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Sections of Greenbrier Included In Rivers Bill

On May 5 Representative Nick J. Rahall, at the request of Rep. Harley Staggers, included approximately 120 miles of the Greenbrier River in the West Virginia Rivers Bill (HR 900). The section of the river from near Cass to near Marlinton has not been included; this section is under study by the Army Corps of Engineers as a possible site for a flood-control dam.

However, if after three years from the date of the passing of the Rivers Bill, the dam has not been authorized, the Cass to Marlinton section will be included and will receive scenic status. The Corps of Engineers study of this section should be available by the end of the year.

The WVHC had proposed including the east and west forks above Durbin and the main river down to near Caldwell for inclusion in the Rivers Bill. In his testimony



U.S. House Committee on Interior—L to R: Subcommittee Chairman Bruce Vento (D-Minn.), Subcommittee Counsel Rick Healy; U.S. Rep. Nick Rahall (D-WV); Jim Zoia, staff director to Rep. Rahall - listen to testimony of WVHC President John Purbaugh. Photo by Larry W. George.

before the Subcommittee on Public Lands and National Parks on April 23, John Purbaugh, President of WVHC, said, "Protection of the Greenbrier is important both because it is an important part of the interconnected rivers already included in the bill, and because in its own right it is a river of spectacular wilderness and pastoral beauty."

"The Conservancy," Purbaugh said, "is on record as supporting feasible flood control measures [on the Greenbrier River], perhaps including local protection projects or tributary impoundments, which are consistent with wild and scenic river status."

Jim Zoia, a member of Rahall's staff, said, "We don't see the Greenbrier inclusion as a problem because of the provision allowing completion of the flood control study and possible action on it."

The Rivers Bill received strong support from local and state officials and from other conservation groups during the hearing.

Park Service officials, however, testified against the establishment of the recreation area on the Gauley and wild and scenic designations for the other rivers, arguing that the state should protect the rivers.

Park Service studies done several years ago found that all three river segments, the Gauley, Meadow, and Bluestone, possess outstanding scenic, recreational, geologic or wildlife values, and thus are eligible for federal protection in the national wild and scenic rivers system. However, in 1985 the Park Service did not recommend them for federal protection, citing a lack of enough public support for the move.

Administration officials noted that although there now seems to be a great deal of public support for the Rivers Bill, the state should be the agency to protect the rivers because most of the land along the rivers to be protected is privately or state-owned. The officials said federal protection would require extensive land acquisitions that the govern-

ment cannot now afford.

Proponents of the bill pointed out that these rivers are among the wildest in the East and are a nationally significant recreational resource that deserves federal recognition and protection.

During his testimony for the Conservancy, Purbaugh also recommended that the section of the New River from Fayetteville to Gauley Bridge be included in the bill. In 1978 Congress in authorizing the New River Gorge National River excluded this ten-mile segment of the river, but expressly directed the Park Service to study the feasibility of including this stretch. "Nearly ten years of experience," Purbaugh said, "have shown that inclusion of this stretch is necessary to accomplish the statutory management objectives for the river."



U.S. Rep. Harley Staggers, Jr., (D-WV) testifies on H.R. 900 before Subcommittee. Photo by Larry W. George.



WVHC President John Purbaugh testifies before Subcommittee on H.R. 900. Photo by Larry George.

WVHC Spring Board Meeting

At the April 26 meeting, the Board of Directors reaffirmed their position on including the Greenbrier River in the West Virginia National Interest Rivers Act and supporting flood control measures on the Greenbrier least disruptive to the Conservancy's protection goals. Anne Gentry, Chair of the River Conservation Committee, reported on the House Subcommittee on Public Lands and National Parks hearing on April 23, which she, John Purbaugh, and several Committee members attended. (See related story on page 1.)

The Board also agreed to collect funds to be used in a grassroots campaign to gather support for the River Bill.

The report of the Public Lands Committee focused on the use of the Monongahela National Forests by various military agencies for maneuvers. The main concern was that, with the expanded facilities at nearby Camp Dawson, the use by the military of the Forest could be tremendously increased and that strict guidelines need to be established on the military use of the area. The Board concluded in a resolution that the Forest Service should be the agency to determine these guidelines and determine what environmental impact these maneuvers will have on the Forest.

The Public Lands Committee also brought up the proposed action by the state to transfer the Greenbrier River Trail State Park from the Department of Commerce to the Department of Natural Resources. The Board voted to support having the Greenbrier River Trail remain with the Department of Commerce.

Larry George proposed that the Conservancy join the Natural Resources Council of America (NRCA), a conservation coalition which does not take positions on issues but monitors the Congress and Executive Branch and collects technical information for members. The Board approved the motion, and Skip Deegans was appointed to be the Conservancy representative. The NRCA Board of Directors must approve the Conservancy application before membership becomes official.

In other action, the Board created an Air/Water Resources Committee. Kim Taylor of Charleston is the Chair of the Committee; other members include John Purbaugh and Don Gaspar. Anyone who would like to help on a given issue may contact the committee chairs and offer his/her services. The address of each chairperson is listed in the roster on page 2.

Following a report on the Conservancy Endowment Fund, several members expressed a concern about the lack of guidelines for accepting gifts, particularly gifts from industries whose interests may be in conflict with the Conservancy's goals. Perry Bryant was appointed to chair a committee that will create a policy statement on this issue.

Larry George Resigns

Shortly after the Spring Board Meeting, Larry George submitted his resignation as Past President, member of the Board of Directors and Chairman of the Endowment Fund of the West Virginia Highland Conservancy. In his letter of resignation George cites the failure of the Board to act upon a long-standing problem as the reason for his resignation. He says, "Last October, I recommended that the Board of Directors prohibit the West Virginia Citizens Political Action Committee [CitPAC] from asserting the Conservancy's name in political endorsements . . . Regrettably, the Board did not take dispositive action and CitPAC has continued to assert the Conservancy's imprimatur in political endorsements."

George had served on the Board for eleven years.

— Mountain View —

Groundwater Thievery

by John Purbaugh

Every perfect crime is, to some extent, an "inside job." Organized thievery, on a very large scale, requires that the authorities look the other way. Well-planned, organized theft of groundwater quality in West Virginia is coming, under the comforting label of the Director of DNR's Groundwater "Advisory Committee." The fundamental issues on groundwater quality can be formed in two questions: "Will we protect groundwater from being further polluted?" and "Will we make sure that it is safe to drink for us and our children?" Since my family's drinking water comes from a well already adversely affected by an old gas well, the answer is clear to me: The State should set groundwater quality standards which guarantee that no citizen should have to treat his well water to make it safe to drink, and the best way to make sure of this is to stop groundwater pollution from new sources and control it from existing ones. Of course, every rule needs some reasonable exceptions, and these should be provided, perhaps where groundwater is already unfit for consumption, and where it can be shown that limited degradation of existing groundwater quality is socially or economically justifiable.

Groundwater quality became a hot issue recently when the West Virginia Water Resources Board told the chief of the water resources division of the Department of Natural Resources that since there were no groundwater quality standards on the books, he couldn't require a power plant to take steps to prevent groundwater pollution. The Board somehow neglected to mention that it had failed, for over 15 years, to fulfill its mandatory duty to set such standards.

