earliest document in our ever growing file on Corridor H is dated January 18, 1973. It is a statement at a public hearing sponsored by the West Virginia Division of Highways and it was delivered by Bob Burrell, President of the Highlands Conservancy at that time, who spoke in opposition to any four lane highway that would be built through public park or forest lands.

Over the course of two decades - through letters in 1974, studies in 1975, comments on the original DEIS in 1981, into the late 1980's when renewed interest in an upgrade alternative sparked the WVHC to encourage a study of that possibility, and on into the 1990's with the volumes of studies we are now reviewing - the message remains the same.

Whether it be 1973 or 1993, we remain unconvinced that a four lane highway will bring the growth and prosperity many proponents of the road dream and hope for. We, therefore, continue to believe that Corridor H should not be built. However, over the years we have also recognized and stated that if the road is to be built, the chosen route must offer the most social and economic development with the least environmental damage.

Information contained in the SDEIS strongly supports our long held belief that all options along the southern corridor [Scheme A], as well as Schemes B and C which bisect Canaan Valley, are totally unacceptable. It is clear from the SDEIS that, of the build options, the northern route is not only the least expensive to build, but also the least damaging to public lands and natural resources. A more detailed written review of the SDEIS and the WVHC recommendation is enclosed.

Although our comments point to a

number of deficiencies in the study, we want to thank you for the reasonable and thoughtful compilation of data during this corridor selection phase of the process. We urge that the same and even greater care be given to the alignment selection phase if the Division of Highways adopts one of the build alternatives, so that the least amount of harm will come to families, farms, homes and other natural resources along the chosen route.

Sincerely,  
Cindy Rank, President, WVHC

The following article has been extracted from the Conservancy's Comments on the SDEIS for the proposed Corridor H Highway. Although the bulk of our comments were directed at the ludicrous nature of Scheme A (which hopefully is behind us now), I have selected portions from the 10 pages of excellent work by Perry Bryant that deal with general deficiencies and problems particular to Scheme D.

Among the deficiencies in the SDEIS are the following:

**For the Division of Highways to now recommend that Scheme D be the preferred alternative would raise serious and very legitimate questions about why should public hearings be held if the public input is going to be discarded in favor of a preconceived position.**

A) There is no discussion of the visual impact of billboards within each Scheme Option. Our understanding is that billboards will be permitted along any Scheme Option that may be adopted. In the worst case scenario [Scheme Options A1 and A8, but also A2 through A7], this would mean that the view of Seneca Rocks could be obscured by billboards. The FEIS should contain a section on the visual impacts of billboards for each of the Scheme Options if billboards are going to be permitted.

B) A more fundamental deficiency with the SDEIS is the express bias against the no build alternative. One example of this bias can be found on page III-87 of the SDEIS: "To some, a road or bridge that has been carefully designed to blend with the natural surroundings would be aesthetically pleasing and may even contribute to a positive visual experience... However, to others, the same road or bridge could represent an unfortunate imprint of human activity upon nature and would strongly detract from their visual experience of the area." [emphasis added]

Even the most fervent supporter of Corridor H would not consider the highway a "positive visual experience." They may consider it necessary, useful, or as a means of improving economical development, but not a positive visual experience. The only people who would view Corridor H as a positive visual experience would be highway engineers or consultants to highway departments [i.e., those who have a direct benefit in highway construction].

While we are recommending that this language be deleted from FEIS, we are also recommending that the no build alternative be re-examined. For example, the FEIS should

examine the negative as well as positive impacts of economic development. Both the Transportation Needs Study and SDEIS give superficial review of economic development in general, and no review of the negative impact of economic development. For example, the SDEIS properly examines the problems associated with forest fragmentation but never mentions community fragmentation. Similarly, will either the assumed increased transient population or increase in residents lead to increased crime rates? There is no discussion of this issue, and even if the data dispels this notion, it should be documented and included in the FEIS.

Also, the Transportation Needs Study is, frankly stated, totally inadequate. It simply reviews the recent history of employment trends in various industries in the study area, but fails to make projections about the increase in employment in the industries. So while, even if there is, indeed, excess capacities of water supply and sewage treatment, it is impossible to evaluate whether this excess capacity is sufficient to accommodate the unknown number of an increased population. The WVHC strongly recommends

that the Division of Highways completely redo the Transportation Needs Study and then re-examine the no build alternative within the FEIS. Clearly a bias toward the build alternative exists, and an honest review of the no build alternative needs to be reviewed and adopted, if appropriate.

## Recommendations

C.) Reasons for selecting Scheme Option E1 over various D Scheme Options.

1.) One of the primary reasons for rejecting Scheme D is the fact that throughout the numerous public hearings and the public comment period a very distinct minority of commentators recommended construction of Scheme D. Virtually all of the comments that have centered on the build alternatives have recommended either the northern [Scheme E] or southern [Scheme A] routes.

For the Division of Highways to now recommend that Scheme D be the preferred alternative would raise serious and very legitimate questions about why should public hearings be held if the public input is going to be discarded in favor of a preconceived position. It is this type of action that breeds disrespect of government in general and skepticism of the Division of Highways integrity in particular. The WVHC believes that the DOH has no choice but to recommend one of the three major alternatives recommended by the public: either no build, the northern or southern routes.

## Conclusions

The no build alternative has never been given adequate consideration. The SDEIS goes so far as to speculate that a four lane

highway through our spectacular highlands could be a "positive visual experience." The Transportation Needs Study, which is the foundation of the build alternatives, is totally inadequate and desperately needs to be re-done. The no build alternative needs to be re-examined and given - for the first time - a fair hearing.

After a new and exhaustive review, should the Division of Highways conclude that a build alternative is absolutely necessary, then the WVHC would recommend that the Division of Highways adopt an alternative that preserves as much as possible of the highlands area of West Virginia and promote economic development. The WVHC strongly recommends that if a build alternative is adopted, it should be Scheme Option E1.

Cindy asked me to add this final (?) note about the DOH decision.

The recent WVDOH recommendation to choose Scheme D5 leaves unanswered serious questions about at least 4 major issues, that were not adequately addressed in the SDEIS.

- 1.) Consideration of the no build/upgrade option.
- 2.) Impacts to natural resource waters and high quality streams (Lost River and other high quality trout waters). Especially when other alternatives, i.e. E1, exist that would avoid or minimize those impacts.
- 3.) Impacts in the George Washington National Forest. Again, especially when other alternatives, i.e. E1, exist that would avoid or minimize those impacts.
- 4.) Details on cultural resources.



