Spring Review
April 15 - 17
Cass, West Virginia

Land Fill Under Investigation

The Greenbrier County Eastern Landfill, located ¾ mile from the Greenbrier River and the county seat, has been designed and planned by the West Virginia Department of Natural Resources to contain potentially hazardous materials and is undergoing remedial investigation by the U.S. Environmental Protection Agency. The site has a high potential of contamination by leaking off-site migration due to the permeable sandy soils, close proximity to underground caverns and streams, and as a result of the disposal methods employed. The Lewisburg Water Authority's intake for its more than 10,000 residential customers is located in the Cheat River which flows approximately one mile downstream from the landfill. Also immediately downstream are two children's summer camps.

Some 600-900 gallons of potentially hazardous materials from local industries, the West Virginia Department of Highways, West Virginia School of Osteopathic Medicine, and the Greenbrier Hotel were dumped into an unlined pit at the site, and 16,635 tons of asbestos from the Greenbrier County Board of Education and B. F. Goodrich were also buried there. Allegedly, the landfill accepted several hundred drums, some of which contained unidentified chemical wastes, after the 1985 flood.

The Greenbrier River, a candidate for Wild and Scenic designation, is the most beautiful and Virginie's favorite canoeing and fishing rivers.

Senators Ask For Hearings On Rivers Bill

Both West Virginia senators Jay Rockefeller and Robert Byrd have asked for public hearings on the Senate version (S. 1720) of the West Virginia Rivers Bill (HR 900). According to committee staff, the hearings will probably be held late in April. The W. Va. Rivers Bill was introduced by Congressman Nick Rahall and passed by the House of Representatives in May of last year. Senator Rockefeller introduced a companion bill in the Senate in September. Senator Byrd has remained uncommitted. Readers may express their views on the bill by writing to the senators at the U.S. Senate, Washington, DC 20510.

Five Dams Proposed For Cheat River

"The Cheat watershed is fantastic no matter which way you look at it. If you are a gun ho Corps of Engineers type, you drool in frustration at seeing water running freely every second over one of the largest uncontrolled watershed areas in the east, but if you are a paddler, you see it as a place of almost infinite variety of water to test the mettle of your skill and your boat." Wild Water West Virginia.

An engineering report prepared for the Tucker County (W. Va.) Commission proposed construction of five dams on headwater tributaries of the Cheat River. The proposed crushed rock dams are of moderate size (90' to 120' high) and would be operated for flood control purposes only. In other words, they would be "dry" dams maintained without pools most of the time. The dams would be located on Gandy Creek and on the lower reaches of the Shavers Fork, Laurel Fork, Glady Fork and Dry Fork Rivers.

The report, prepared by Robert Eli, a Professor of Engineering at West Virginia University at Morgantown, has been submitted to the Army Corps of Engineers, Pittsburgh District. The Army Corps in turn is seeking funds from Congress to perform a feasibility study of the proposal, as well as other alternatives for "improvements" in the Cheat Basin.

Tucker County, which comprises most of the upper Cheat watershed, was hard hit by the Great Flood of 1985, particularly at Parsons, the county seat. The initial stated goal of the Report was to design "structural measures" for protection for Parsons from a flood of this magnitude. On November 4-5, 1985, the Cheat crested at Parsons at 176,000 CFS, with 15 percent of the flow contributed by the Blackwater, 60 percent from the Dry Fork (including Laurel and Glady Forks) and 25 percent from Shavers Fork. Statistically, this flood was "off the chart" and cannot be reliably classified as to probability of recurrence. The Report concludes only that the Great Flood exceeded the frequency of a 500 year flood. Only one alternative was deemed sufficient to control such a flood, consisting of three large (up to 250 feet high) dry dams. Two would be located on the Dry Fork and one on the Shavers Fork. The Report concludes, however, that siting problems and high cost (hundreds of millions of dollars) make this alternative obviously infeasible.

The Report proceeds to scale back its goal to protection for Parsons (and downstream points) for 100 year floods. The Report finds that because of the steepness and high elevation of the Cheat headwaters, the most severe flood risk in the Basin arises there. To illustrate, the Cheat basin has about 50 percent of its drainage upstream of Parsons, and yet that area contributed 85 percent of the total water flow of the Great Flood. Thus, consideration of dams is concentrated on the headwater tributaries.

The Blackwater was found to be too steep in its lower reaches to allow sufficient reservoir storage in relation to the size of a dam. To allow the Blackwater to remain uncon­ trolled, and still afford 100 year flood protection to Parsons, the Study recommends dams on (1) Gandy Creek upstream of Whitmer, (2) Dry Fork above Hendricks, (3) near bottom of Laurel Fork, (4) near bottom of Glady Fork, and (5) Shavers Fork above Parsons.

The Report has several shortcomings. First, by its own admission, it does not address the economic feasibility of the proposal at all. However, it recommends that such an economic study be performed, presumably by the Army Corps.

Second, the Report doesn't even mention, much less address, the severe effects the dams would have on the environmental and recreational attributes of the Cheat Basin. The dams would be "dry" most of the time, but would be filled on occasion, which would devastate plant and animal life in the pool areas. Thus, the pool areas would likely consist of giant mud bowls. For example, the proposed Laurel Fork Dam would be 120' high (spillway height) and 630' wide. Its "normal" pool would cover only 4 acres. Filled, it would cover 177 acres. A paddler on the formerly lovely Laurel Fork could paddle down the river through the mud bowl, but would then face a horrendous portage up and over the dam.

Third, the Report clearly has a dam builder's bias. Flood control alternatives to dams (such as levees, floodwalls and channelization of the river near populated areas) are given short shrift and dismissed out of hand. The study criticizes such measures in that they would not have controlled the Great Flood, and yet the five dams proposed would be also overwhelmed by such a flood. The fact is that these alternatives to dams are far cheaper, do less environmental damage, and are effective flood protection. A good example is the Army Corps project at Kitzmiller, Md. on the Potomac. Ironically, the Report hints that 100 year flood protection might be achieved for Parsons by such alternative measures, citing a 1965 Army Corps study. The Report also fails to mention zoning to prohibit construction below the level of the 100 year flood plain.

Copies of the Report and further information can be obtained from Mac Thornton, American Canoe Association Conservation Chairman (Middle States), 322 Tenth Street, S.E., Washington, D.C. 20003. Phone (202) 541-4923.