Enter DNR Director Ron Potesta, who appoints an advisory committee to advise him on groundwater issues. All the parties necessary to show a broad-based effort are present: the Sierra Club, the well drillers association, the League of Women Voters, the coal, oil and gas, and manufacturer's associations, the U. S. Geological Survey and the West Virginia Water Resources Board, and the "insiders"—the Departments of Natural Resources, Energy, Health and Agriculture. Subcommittees are named, meetings held to which principals send alternates, reports produced, and the warm comfortable glow of a "productive dialogue" descends like a blanket . . . until a subcommittee has the nerve to present a report recommending that the State's policy be to preserve existing groundwater quality with some few exceptions. Admonitions, first gentle ("as an advisory committee, it's not productive to vote early on sensitive issues like this") and later stern ("ultimately, the decision is mine") are delivered. Acceptance or rejection of the report is delayed, while everyone regroups for another turn at the dice on a gameboard with no apparent rules.

Industry's view, as consistently stated throughout this process, has been that they should be allowed to pollute groundwater, just short of the point where human health is endangered. They do acknowledge that there may be groundwaters of "special significance" where a person could demonstrate the need for a greater margin of safety, but they want the general rule in the absence of proof to the contrary to be: Pollute at will until we reach the point just shy of where groundwater is unsafe to drink, and there we'll stop. (Alcoholic husband to long-suffering spouse: "Honey, I know my limits and when I get there I'll stop—trust me.") The biggest problem is that this approach requires ma and pa and me and you to prove (how we're not told) that our groundwater deserves protection as it is without further pollution.

The other approach, which is consistent with this state's surface water policy, is to have the general rule be to protect all groundwaters at their existing quality where that is better than minimum drinking water standards, with room for exceptions where industry justifies its need to pollute.

On this issue, the state agency insiders plead for "neutrality," broadly hinting that they will act in fact to protect ma and pa's water, but steadfastly opposing any system which would require them to do so. This simple act of bureaucratic cowardice is an "inside job" condoning the coming theft of groundwater quality. I fully expect industry to pursue its own interests first, but I also expect state government to take a stand on this issue. "Trust us to take care of your interests without being required to do so" is their response. Keep one hand on your wallet, and the other on your water.

Member Expresses Dissatisfaction

Dear Ms. Worthy:

In truth, I am dissatisfied with your organization. I have contributed as a member for several years, and am quite aware of the good work done. I am, however, perturbed that over the years, you solicit my input, and never acknowledge it. I am not a member, but a donor. And that's okay—but call it that.

While I'm communicating, you might as well hear about my concern, again. It's ATV's. This is a serious unregulated problem in West Virginia and should be addressed. The three and four wheelers are shrinking our wilderness . . . There was a time in West Virginia when a person could, if he so chose, hike a couple of miles and escape the "traffic" . . . those days are gone.

And how about the black bear? The bear is hunted relentlessly and with every mechanical and electronic device available. ATV's with radios, reserve (fresh) dogs, and every other possible device . . .

Well, so much for two of my concerns. Your organization has heard them before. Keep up the good work and good luck.

Very truly yours,
Richard G. Bird
Marlinton, W. Va.

Roster of Officers, Board Members and Committee Chairs

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VICE PRESIDENT FOR FEDERAL AFFAIRS: Scott Martin
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TREASURER: Tom Michael
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W. VA. COUNCIL OF TROUT UNLIMITED: Don Brannon
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(The concerns of individual members of the Conservancy are important. The WVHC in order to be an effective organization cannot, of course, focus on all of the conservation problems brought before it with equal attention. Those problems that are the major concerns of most individuals are the ones that will receive the most attention. At the moment the major concerns are making Canaan Valley a wildlife refuge, acquiring federal protection for a number of West Virginia rivers, and monitoring mining practices in the state. Other issues, such as those brought up by Mr. Bird, also deserve attention, and the WVHC has the vehicle that individual members may use to focus attention on their concerns: **The Voice**.)

The **Voice** welcomes articles and letters from Conservancy members on any conservation topic, outdoor activity, or unusual natural areas that members feel would be of interest to others. Anyone needing more information may contact the **Voice** editor at the address in the roster.)

You Never Step Twice Into The Same River

by Kim Casto

On October 10, 1985, the issue of commercial use limits for the New River outfitters finally came to a vote at one of the Department of Natural Resources White-water Advisory Board meetings. The West Virginia Wildwater Association (a group of non-commercial paddlers) had launched an effort to see that commercial use limits were kept at a level that would allow a paddler a safe, enjoyable trip down New River unimpeded by commercial traffic. Realizing that the days of running the river and not ever seeing a raft trip were long gone, we were primarily concerned about personal safety on the river. For a kayaker, it is a very uneasy feeling to run Middle Keeney with a raft twenty feet in front of and behind you. It gives you the feeling of riding a 50 cc Honda on a rush hour freeway with a semi truck on your bumper. At any rate we were unable to convince DNR officials or a majority of the Advisory Board members that we had a stake in this issue. The vote ended up at a 2200 limit prior to July 15 and an 1800 limit after that time (this date historically represented the split between spring high water and summer low water periods and water flows directly impact carrying capacity). We were disappointed at the outcome, but relieved that finally an end to the expanding commercial traffic had come. The ceiling was in place.

This wasn't the end, but only the beginning of the ensuing manipulation of the DNR by the outfitters, lawsuits, and political events that destroyed the credibility of the Whitewater Advisory Board. The real bee's nest was disturbed when the Board attempted to allocate these totals among 24 licensed outfitters. The big thrust behind the outfitters arguments were economic related. The rafting industry had created a boost in state tourism, and this carries with it political clout. Many more meetings followed which

I did not attend and the ceiling was going up with each little point of contention addressed. I honestly don't know if anything was ever made final. To my knowledge, if there were allocations in effect during the 1986 season, the DNR hadn't communicated them to the outfitters.

The same sort of issue followed on the Gauley except here the over crowding is much more critical. To begin with, the Gauley runs only when the Corps of Engineers releases water from the dam. This happens on a scheduled basis only 20 days each fall. Depending on reservoir levels, this release may last only 8 hours and sometimes as little as 4 hours. So with the compressed release season and possibly even more compressed release times coupled with the popularity the river has received in recent years, use levels have surpassed what is considered safe. The DNR contracted with a West Virginia University Forestry professor, Dr. Franklin E. Boetler, to conduct a carrying capacity study on the Gauley in 1984. After compiling his data, Dr. Boetler strongly recommended to the DNR that commercial use limits be regulated at 1600 customers per day. The 1985 season had already seen a commercial peak of 1886 so once again the DNR succumbed to the pleas of the outfitters. The limit would be set at the 1985 peak, but was this enforced? The visitation figures compiled by the Corps for the 1986 season peaked at 2448 people in rafts, and I personally participated in a head count one Saturday that added up to 2296 people running with a commercially licensed outfitter.

The Whitewater Advisory Board was formed by legislation in 1981 for the very reason that overcrowding on the State's whitewater rivers was becoming a problem. The Board was appointed by the DNR director and they were charged with regulating river usage so that anyone participating

in the activity could have a safe and enjoyable experience. The rafting industry has gained such momentum since that time that the whole picture has become one of economics. The DNR and State government are no longer foremostly concerned about safety and enjoyment of those who use the resource, but rather that each out-of-state tourist that comes to take a raft trip will spend \$150 some odd dollars per day. The outfitters, of course, are businessmen and need to do the things that will enable them to make a profit. Most of them seem to have little regard for the conditions existing on the river. They are constantly exploring avenues which will improve their own competitive position and are not concerned about how they may impact other user groups or the resource itself. They never seem to be content with what they are allowed to do, and the DNR is unable to draw the line.

During the months following that October '85 Advisory Board meeting, my hopes for regulation and resolution of the commercial carrying capacity issue lay with the National Park Service. They had formed a citizens task force to seek input from the public for the development of their river management plan. I served on the boating committee and attended probably a dozen or so meetings between July and December of 1986. After all these meetings no agreement could be reached on how to regulate river users. The Park service is mandated to provide each user group the experience they desire on the river; whether it be scenic, social, personal, etc. This can be done by imposing use limits, launch windows, or whatever. The fact is that the commercial outfitters would not agree to anything that might inhibit their future livelihood and actually proposed that the Park Service give them even more opportunity to expand. The draft river management plan is not yet out for comment, but I am fearful now that the

NPS may also succumb to the momentum of the commercial rafting industry.