## Federal Affairs

Save America's Forests contacted us this week asking that we lend our support to H.R. 1164 - The Forest Biodiversity and Clearcutting Prohibition Act. Much attention has been paid recently in DC to the Ancient Forest Protection Act. Although we certainly need to protect these forests, reduction of the cut out west will likely increase the pressure on eastern national forests to supply timber. In contrast, HR 1164's scope is national and would provide protection for and preserve the health of all national forests.

What does the bill do? 1) Restores Native Biological Diversity. 2) Bans clearcutting and "even age" logging and artificial tree farms on all federal lands. 3) Creates dispersed citizen enforcement. 4) Reactivates the Committee of Scientists 5) Prevents the construction of logging roads in presently roadless areas. This is really a middle ground bill. It does not prohibit logging in National Forests (too bad), only the most destructive aspects of it. In order "to save all the pieces" that may one day allow nature to restore a balance, the bill focuses on preserving native biological diversity.

What can you do? Write and call your Representatives and ask them to co-sponsor this bill. For further info - Save America's Forests, 4 Library Court, SE, Washington, DC 20003, (202) 544 9219.

# Sub-Alpine Firests: back from or over the brink?

## Sub Alpine Ecosystem

*This article is based on a report to the DNR by Rodney Bartgis.*

From Maine to Tennessee and North Carolina the sub-alpine forests occupy the highest peaks of the Appalachian Mountains. Size estimates of the ecosystem in West Virginia, range from 30 to 100 thousand acres. When white folks first burst upon the scene, red spruce and balsam fir, the dominant tree species of this ecosystem, covered up to a million acres in our state. Droughts and insects have caused some of this decline, but the demise of the ecosystem is due mainly to timber cutting and subsequent fires. More recently the additional insult of acid rain seems to have increased tree mortality.

Red Spruce occurs naturally only above an elevation of about 3000' in West Virginia. It often grows with northern hardwoods (such as beech, yellow birch, and red and mountain maples) and eastern hemlock until at elevations above 3800' it tends to appear in nearly pure stands. Although in the Northeastern states it frequently grows with Balsam Fir at the highest elevations, the fir occurs in only 4 locations in our state.

The wealth of species that occupy this ecosystem is well known. Here in the southern Appalachians biodiversity has been enhanced because subalpine forests are isolated from the main range. As glaciers retreated and the climate warmed, the spruce forests in higher elevations prospered and extended even higher. This process tended to separate populations of many species as the spruce became discontinuous. Many endemic (local) species and varieties evolved. The destruction of the spruce has been particularly hard on these species, hard enough to get some of them protected status under the endangered species act. The northern Flying Squirrel and the Cheat Mountain Salamander (see related article) are such species. Many more species and populations are close to the brink. Sixty species of Trechus Beetles are restricted to the higher mountain tops of the southern Appalachians. Another related genus

has over 200 species known only as cave inhabitants (except for one species endemic to Cranberry Mtn). The Snowshoe Hare is also restricted to the subalpine forest.

Spruce in the 1800's and today. The high elevation forests of West Virginia were some of the last virgin forests to be cut in the East, due to their remote and 'difficult' location. In eastern Tucker County, in part due to the abundant rainfall, the spruce forests were the finest climax spruce forests in the Eastern US and perhaps even in the whole world. Stands produced up to 50,000 board feet per acre. Canaan Valley's spruce forests produced twice that much. In 1910 over 300,000 acres of virgin forest remained, but by 1920 only about a hundred acres were left. The sub-alpine forests occupy less than 10% of its original range in the state. Mineral County once had over 25,000 acres of spruce, but now has none. Bartgis says, "I suspect no upland forest ecosystem in eastern North America has been reduced to the extent that the Southern Appalachian subalpine forest has been."

Since commercial harvests of spruce ended in Tennessee in the 40's, West Virginia is the only state in the southern part of the ecosystem where spruce is still cut. It is being cut mainly for decorative fence rails. Another impact on spruces is from ski resorts. Much of the finest second growth spruce lies within the 7000 acre Snowshoe Resort property. Most of the other resorts also have impacted spruce forests. On top of all its other problems or perhaps because of them red spruce has been declining for the last 30 years in many of the stands that do remain. Although there seems to be a little confusion as to the causes and extent of this decline, there is agreement that the spruce ecosystem is severely threatened and any activities that occur there need to be intensely scrutinized to avoid further loss of these magical woods.

## Spruce Decline

Been to the virgin spruce on Gaudineer Knob recently? Notice how many of the trees are dead or in declining condition? Of course the forest service's heavy hand with the chain saw didn't help much, but spruce decline appears to be quite widespread. Field inspections by several researchers have revealed slow growth, crown die-back and tree mortality sometimes reaching 50% of trees in a stand. Yet some areas have not been effected. Trees at higher elevations seem to show more decline. Spruce trees out west don't show any of the symptoms that have characterized the decline of eastern trees.

Declines are stress disorders that are caused by multiple factors. They tend to weaken trees in several ways till the tree can no longer survive. Back in the late 1800's many thousand acres of spruce died. Charles Millsbaugh, then on the staff of the West Virginia Experimental Station reported in 1891 that 40% of the 20,000 acres of spruce near Cheat Bridge was dead. Examination of the growth rings of still living old growth spruce revealed a period of very slow growth during the 1880's. The cause of this decline has been attributed to both the drought of 1882 and to infestation by the four eyed spruce bark beetle. Most likely the decline was caused by a combination of at least these two factors. Because of the time period of this decline few think that any of the factors are attributable to human activities.

The current decline of Spruce appears to have begun in the mid 60's perhaps triggered by the drought of the early sixties. Unfortunately, it shows no sign of abating. No one mentions any problems with beetles for this period, although a fungus seems to be associated with the decline. Some suggest that the trees have become more susceptible to winter injury and the fungus has taken advantage of that. Although the fungus can disfigure and kill a tree, the tree must first be predisposed by environmental stress before the fungus can successfully attack. The occurrence

of the decline from Maine all the way south indicates that some widespread condition is complicating the decline. Several researchers have suggested that acid rain and other airborne chemicals are contributing to the decline. A.H. Johnson in his study of the decline (entitled Decline of Red Spruce in the Northern Mountains: Determining if Air Pollution is an Important Factor) states that "Airborne chemicals could play a role in decline diseases by altering normal functions and enhancing natural stresses which initiate a decline, and by causing injury which competes for carbon with naturally induced injuries, ultimately causing carbon to drop below a level critical for maintaining vital functions. The decline of red spruce in mountain forests of the northern Appalachians appears to have been initiated by repeated winter damage to needles and buds from freezing and desiccation. Emerging research results suggest that air pollution at ambient levels is capable of altering resistance to winter stress in high elevation spruce."

