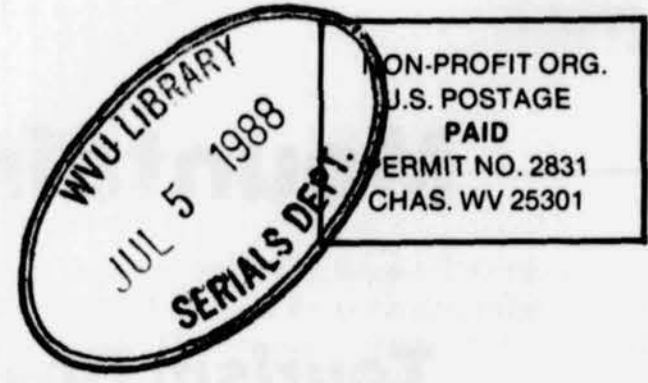




THE HIGHLANDS VOICE



Periodicals, Main Library
WVU
P.O. Box 6069
Morgantown WV 26506

Published monthly by the W. Va. Highlands Conservancy

VOL. 21, NO. 6, JUNE 1988

Laurita Withdraws Mepco Permit Application

by Joan Sims

James Laurita, Jr. has withdrawn his "Mepco" Mining Permit Application. The 4-H Road Community Association and the W. Va. Highlands Conservancy were seeking the revocation of this permit in the Federal Court in Clarksburg on July 28. James Jr. applied for the permit after his father, James Laurita Sr. withdrew his application for the same mine under the name of "Stone King." James Sr. has uncorrected mining violations in the state of Pennsylvania. The father's and son's mining interests are so closely intertwined that James Jr. should have been required to list his father's mining violations on his Mepco application, in accordance with State and Federal Mining Regulations. These mining problems at several mining sites in Pennsylvania would have made it difficult for James Jr. to receive the Mepco permit unless they were corrected. The organizations may still go to court on July 28 to resolve some other issues related to the Mepco case. The 4-H Road Community Association would like to thank the Conservancy for its help in our effort to protect our community and to require the State and Federal Agencies to enforce these permitting laws in West Virginia. Conservancy members who are interested in these mining issues, especially those who live in the Morgantown area, may contact Joan Sims at 296-8860.

State Agrees To Get Permit For Former DLM Mine Site

On May 23, 1988 a Kanawha County Circuit Court judge approved a Consent Order settling the Conservancy's suit against the WV Department of Energy and the WV Department of Natural Resources over their failure to obtain a water pollution permit for the former DLM surface mine site near Alton, in Upshur County.

The two agencies had taken over control of the site in 1985, under an agreement releasing the coal company from further environmental liability. This site had been the focus of much attention because of its perpetual discharge of acid mine drainage, and DNR studies had predicted that if pollution treatment were stopped, the Buckhan-

non River would eventually become acidified as far downstream as Tygart Lake. The state agencies, led by DOE Commissioner Ken Faerber, faced with an apparent "no-win" situation, chose to take over the site themselves and to continue to operate the treatment system. However, they initially refused to operate the treatment works in accord with a water pollution control permit, leading to the Conservancy's suit in 1986.

"Hopefully, this gives us some reassurance that these agencies will be there treating the acid mine drainage for as long as necessary" said Conservancy board member Cindy Rank, who has been active in the

efforts of the Buckhannon-Tygart River Coalition, a local group. The order requires DNR and DOE to "operate a treatment works for all wastes discharged or emanating from the former DLM property... for so long as such wastes cause or might reasonably be expected to cause or contribute to pollution of any of the waters of the State." According to Conservancy president John Purbaugh, "all indications are that such treatment will need to continue for a very long time. I'd certainly be surprised if it could be ended during my lifetime." Costs for the treatment at the former DLM mine are currently running in the neighborhood of \$250,000 a year, paid by the state out of the Special Reclamation Fund.