I personally hate to see regulation come to New River - commercial or noncommercial, but the very first time the New was paddled regulation become inevitable. Its reliable water flows were suitable for commercial operation. Once it was discovered that a raft could be safely navigated through the canyon, then the doors were opened to any profit motivated outdoorsman with an army surplus raft and a van. Twenty years later you have the conditions that now exist on the New. Regulation becomes necessary to protect the resource and to ensure that something less than chaotic conditions exist on peak use days. The same scenario applies to rivers across the country; the Grand Canyon, the Snake and Selway in Idaho, the Chatooga, and the Youghioheny to mention a few. Without regulation, where does the growth in the sport stop? How long are people willing to wait in line to run a rapid? When does it not become fun anymore? By whose standards is there considered to be overcrowding on a river and is this condition potentially unsafe? What kind of experience do people expect to have on a raft trip? What has to happen before the outfitters, the DNR, or the NPS recognize that an unsafe condition exists due to overcrowding? A few token drownings perhaps.

There are no single answers to any of these questions, but one sure point is that the pristine qualities of the river are lost. And with each passing season or return trip to the canyon the experience becomes a little more devalued. I believe that most people paddling the New or the Gauley today, outfitters included, would prefer to have the river as it was ten years ago. But the cows are out of the barn and the next step is to try and pry a fence around them. So, you never step twice into the same river. Conditions change and new water continually flows on.

MRS Site in West Virginia?

by Andrew Maier

West Virginia could become the destination of the irradiated fuel from every nuclear reactor east of the Rocky Mountains if a Lynchburg, Virginia man gets his way. Paul Childress, a project manager with Babcock and Wilcox, says that a high-level nuclear waste facility, called Monitored Retrievable Storage, or MRS, would provide badly needed jobs in a four-county area of economically depressed southern West Virginia.

The United States Department of Energy has been trying for years to locate the MRS in Tennessee at the site of the cancelled Clinch River Breeder Reactor, but a coalition of elected officials, environmentalists, and citizen's groups have fought the project to a standstill. DOE has a legal obligation to soon begin accepting the "spent fuel" that is now piling up at the nation's nuclear reactors, but no permanent repository for this waste has been selected and none is likely to be until well into the next century. Hence, the need for an interim, "temporary," plan: the MRS. Mr. Childress says that West Virginia's "benign political climate" will put our state in a position to "attract" the MRS should Tennessee succeed in rejecting it.

The MRSD would process and store 15,000 metric tons of irradiated or "spent" reactor fuel, above ground, in

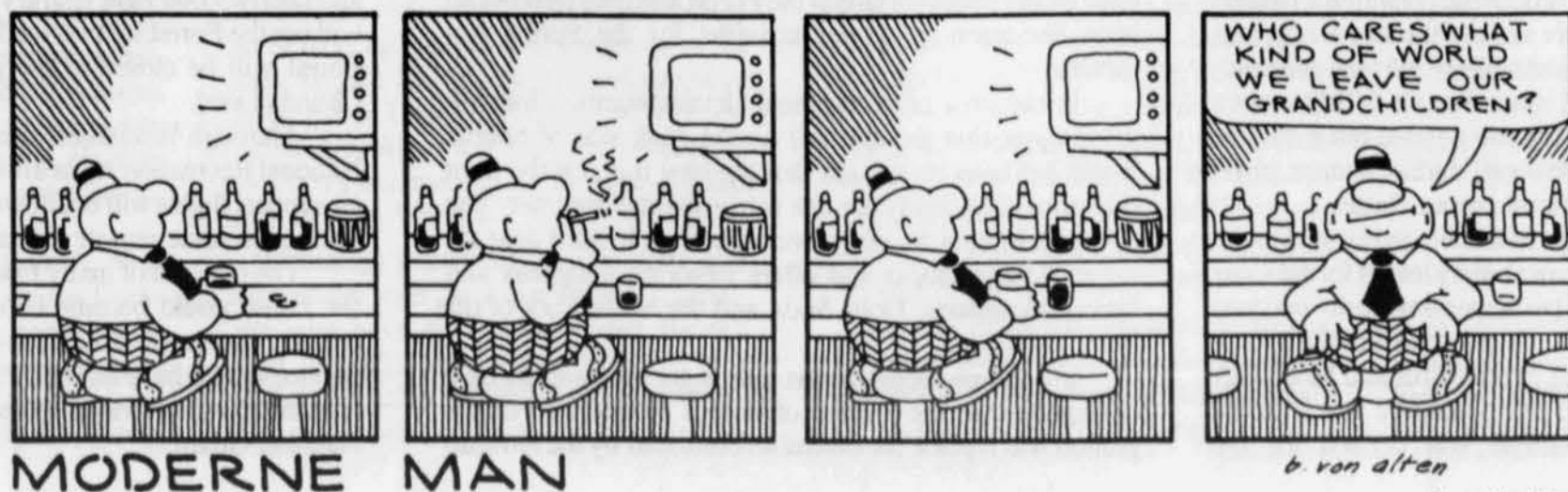
dry storage casks that would sit on a vast, 5 foot thick concrete slab. Thousands of truckloads of spent fuel would arrive at the facility and transfer their cargo from the shipping casks to huge steel and concrete storage casks. Trains would also be used to carry a much larger cask to the facility. The DOE estimates that 500-700 jobs would be created.

The MRS proposal has some glaring drawbacks. The Congress' Office of Technology Assessment says that the \$2.6 billion facility isn't needed at all, and several studies have recommended leaving the spent fuel at the reactors until a permanent repository is built. Spent fuel is also extremely radioactive, being, according to the Nuclear Regulatory Commission, "the largest single source of radioactivity routinely shipped." Because the NRC says that the release of even one percent of a truckload would cost more than \$2 billion to clean up, zero-error performance will be required in shipping the spent fuel through West Virginia.

There is also concern that, once here, the spent fuel will never leave. A congressional report said "Once waste is loaded into a MRS facility, barring a serious accident, the cost of moving the radioactive material and de-commissioning the MRS in funds and human exposure would

outweigh the advantage of relocating the waste underground to a permanent repository." The MRS, which has a design life of 50 years, would become the nation's de-facto high-level waste storage facility, eliminating Congress' need to make the extremely difficult political decision of sitting the permanent repository. The danger of moving the waste again from the MRS to the permanent repository would put environmentalists around the nation in the position of having to oppose the final shipment of the waste from West Virginia.

It may be that the nuclear industry and the DOE, frustrated in their attempts to put the MRS in Tennessee, have targeted West Virginia as an alternate site that would find the MRS very difficult to refuse. A task force of government officials, union representatives, and Economic Development Authority members has been formed to advocate the idea of sitting MRS in West Virginia. Mr. Childress and his supporters are already well organized and moving forward with alacrity to bring the MRS to southern West Virginia. Only time will tell the extent to which the MRS will generate political opposition from concerned environmentalists in West Virginia.



MODERNE MAN

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1987 SPRING REVIEW

The Canoe Hike

by Danielle Barshak

It was a dedicated group of canoeists that left the warmth of Camp Pioneer's mess hall and set out on a chilly Saturday morning in search of a savage river. Equipped with hats and mittens, rubberized booties, pants and jackets, and even a couple of new miracle canoes (the kind that spring back into shape after being unwrapped from around the rocks), the fearless group set their sights on the mighty Blackwater. Upon arriving at the put-in, the group unloaded the canoes, zipped, snapped, buckled and wriggled into several layers of protective clothing and prepared to embark on what looked to be a gentle glide down the sinuous river.