The stands with the highest mortality also have fewer trees and less total volume, suggesting the health of the soil at the site is poorer. In a report for the Forest Service entitled Decline and Mortality of Red Spruce in West Virginia (by M.E. Mielke, D.G. Soctomah, M.A. Marsden, W.M. Ciesla) the authors state, "The extensive timber harvesting and associated fires which occurred around the turn of the century may have had some long term deleterious effect on the growth potential of those sites now supporting spruce, including the ability of sites to carry individual spruce for the 300+ years they can live."

*This article attempts to condense the information from three papers. Besides the two I mentioned, I also used The Ecological Status of West Virginia's Red Spruce Forests by Steven Stephenson.*



by Bill Ragette'

I took this photo after penetrating the thicket of rhododendrons, rocks, roots, fallen trunks and brush for 50 yards off trail in the Old Growth on Shavers Mountain; maybe ten years ago. This was my first trip to a real forest, a forest with roots extending back for millions of years, barely disturbed by man. The light had a magical quality filtering through the canopy. The thick humus on the forest floor was so springy. The denseness of the undergrowth made these few acres of ancient forest seem quite extensive. Giant spruce, hemlocks, mountain and red maples, beech and birch, that I wanted to visit or sit under and rest by, were not far off, but time was short and the brush was thick. I hoped the picture would capture some of the mystery, the longing I felt there, and remind me, when I was far away, why I should return.

I've always been a big fan of trees, even burdened my sons with names like Oak and Hickory; but I never understood the majesty of forests till that day on Shavers Mountain. I have to confess I've only been back once, but often in the hustle of saving the planet or making a living I try to remember the holiness of that grove, to think about what is happening

there at the moment. What do the wind and trees sound like? What critters are about? Have any of the giants died and fallen over in the last last windstorm? How thick is the snow and are the flying squirrels and salamanders alright?

I have camped and hiked in virgin forests several times since. I usually go to the Smokie Mountains because they are so extensive, the largest tract of ancient forest in the east. Too bad it's so far away. All my efforts to protect the Monongahela National Forest are fueled by the desire to have an ancient forest equal to the Smokies a little bit more accessible, if not to me, than to the future generations that will live here. I try to base my appeals of Forest Service decisions to cut and manage nature in the Mon on science and law - how clearcutting harms biodiversity, increases sedimentation, fragments populations, increases exotic species, threatens neotropical migrants... But it all comes down to the fact that unless we leave nature alone in these few remaining great tracts of wildness, we'll lose something essential to being human. There's no way anyone can know eternity, but by spending time in the ancient forests we begin to approach it.

## At play in Forests of the Lord or the Forest Service manages Grassy Mtn.

Grassy Mountain lies just southwest of Spruce Knob. The Pendleton/Pocahontas County line rises over its peak. Most of the water drains off it into Big Run of the North Branch of the Potomac River and Chesapeake Bay. To the west the water runs into Gandy Creek and the Gulf of Mexico. Northern Flying Squirrels live quite close to its top. The once devastated spruce forests and associated wildlife of the high elevations are making a comeback.

Grassy Mountain Opportunity Area (OA) is an artificial construction of the Forest Service and they have plans for it. The OA contains 8,448 acres of National Forest land. The northeastern boundary is the road to Spruce Knob, the western border is the county line, the eastern boundary is Big Run and the southern boundary is Teeter Camp Run.

On the positive side (and lets get this out of the way) for the first time ever (as far as I'm aware) the FS is proposing a CORRIDOR. Corridors are all the rage these days in Conservation Biology. And for good reasons too. This Spruce Corridor attempts to preserve habitat for dependant species (flying squirrel, varying hare) and encourages migration of individuals and genes between now disjunct populations. Some other steps in the right direction, that I can't argue with, are fencing cattle out of a riparian area (did you know that cattle graze on our national forests?), designation of 650 acres as future old growth and the construction of 8.5 miles of hiking trails. I'm a bit skeptical about hiking trails but accept them because folks usually won't fight for land that they haven't come to know and appreciate. I also wish that there was more old growth designated. The 'Forest Plan' requires a minimum of 5% dedicated to this 'use' (?) and

usually 5% is also the maximum they decide upon. This time its up to almost 8%. I'm kind of partial to the 100% figure myself.

Now the bad news. The FS hopes to cut 9 to 10,000,000 board feet of lumber from over 1500 acres of land. They plan to build 6.5 miles of new road, while abandoning 8 (not restoring to original condition). Other management projects include the creation of 22 'wildlife openings' of maybe 100 acres total. This practice, while it may seem like a good idea, fragments the forest, introduces exotics to forest interior and encourages deer and other pest species. The type of habitat created by these openings is abundant throughout the state. But the Mon is the only place in the state where extensive forest interior is possible. Another questionable practice is the construction of 30 trout habitat improvement structures in Elk Run (of Big Run). In the past (Little Blackfork) the FS has destroyed creeks with these projects. Even trout fishing aficionados detest them. What the forest service is trying to do is outguess nature. Old growth forests naturally create fish habitat improvements when the old giants fall into the streams. Putting in man made dams without declaring all riparian habitat 'old growth' is like throwing blocks in front of a car without brakes. That may stop the car this time but the better idea is to fix the brakes!!

If you take a look at the FS topo map for this OA you'll see approximately 90 project areas. I'm a little skeptical that all this management at a great deal of expense and loss of trees, can do the job as nearly as well as nature does for free. The WVHC has commented on this plan and is looking for more folks concerned about this area to help defend it and if need be monitor its management. Drop us a line.