Individuals or groups who wish to receive pertinent public notices and to participate in the public phases of the Army Corps consideration of dam proposals in the Cheat Basin should express their interest by writing to Colonel George M. Miller, Jr., District Engineer, U.S. Army Corps of Engineers, Pittsburgh District, 100 Liberty Avenue, Pittsburgh, Pennsylvania 15222.
One part of the seemingly unสลvable steam litter problem is the damkeeper's practice of "passing trash." As followed at dams large and small, both public and private, the practice is that the damkeeper gathers up all the floating trash that collects behind his dam, and then, having once removed it from the river, turns 180 degrees and dumps it over the breach of the dam into the downstream waters. ("I ain't my daddy") At large Army Corps of Engineers' dams, this may be done with a crane and clamshell; at smaller private dams it can be done manually with rakes. Sometimes just adjusting the gates can accomplish the same results.

Dams on our mainstream rivers are large, long-term capital investments. For example, the Hawks Nest Dam at Anteed on the New River was just relicensed for its second 50-year span of operation generating hydropower for the Elkem (formerly Union Carbide) metal plant at Alloy, West Virginia. Yet when I visited the site with the Federal Energy Regulatory Commission staff as part of the Conservancy's participation in the relicensing process, the damkeeper masterfully, "passed trash" while we were standing on top of the dam.

Surely, the cost of properly disposing of captured trash bottles, spread over the 100-year operating life of such a facility, will not put Elkem out of business. The Corps, already a suppurating sore on the back of the taxpayer, could absorb the minimal additional costs for its facilities.

"Everybody does it" and "There's no requirement that we do any different" are the common answers to my questions about this practice. Right, and wrong. Everybody does do it, but "it shall be unlawful to place, deposit, dump or throw, or cause to be placed, deposited, dumped or thrown, any litter, garbage, refuse, trash, can, bottle, paper, or any other offensive or unsightly matter into any river, stream, creek, branch, brook, lake or pond ...." (W. Va. Code 20-5-15). DNR's enforcement of this law is, unfortunately, largely confined to boat tipping fishermen and the like. I am aware of no effort whatsoever by DNR to educate damkeepers on this topic, or of no solid or indeed any agreement against the damkeeper's "passing trash."

A new tool against this practice may be the prohibition against "open dumps," defined to include any placement of "solid waste" (including trash bottles) other than in a licensed landfill. I have written to DNR suggesting that regulations under the "open dump" law, or enforcement of the stream litter law, or both, could remove a lot of the floating trash from our rivers. We'll see. In the meantime, consider filing a complaint with DNR if you see a damkeeper "passing trash."

**Tea Creek Mountain Opportunity Area**

Dear Editor:

The Monongahela Forest Plan has been approved and is now in effect. Now we must implement the plan by identifying site specific projects and activities. We are doing this on a smaller unit of land called "Opportunity Areas." Our proposals respond directly to specific issues, concerns, and opportunities we gather from interested people. We are writing this letter to you to ask for your ideas and opinions.

Three teams have been chosen to make plans for three different Opportunity Areas on the Marlington Ranger District. You may be contacted by one of the other teams concerning their area. Each area is unique; our assignment is the "Tea Creek Mountain Opportunity Area." This area includes 3,358 acres of National Forest.

The opportunities for Tea Creek Mountain (Prescription 6.2) are set by the Forest Plan; it is to be a nonmotorized, undisturbed environment. Management emphasis is for dispersed recreation and wildlife species that require a low level of disturbance. Activities that can occur in this area are:

- Trees may be cut for recreation, safety, or salvage purposes.
- Trails, bridges, adirondack shelters, trail bridges, signing, trailhead parking lots, designated campsites, and primitive toilets.
- Appropriate activities include, but are not limited to: hiking, backpacking, camping, swimming, bicycling, horseback riding, fishing, hunting, and cross-country skiing.
- Historic and prehistoric sites and artifacts will be preserved and interpreted where appropriate. Watershed and soil protection and restoration projects allowed.
- Fish and Wildlife habitat improvement and activities allowed when compatible with recreation objectives.
- Mineral exploration and development allowed, but restricted.

Wildfires will be suppressed.

In much of our area we are already at a desirable condition and nothing more than protecting what we have is necessary. However, in some portions of our area, we may be able to undertake action to enhance dispersed recreation or other opportunities in the area.

Tea Creek Mountain Opportunity Area: Do you have personal knowledge about opportunities in the area we ought to know about? Tell us about some issues you believe apply to the management of this area.

We want to hear from you. Call at the Marlington Ranger Station, (304) 799-4334; or better yet, write to USDA - Forest Service, P. O. Box 210, Marlinton, WV 24954. We are very interested in hearing what you think [as soon as possible].

Sincerely,

**Lawrence H. Mullins, Jr.**
Team Leader
Tea Creek Mountain Opportunity Analysis
Greenbrier River Basin Flood Control Study

(The U.S. Army Corps of Engineers Huntington District has recently completed preliminary studies concerning potential flood-control measures in the Greenbrier River Basin. The following article is their general summary of the study results.)

Introduction

Authority for the study of flood-damage reduction in the Greenbrier River Basin, Virginia, was granted by a resolution of the Public Works Committee of the U.S. House of Representatives on 10 May 1962. The resolution reads as follows:

Resolved by the Committee for Public Works of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors be, and is hereby requested to review the reports on the Kanawha River, West Virginia, Virginia, and North Carolina, published as House Document Number 91, 74th Congress, First Session, with a view to determining whether improve­ments in the irrigation and navigation channels and related land resources on tributaries of the Kanawha and Elk Rivers at and in the vicinity of Charleston, West Virginia, are advisable at this time.

Following the flood of November 1985, which resulted in major disruptions and the loss of lives and property throughout Eastern West Virginia, the flood-damage studies that were underway at Marlinton were redirected toward assessing potential measures for reducing such damage throughout the entire Greenbrier River Basin.

Location

The Greenbrier River Basin is located in southeastern West Virginia and has a drainage area of 1641 square miles. From its source in Pocahontas County to its confluence with the New River in Summers County, the river flows 167 miles through four West Virginia counties—Pocahontas, Greenbrier, Monroe, and Summers. Two-thirds of the Greenbrier River Basin is within Pocahontas and Greenbrier counties. These two counties had a population of about 48,000 people in 1980, an increase of 14 percent over 1970. Commercial centers along the River are located at Hinton, Alderson, Ronceverte, and Marlinton.

Problems and Needs

The Greenbrier River has a history of significant flooding. Historic floods have been documented as early as 1812 and 1877, and more than a dozen major floods have occurred this century, the worst one in March 1967. The flood of record all along the Greenbrier River occurred in November 1985. Conservative estimates indicate that the resulting damage in the basin exceeded $700 million.