Unfortunately, the management of the Highland Condominiums and their policy prohibiting access to their stretch of the river banks stood between the canoeists and the river. After being turned away from the gates, the canoeists decided that the Highlands Conservancy had discovered a new project: figuring out how to guarantee access to that portion of the river. So the group reloaded the canoes, unzipped, unsnapped, unbuckled and unwriggled, and set out for an afternoon hike in Monongahela National Forest.

After a quick and frosty picnic at which some of the intrepid group savored the delights of fresh mountain ramps, the group hiked down an old logging road and trail where they found various catkins, flowers,

animal tracks, and amphibian eggs. After a pleasant 4-mile hike, the group headed back to Camp Pioneer where their chums, children, and finally some warmth awaited them.

Just as the group arrived, the sun broke through the fog that had enshrouded it all day, and the temperature soared by 10 degrees in 2 minutes flat. One of the gang of canoeists sniffed the air, turned on his heels, and strode back to the already loaded cars, 5 other canoeists in tow. The new destination was Falls Creek, the very creek that flowed by Camp Pioneer. The little creek seemed like the perfect place for a quick jaunt before dinner, so the gang jumped into their cars, unloaded at the local compressor station, and 10 minutes later were happily pushing off the banks of Falls Creek.

Two pudgy boys trying not to show the chaw jammed in their gums had warned of the barbed wire fences strung across the creek in several places, so the bravest of the bunch paddled sentry in front. The group ducked under the first fence, paddled over the second, and portaged around the third. It was, after all, a straggly little strainer that tossed 3 canoeists belly first into the drink and sent the other three skipping through the frigid knee-high water to the safety of the shore. And so it was that the fearless canoeists learned to respect 18 inches of flowing water. Three and one-half hours after they had first set out for a half-hour paddle, the weary group returned to the camp, wet, but happy. And when they arrived, one hour late for dinner, they found that their friends had saved them some dinner, and it was still hot.

Outings

Canaan Valley Overview

by Betsy Adams

A Canaan Valley overview — literal and figurative — was given by fourth-generation Canaanite Linda Cooper Elkinton at the Spring Review. A 3-mile hike in Canaan Heights provided the literal overview from a rock outcropping, while stop-offs at second-home developments, Canaan Valley State Park, the Cooper homestead, and elsewhere gave a figurative view.

The purpose of the tour was to give the eight Conservancy members who went a feel for how the Valley had appeared in the past, how it's developing now, and what the future may hold.

Saturday morning was cold and drizzly, so our first tour stop took us indoors to the sales office of Land of Canaan, a condominium development just off West Virginia 32, the main road through the Valley. Right off, we alienated the salesman by referring to his barn-like structures as a time-sharing venture.

"The proper term is 'interval ownership,'" he said.

The distinction escaped us. We asked for a brochure. Instead, he suggested we return when we had the time for his 2-hour tour. We said thanks anyway, but . . .

The mercury continued to drop but the drizzle abated, so we stopped on the gravel entrance road to Timberline, a downhill ski resort not far from the state park. We saw a classy sign for a planned development of classy houses. The houses were never built because sewage disposal permits were never granted. We looked at some beautiful wetlands that contain a boiling spring and were once proposed for draining as a golf course.

Next stop was Timberline itself. The friendly salesperson described plans for further development of condos, detached houses, more slopes, golf courses, and the whole nine yards, including a Nordic ski center being built atop Cabin Mountain to provide easy access (shudder!) to the Dolly Sods Wilderness. Timberline now has options to purchase, or owns outright, a large part of the Valley not in state or power company hands.

Detouring around Cortland Road, to the east, we saw several of the newer developments as well as land still in agriculture. Linda predicted some of the land would soon be sold to developers.

For lunch, Linda invited us to a house on her parents' farm on the east side of Route 32 near the state park. The house had belonged to her grandparents and was moved across the road when the land was condemned for the park. We saw the 1880's stone chimney of the first family to settle permanently in the Valley; tipped some honest-to-god West Virginia wine; listened to readings from Ruth Cooper Allman's book about the Valley and its families; and walked through some beautiful, boggy land full of birds and other wildlife, on the Cooper farm.

The weather looked more promising, so when someone asked to be shown the best spot in the Valley for a picnic, Linda led us, (almost) unerringly, to Pinnacle Rocks. Standing atop the outcropping, one can see the town of Davis on the left and the beginning of the Blackwater River gorge. To the right, Canaan Valley is laid out as clearly as on a relief map. You can see brown wetlands and many beaver ponds, right where the power company wants to build its pumped storage project. Our birding experts identified at least a dozen species.

Most of us would have liked to stay forever, but the afternoon was almost gone. Therefore, we went on to our last stop at Canaan Valley State Park. A landowner had donated about half the land in the park, but the remainder was taken by condemnation. Bitterness remains against the state for its actions in taking the land. Still, the park has undeniably preserved a beautiful area that might otherwise have been opened to more intense development. Several pairs of Canadian geese were strutting about, along with many deer on the golf course and elsewhere. We stopped in the campground and sloshed through a boggy area to view the lodge of a very large beaver pond.

With perfect timing, Linda returned us to Camp Pioneer just ahead of the dinner bell — hungry and tired but knowing a lot more about the beautiful and unique Canaan Valley.

Presentations

Project Wild

Spring Review activities got off to a WILD start on Friday evening, April 24. Art Shomo, Project WILD Coordinator, explained the development and purposes of the Project and then led the Conservancy members in one of the wild activities.

Project WILD was developed by the Western Regional Environmental Education Council and the Western Association of Fish and Wildlife Agencies to provide awareness, appreciation and an understanding of wildlife in school-age children. Classroom teachers, personnel from natural resource agencies, and representatives of private conservation groups wrote the materials, which were field tested in Colorado, Virginia, and Washington during the 1982-83 school year.

Shomo explained that WILD uses children's natural interest in wildlife to help them acquire the knowledge and skills needed to make informed decisions and take constructive actions on environmental issues. Project WILD is not a separate course of study, and Shomo pointed out it may be used with equal effectiveness in social studies, science, physical education, language arts, math, or art classes.

As an example of the type of activity performed in the classroom, Shomo selected a vocabulary lesson for the Conservancy members to do. The participants were divided into groups of four and five and given words to pantomime. Each group decided on the meaning of the words and how to act them out and then presented its vocabulary words to the others. "Scavenger" for example was defined for the

audience by having one member play a dead animal while another, portraying a turkey vulture, even down to holding the arms (wings) in a shallow "V," swooped in and began gnawing on the dead meat.

Project WILD is sponsored by the Wildlife Resources Division, which offers workshops for teachers, 4-H and Scout leaders, and camp, park and nature center personnel. Anyone interested in further information may contact Art Shomo, Wildlife Resources Division, 1800 Washington St. East, Charleston, WV 24305.

Monongahela Forest Update

On Saturday evening, April 25, Gil Churchill, Public Affairs Officer for the Monongahela National Forest, outlined recent developments in the Forest and then directed an open discussion on Forest activities for the Spring Reviewers.

In the area of recreational developments, Churchill pointed out that the old trail on the back side of Seneca Rocks has been closed and that the new trail, on the front side, should be ready for use sometime this summer. The new trail features an observation platform located near the top of Seneca Rocks and offers views of Allegheny and Spruce Mountains, Dolly Sods, and the North Fork of the Potomac River.