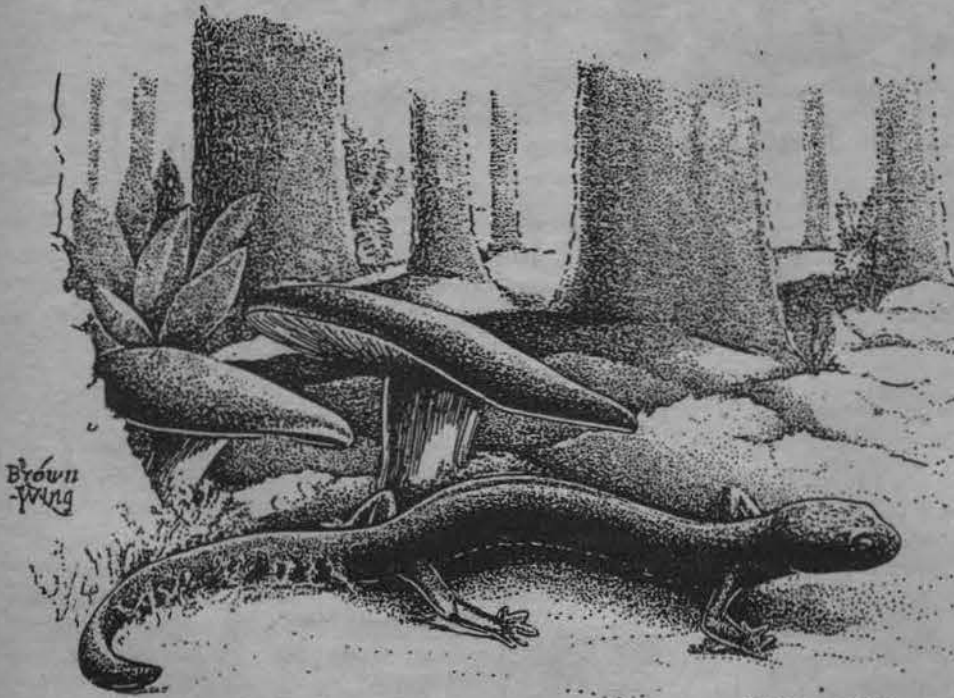


a small section of the FS topo showing various management projects for Grassy Mtn OA.

wildfire. Since Plethodon nettingi requires moist cool habitats over 2980 feet, any alteration of the habitat that reduces soil moisture and/or relative humidity may have detrimental effects on Cheat Mountain Salamander populations. Removal of the forest canopy permits a greater percentage of sunlight to reach the forest floor, resulting in an increase in soil temperature and a decrease in soil moisture." Habitat destruction not only can kill salamanders outright it can also isolate

populations and reduce the available gene pool. Smaller gene pools weakened a population's ability to adapt and survive. Roads, right of ways and heavily used foot trails can also divide populations.

The drawing and information for this article is from a study by (and conversations with) Dr. Tom Pauley of Marshall University, commissioned by the US Fish and Wildlife. The report is entitled *Cheat Mountain Salamander Recovery Plan*.



## The Cheat Mountain Salamander

The cheat mountain salamander (*Plethodon nettingi*) lives high in the mountains and only in West Virginia. It was first spotted on White Top Mountain back in 1935. It wasn't until 1979 that its status as a distinct species was determined. On Sept. 28, 1989 the US Fish and Wildlife Service listed it as a threatened species. Considering it has been found at only 68 sites in its 700 square mile range and that at 3/4ths of these populations thorough searches turned up less than 10 specimens, the salamander desperately needs protection.

**Physical Characteristics.** There's not much to distinguish this salamander. Its maximum length is about 4 inches. Its back is blackish with brassy or whitish specks. Its venter (abdomen) is uniformly dark gray to black. Similar species in its territory have spotted venters or a white spot near the eyes.

**Range and Habitat.** The northernmost population was discovered in Blackwater Falls State Park; the southernmost near Bald Knob in central Pocahontas County. Most of the populations are in the spruce forests on McGowan, Cheat and Shavers Mountains and Spruce Knob. The liverworts that can cover the ground in spruce forests keeps the soils moist. Some populations occur in mixed northern hardwoods but always at high elevations. Leaf litter and thick humus layers are essential in these types of forests. Although it appears from laboratory tests that the salamander can survive in the heat of lower elevations, competition from the dusky mountain salamander keeps them from expanding their range down the mountain. Populations extend vertically about 200 feet. Horizontal extent of two populations has been determined to be 26 and 11 hundred feet. The Cheat mountain salamander needs a more moist habitat than other salamanders and can be found only in microhabitats within its range that offer this moisture. Its present range is probably only a small fraction of its historical range, as vast acreages of its prime habitat have been cut over and burned since european settlement of the area. Although clearcutting is definitely harmful to the salamanders' habitat, in that it dries out the forest floor, the fires that raged through the cut-over forests in the first decade of this century and burned off most of the debris and humus were particularly devastating

**Life History.** Actually not very much is

known about the salamanders' life history. The few observations that have been made suggest that the female lays 4 to 17 eggs in nests in late May to mid August. Studies of similar species reveal that females become mature at four years, may live to 20, and lay eggs only every other year. Dr. Tom Pauley reports seeing a female with 8 hatchlings (about 2/3" long) in late September. He also reports that their diet consists of mites, springtails, beetles, flies and ants. It appears that the salamander doesn't travel much, perhaps no more than 3 or 4 feet from its home during its life.

**Species History.** That fact got me thinking. How is it that the populations are so scattered now if they don't travel more than a yard? Some of these populations are miles apart. Tests of the salamander's DNA reveal that the genetic material within and between populations is nearly identical; that they are very closely related and populations that are now distinct were interbreeding as recently as a few thousand years ago. I called Dr. Pauley about this. He said that these critters have been around for millions of years and always in this area. A lot of things can happen in that amount of time. It appears from the data that the salamanders must at one time have enjoyed a much wetter climate when their populations were more or less contiguous. Then about 3,000 years ago, the climate became much drier and many populations not near wet spots died off.