This same storm event devastated nearby drainage areas as well. November 1985 flood was especially severe in the upper part of the Greenbrier Basin. Five people died in the vicinity of Marlinton, where water reached depths of 8 to 10 feet. Four miles downstream, at Buckeye, the flood height exceeded that of 1967 by 6 feet.

Major damage centers are located along the Greenbrier River at Alderson, Ronceverte, and Marlinton. Some 1500 structures along the main stem of Greenbrier are subject to flooding. Many of the numerous weekend and summer residences in the area have been improved to serve as second residences and retirement homes. This trend is expected to continue. Although flood damage occurs along several tributaries of the Greenbrier River, the most significant tributary damage center is along Howard Creek in the vicinity of White Sulphur Springs. The Soil Conservation Service has completed a Feasibility Report for flood protection on Howard Creek.

Alternatives Considered

Because of persistent flooding in the Greenbrier Basin, particularly at Marlinton, a feasibility study for local flood protection was underway in November 1985. A small project flood-protection plan for Marlinton was formulated and coordinated with interested agencies. The plan was developed to limit environmental intru­sion, but would nevertheless provide a low level of flood protection (20- to 25-year frequency). The November 1985 flood of record occurred before the local protection study was completed. Because the plan, as proposed, would have had little effect on the level of the 1985 flood at Marlinton, local interests at public meetings required consideration of measures to effectively reduce damage that would result from major floods.

The feasibility study was subsequently redirected to investigate the reduction of such damage throughout the Greenbrier River Basin.

The initial phase of the present study has included a consideration of flood-reduction measures and water-flow source opportunities, the identification of potential solutions, and preliminary evaluations. The study involves a wide range of potential solutions. Much of the initial work has been devoted to screening alternatives, evaluating options, and making comparisons. This preliminary phase initially included consideration of the following alternatives for flood-damage reduction in the Greenbrier River Valley:

- a tributary reservoir system
- a headwater reservoir system
- a combined tributary and headwater reservoir system
- a local protection projects
- a main stem flood control and multipurpose reservoirs
- nonstructural measures

The preliminary study efforts concerning these alternatives are summarized in subsequent paragraphs.

TrIBUTARY Reservoirs

One flood-control alternative initially considered was a system of reservoirs on the major tributaries of the Greenbrier River upstream of Marlinton. In order to obtain sufficient storage capacity to provide significant flood reductions at downstream damage centers, reservoirs would be necessary on four of the five larger tributaries. The costs and resulting developmental impacts of four sizeable dams and reservoirs would be significant. This alternative was therefore screened out in the initial phase of the preliminary study.

Headwater Reservoirs

As an alternative to the development of reservoirs on the Greenbrier Main Stem or major tributaries, a system of smaller flood-control impoundments has been investigated for the headwater streams. This alternative was considered as a means of providing flood-control storage while minimizing effects on farmland and homes. Impoundment sites were identified on thirteen headwater streams in the upper Greenbrier Basin. However, the drainage area controlled and the storage capacity of these thirteen impoundments is insufficient to provide adequate flood reduction. Consequently, this plan was not considered to be a viable alternative and was screened out.

TrIBUTARY-Headwater Reservoirs

A combination of tributary reservoirs and headwater impoundments was evaluated. A combination plan including two tributary reservoirs and five headwater impoundments was identified as providing an acceptable level of flood protection to the downstream communities. The preliminary study results have shown that a seven-dam system would provide effective flood reduction but construction costs would far exceed the benefits produced by this plan. Therefore, this alternative was eliminated from additional study.

Local Protection Projects

Major damage centers during the 1985 flood were located in the midst of the largest concentrations of population at Ronceverte and Alderson. Local protection projects in the form of floodwalls and levees were evaluated for these communities. A small channel-widening project had been considered previously for Marlinton and had been found to be feasible. However, channel modification could not provide significant flood protection.

Levees being considered for these communities would have a much higher level of protection (1985 flood level) than the channel modification plan previously considered at Marlinton. The floodwall and levee structures were located in such a manner as to minimize disruption to the develop­ment in these communities. However, because of the length of the levees, interior drainage, the necessary height of the structures to provide a safe level of protection, and the relatively small size of the protected area, the preliminary study results show that the cost for each of these local protection projects is too high compared to the flood-damage reduction being provided. Consequently, local protection projects were eliminated.

Main Stem Reservoir.

Flood control as well as multi­pur­pose reservoirs on the main stem of the Greenbrier River have been investigated. In order to maximize flood protection for such an alternative, the primary reservoir sites were located above the major damage reach beginning at Marlinton. Four dam sites have been identified between Marlinton and Caso. The lowest site is about 2 miles above Marlinton and the uppermost site about 15 miles further upstream. Two of the sites were investigated in the preliminary study as typical main-stem reservoirs. Main­stem reservoir plans are too expensive for flood reduction along the Greenbrier River for a distance of 110 miles. The 1985 flood would be reduced by 8.1 feet in the vicinity of Marlinton (Buckeye gage) and 6.5 feet at Alderson.

Dams of different sizes and different storage levels have been evaluated at these two sites. As dam height and the storage capacity increase, so do reconstruction opportunity, project cost, and the impacts. The preliminary study results show that some variations of this alternative are feasible for further study.

Nonstructural Measures

Nonstructural alternatives being considered for the Greenbrier River Basin include permanent evacuation, relocation, and floodproofing. Preliminary cost estimates for floodproofing residential structures have been made for several levels of protection at the major damage centers of Marlinton, Ronceverte, and Alder­son, and at other communities along the main stem. These studies show that a general plan to raise all residential structures subject to flooding too costly by a wide margin. Permanent evacuation, relocation, and other measures are also being considered, and the development of study plans and cost estimates will be continued in the next phase of the study.

Impacts of Alternatives

Construction of any of the alternative flood control measures in the Greenbrier River Basin would result in some environmental, economic, and social impacts with varying degrees of magnitude and significance. Prior studies and public comments indicate that the most significant adverse impacts concern the number of families or residences affected; the amount of project lands to be acquired; the amount of high-quality, free-flowing streams inundated; and the effects on fish and wildlife habitat.

Flood-damage reductions would positively affect sig­nificant numbers of people as the future economic and social problems associated with flooding are alleviated. This includes opportunities for additional recreational use of the river could increase if the flood-control plan provided additional down­stream flow in the summer and fall.