In addition, construction is to begin this summer on a campground in the vicinity of Seneca Rocks. This campground will replace the campsites destroyed by the Novem-

ber 1985 flood at Smokehole and Seneca Creek. The new facility will have space for both tent campers and recreation vehicles and organized groups. The campground, which will include paved roads, flush toilets, and a shower building, will accommodate about 750 people.

Churchill also pointed out that the Forest Service is trying to cope with the expanded use of three-and-four-wheel recreation vehicles in the Forest. One proposal, still under consideration, is to have the Forest Service close certain routes to regular motor vehicle traffic and make these roads available just for recreation vehicles.

The item of greatest interest to the Conservancy members present was the report of the use of the Forest for military maneuvers this summer. Churchill reported that 1800 military police from Washington, D.C., will use the Forest for a two-week period in late May and early June, and nearly 3,000 light infantry from Fort Belvoir, Virginia, will use the Forest for two weeks in late July. No area of the Forest will be closed to the public during the exercises, Churchill said.

Although Wilderness areas, Semi-primitive areas, and National Recreation Areas are not to be used for maneuvers, air support flights will be allowed over them and troops may bivouac in some remote habitat areas.

The concern of many Conservancy members was that the Forest could become even more extensively used for military maneuvers. And, many members felt that the Forest Service should have had more input into the environmental assessment, which was prepared by the West Virginia Army National Guard.



Photo by David Hartung
Susan Williams, left, as the Dutch woman and Janet Worthington, as Mary Ingles, cling to each other in the woods near Fayette Station during the filming of the docudrama "Mary Ingles: Indian Captive."

Mary Ingles Returns to New River Gorge

Mary Ingles and the Dutch Woman returned to the New River area to take part in a docudrama being filmed by WSWP-TV, Beckley, West Virginia. Wayne Sourbeer, senior producer of cultural affairs for WSWP-TV, is directing the film "Mary Ingles: Indian Captive," which will be aired statewide on the West Virginia Public TV broadcasting network on West Virginia Day, June 20.

Sourbeer explains that a docudrama presents "a feeling of what happened in the past through a poetic vision." The Mary Ingles docudrama focuses on the impact that Mary Ingles still has on individuals today.

In 1755, Mary Ingles was captured by Shawnee Indians and taken from her farm near present-day Blacksburg, Virginia, to near Big Bone Lick, Kentucky. She and a Dutch woman escaped from the Indians and began a 450-mile, 42-day journey along the Ohio, Kanawha, and New Rivers back to Virginia. Mary is played by Janet Worthington, a professor of English at West Virginia Institute of Technology; the Dutch woman, by Susan Williams, a reporter for the *Charleston Gazette*.

The film is more than a reenactment of Mary's wilderness journey; it explores the effects of this remarkable feat from a variety of perspectives. One view is given by Janet Worthington who has presented Mary Ingles to numerous elementary school children in the state as part of her living literature workshop.

The film also includes interviews with Mrs. Jeffries, a descendant of Mary Ingles; James Alexander Thom, author of *Follow the River*, a fictional account of the Mary Ingles journey; and Dr. Otis Rive, a West Virginia historian. Other individuals featured in this film are Steve Trail of Hinton who discusses the development of the trails; Eleanor Lahr of Bloomington, Indiana, who plans to recreate Mary's trek; and Professor Grace Edwards of Radford University, Radford, Virginia.



Photo by David Hartung
Wayne Sourbeer, WSWP-TV, stands in the New River to get just the right angle on a shot.

The National Park Service has contracted with West Virginia University to determine if the remaining structures of the abandoned coal-mining community of Kaymoor can be stabilized. Dr. Emory Kemp of West Virginia University and Paul D. Marshall and Associates from Charleston will examine and photograph the old industrial site to determine what will have to be done to make the Kaymoor area a safe place for visitors. A cost estimate and preliminary report will

Kaymoor Site To Be Studied

be prepared later this summer.

Kaymoor is identified in the General Management Plan for New River Gorge National River (NRGMR) as becoming "the focal point for interpretation of early day coal mining technology and mining history, because its mine complex is in comparatively stable condition and it has several significant features not preserved elsewhere in the Gorge."

NRGMR Superintendent Joe Kennedy said, "The study team from West Virginia University will present us with recommendations to ensure the preservation and structural stability of buildings still standing at Kaymoor. We want to be able to show and tell park visitors the story of coal mining at Kaymoor, but we want to do so safely."

BOOK REVIEW

The Hawk's Nest Incident

The big Hawk's Nest dam and tunnel project looked like a godsend to Fayette County in early 1930, bringing thousands of jobs to an area sliding deeper into the Great Depression. Men flocked to the construction site from throughout the county and from far beyond its borders, including many blacks from the South. They found work, but for many it was the last job they'd have. Hundreds lay dead before it was over, victims of silica dust and inhuman working conditions.

The goal was power generation and ultimately the refining of specialized metal alloys. The dam and tunnel were designed to divert New River through Gauley Mountain, delivering its energy directly to a Gauley Bridge hydroelectric station built expressly for the turbines with greater force than the river would have developed following its natural course. The electricity was transmitted by cable to the metallurgical plant at Boncar (now Alloy), several miles below Gauley Bridge.

Union Carbide was the Hawk's Nest owner, with the Rinehart and Dennis Company of Virginia doing the construction work. Both companies were charged in massive litigation arising from the tragedy, with Rinehart and Dennis effectively shut down

within a few years. Congress investigated and more than 500 lawsuits piled up in the courthouse at Fayetteville. The storm of charges and countercharges brought meager results, as far as compensation to victims was concerned. Confusion, and some say deliberate suppression of facts, effectively clouded public understanding at the time and left the story mostly unknown to the history books. The upshot is that what U.S. Senator Rush Holt called "the most barbaric example of industrial construction that has ever happened in this world" is almost forgotten today.

Physician Martin Cherniack intends to set that straight with his book, *The Hawk's Nest Incident: America's Worst Industrial Disaster*. The new volume, just published by Yale University Press, is the only full book devoted to the subject, apart from Hubert Skidmore's 1941 novel *Hawk's Nest*. It is the most thorough scientific investigation of the case, and the first serious national exposure since Alicia Tyler's influential 1975 *Washington Monthly* article and John Alexander William's treatment in his Bicentennial history of West Virginia.

Cherniack's medical training gives him advantages over the historians and journalists who have previously tackled Hawk's Nest. His approach is essentially that of a statistician rather than a physician, however. The evidence is lacking to support a serious

medical investigation of the sort that might have been done at the time. The Hawk's Nest victims are mostly gone — the worst-hit survived only a few months — and remaining records are far from complete. Given that, Cherniack turns to what he calls "shoe leather epidemiology," building what amounts to a complex medical mystery case.

The statistical reasoning is complicated in its details, but simple in its overall concept. Basically, Cherniack uses the abnormally high Fayette County death rates of the period to project probable mortality among workers who spent two months or more laboring in the tunnel.

The results are jolting. Cherniack estimates that at least 764 men died from silicosis contracted while working in the dusty tunnel. This was nearly two-thirds of the two-month group, overwhelmingly black migrants. As startling as this number is, it is within the range of previous estimates — Cherniack gives Union Carbide's own count as 109, and some others were lower still — have been largely discarded, with recent best guesses by historians in the 400-500 range. It seems likely that Cherniack's estimate, backed by its elaborate statistical hypothesis, will now be accepted as the best possible.

The value of *The Hawk's Nest Incident*, in short, is in providing a scientific underpinning for this little-understood disaster. Martin Cherniack is not a flashy writer and does

not try to dramatize this dark chapter of our industrial history. Skidmore's novel, a thin fictionalization of events, provides a more riveting account for those who can bear to read of the human side of the dreadful tragedy. Cherniack's intention is to document the case, to get the cold, hard facts on the record insofar as that is possible at this late date.