**Threats -** The two types of threats to the survival of the species are other salamanders and humans. One experiment that put the red backed salamander with the cheat mountain salamander showed that although the cheat mountain salamander was more aggressive, the red back won the day by biting its adversary on the head. The threat from humans is more complicated, but is mainly due to destruction of habitat. I already mentioned the extensive cuts and fires earlier in the century, but habitat destruction through the removal of the canopy still continues. According to Dr. Pauley, "Activities that remove the forest canopy include road development, ski slopes, various methods of timber harvesting, wildlife openings, utility right-of-ways, mining activities, insect infestations such as gypsy moth and some

# Heartwood to host National Forest Reform Pow Wow

*Heartwood is a coalition of individuals and groups from Missouri to West Virginia working for the preservation of the National Forests. The National Forest Reform Pow Wow has been held for several years and allows forest activists and forest activist wannabees a chance to get educated and generally have a good time. Two years ago the Pow Wow was in New Mexico, last year Virginians for Wilderness sponsored the Pow Wow near the George Washington National Forest. This year its Heartwood's turn. It's being held over Memorial Day weekend at Cathedral Domain, a classy private camp within the boundary of Daniel Boone National Forest in Kentucky, near Red River Gorge. All types of lodging/camping and food arrangements are available. What follows is Heartwood's spiel about the forest and the agenda for the Pow Wow. I hesitated about putting all the menus in, but if it persuades a few more folks to go then it will be worth the space.*

The mighty forest is now a tattered patchwork of its former diverse glory. Vast bottomland hardwood swamps have been cleared and drained for corn and soybeans. High ground grows cities, highways and fields, where it once grew oak trees ten feet across and a hundred feet tall.

Only small, isolated remnants of native virgin forest still stand anywhere in the region. Some species like the Passenger Pigeon and the Wood Bison have disappeared. The American Chestnut barely clings to life. Many other species, including numerous breeds of migrating songbirds, are in serious decline.

Heartwood opposes the logging of our public forests. These forests represent the best opportunity for the native forest to heal itself. Instead, they've been clear-cut, poisoned, roaded, strip-mined, and overrun with off-road vehicles. Chip mills and acid rain threaten the forest's very survival. We challenge this degradation in the forest, in the courts and in the Congress.

Tragically, much of the timber cut goes to waste. Reduction of waste, improved efficiency, and increased recycling could eliminate the need for any logging in our public forests.

## AGENDA FOR POW WOW

The basic framework for the 7th Annual Pow Wow is in place; a more detailed agenda will be available at Registration. Heartwood's goal is to provide a forum for interactive discussion, coalition building & national strategizing.

### Friday, May 28

3:00pm Registration opens  
6:00 Supper-Vegetable Enchilada, salad, chips/dip, squash pie in ginger crust  
7:30 Evening Program- Heartwood Welcome; Ned Fritz-Forest Reform Network-Branching Out for Broader Unity; Dark Rain & James Alexander Thom- Local History & native Culture  
9:00 Socializing, BYO Slideshow, music & campfire with Bill Oliver, Glen Waldeck, & friends.

### Saturday, May 29

The goal of Saturday's workshop & field trips is to give forest protectors the skills and tools needed to be effective.

6:00am Registration opens. Wake up workshop.  
7:00 Breakfast-wv pancakes, fruit salad/yogurt, granola, juice, milk, coffee & tea.  
8:30 Group Session-Save America's Forests  
9:30 Workshop or Walking Tour  
11:00 Workshop.  
12:30pm Lunch-Three bean soup, cream of broccoli soup, cornbread, waldorf salad, cobbler.  
2:00 Workshop or Walking tour.

6:00 Supper-Spinach lasagna, pasta cauliflower, salad, garlic bread, cookies & ice cream.  
7:30 Regional Meetings-informal gathering to become familiar with individuals & issues in your region.

9:30 Band, dancing & campfire.

### Sunday, May 30

Sunday's panel discussions are designed to help forest activists consider the larger picture of conserving biological diversity in our nation's forests. "Putting out fires" through legal appeals, establishment of wilderness areas and direct actions in defense of wild lands must be combined with attention to jobs & social justice, waste & consumption, community & economic sustainability and a myriad of other issues.

7:00 am Sunrise Worship-Al Fritsch

8:30 Breakfast-Eggs, fried potatoes, orange

sections, juice, milk, coffee, & tea.

9:30 Building Coalitions: Labor & Environment- Richard Miller-Oil, Chemical & Atomic Workers Union; Ron Judd(invited)-Oregon Bldg. & Trades Council; Leslie Kochan (invited)-Labor/Environment Solidarity Network. Communities in Economic Transition-Bob Mitchell-TN Valley Hardwood Alliance; Henry Carey- Forest Trust.  
12:30pm Lunch-Walnut cheddar loaf/gravy, parlied potatoes, grm. beans, corn, rolls, pie.  
2:15 Waste & Consumption-Iouie Mann-Urban & Industrial recycling programs; Maurice Sampson-Institute for Local Self-Reliance; Denny Haldeman-TAGER.

4:30 Outdoor Festival: storytelling & live music featuring Dillon Bustin, games auction, supper, and more!

8:30 Evening Program: Invitations have been extended to members of Congress & the new administration to discuss changes in forest policy.

9:30 Mist-netting for bats-John MacGregor, Daniel Boone NF biologist.

9:30 Campfire & music with Bill Oliver and Glen Waldeck-bring your instrument & join in!

### Monday, May 31

Monday's goal is to leave the Pow Wow weekend with a strategy for implementing a unified national legislative platform.

8:00am Breakfast-French toast/maple syrup, apples/yogurt, granola, juice, milk, coffee, tea.

9:00 Final Meeting-moderated by Jim Jontz & the participants in the Strategic Legislative Planning Workshop.

10:30 Direct Action Prep as planned in Saturdays workshop

11:30 Closing Ceremonies.

12:30pm Lunch-potato leek soup, grilled cheese sandwiches, applesauce cake/lemon sauce.

1:30 Departure & direct action.

## Workshops

Introduction to the Appeals Process & Appeals Writing lab; Lobbying & Legislation and Strategic Legislative Planning  
Confronting the Wise-Use Movement, Wildlands restoration and protection of Natural forests; Sustainable Management of Private Woodlands

Utilizing Environmental Laws to protect Biodiversity

Beginning Forest Activism  
Fundraising, grant writing etc.

Media and Media Practicum

Organization Building

Corporate Abuses; Forest Health (slideshow); Off-road Vehicles; Student Activism

Direct Action; Chipmills

Mining

## Walking tours

Bat Ecology, Stream ecology, Forest Ecology, Archeology, Oil Gas, and Coal

## LightHawk Over-flights

Daniel Boone NF over-flights will be offered by LightHawk. Call Gwen Marshall at 513-761-6978 for more information.

Display Booths: Space will be available to display information; you will be responsible for your own materials and sales.

No disposables: Bring your own beverage cup (disposables will NOT be available!)

For registration brochures or more information write Heartwood, RR4 Box 292, Carbondale, IL 62901 or call Andy Malher (812) 723-2430 or Mindy Harmon (618) 684-6897 or the editor of this paper.