The Greenbrier River Basin is renowned for its outstanding scenic characteristics. Portions of the river have been found to be suitable for designation as a Federal Wild and Scenic River. This situation has been attributed to its unique location as either a flood-control or a scenic river condition. It may be possible, however, to formulate a plan that provides for flood control while retaining many of the desired scenic qualities.

(continued on page 6)
March is the time to clean, repair or put up new nest boxes for bluebirds, according to biologists of the West Virginia Department of Natural Resources' Nongame Wildlife Program. Nesting activities begin early for this songbird.

Bluebird populations have declined drastically in many areas during the past several years, caused in part by a lack of suitable places for nest building. Bluebirds build their nests in fence posts or trees, using hollowed-out spaces created by rotting wood or other birds such as woodpeckers. The use of metal posts to replace old wooden posts and the increased use of wood for home heating have reduced the number of nests suitable for bluebirds. To maintain a population of bluebirds, areas should also contain scattered trees, shrubs or fences to serve as observation perches for the birds while they are feeding. Bluebirds may also be placed near gardens so bluebirds can help control garden insects. However, avoid areas of high pesticide use.

Don't be discouraged if bluebirds do not take up residence immediately. In the meantime, your boxes may serve as homes for chickadees, wrens, titmice or woodpeckers.

An informative brochure providing information on the construction and placement of bluebird nest boxes is available free from the West Virginia Department of Natural Resources. To obtain this free brochure, write to: Bluebirds, West Virginia Nongame Wildlife Program, P. O. Box 67, Elkins, West Virginia 26241.

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The West Virginia chapter of The Nature Conservancy has received a 66-acre tract of land located between the boundaries of New River Gorge National River and Babcock State Park from the Westraco Corporation. Included in the tract is the abandoned town of Sewell.

This community once supported a population of 400 through its lumbering, coal-mining and coke-making industries. The last coke oven shut down in 1956 and Sewell's last school and church closed in 1956. By 1972 all residents had left.

The ghost town is in an area that the National Park Service has announced its plans to acquire. But it is also possible that the tract could be included in an expansion of Babcock State Park.

The Nature Conservancy plans to sell the land to the National Park Service for inclusion in the New River Gorge National River. According to Ed Maguire, The Nature Conservancy's state director, proceeds from that sale will be used to protect other West Virginia sites that are ecologically or historically unique.

"The Nature Conservancy has established an impressive record of protecting such areas through its pragmatic and cooperative approach to land conservation," said Anthony Mollich, Westvaco's Appalachian woodlands manager, said in announcing the gift. "Westvaco is delighted to once again lend them our support."

Maguire said, "Too often we seem to hear nothing but negative reports when it comes to the relationship between conservation organizations and corporate landowners. This latest donation from Westvaco provides an excellent example of how such interests can successfully work together for the protection of a small part of our state's cultural and natural heritage."

(From news stories)

1988 Field Trip Schedule — WV Chapter, The Nature Conservancy All Trips Open To The Public

The Nature Conservancy is a national conservation organization committed to the preservation of lands containing the best known examples of all components of our natural world. In West Virginia the organization has been involved in the protection of 30,000 acres of significant lands and maintains 21 nature preserves, all open to the public.

The Conservancy's West Virginia Chapter sponsors field trips each year for members and non-members alike. For additional information about the trips or about becoming a member of The Nature Conservancy, contact: The Nature Conservancy, WV Field Office, P.O. Box 3754, Wheeling, WV 25537 — (304) 345-4350.

May 7 — "Super Saturday", with 3 trips scheduled for the same day!

Cheat River Canyon Hike: A walk along the Cheat River with Dr. Kenneth Carvel is like entering a time tunnel where the local and natural histories come alive before your very eyes. Dr. Carvel will lead a 4-mile hike on an old RR grade into a panoramic and uninhabited region of the Cheat River canyon in Preston County.

Meet At: 9:30 a.m. at the end of the Rt. 26 bridge in Albright. Bring a lunch and prepare for a moderately strenuous hike. For details contact Dr. Carvel at 594-2910 or write him at Imperial Woods, Morgantown, WV 26505.

(continued on page 5)

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Nature Conservancy Acquires Sewell

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

Members include people and organizations diverse in their personal interests and professions but united by a common interest. Most WHVC 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 open weekends each year. These are usually at some scenic spot in the highlands and feature spots, outings and hearings.

Your contribution to WHVC 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.

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Address: City/State/Zip

Check makes 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 WHVC's efforts to monitor legislative activity

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

Date

Amount

Check number

Reasons to join WHVC

WHVC Membership Categories (Circle One)
It was raining, that sort of early April rain that's more like winter than spring but really isn't either. We were standing in a field by the Birch River, ignoring the sight of our breaths and pretending we weren't cold, while our canoes and shoes filled up with the rain. Theer were drops on the lower half of my face, but nothing that rolled off my glasses. We were standing in that part of the woods that was not the returning shuttle drivers seemed to lower the temperature a couple of degrees. At that point I asked myself, "Why? I knew when I left home it would be like this. Why do I do this?"

The answer was the memory of my previous trip on the Birch. That trip also started in the rain, and I had done a lot of shivering then, too. But what I remembered most was the quiet, removed feeling I had while paddling this river. I knew that today I would warm up when we started paddling, and I knew I would feel the same isolation that wraps around parts of the Birch. Now, I don't want to overdo this description. On this run between the towns of Birch River and Herold the river has the regrettably usual West Virginia share of trailer camps, old tires, trash and the like. In fact, later during this trip we saw either the treading ground or the baring ground of all the plastic bottles that ever passed through central West Virginia. So it isn't all untouched wilderness.

Instead, that, the Birch River also slips through narrow ravines of mountainsides too steep for anything but a rhododendron tint my picture. Green is the color of that part of the Birch makes me feel, cool and relaxed, like walking through the forest shhade when you know it's hot out in the sun. But I wonder how the Birch River feels when all of its rhododendron is blooming? I went fishing on Roaring Plains once when all the mountain laurel was in bloom as far as I could see in every direction, and I felt like a bee in a springtime apple orchard. Would the Birch River feel different if I went when the trees had leaves, the rhododendron had blooms, and it wasn't raining? I awakened from my water reverie to consider the possibility of a rapids. Especially in the early parts of this run the Birch is fairly tame, but there are enough drops and bushes that you should pay attention to your trip leader, and I wasn't. (I hoped my partner, with whom I'd never paddled before, would forgive my early lapses of concentration.) Later in the river, as you can see by the picture, there is some fun to be had on this trip. But the true excitement for the day came when the out-of-towners from Seattle hung up on a rock in the middle of the river.