Corps Backs Off On Cheat Dams

The U.S. Army Corps of Engineers, Pittsburgh District, has thrown cold water on the recent proposal to build five flood control dams on the upper tributaries of the Cheat River in West Virginia. Tucker County commissioned the report by Dr. Robert Eli of the University of West Virginia and sent it to the Corps. In a letter to American Rivers, Inc., the Corps stated, "Through a strictly hydrologic analysis, Dr. Eli concluded that five moderate size dams on the Cheat River tributaries upstream of Parsons, West Virginia would substantially reduce flood damages to Parsons and nearby communities and would provide lesser protection to

points farther downstream along the Cheat River. From a hydrologic standpoint, we generally concur with Dr. Eli's findings. However, although hydrologic feasibility was established, the study did not significantly address environmental, social, engineering, or economic feasibility. **Because of the indicated relatively high cost, it does not appear that construction of the proposed dams could be justified economically under current Corps of Engineers criteria.**" (Emphasis added.)

Although this statement is encouraging, the dams are not a dead issue. The fate of the

Cheat tributaries probably lies in the hands of Senate Majority Leader Robert Byrd (D.-W.V.). If Senator Byrd decides that he wants dams on the Cheat, they have a good chance of being built, economics and environmental considerations notwithstanding.

The Corps is known to be actively studying local flood control measures for Parsons, Hendricks and Hambleton (the principal towns in the upper Cheat watershed), such as dikes and channelization. Conservationists may wish to support such local flood control measures, as an alternative to large scale dam construction.

Canaan Valley State Park Proposed Expansion

[The following is from the executive Summary of the environmental impact assessment of the proposed expansion.]

The Proposed Action

The Division of Parks and Recreation, West Virginia Department of Commerce, proposes to have a developer construct and operate additional facilities at Canaan Valley State Park. The specific developments include additional (1) lodge space and indoor pool/fitness center, (2) ski base facilities, (3) cabins, (4) campground sites, and (5) golf course facilities.

Canaan Valley State Park is situated in Tucker County, approximately 5 miles south of Davis. Canaan Valley State Park is 6,105 acres in size and situated in the southwestern end of Canaan Valley, an area with a watershed of 35,000 acres.

The purpose of the proposed construction is to provide additional recreational opportunities and additional revenue for the economy of Tucker County and West Virginia.

Recreational development on properties adjacent to Canaan Valley State Park has increased dramatically in the last 10 years. Additional future development of privately-owned facilities will almost certainly occur as will additional development within Canaan Valley State Park.

Impacts of Proposed Action

[The areas of concern are vegetation, wildlife, fish, water quality, air quality, noise, and visual. Those areas identified as having "no adverse impact" have been omitted from each section.]

Main Lodge

Environmental Impacts

Water Quality - Additional waste water may exceed treatment plant capacity, resulting in an adverse impact on Mill Run.

Visual - A slight visual impact due to the creation of a mega-structure causing a greater sense of human intrusion nature.

Precautionary Measures

1. Control construction sediment to eliminate possibility of silt reaching Mill Run.
2. Expand existing water treatment facilities.
3. Insure compliance with U.S. Environmental Protection Agency guidelines for facility equipment to reduce noise levels.
4. Plant native deciduous and coniferous trees on the valley side of the lodge to diffuse the building's visual impact.

Campground

Environmental Impacts

Vegetation - Only minor impact due to loss of existing plants where construction will occur.

Wildlife - No significant loss predicted.

Visual - The construction of the comfort station will have a negative visual impact due to its obtrusiveness and heavy human use.

Precautionary Measures

1. Prevent silt from entering the small wetland located north of the proposed campground.
2. Leave or develop buffers between camp sites and between camp sites and roads.
3. Place the comfort station where it will have minimal visual impact.
4. Screen the comfort station with native shrubs such as rhododendron and mountain laurel.
5. Finish the comfort station in wood to blend in with natural surroundings.