Please register by may 15th



## A plea from the editor

You can substantially reduce the Conservancy's phone bill and keep me from burning out if you'll just write an article once in a while. Or send in interesting semi-relevant articles you've read elsewhere, even ideas for articles or issues. I know many of you can write gooder than I can. I've had to write 1/2 of this issue and that's definitely not going to continue. I was hoping to focus on different ecosystems or problems in each issue, but I'll most likely use whatever you send in. Here's some ideas to get you started.

### special issues

*Riparian Habitats* - wetlands and bogs, stories on your favorite fork or river, listed and candidate species, threats, joys

*Solid waste review* - the big and local pictures on landfills, in the near and distant future, alternatives, updates on problems and solutions.

*Underground* - mining, groundwater, caving and cave creatures

*The Environmental impacts of tourism and recreation.*

### Ongoing topics,

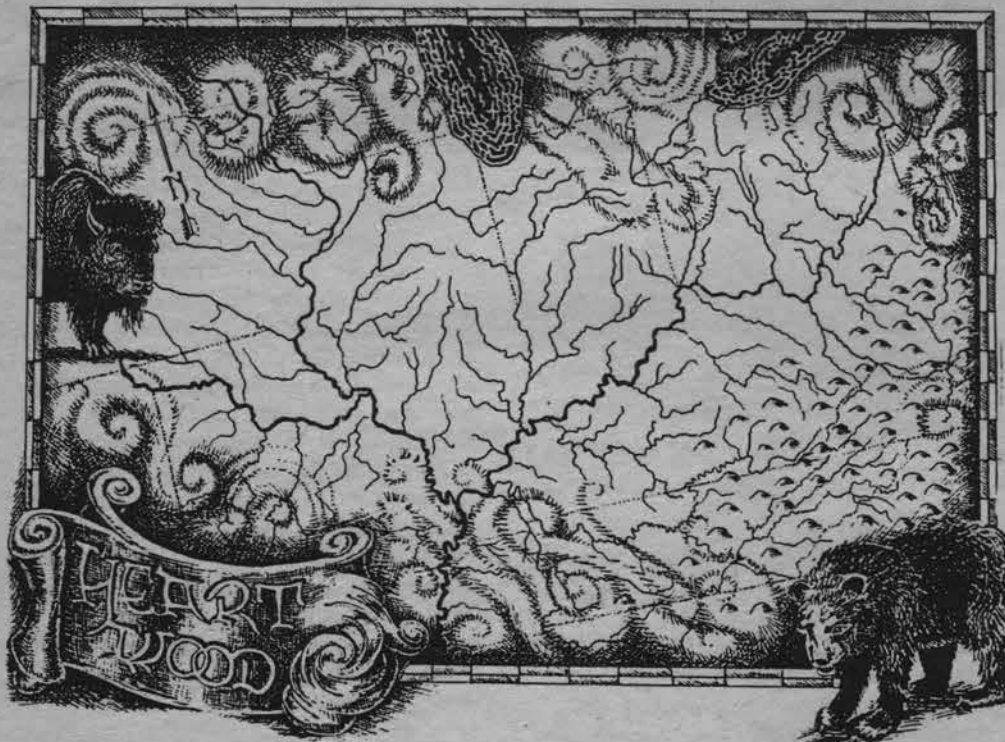
*Watching the Monongahela* - with six ranger districts and 1,000,000 acres to watch we need as many folks out there sending in reports on what's happening with our national forest.

*Corridor H* - It's not built yet. Still plenty of time to??

*Old growth project* - The FS lists over 2500 acres in the 150+ year old age class. Adopt a compartment or stand of trees, send in reports.

*Book reviews, poetry, drawings, photos.*

**Deadline the 15th of every month.**



To get from the forks of the Elk and Kanawha (present day Charleston) to the Pow Wow, take your canoe down to the Ohio River hang a left take third major river on left (Kentucky River-see map)

# In the path of D5, Corridor H Revisited

by Chuck Merritt

Corridor H, the long discussed, cussed and studied 4-lane highway running from Interstate 79 at Weston, WV to either Winchester or Strasburg, VA, has entered a new level of imperative. We concede the inevitability of the highway reaching Elkins from the west. Oh, but the fight is going to get hotter in the coming year as to its fate in trying to blast through the mountains and on to Interstate 81 in Virginia.

On March 11, at an all agency (state and federal) meeting in Charleston, WV, state highway officials made the state's choice of preferred routing known. A scheme of neither southern nor northern orientation, called D5, was chosen. While it does avoid the heart-wrenching environmental destruction of the southern routes, it still racks up many gut-wrenching environmental and cultural casualties in its outdated and insensitive path. During the public comment period, ending in late February, 6400 letters and statements about Corridor H were tabulated and categorized by Michael Baker Assoc. Of these 70% favored building the highway. I am gratified that, in only a few short months, the truly less damaging option of not building a 4-lane highway at all was chosen by fully 30% of responses tabulated and, I feel, probably mentioned by many more. But as to Scheme D, only 34 letters specifically supported this route selected by the state. It is truly a bastard route, wanted only by those committed to building a highway, no matter where, just build it!

Starting just north of Elkins in the Leading Creek watershed the environmental damage mounts quickly. This watershed contains numerous small, yet high quality, wetland areas missed in the Draft Environmental Impact Statement studies. In fact, the highway corridor consistently straddles Leading Creek from its mouth on the Tygart River to where the corridor leaves it on its infamous Sub-Scheme KP at Kerens, WV. The stream impacts will be high as the whole area along Leading Creek is a flood plain and will require a road bed raised above flood levels. The roadfill and bridge crossings and/or channelization of Leading Creek will destroy the character and much of

the effectiveness of this wetlands area as waterfowl and other wildlife habitat. No, Leading Creek is not a trout stream (just smallmouth bass, suckers and catfish) but the wildlife and people along it call it home, just the same!