—Ken Sullivan

The Hawk's Nest Incident is a 194-page hardback, illustrated with charts and photographs. The book includes an index and notes and an extensive methodological appendix. It may be purchased for \$19.95 in bookstores, or ordered by mail from Yale University Press, 92A Yale Station, New Haven, CT 06520. Readers wishing to consult the record of the Hawk's Nest Congressional hearings or to read Hubert Skidmore's novel, *Hawk's Nest*, will find both reprinted in Jim Comstock's seven-volume West Virginia Heritage collection. The books are available in many libraries or may be bought by mail. The cost of the hardback set, which is sold only as a unit, is \$42, plus \$4 postage and handling. Send mail orders to the Hillbilly Bookstore, Richwood, WV 26261.

[Ken Sullivan is the editor of *Goldenseal*, a publication of the West Virginia Department of Culture and History. This review first appeared in *Goldenseal* (Spring 1987).]

CONCERNS ABOUT COAL

Supreme Court Affirms Water Resources Board Ruling

The West Virginia Supreme Court of Appeals has affirmed a decision of the West Virginia Water Resources Board concerning a deep mine operated by the Omega Mining Company near Morgantown, West Virginia.

The appeal was brought by the 4-H Road Community Association, a Monongalia County group concerned with water pollution and general community improvement. The 4-H Road Community Association had contended that, because the mine was located in the acid-producing Upper Freeport coal seam, the mining company should be required to provide some sort of financial security to assure that the water would be treated after the mine was abandoned. The West Virginia Highlands Conservancy filed a friend of the court brief with the Supreme Court in support of this contention.

The Supreme Court rejected this contention. While agreeing that the company was responsible for post-mining water pollution problems, the Court held that the proper time to address these problems was when the mine was ready to close. The Court felt that it was premature to require financial assurances at the opening of the mine.

Leaders of the 4-H Road Community Association were disappointed at this ruling. That group has long contended that the sensible and proper place to address post-mining problems is at the opening of the mine when proper planning may prevent the post-mining problems from occurring.

Panther State Forest

The West Virginia Department of Energy, the New Windward Coal Company, and the West Virginia Highlands Conservancy have reached a negotiated settlement of a dispute

concerning mining near Panther State Forest in McDowell County, West Virginia, and hauling of coal through the Forest. The West Virginia Highlands Conservancy had previously objected to the mining and the coal hauling.

Under the terms of the settlement, the mining companies involved will donate \$10,000 to be used to improve picnic facilities in Panther State Forest. This money has been earmarked by Panther State Forest officials to build a new picnic area. This new picnic area will replace the one which is closest to the mining area and is most directly affected by the mining and coal hauling.

Previously existing restrictions on the coal hauling will remain in effect. The mining company will not be allowed to haul coal through the Forest on weekends or holidays and must continue to observe speed limits within the Forest.

Buckhannon-Tygart Rivers Coalition Files Appeal

The Buckhannon-Tygart Rivers Coalition has filed an appeal with the Reclamation Board of Review of the West Virginia Department of Energy of the permit modification granted to Enoxy Coals. This permit modification would allow the construction of a centralized treatment facility. Enoxy plans to pump acid mine drainage from several large surface mines in Upshur County, West Virginia, to this facility for treatment.

The Buckhannon-Tygart Rivers Coalition is a combination of several individuals and groups — including the West Virginia Highlands Conservancy — who are concerned about mining practices in the Buckhannon-Tygart River system. Its members are concerned that the proposed central treatment facility will damage or destroy fish populations as well as create a long-term source of pollution.

NPCA Calls For Halt Of Strip Mining In West Virginia National River

The National Parks and Conservation Association (NPCA) has asked the federal Office of Surface Mining (OSM) and the West Virginia Department of Energy to halt strip mining operations within the New River Gorge National River, 62,000 acres of scenic corridor from Hinton to Fayette Station, West Virginia.

OSM regulations, which allow prospecting for coal on non-federal lands within units of the National Park System, have actually encouraged full-scale strip mining operations. NPCA has learned that there are six active prospect permits within the boundary of the National River. Another site inside the boundary has been prospected illegally. In addition, one coal operator has expressed a desire to strip mine a five-mile section within the park.

"Although it is just another example in a long string of OSM transgressions, this one is a horse of a different color," according to T. Destry Jarvis, NPCA vice-president for Conservation Policy. "OSM and the West Virginia

Department of Energy's policies are resulting in the destruction of national parkland. The Department of the Interior's failure to act plainly exposes their 'energy-at-any-cost' bias. This is a loophole literally big enough to drive a coal truck and bulldozer through."

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) prohibits surface mining within national parks, subject to valid existing rights; however, the West Virginia Department of Energy grants prospecting permits allowing the removal of up to 250 tons of coal for "testing purposes." Companies can also seek an "excess tonnage" permit, allowing unlimited mining of a specified acreage, provided that the recipient of the coal presents written justification.

"In the lax regulatory climate of West Virginia," Jarvis said, "prospect permits are much easier to obtain, require smaller reclamation bonds, and carry substantially weaker environmental protection requirements than regular surface

mining permits. Under the guise of prospecting, OSM and the West Virginia Department of Energy are sanctioning the same activity with the same types of damage."

In a comprehensive report on the National River released in March [see summary in April Voice], NPCA noted that the National Park Service has managed to acquire only 6,000 of the 62,000 acres authorized for the park. "The door is open for OSM and the West Virginia Department of Energy to condone mineral development on the balance of the non-federal lands," said Jarvis. "Without aggressive action by the Department of the Interior, prospecting will continue to be a threat to all privately owned land within the boundary."

The National Parks and Conservation Association is a non-profit membership organization founded in 1919 as a citizen's park advocacy organization. It played a leading role in the establishment of New River Gorge National River.

First Clean Coal Projects Now Underway

U.S. Secretary of Energy John S. Herrington has announced the signing of agreements for the first two joint government-industry clean coal technology demonstration projects.

On March 20, at the Department of Energy's Morgantown, WV, Energy Technology center, federal representatives signed a cooperative agreement with American Electric Power Service Corp. (AEP), of Columbus, Ohio, simultaneously, at the Pittsburgh Energy Technology Center, officials signed a similar agreement with Coal Tech Corp. of Merion, PA.

The projects are the first of nine to complete negotiations with the Energy Department in the agency's initial round of clean coal competition. The technology centers involved in today's signings oversee the government's participation in the two projects, as well as the seven still in negotiation.

The initial round of competition was authorized by Congress in December 1985 and was conducted last summer. Last July, the Energy Department selected AEP and Coal Tech, along with the seven other projects, from 51 proposals. Negotiations began early last fall.

AEP, through its subsidiary, Ohio Power Company, will locate its project at the currently idle Tidd Facility on the Ohio River near Brilliant, Ohio. Employing an advanced coal-burning concept called "pressurized

fluidized bed combustion," the project is intended to remove 90 to 95 percent of sulfur dioxide from coal combustion gases before they leave the boiler. The technology is also expected to increase the plant's power output and reduce nitrogen emissions.

The project is expected to cost \$167.5 million with the government's share being \$60.2 million. Construction will begin by the end of this year with the three-year operating phase starting in early 1990.

The Coal Tech project would be located at the Keeler Boiler Manufacturing Company plant in Williamsport, PA. The firm would replace a standard oil burner with a newly-designed coal combustor. The innovative combustor would be attached to the outside of a boiler and would be designed to remove ash and other impurities before they can build up as energy-robbing deposits. Sulfur would be captured inside the combustor, and nitrogen oxides would also be reduced.