New River/Babcock State Park: Where in southern West Virginia will you find a winter wren and a Canada warbler singing and nesting—below 750 meters, mind you? The answer is...along Mamro' Creek gorge within Babcock State Park, of course. Within the shelter of this cool, moist hollow more northern species of birds and plants simply ignore those with us, and touch my experience every time I've gone through there. As you do, we pass through a number of species near Ice Mountain.

Meet At: 10:00 a.m. at the grist mill at Babcock. For details contact trip leader Charlie Baer at 292-0229 or write her at 243 Wagner Rd., Morgantown, 26505.

Smoke Hole Canoe Trip: We're going to try it again. Three dozen hearty canoists met in April last year to take a trip down the spectacular Smoke Hole canyon on the South Branch of the Potomac River near Peters burg. Unfortunately high water levels forced us to move our trip to the upper Greenbrier River. Undaunted, we're going to try the Smoke Hole again this year. The 12-mile trip features great wildflower displays, terrific birding, towering rocky cliffs and interesting geological formations. Due to the abundance of whitewater on this section of the Potomac, the trip is restricted to those who have had experience of running rivers in canoes. Participants are responsible for their own canoes and canoing partners. Meet At: 10:00 a.m. at the city park parking lot in downtown Petersburg next to the Rt. 220 bridge.

Nature Conservancy Field Trips

New River/Babcock State Park: Where in southern West Virginia will you find a winter wren and a Canada warbler singing and nesting—below 750 meters, mind you? The answer is...along Mamro' Creek gorge within Babcock State Park, of course. Within the shelter of this cool, moist hollow more northern species of birds and plants simply ignore those with us, and touch my experience every time I've gone through there. As you do, we pass through a number of species near Ice Mountain.

Meet At: 10:00 a.m. at the grist mill at Babcock. For details contact trip leader Eleanor Bush at 292-0229 or write her at 243 Wagner Rd., Morgantown, 26505.

Smoke Hole Canoe Trip: We're going to try it again. Three dozen hearty canoists met in April last year to take a trip down the spectacular Smoke Hole canyon on the South Branch of the Potomac River near Peters burg. Unfortunately high water levels forced us to move our trip to the upper Greenbrier River. Undaunted, we're going to try the Smoke Hole again this year. The 12-mile trip features great wildflower displays, terrific birding, towering rocky cliffs and interesting geological formations. Due to the abundance of whitewater on this section of the Potomac, the trip is restricted to those who have had experience of running rivers in canoes. Participants are responsible for their own canoes and canoing partners. Meet At: 10:00 a.m. at the city park parking lot in downtown Petersburg next to the Rt. 220 bridge.

Note: To help us plan for the vehicle shuttle for this trip we're asking all participants to call the Conservancy's office in Charleston at 345-4350 on May 3, 4, or 5, to let us know if you plan to attend. In the event of too much (or too little) water, we'll move the trip to some other river in the Peters burg area. And for those coming from long distances, many of us will be camping in the area and will probably canoe some other stream on the next day. For details, call trip leader Ed Maguire at the Conservancy's Charleston, 345-4350.

June 11 — Something to "Hoot About":

"Hooters" are among the most common birds heard here. All Conservancy birders are hereby summoned to participate in the 1st annual WV-TCN "Hoot-athon." There are three areas established for this event. The area which records the most number of species seen or heard will get an honorable mention and big applause. So arm yourself with your best binoculars and field guides for the Battle of the Birders! Teams may actually begin at 12:00 a.m. Saturday, June 11, and go until 11:59:59 . . . p.m. that same day—you have a full 24 hours to work. All participants should pre-register with the group leader for their respective area:


New River — Bluestone River Drainage Area: Leader - Gary Worthington. Phone: 574-0540. Address - 118 Clark Street, Fayetteville, WV 25840.

Eastern Panhandle — Berkeley/Jefferson County: Leader — Jean Nettie. Phone - 876-2410. Address - P.O. Box 1091, Shepherdstown, WV 25443.

June 26 — Rock Dome:

Visit The Nature Conservancy's newest West Virginia preserve. Consisting of a large rock outcrop overlooking the South Branch of the Potomac River. This site is home to several interesting plants, including WV's only known popu-
Contaminated Wells: Growthter Polluiton On The Farm

In January 1988, the U.S. Environmenal Protection Agency will launch a two-year, nationwide study of pesticide contamination in groundwater well systems. The survey, covering 1,500 private rural wells and community water systems in forty states, responds to mounting evidence that com­mon agricultural practices, such as spraying pesticides, laying fertilizers and irrigating farmland, are contaminating groundwater supplies.

Groundwater pollution is a particularly problem for rural areas of the U.S. and Can­ada. Ninety-five percent of the rural popula­tion in the U.S. relies on groundwater for its drinking water needs. However, recent U.S. government surveys attribute groundwater pollution in 38 states to agricultural activities. All 38 have reported nitrate pollution from fertilizer runoff, 24 have reported bacteria contamination from livestock waste, and 23 have reported at least 21 pesticides in rural drinking wells.

There are also six studies currently under way in Canada to assess the presence and impact of pesticides in groundwater. Over 25 percent of Canadians depend directly on groundwater for their drinking water supplies.

Groundwater becomes contaminated as farm pollution steps down through the soil into underground wells. Fertilizers pose a danger to groundwater when they are not completely absorbed by crops or broken down by soil bacteria. Herbicides and pestic­ides, applied to kill weeds and insects, can penetrate underground water supplies. Til­ling can increase contamination because more chemicals leach down through till soil.

Once these chemicals contaminate ground­water, they can pose serious health hazards to rural populations which use underground wells for their drinking water supply. In 1986, a baby died in South Dakota of methemoglobinemia (or “blue baby syn­drome”), a rare illness caused by high nitrate levels in the bloodstream. Her family’s drinking water had nitrate levels 15 times higher than EPA’s standard for drinking wa­ter.

Certain pesticides are also known to endanger humans in relatively high expo­ sures. DBCP, a pesticide found in 1985 in almost 2,500 California wells, causes cancer in animals and may cause sterility in human males. EPA has since banned the product. Alachlor, a widely used weed killer, has also been linked to cancer in humans. Canada banned the chemical in 1985.

To combat the groundwater pollution problem in the U.S., federal and state regula­tions have encouraged farmers to adopt agri­cultural techniques designed to protect groundwater supplies. One recommenda­tion is that farmers use less water, thereby limiting leaching of harmful chemicals. Oth­ers call on farmers to curtail the use of fertil­izers and pesticides, to employ them more efficiently and, whenever possible, to use chemicals that are less dangerous. Still others advise better soil and crop selection to minimize chemical usage and seepage into wells.