I previously mentioned Sub-Scheme KP. When citizens of Montrose, WV saw that the northern routes would bisect their town, they turned out in some numbers (400 to 500 letters and petition signatures) and protested to the state and to Senator Byrd's office in Washington, DC. Senator Byrd, who has said in many letters that he had no input into the route selection, had his staff (Pat Brain) place a call to the WV Dept. of Highways and left Montrose untouched by forcing the choice of Sub-Scheme KP. This is a costlier (in both money and environmental damage) routing of the 4 lane through many miles of, at present, lightly impacted national forest and a quiet rural community of individual homes and churches. Sub-Scheme KP completely alters or obliterates the historic Civil War battle site of Corricks Ford where the first Confederate General killed in action (General Garnett) met his fate. The Highway corridor crosses the Shavers Fork River at the mouth of Pleasant Run. This in a segment of the river that is being studied and should be eligible for National Wild & Scenic River status. The highway would severely impact this stretch of Shavers Fork for close to five miles. The terrain is such that as Scheme D5 approaches close to Parsons, WV the highway will require (to avoid the local Kingsford Charcoal manufacturing plant) a severe and ugly hillside cut, next to the river, on national forest land. The river will be further impacted here by rip rap fill on its banks and by the close proximity of visual and noise pollution. Potentially devastating spills from accidents on the highway could severely damage the river in this area.

Scheme D5 then cuts across a foothill of Fork Mt (skirting Fernow Experimental Forest) just south of the Quality Hill neighborhood of Parsons WV. With another series of flood plain avoidance measures and a bridge, it crosses the

Black Fork River just downstream of Hambleton, WV. It then cuts up the Mackeyville Road area destroying more rural homes and impacting churches and lightly used rural areas while bypassing the existing U.S. 219 as it climbs Backbone Mt. The highway, if built, will become the dominant view from Olson firetower as it cuts through national forest lands. It will also destroy the quiet and wild character of the area and raise noise pollution levels as far away as Otter Creek Wilderness Area as trucks "jake" brake down the grades to the bridge crossing the Black Fork River.

The destructive path then crosses the headwaters and feeder streams of Big Run and Tub Run. Both have significant wetlands within their watersheds and drain into the Blackwater River in the canyon section. This area has, in the past, suffered some strip mining and heavy logging but is recovering and is a high quality game (deer and bear) habitat. Road kill losses will be high as the highway will be a difficult obstacle to avoid for these highly mobile animals.

The casualties of the "benign, middle road" keep mounting and I have not fully covered one third of its length. Down the Road/Highway alternatives sees the price in all aspects of this damnable Scheme D5 as too high. The costs are too great to the environment, to the pocket book, to the spirit and too great to be born into the future. Individuals and organizations are changing their minds (such as the Harrison County Environmental Council) and supporting us with letters to the state and especially federal officials about the non-need and desirability of the mega-highway and/or the taxes to pay for it! Come join us in the hot fight ahead—silence is the voice of complicity.

Corridor H's destructive path is a long one, much too long to cover in this one article. I will take up the rest of Scheme D5 in a future issue of the Highlands Voice with your patience and permission of the editor.

Chuck Merritt, Down the Road/Highway Alternatives, Box 11, Kerens, WV 26276  
(304) 478-4922

## Stewed in the Canoe

On May 1, 1993 Down the Road/Highway Alternatives is hosting a Benefit Canoe Adventure and Dinner Dance in and near Elkins. Have a good old time while saving the planet. Complete (canoe, paddle, lifejackets, shuttle service) Outfitting Available \$12.50 each. Breakfast at 8:30, trip starts at 9:30

Dinner and square dance featuring the fabulous and zany Stewed Mulligan - 7 pm at the American Legion. Call 478-4922.

## Letter on the Corridor

Dear Editor:

When you read this, a route will have been chosen for the Corridor H juggernaut. We bet it won't go south. We pause in our work against the road to acknowledge your good intentions and credit your role. Time is of the essence for the build-it bunch, and they know Scheme A would mean delay.

Most of you thought "Go North" meant Scheme E. Please look again at D. Look at the wetlands, the farms, the forests, the rivers, the communities. Look at us, the people who live here. We understand that this project would be lucrative for a few and a loss for the many.

What we have here is valuable not only to us but to those who visit and appreciate a rare place in the East that has not suffered overdevelopment. We must protect and care for it, not go further into debt to destroy what makes it special.

These corridors were sketched thirty years ago. "Progress" then is not progress now. The Potomac Highlands is not south of Charleston. What Corridor G might do for commuters in a densely populated area has no relevance to what Corridor H would do to our thinly populated mountains. The first executive director of the Appalachian Commission, Ralph Widner, reassessed the ARC after 25 years. He found, in essence, that new highway construction was an idea whose time has gone. Now, our best investment for economic development is education.

Corridor H is a dinosaur, dead on its feet. We need many goodhearted people with shovels to help bury it. Don't let lukewarm support for a northern route cool to apathy. Look again. We need your passion against this stupid idea. We need you to help us tell people across the country that they can save a billion plus right here, and save a precious jewel too. Tell your neighbors the gas tax is another bad idea; don't encourage the highway department to build more roads they can't maintain. Tell them we want to fix highways through the mountains—and they can keep the change. The first comment period is over, but there are plenty of people to write: not only Sen. Byrd, Vice President Gore, and Gov. Caperton, but also Secretary of the Interior, whose Fish and Wildlife Service has stood firm against the destruction, and the National Trust and Historic Preservation. We'll bet you think of more.

Write us too!

Terry Miller

Down the Road - Highway Alternatives  
PO Box 11, Kerens, WV 26276



*Shavers Fork River at the mouth of Pleasant Run. Typical class 1-2 whitewater of the proposed Wild and Scenic River Segment. This is the site of the bridge that would cross the river in Scheme D5.*

## Song of Red Creek

by Robert Stough

still in your dreams  
 you can wander upstream  
 on a cool mountain morning,  
 past sun-sparkling rapids  
 and clear quiet pools,  
 drinking pure sweet springs  
 cascading down dark hollows  
 from high birdsong meadows,  
 climbing up the wild canyon  
 you follow the water-music  
 echoing among the giant hardwoods  
 through mazes of boulders  
 and dark tangled thickets  
 until at last  
 you crest the high plateau,  
 where the old creek  
 runs gentle and slow,  
 and the peaty soil is dark and deep  
 from a hundred generations  
 of green mountain spruce,  
 and still in dreams

you may wander among them,  
 wrapped in the ancient silence  
 under their great gray trunks  
 soaring far into the sky,  
 their deep-rooted serenity  
 weaving through your weary bones,  
 still in dreams  
 you may wander among them,  
 but only in dreams,  
 for they are gone now,  
 'not a stick left standing',  
 was the lumber baron's boast,  
 as their voracious maws consumed  
 every branch of the strength and  
 balance  
 they call board-feet and pulpwood,  
 until even the earth itself,  
 the loam of uncounted ages,  
 caught fire in a dry autumn  
 and slowly burnt to death,  
 to bare quartzite rock,  
 and then everything was gone,

even the future,  
 a vast primeval forest  
 become bricks of gold  
 in the vault of a big-city bank,  
 so though it may start cracks  
 in your bark i tell you this tale,  
 for you must not forget it,  
 and you in your turn  
 must pass it on down, that all  
 may know what they have lost,  
 and of what we still may regain  
 with honest labor and deep respect  
 for each and every thing;  
 the beauty and prosperity  
 of people living in harmony  
 with the land, and the peace  
 and wisdom that grows from those  
 roots,  
 the most precious things  
 that ever were  
 or ever shall be.