Cabins

Environmental Impacts

Vegetation - Only minor impact due to loss of existing

(continued on page 8)

Mountain View

Tourism Development

by John Purbaugh

A window of opportunity for increased conservation and recreation efforts in WV may be just around the corner. While nothing is certain, several factors show early signs of coming together to create a period of increased attention to these issues. Most fundamental is that we're close to a large group of easterners who crave the whole range of natural and recreational experiences we offer. The crippled traditional economic base has every politician and local businessman interested in an increased "travel and tourism" industry. National recreational and conservation organizations are paying more attention to both WV issues and resources. There is a widely-supported effort to clean up our own trash and stringently regulate imported garbage. The electorate's disenchantment with the "do nothings" is widely feared by incumbents. Our congressional delegation is generally supportive, and frequently willing to lead the charge, for resource protection which can enhance the tourism economy. Large corporations with vast holdings of important natural areas are more willing to donate or sell these properties in the era of restructuring and takeovers. Common fears and widespread desperation over our future have not yet brought us all together, but some of us have come closer to that goal.

For at least that part of the state east of the line formed by 179, Rt. 19, and the Turnpike there is general agreement that, along with wood products, travel and tourism are the portions of the economy which we as a state can do the most to influence. There is much to be gained for the conservation and environmental communities in the coming recreational "development" of these areas, so long as all types of recreation, including nature study, contemplative walking, hiking and backpacking, canoeing, birdwatching, caving, climbing, fishing and hunting and historic preservation are emphasized. State recreation planners lately seem stuck in the aerial tram/ski area rut, perhaps because such big-dollar developments are tangible evidence that "something is happening." For amusement parks, we have Myrtle Beach available by a well-worn path; we need to emphasize what we ARE, not try to copy what worked for someone else.

The National Park Service is actively investigating the suitability of both the Stonewall Jackson Dam and Blennerhassett Island for inclusion in or assistance from the NPS. Their mandate in the state, thanks to language attached to their appropriation by Senator Byrd, is broad, and assistance by them in planning for completion of facilities such as Cass Scenic Railroad State Park is sorely needed. Senator Byrd has already shown his willingness to pursue federal funds for forest land acquisition and recreational development, and his likely chairmanship of the appropriations committee can only enhance these efforts.

Our challenge as conservationists or environmentalists is to support these efforts, to use our knowledge of WV resources and special places to assist government and private efforts, and still keep active watch for tourism developments which destroy the natural environment we hope to preserve not only for today's tourists but also for our and their children.

Greenbrier River — Flood And Flow

by Don Gasper

It is most appropriate for the WVHC to be involved in flood control planning that might involve the loss of free flowing river segments due to flood control dams. The Greenbrier is a river of the W. Va. Highlands, and hence in the area of concern of the Conservancy. A few members were harmed by the November 1985 flood, but most are able to maintain an objective, broader view. All are sympathetic toward those who have suffered, of course, and all agree flood protection is needed. A great many may have taken an initial, at least tentative, position against the dam, but more have withheld taking a position until more information is available. This must be the official position of the WVHC at this point.

The November 1985 flood has been characterized roughly as a 500-year flood. The charge given to the U.S. Army Corps of Engineers planners is to prevent a similar flood. It is suggested that this is too great a span. Perhaps the study should be scaled down somewhat to, say, 300 years. It would be nice to plan for a 500-year flood, but such severe control measures are required that great trade-offs and losses are necessary.

The Corps has completed a study of headwater impoundment sites and their potentials for flood control. The Corps has rejected these headwater impoundments and has tentatively concluded that a Greenbrier mainstem dam is necessary. This conclusion will be viewed very carefully and competently by the WVHC Rivers Committee and membership.

Perhaps headwater impoundment could be reevaluated. The old Burner Dam (U.S. Forest Service engineering) at the mouth of Little River of the West Fork should be built with as much flood control ability as is compatible with its multiuse functions. A dam on upper West Fork itself also should receive consideration. Dams on and some other sites would not flood valuable farm land. Headwater control would allow for longer free flowing stream below. There is a small site on Laurel Run against the Virginia line in the head of the Knapps Creek drainage that should be built. The existing Buffalo Fork Lake should be redesigned for greater flood control, and perhaps there are other lake sites within a mile or two of this lake that could be investigated.