Total cost of Coal Tech's 25-month project is estimated at \$785,984 of which 50 percent will be paid by the Energy Department. Other co-funders in the Coal Tech project and their contributions are the State of Pennsylvania Energy Authority (\$200,000), Pennsylvania Power and Light (test coals) and Keeler Boiler (use of site and boiler).

The department anticipates completing all remaining negotiations by early summer.

Earlier in March, President Reagan pledged \$2.5 billion in federal support over the next five years for innovative clean coal technologies. The funds will be used to support additional rounds of federally-run competitions.

Herrington said that, in implementing the expanded program, the U.S. will credit \$150 million in federal funding earmarked for the first round of clean coal projects. The funds represent the federal share of five of the nine first-round projects deemed by the department to demonstrate technologies that, when commercially used, would meet the general criteria directed by the President for the expanded program.

According to the President's March announcement, the criteria for future project selections would be patterned, as fully as practicable, to guidelines recommended last year by U.S. and Canadian Special Envoys on Acid Rain.

The envoys, William Davis of Canada and Drew Lewis of the U.S., recommended that federal funding be targeted toward the most cost-effective, innovative technologies that could be applied to existing, high sulfur coal burning plants. The envoys also proposed that special consideration be given to plants that, because of their size and loca-

tion, were likely contributors to transboundary air pollution.

Herrington said that, in addition to the \$150 million set aside for the current clean coal program, another \$350 million would be requested in FY 1988. The department would also ask Congress for an advance appropriation of \$500 million in FY 1989 funds.

The 1988 and 1989 funding — \$350 million and \$500 million — would be combined into a single solicitation to be released, pending Congressional approval, between October and December of 1987 (the first quarter of fiscal 1988). Projects could then be selected by early Spring of 1988. Additional yearly appropriations of \$500 million would be requested in fiscal years 1990, 1991 and 1992.

Herrington also said that he has asked the Administrator of the Environmental Protection Agency, the Director of the Office of Management and Budget, and the Secretaries of Commerce, Interior and State to appoint senior technical officials to serve on an Innovative Control Technology Advisory Panel that would advise the department on the types of projects to be demonstrated. Letters will also be sent to the governors of several states and to the Canadian government requesting similar appointments. Representatives of industry and public interest groups would also be asked to serve.

National Forum To Recommend Wetlands Policy

Washington - A National Wetlands Policy Forum, convened at the request of the U.S. Environmental Protection Agency, will begin work in June to improve policies for conserving and managing the nation's remaining wetlands. The Forum will be chaired by Governor Thomas Kean of New Jersey and staffed by The Conservation Foundation, an environmental research organization based in Washington, D.C.

"Wetlands have long been the subject of contentious debates and litigation," said William K. Reilly, President of The Conservation Foundation and World Wildlife Fund, in announcing the Forum.

Wetlands as an economic and natural resource are highly valuable, both to those who would convert them and those who would preserve them. The primary federal mechanism for regulating wetland activities is the section 404 program of the Clean Water Act. This program, which is jointly administered by the Army Corps of Engineers and the Environmental Protection

Agency (EPA), covers some, but not all, activities in wetlands. Other federal, state and local agencies also have wetlands protection, management, and development responsibilities.

In the fall of 1986, EPA Administrator Lee Thomas asked The Conservation Foundation to explore the possibility of convening a National Wetlands Policy Forum on how federal, state, and local wetlands policy could be improved to benefit both environmental protection and economic development.

"The purpose of the Forum is to assist in developing sound, broadly supported recommendations on wetlands policy. EPA Administrator Lee Thomas is to be commended for his initiative in this effort," Reilly said.

The scope of issues to be addressed by the Forum is being developed in consultation with a wide range of interests and perspectives and will address the interests and concerns of Forum members. It is intended to go beyond those relating to the Clean Water

Act Section 404 program.

The Forum will be comprised of about 15 distinguished individuals, including governors and state legislators, representatives of county and local governments, industry and agriculture, environmental and public interest groups, and academic experts in wetland science and policy. Lee Thomas will participate as an ex-officio member of the Forum. "The protection of America's endangered wetlands resources is one of my top priorities at EPA." The heads of the other principal federal agencies involved in wetlands management are being invited to participate as ex-officio members as well. The principal product of the Forum will be a set of policy recommendations for federal, state, local and private action. The Forum will hold public workshops to inform interested parties about its activities and to solicit ideas for policy recommendations.

In accepting to chair the Forum, Governor Kean stated, "Wetlands are among the country's most valuable resources. It is

essential that we take a fresh look at how those wetlands can best be managed over the long term. That is what this Forum, with the help of The Conservation Foundation, must do."

Governor Kean, while in the New Jersey General Assembly, authored the legislation which established New Jersey's Department of Environmental Protection, as well as the landmark State coastal protection legislation. He also co-sponsored the Wetlands Act of 1970 which provided for State regulation and protection of coastal wetlands.

The assessment phase of the Forum began in February of 1987. The project is expected to be completed by the spring of 1988.

The Conservation Foundation is a non-profit organization specializing in environmental policy research and dispute resolution. The National Wetlands Policy Forum will draw on the Foundation's expertise in land and water issues and consensus-building processes.

Footgear Impacts On Hiking Trails

by Franklin E. Boteler
and Sara Frances Main



Photo by Allen de Hart
Whispering Spruce Trail in the Monongahela National Forest seems to be a well-maintained, stable trail. The authors explore the impact that different kinds of soles of hiking boots have on trails.

The effects of different types of footgear on the environment have concerned outdoor enthusiasts since the advent of the lug soled hiking boot. Lightweight boots with smooth soles have generally been accepted as less damaging to the environment. Some conscientious hikers wear soft soles assuming that they will reduce trail impacts. However, research has indicated that the type of sole on the footgear has little effect on trail deterioration. Trail conditions have been found to affect erosion and compaction more than sole type.

Studies performed by Harlow and Whittaker concerning soil compaction or erosion due to foot traffic have indicated that moisture content is the primary factor in trail degradation resulting from hikers. Drier sites seem much less susceptible to any difference in the type of footgear worn, while sites with a higher moisture content reveal slightly less resistance to lug soled boots.

The reason for this may be found in the general effect of any trampling on soils. Porosity, air space between soil particles, is reduced by any form or amount of tram-

pling. With a decrease in pore space, water unable to be absorbed by the soil produces surface runoff. Water traveling across the surface of the soil causes a greater amount of erosion than does water permeating the soil and traveling within it. The logical conclusion that more moist soils will absorb even less water indicates why moist soils will have a more pronounced increase in soil erosion than will dry sites.

Kuss conducted a study comparing the degree of surface erosion when trails were hiked at least levels of intensity by people wearing two different types of boots. He controlled for the effects of hiker weight and environmental conditions such as slope, soil type, canopy cover, and overland runoff. The results of his study indicate that no differences between boot type, either at low or high intensity levels, could be demonstrated. Other research dealing with the amount and frequency of trail use has shown that the initial impact is the most damaging. Subsequent passes have less and less of an impact after the first few passes of foot traffic. Researcher, David Cole, put it this way, "... trampling damage will generally be

minimized when concentrated in space rather than dispersed over large areas."

Whittaker theorizes that hikers are more conscious of how and where they place their feet when wearing lighter footgear than with the "indestructible" heavy soled boots. This additional care in foot placement may decrease the destructive effects of hiking. Lightweight footgear is also preferred by many backpackers while at the campsite to allow their feet to breathe.

As previously indicated, a dry site would be a better choice for an area to hike than a moist one if minimizing impact is important. One soil scientist, Glen Klock, doing research on recreation impacts has said, "Visitors to wilderness areas should be strongly encouraged to avoid areas with poorly drained soil."