Many environmentalists are urging farmers to go a step further and eliminate chemical use altogether. Rather than use chemical fertilizers as a source of nitrogen for their crops, farmers are advised to spread farm manure and to overseed their fields with clover and other plants of the legume family which fix nitrogen in the soil for longer periods of time. Similarly, farmers can use “natural” methods to control weeds. They can disrupt the life cycle of the weed by rotating their cash crops, like corn and soy­beans, with wheat and other grains. Alterna­tively, farmers can clear the weeds with rotary hoes, cultivators and other equipment.

Congress and EPA are working jointly to set more safety standards for drinking water supplies. The two-year EPA study of pes­ticide pollution in rural and community groundwater systems will assist the agency in setting maximum contaminant levels for 60 pesticides in fulfillment of regulatory requirements under the Safe Drinking Water Act of 1986. Legislation now under consider­ation in Congress proposes to tighten groundwater standards.

In Canada, federal and provincial govern­ments have also made efforts to curtail agri­cultural pollution, especially in the Great Lakes region. Agriculture Canada and the Ontario government have initiated a $30­million program to reduce runoff pollution into the Great Lakes. (From Perspectives, a Canadian Embassy newsletter.)

Pathways of Groundwater Contamination


Flood Control Study

(continued from page 3)

Summary

In summary, preliminary costs and benefits have been estimated for each of the four major alternatives—a combined tributary and headwater reservoir system, local pro­tection projects, a main-stem reservoir, and nonstructural measures. The combined tributary and headwater system and the local protection projects are not economically feasible, because the benefits (damage reduction) are con­siderably less than project cost. The preliminary economic analysis indicates that a main-stem reservoir is marginally feasible. The main-stem reservoir and nonstructural measures are proposed for further consideration during the remainder of the feasibility study.

Study Completion

The Greenbrier study is currently at the stage where general alternatives have been evaluated and preliminary plans formulated. Following the public workshops, the most feasible plans will be investigated in detail, and refinements made so that the most economically and most feasible and socially acceptable plans are identified. A draft feasibility report containing a summary of the investiga­tions is scheduled to be completed early in 1989. Public involvement will continue throughout the study. A public meeting will be held following the completion and publi­cation of the draft report in 1989 so that additional public views can be obtained concerning the investigations and the tentative or final report. The final report is sched­uled for completion in September 1989.

Project Implementation

If feasibility studies indicate that there are plans in which the Federal Government can participate, the Corps of Engineers can recommend that a flood-protection plan be submitted to Congress. EPA Assistant Administrator Jack Moore, who said it would set prevention as the primary goal.

The proposed strategy for attacking the pollution problem was announced by EPA Assistant Administrator Jack Moore, who said it would set prevention as the primary goal.

"The actual and potential contamination of our nation’s groundwater resources by pes­ticides poses one of the most critical and difficult environmental concerns of this agency," Moore said in outlining the strategy.

Moore said the plan, apparently triggered by administration efforts to head off bills seeking stronger federal controls, calls for states to take the lead in protecting under­ground water from contamination.

"What is needed is a cohesive overall national plan that blends the EPA’s pesticide registration responsibilities and efforts with local pest­icide management by the states," he said. "This strategy is such a plan."

"It sets prevention as its national goal and asks states to take a leadership role in revising more stringent pesticide manage­ment standards. EPA will work with the states to assist them in taking the lead in developing plans to protect ground­water, EPA could take steps to limit a pesti­cide’s use.

But he also said it was "too early" to determine what the best approach might be.

"We will sit down with the state agen­cies to look at these local problems and what is working," he said.

Announcement of the new strategy fol­lowed administration warnings against any legislation calling for stronger federal protec­tion of groundwater, the source of about half the nation’s drinking water.

EPA Administrator Lee Thomas said at Senate hearings earlier in the week that he was “ambivalent” on the need for stronger controls. With the passage of this legislation, he said, states “will be held responsible for the clean-up costs.”

Similarly, EPA Administrator James M. Justice, said that if states were given a "two-year" time frame to clean up their groundwater, the states would face less of a financial burden.

Thomas warned Congress against going too far in imposing controls. An Interior Assistant Secretary James Ziegler, went further and told senators at the hearing that he saw “no compelling arguments for any new legis­lation regarding groundwater.”

"Tougher controls are being urged by environmental groups to prevent the contam­ination of groundwater by the leaching of pesticides and fertilizers used in agricultur­al use, from leaking underground oil storage tanks, and the dumping of wastes.

(From the Charleston Gazette)
Undercover Operation Catches Bear Poachers

More arrests were expected following a four-year probe into illegal hunting that may have killed more than 25 percent of the black bear population in Shenandoah National Park in Virginia. Four West Virginia men, from Cabell, Pendleton and Pocahontas counties, are among those arrested by agents of the U.S. Fish and Wildlife Service and the West Virginia and Virginia conservation services.

More than 100 adult male and female black bears were killed in the park over a three-year period, according to Anne Haas, a Washington, D.C., spokeswoman for the federal wildlife service. She said the adult population of black bears, the state animal of West Virginia, had stood at about 400 before the killings began.

Poachers are interested in the hides, worth about $350 on the black market, and the animals' gall bladders, valued in Korea as an aphrodisiac and sold for $5,000 each. One of those arrested said he took numerous gall bladders to Korea each year as what he described as gifts. Haas said.

"The Alaska portion of the investigation is continuing and arrests will be made there," Haas said. "Up there the main illegal activity was guides taking hunters in for what they knew were illegal hunts, some of them from the air.

"We make these busts on a periodic basis as this sort of activity seems to keep springing back," she said. "The arrests are a way to suppress or discourage this sort of illegal activity.

The 12-state investigation uncovered illegal killings of bears, other large game animals and protected birds. Some of the killings were for hides and other animal parts, some was by greedy hunters determined not to go home without a kill.

Many of the killed animals had been shipped to Texas where the large U.S.-Mexico border made it easier to smuggle the contraband out of the country. Each violation is punishable by as much as a five-year prison sentence and a $250,000 fine.

The Charleston Gazette, February 27, 1988

Contractors Begin Cleanup In McClintic Wildlife Station

POINT PLEASANT — U.S. Army contractors have begun cleanup work at Mason County's McClintic Wildlife Station, part of which is a federal Superfund site.

The wildlife station will remain open during the four-month project, but public access to specific work areas will be restricted.