It is clear that we want every alternative explored. The Corps study may not then be adequate, but we would hope it would be — or could be. We would not expect to develop any comprehensive planning of our own but to review plan(s) for adequacy. We hopefully would not have to coordinate planning. We would encourage (insist upon) and participate in open discussion, and assist in clarifying the issue and the decision-making process.

We do have a great interest in the river, as do a large number of other citizens. It will be a challenge to work harmoniously toward the best solution for all. WVHC pledges to do its best. Some reassessment of the problem with more input from all concerned might make an agreement possible later.

Roster of Officers, Board Members and Committee Chairs

BOARD OF DIRECTORS

PRESIDENT: John Purbaugh
Box 2502 Dudden Fork, Kenna, WV 25248 (988-9024)
SENIOR VICE PRESIDENT: David Elkinton
Route 5, Box 228-A, Morgantown, WV 26505 (296-0565)
VICE PRESIDENT FOR STATE AFFAIRS: Ron Shipley
1126 Hickory Rd., Charleston, WV 25314 (346-6971)
VICE PRESIDENT FOR FEDERAL AFFAIRS: Skip Deegans
2112 New Hampshire Ave., N.W., Apt. 615, Washington, D.C. 20009 (202/265-9337)
SECRETARY: Mary Lou Newberger
Box 89, Looneyville, WV 25259 (565-4415)
TREASURER: Tom Michael
Route 2, Box 217, Lost Creek, WV 26385 (623-3447)
PAST PRESIDENT: Larry George
1033 Quarrier Street, Suite 715, Charleston, WV 25301 (346-3706)

DIRECTORS-AT-LARGE

(Terms expires October 1989)

Richard diPreto: 264 High Street, Morgantown, WV 26505 (296-8963)
Geoff Green: Rt. 1, Box 79-A, Burlington, WV 26710 (289-3565)
Sayre Rodman: 32 Crystal Drive, Oakmont, PA 15139 (412/828-8983)
Skip Deegans: 2112 New Hampshire Ave., N.W., Apt. 615, Washington, D.C. 20009 (202/265-9337)
Perry Bryant: 236 South High Street, Morgantown, WV 26505 (291-1465)
Jim Van Gundy: 240 Boundary Avenue, Elkins, WV 26241 (636-4736)

DIRECTORS-AT-LARGE

(Terms expire October 1988)

William P. McNeel: 1118 Second Avenue, Marlinton, WV 24954 (799-4369)
Cindy Rank: Rt. 1, Box 227, Rock Cave, WV 26234 (924-5802)
Kim Taylor, 1420 Lee St., Charleston, WV 25301
John McFerrin: 1105 Tinder Avenue, Charleston, WV 25302 (345-5646)
Donna Borders, 924 Second Ave., Marlinton, WV 24954

ORGANIZATIONAL DIRECTORS

KANAWHA TRAIL CLUB: Charles Carlson
Box 3831, Charleston, WV 25334
NATIONAL SPELEOLOGICAL SOCIETY: Virginia Region: Martin DiLeggi
Route 1, Box 233-A, Alderson, WV 24910 (304/445-7508-Home)
POTOMAC APPALACHIAN TRAIL CLUB: Jeannette Fitzwilliams
13 W. Maple Street, Alexandria, VA 22301 (703/548-7490)
PITTSBURGH CLIMBERS: Jean Rodman
32 Crystal Drive, Oakmont, PA 15139 (412/828-8983)
W. VA. COUNCIL OF TROUT UNLIMITED: Don Brannon
P.O. Box 38, Charlton Heights, WV 25040 (799-2476)
KVCTU: Doug Leppan
819 Orchard Street, Charleston, WV 25302 (344-0467)
W. Va. MOUNTAIN STREAM MONITORS, INC.: John Jett
Route 8, Box 241EB, Fairmont, WV 26554 (296-5798)
BROOKS BIRD CLUB: Mary Moore Rieffenberger
Rt. 1, Box 523, Elkins, WV 26241 (636-4559)
KYOVA CHAPTER TROUT UNLIMITED: Frank Akers
1601 Sycamore St., Kenova, WV 25530 (453-1494)
SAVE OUR MOUNTAINS: Andrew Maier
P.O. Box 1286, Hinton, WV 25951