## Constantz (from page 1)

as a pipe from a factory, nonpoint source pollution comes from a broad array of hard to control sources. These sources include runoff from farm fields, streets and highways, construction sites, and logging areas. Another source of nonpoint pollution is malfunctioning septic systems that leach pollutants to the surface.

"The pollutants from these sources come in many forms. They may be bacterial, nutrients, sediment, or ammonia. In other cases, such as runoff from farm fields treated with pesticides or herbicides, the pollution may include toxic chemicals." In the Cacapon Basin "farming practices - particularly allowing cattle free access to the river and plowing too close to the riverbank - appear to be the major causes of nonpoint source pollution.

Lost River had the most cattle access sites and also yielded the highest fecal coliform count. In contrast, Lower Cacapon has the lowest number of cattle access sites and the lowest fecal coliform count." The count exceeded state standards in all four reaches of the river at high flow, and at all flow levels for the Upper Cacapon and Lost River. Downstream from these reaches are located five children's summer camps, hundreds of riverside homes and many public access sites for recreation such as swimming, boating, and fishing.

But the Cacapon also faces other dangers. Major change is coming to the area, population growth, new and expanding industries, dams and possibly Corridor H. Although West Virginia has laws to protect water quality, the funds and/or desire to enforce them and to document changes in water quality are absent. The study makes four recommendations to protect the Cacapon. 1) The riverbank corridors of vegetation that defend the river against a wide range of threats must be restored. 2) Further riparian damage must be prevented. 3) The Cacapon's health must be monitored and 4) More study is needed.

Because of its location, between the mad growth to the east and coal mining to the west, the Cacapon has escaped the fate of many other rivers. The study asks "How long will the Cacapon's luck hold out? Rather than waiting to find out, like a gambler, we should act now to protect this special river."

All quotes, photos, and drawings associated with the article are from the baseline study, which is available from Pine Run Ecological Laboratory, Route 1, Box 469, High View, WV 26808 (304) 856-3911. Some of the sidebars are from the periodical they also publish entitled Cacapon.

## In DC with WVHC

by John Salstrom

On February 26, 1993 representatives of grassroots citizens organizations, which are concerned about the adverse affects of coal mining on homes, communities, and the environment, met in Washington, DC. All the groups are members of the Citizens Coal Council, a nationwide organization. I represented Highlands Conservancy, the only West Virginia organization in the CCC.

Much planning went into the five days of meetings that followed. It is a pivotal time for regulatory agencies generally because of the new Democratic Administration. More specifically, big changes are needed, anticipated, and desired in the leadership of the Office of Surface Mining.

In our meeting with the "White House" staff, stationed at the Department of the Interior, in charge of new personnel, all

groups made it perfectly clear that new and strong leadership was needed to undo 12 years of lax enforcement under the Reagan and Bush administrations.

Our day long meeting with the leadership of OSM was the most confronting of the week. Citizens from all across the country gave powerful testimony as to the absence of any enforcement of mining laws, either at the state or federal levels. It is perfectly clear, that time after time any and all regulatory agencies spend more energy justifying their reasons for not enforcing mining law than they do actually enforcing the law.

During what was described as an "historic meeting" that day at the Office of Surface Mining we verbally and visually presented Acting Director W. Hord Tipton with seventeen "demands." We felt these were

realistic and clearly in his power to carry out. Highlands Conservancy hit hard on the acid mine drainage problem and the importance of citizen participation in all aspects of carrying out mining law and regulation.

Although it is difficult to forecast what actual changes our meetings will bring about, it would be hard to present citizens' concerns in more forceful and poignant testimony than that week in Washington. I was very impressed with the staff of the CCC and all of the representatives from across the country that went, like I, to deliver a simple but tremendously important message to Washington: the protection of citizen rights and the environment in America's coalfields has virtually disappeared. We need and demand that it be brought back.

### Join the West Virginia Highlands Conservancy

Category	Individual	Family	Organization
Senior/Student	\$ 12	-	-
Regular	15	\$ 25	\$ 50
Associate	30	50	100
Sustaining	50	100	200
Patron	100	200	400
Mountaineer	200	300	600

Name: \_\_\_\_\_

Address: \_\_\_\_\_

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Make checks payable to: West Virginia Highlands Conservancy  
 Mail to: P.O. Box 306, Charleston, WV 25321

## Cacapon Basin's Geological origins

Weathered outcrops and boulder-strewn mountainsides of the Cacapon River basin offer clues to a geologic history hundreds of millions of years old. About 250 to 300 million years ago, Appalachia underwent its last phase of mountain building. Peaks were thrust four to six miles above sea level, then slowly eroded into the rounded shapes we see today. This period of mountain building-known as the Alleghenian orogeny-also left massive folds and fractures in rocks of the Cacapon River basin.

Today, the area is part of the Ridge and Valley Province. From the air or on a map you can see why: accordion-like folds have forced the Cacapon and other rivers into a series of straight, parallel drainages divided by ridges.

Most Cacapon rocks are sedimentary-made of tiny grains of rock that collected in water and then were compressed and cemented

together. The presence of sedimentary rocks and the occasional trilobite fossil tell us that an ocean once covered the basin.

The oldest rocks in the basin are 500 million years old. Much younger, however, are some of the landscape features. Only 20,000 years ago huge landslides occurred. Look carefully along the east side of Lost River, just north of the town of Lost River, and you can find the remains of one of these prehistoric landslides. Approximately one million cubic feet of sandstone fell from the hillside and spilled into the valley.

*Thanks to Vince for the Map of Heartwood area, the sunflower and for sending all those drawings I hope there's room for next issue.*