The wildlife station, north of Point Pleasant, comprises the majority of the former operating areas of the West Virginia Ordnance Works, which was operated by the Army during World War II to produce the explosive trinitrotoluene (TNT). The Ordnance Works closed in 1945, and most of the property was decontaminated and released to private ownership. About 2,800 acres of WVOW became the McClintic Wildlife Station.

To clean up and neutralize TNT, the contractors will excavate and flame industrial sewer lines. They will then place a cover of clean soil over contaminated areas. After that, the contractors will excavate, bag and remove asbestos-contaminated soils to a sanitary landfill.

Charleston Gazette, February 27, 1988

Illegal Garbage Dumps Dot State's Landscape

A rusted car, a broken washing machine, wires, plastic and garbage bags lie over the hillside near Ivydale. The garbage is flowing around trees. Part of it is burning.

Clay County runs three illegal dumps; so do Chesapeake, Pennsylvania and other West Virginia cities. There are illegal dumps along most roads and in state forests and parks.

State and county officials have almost no power to stop it. "If we close those three dumps down, there'll be 300 more start the next day," Clay County Commissioner Donald Sands said.

Open dumps are illegal under state and federal law and may be dangerous. Leachate from some dumps leach directly into streams, said Ron Sandy, chief inspector for the state Department of Natural Resources. Many dumps are unsupervised. No one knows what goes in them or what could be in them.

"I think it's disgusting," said House Speaker Chuck Chambers, D-Cabell, who has co-sponsored a bill to clean them up.

Sandy estimates the state has 3,000 illegal dumps. Many dumps have been here for years. The reason: West Virginia lacks money and manpower to clean them up.

West Virginia households produce about 4,200 tons of garbage a day, state Solid Waste Disposal Authority Director Sam Colvin said. Almost 15 percent of that, about 600 tons a day, is illegally burned or burned open dumps, the authority survey said. It takes a long time to rot. A piece of paper takes three years, said DNR chief inspector Maxine Sarco.

Closing illegal dumping in Clay County, Chesapeake, Pennsylvania and other towns would only increase dumping somewhere else, DNR officials said. "When you shut down the underground disposal, the surface gets bigger," said Sandy. The state will levy fines up to $10,000 a day for illegal dumps. Fines are rare because they do not help clean up dumps, Young said.

Chambers and Delegate Michael Buchanan, D-Monongalia, have proposed an omnibus bill that would require garbage collection statewide and would force county recycling programs across the state. The bill would set three new taxes to raise $3.5 million to fight open dumping and littering. Taxes include $1 on car registration, doubling business franchise permits to $30 and an uncondoned food tax.

Gov. Arch Moore in December also appointed 55 county recycling directors to study ways to stop littering.

Colvin estimates these programs could help reduce garbage dumping up to 25 percent. Sunday Gazette-Mail, February 28, 1988

Congressman Critical of Mining Regulators

Rep. Morris K. Udall, D-Ariz., charged recently that the U.S. Office of Surface Mining under Reagan has "created confusion, uncertainty and a regulatory vacuum."

Rep. Nick J. Rahall II, D-W. Va., a member of Udall's committee, announced he will open hearings into West Virginia's enforcement of surface mining law. The hearing will be in Logan, W. Va., on April 25. Rahall expressed concern about illegal mining in West Virginia and prospecting within the New River Gorge National River.

Udall, chairman of the House Interior Committee, said "the majority of problems which have surfaced during the tenure of this administration have been discovered, not by the agency responsible for overseeing and administering this law, but by the public or Congress."

As he opened the hearings, Udall referred to recent press reports that OSM officials used funds designated for the Abandoned Mine Lands program to hold conferences at resorts. "You've met in each poverty pockets as Hilton Head, S.C., and Reno, Nev.," Udall told Jed Christensen, director of OSM. "You might try meeting sometime in Mr. Rahall's district." Christensen responded by saying that travel is a legitimate use of AML funds.

Rahall suggested that "increased regulatory efforts in the neighboring states of Kentucky and Virginia have driven...abusers and illegal miners out of those states and into West Virginia...Illegal mining not only hurts the environment and the health and safety of our citizens, but it is done to the detriment of the law-abiding coal producers of West Virginia."

Rahall said the committee is "deeply disturbed by recent reports about OSM's role in a Lincoln County dispute over illegal prospecting by Black Gold of West Virginia. Rahall said memos written by OSM inspector Wayne Dempsey indicated an "apparent OSM effort to distance itself from the controversy." Christensen replied, "OSM's West Virginia field office has been on top of this since it broke last November."

Rahall also asked Christensen about an investigation Rahall requested into successive permit applications by James Laurita Sr. and his son to strip land owned by the West Virginia United Mine Workers. Laurita Sr., who now operates his own strip mine, has had 400 before the killinig began.

"It's my understanding that [your investigator] has done almost nothing to investigate the connections of Mr. Laurita Sr. in Pennsylvania."

Rahall said there is some information in recent days that is encouraging to show some links between Laurita Jr. and Laurita Sr.

Rahall then criticized prospect mining inside the New River Gorge. "Recently, the West Virginia DOE issued a coal prospecting permit within [its] boundaries....We are now faced with the possibility that a full-blown surface coal mine may be permitted within a unit of the national park system."

Finally, Rahall blasted the DOE for falling behind neighboring states in earmarking federal AML funds for reclamation projects. The DOE has obligated only 11 percent of its $86 federal grant for reclamation work. But Virginia has obligated 76 percent of its grant and Kentucky 56 percent, Rahall said.

The Charleston Gazette, February 27, 1988

DOE Granted Permit Despite Inspector's Warning

Two weeks before Christmas, the Department of Energy granted Meghan Coal Co. permission to strip 25,000 tons of coal from an isolated Clay County mountain, near Lizziehunk. Two DOE inspectors warned that nearby aquatic life could be killed. DOE permit supervisor Charles Griffith endorsed the plan.

"Just because an inspector has an opinion on something, we don't have to agree with that opinion," DOE lawyer George Piper said. "We would not always accept what an inspector said. But we would consider it."

Meghan Coal Co. lawyer Thomas W. Rodd said he plans to take a close look at Meghan's plan. Normally, federal law limits prospect mining to less than 250 tons of coal, to be used for test purposes only.

Rodd said he won a suit to prohibit DOE from handing out "excess tonnage" prospecting permits to almost anyone who applied. Meghan's is only the second excess tonnage permit issued in the last nine months. The "coal will be exported to Japan where it will be tested," states Meghan's application.