The composition of soil affects soil drainage. A study of trail deterioration by Helgoth found that soils weathered from a granite formation show greater resistance to displacement and compaction than soils weathered from other types of parent material. Generally, soils with coarser texture, more sand instead of clay, will be more resistant to the impacts of hiking.

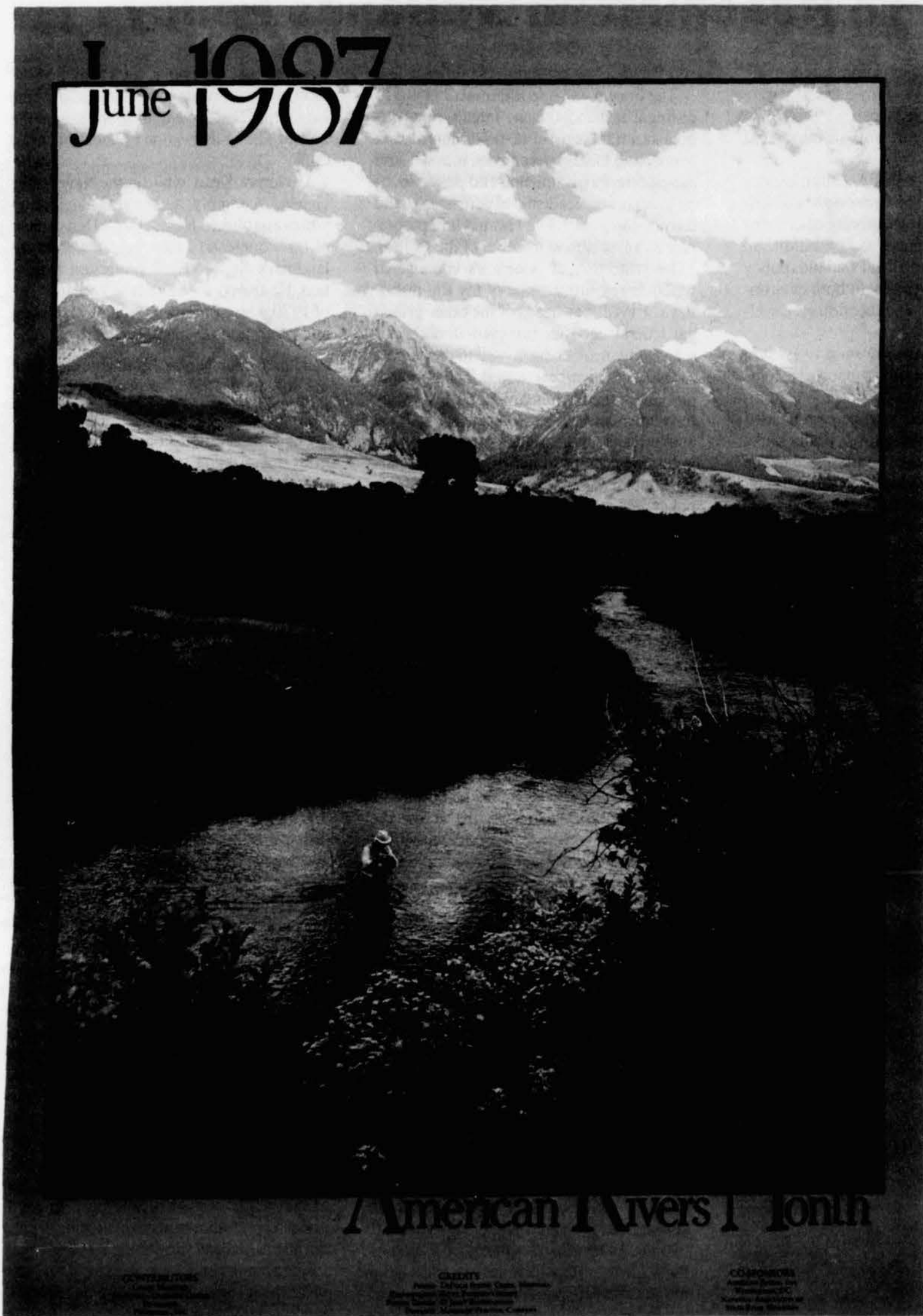
A study on the impact of hikers on vegetation led to the conclusion that hiking was more damaging in forested areas than in meadows or open forests. Other studies conducted worldwide on the subject have led to similar results and indicate vegetation in meadows recovers more rapidly than vegetation in a forest understory after being trampled by hikers. Vegetation and soil were both more heavily impacted when the path of travel was perpendicular to the slope of the land.

Conclusions:

Where one chooses to hike has a greater impact on the environment than the type of boot one wears. Impact can be reduced by asking some simple questions before beginning the hike or designing a trail: How is the site draining? Will I be providing the initial impact? What is the soil composition? Is the area open or forested? and Do I have to go up the slope? There is no need to throw out your lug soled hiking boots to save your favorite trail; just use good judgement when deciding when, where, and how to hike.



Photo by Frances Main
Does one of these common types of soles found on hiking boots cause more trail damage than the other?



June Is Rivers Month

American Rivers, Inc. and the National Association of State River Managers are sponsoring June as American Rivers Month. The Conservancy has a few of their color posters to give to people who make contributions to the "Greenbrier Fund." The money collected will be used to launch a grassroots campaign to gather support for the Rivers Conservation Act which now includes parts of the Greenbrier River. Since there are a limited number of posters, they will be given out on a first-come first-served basis.

Checks should be made out to the WVHC, with an indication that the money is for the Greenbrier fund, and mailed to WVHC, Suite 201, 1206 Virginia Street, East, Charleston, WV 25301.

Canoe Trip

June is American Rivers Month. The WVHC River Conservation Committee is celebrating by organizing a canoe trip on the lower Greenbrier River on Saturday, June 27. Rivers, being what they are, are not always cooperative. Interested paddlers should check with trip leader Anne Gentry by 6:00 p.m. on Friday, June 25, at 984-0065. If the Greenbrier is low, the trip may be switched to the upper Gauley, above Summersville Lake. Gentry reports that this is a good transition for the advanced beginner who feels ready to move up to a little more challenging run.

Mark Your Calendar

The Summer Meeting of the West Virginia Highlands Conservancy is set for
July 26
 at
Pricketts Fort
 (Details Next Month)

Reasons to join WVHC

The West Virginia Highlands Conservancy is a private, non-profit environmental organization started in 1967. Its objectives are "to promote, encourage, and work for the conservation - including both preservation and wise use - and appreciation of the scenic, historic, open space, wilderness, and outdoor recreation resources of an related to West Virginia, and especially the Highlands Region . . ."

Members include people and organizations diverse in their personal interests and professions but united by a common interest. Most WVHC members are West Virginians but many live outside the state.

The Highlands Voice, a monthly 8-page

newspaper, is sent to all Conservancy members. It is filled with environmental news on topics of interest and concern to members as well as articles about trips and outings.

The Conservancy sponsors two special weekends each year. These are usually at some scenic spot in the highlands and feature speakers, outings and board meetings.

Your contribution to WVHC is tax deductible and joining is as simple as filling out this form and returning it to the office in Charleston.

Join today and become part of an active organization dedicated to preserving West Virginia's natural resources.

WVHC Membership Categories (Circle One)

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: _____ Phone: _____

Address: _____

City/State/Zip _____

Make checks payable to: West Virginia Highlands Conservancy
 Mail to: Suite 201, 1206 Virginia St., E., Charleston, WV 25301

Membership Benefits

- 1-year subscription to **The Highlands Voice**
- Special meetings with workshops and speakers
- representation through WVHC's efforts to monitor legislative activity.

The West Virginia Highlands Conservancy is a non-profit organization. Your contribution is tax-deductible. Please keep this for your records.

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