Joe Ideleman, a member of DOE's permit review team in Oak Hill, identified several potential problems in an internal memo dated Dec. 3. Iron and manganese in the soil and rocks above the coal seam could cause "serious degradation of the receiving streams and harm to and loss of all aquatic life," Ideleman wrote.

Ideleman called Meghan's 1.5-acre operation a "small mine face." DOE inspector Russell Keaton also cautioned his superiors about the Meghan operation.

In two internal memos, Keaton stated acid water is still pouring off two unlined mines adjacent to the prospecting site.

Prospect approvals save coal operators money. Prospect applications are short. They cost less than $1,500 to complete. Normal stripping permits cost between $20,000 and $40,000 to fill out. Reclamation bonds for prospect mines, moreover, cost $500 an acre. Regular surface mine bonds cost $1,000 an acre.

Sunday Gazette-Mail, February 28, 1988

SOM To Oppose Coal Firm

Save Our Mountains, a Lincoln County organization that helped keep strip mining out of the county 10 years ago, has been reborn.

P&C Coal obtained a permit to strip at the southern end of Lincoln County six months ago. Activists now want to keep Black Gold of West Virginia Inc. from getting permits to strip in the center of the county near Branchland. Delbert Burchett, a bankrupt coal operator owning millions of dollars in loans, back taxes and fines, is an adviser to Black Gold and a friend of owner Sandra Perry.
Spring Review April 15 - 17 Cass, West Virginia

We're returning to Cass Scenic Railroad State Park in Pocahontas County. Cross the railroad tracks in Cass, turn left, and look for WVHC signs and the Cass Community Center. The Conservancy has again reserved several of the restored company houses and the Community Building right in the center of Cass.

When we receive your reservation form, we will return a cabin assignment for your convenience. Friday dinner is up to you. Restaurant facilities are not open in Cass in the evenings. However, each house has a fully equipped kitchen, if you wish to bring your own groceries. Otherwise, there are restaurants on Rt. 28 north of the Cass Road.

For Friday evening bring any slides or movies which you think might interest the group. Projectors will be provided.

Rivera Workshop

The newly formed education committee of the WVHC will be sponsoring a series of educational workshops for its own members, and anyone else who is interested in staying abreast of the new information about conservation issues. The theme of the first of these workshops, to be offered in conjunction with the spring review, will be "Our West Virginia Rivers." Mr. Glen Eugster of the National Park Service will discuss an important planning process that has been successfully used in other parts of the country.

Average temperature at Cass, W. Va. on April 15-17:
High: 50°
Morning Low: 28-33°

Program:

All activities will be held at the Cass Community Building.

Friday, April 15, 1988
4:00-11:00 P.M. - Registration
8:00 P.M. - Slides and movies
9:00 P.M. - WVHC Committee Meetings
9:00 P.M. - Social Hour

Saturday, April 16, 1988
6:30 A.M. - Bird Walk
8:00 A.M. - Breakfast
9:15-5:00 P.M. - Rivers Workshop**

** - Canoe Trip
Nature Walk lead by Fred Fromhart
6:00 P.M. - Dinner
7:15 P.M. - Speaker: Glen Eugster
"River Conservation projects in West Virginia"
9:00 P.M. - Old time music and square dance

Sunday, April 17, 1988
8:00 A.M. - Breakfast
9:00 A.M. - Board of Directors Meeting
12:30 P.M. - Lunch

Finding Cass

Cass Scenic Railroad State Park is located off State Route 28 between Dunmore and Green Bank in Pocahontas County in eastern West Virginia.

Other Accommodations
1. The Boyer Motel (10 miles NE) Boyer Campground, Tel: (304) 456-4467
2. The Harris House (7 miles NE) Tel: (304) 456-4105
3. Moore's Lodge (3 miles SW) Tel: (304) 456-4721
4. Shay Inn (Cass, W. Va.) Tel: (304) 456-4562
5. Whitaker Campground (2 miles) Tel: (304) 456-3218
6. Newcova State Forest (12 miles S) Rustic camping. Tel: (304) 799-4213
7. Cass Inn (Cass, W. Va.) Tel: (304) 456-3464

Registration Form

Deadlines: Lodging April 1; Meals April 1

Name _____________________________________________________________
Address ___________________________________________________________
Phone ____________________________________________________________

Registration Fee: $3/adult

** LODGING - CASS COMPANY HOUSES

Friday: $10.00 x ___________ = $__________
Saturday: $10.00 x ___________ = $__________
(Children under 12 are free; bedding & towels are provided)

** CAMPING

Primitive tenting without toilet or water is available at no charge. Directions

to sites will be available at registration.

** MEALS

All meals ($21 adults) x _______ = $__________
($17 child) x _______ = $__________

Individual meals:
Saturday
Breakfast ($3 adults) x _______ = $__________
($3 child) x _______ = $__________

Box lunch ($4 adults) x _______ = $__________
($3 child) x _______ = $__________

Dinner ($7 adults) x _______ = $__________
($5 child) x _______ = $__________

Sunday
Breakfast ($3 adults) x _______ = $__________
($3 child) x _______ = $__________

Box lunch ($4 adults) x _______ = $__________
($3 child) x _______ = $__________

** CHILD CARE

Fee: $2.00/hour
Hours available:
Saturday 9 A.M. to 5 P.M. and 7 P.M. to 12 P.M.; Sunday 9 A.M. to 12 P.M.
Sat 9-5 8 hrs x $__________ x children = $__________
Sat 7-12 5 hrs x $__________ x children = $__________
Sun 9-12 3 hrs x $__________ x children = $__________
Children's names and ages . ____________________________________________

TOTAL ENCLOSED $__________

** OUTING PREFERENCE:

Rivers Workshop ____________________ Nature Hike ____________________ Canoe Trip

Please make checks payable to WVHC Spring Review and return with this form to:
Donna Borders, 1012 12th Ave., Marlinton. For information about reservations call
Donna at (304) 799-4772 (daytime) or Mary Moore Reifenberger, Rt. 1, Box 353,
Elkins, W. Va. 26241 (304) 636-4559. Please remember to send a check with all
reservation forms.

Activities:

Saturday, April 16, 1988

Rivers Workshop:
Saturday, Glen Eugster, Chief of the Division of Park and
Resource Planning of the National Park Service, will present a
workshop on effective state and local river conservation planning
processes. We will learn planning methods that have resulted in
successful implementation of river conservation programs in other
parts of the country.

Outings:

1. Before breakfast bird hike lead by Gary Worthington.
2. Canoe trip down the Greenbrier River if water level permits.