COMMITTEE CHAIRS

WVHC ENDOWMENT FUND: Ann Spaner
23 Seneca Hills Drive, Elkview, WV 25071 (965-7631)
CANAAN VALLEY COMMITTEE: Linda Cooper Elkinton
Rt. 5, Box 228-A, Morgantown, WV 26505 (296-0565)
MINING COMMITTEE: John McFerrin
1105 Tinder Avenue, Charleston, WV 25302 (345-5646)
PUBLIC LANDS MANAGEMENT COMMITTEE: Sayre Rodman
32 Crystal Drive, Oakmont, PA 15139 (412/838-8983)
and Donna Borders, 924 Second Ave., Marlinton, WV 24954
PUBLICATIONS COMMITTEE: W. E. "Skip" Deegans
2112 New Hampshire Ave., N.W., Apt. 615, Washington, 20009 (202/265-9337)
MEMBERSHIP DEVELOPMENT COMMITTEE: Adrienne Worthy
316 Skyline Drive, Charleston, WV 25302 (343-2767)
AIR/WATER TOXICS: Kim Taylor
1420 Lee St., Charleston, WV 25301

ADMINISTRATIVE OFFICES

Chuck Hamsher, **Membership Secretary**
Suite 201, 1206 Virginia Street, East
Charleston, WV 25301
(304) 766-6172

Gary Worthington, **Voice Editor**
118 Clark Avenue
Fayetteville, WV 25840
(304) 574-0540

Deadline for Articles for August Voice July 29

Developing West Virginia's Real Wealth

by Representative Nick J. Rahall

It was spring time in West Virginia and I was delivering a speech at a place called Camp Pioneer near the Monongahela National Forest. The part of my speech which generated the most attention then, and in subsequent newspaper reports, was the announcement of my intention to introduce a West Virginia rivers protection bill.

In effect, I was proposing to establish the largest network of Federally protected rivers in the East by designating segments of the major tributaries of the New River, which had received Federal protection in 1978, as units of the national park system. Over 95 miles of river and 80,000 acres of land would be involved.

This is a unique initiative for a state known more for its coal mining than perhaps anything else. Since the late 1800s the emphasis in West Virginia has always been placed on the development of our natural resources. Some have said that West Virginia can prosper only when something is removed from the state, be it coal, oil, or timber.

However, there are also economic benefits associated with the conservation of our natural resources, and this was the real point I was trying to make on that cool and sunny May day.

We are all to some degree tied collectively

or individually to the past in our thinking. In West Virginia, the exploitation of our land and mineral wealth began in the last century. The abuses of this era resulted in adverse affects on wildlife, the environment and associated recreational pursuits from which we are still recovering.

Discovering vast and rich reserves of coal, the railroads had purchased these tracts of land and leased them for development. Even today, 25 percent of the land in 33 of West Virginia's 55 counties is owned by absentee corporate owners and this percentage is much greater in some of the southern counties I represent.

In this regard, I have often felt there is a strong correlation between West Virginia and some of the western states where the Federal government has a large degree of land ownership. The major exception being there is less awareness given to land management policies and goals in West Virginia while in the West these considerations are greater due to laws such as the Federal Land and Policy Management Act.

When people speak of economic development in an attempt to curb the high rate of unemployment which afflicts West Virginia and other areas throughout the Appalachian Region, we still almost always discuss building something whether it is a new industrial

park, a highway, opening a coal mine or increasing our timber harvest. In southern West Virginia there are some who are even promoting siting a nuclear waste storage facility amidst our majestic hills on this basis.

Yet the economic benefits stemming from the conservation of our rich natural resource heritage should not be ignored. In fact, we can no longer afford to do so in our coal-fields. While we have always experienced boom and bust cycles, with increased mechanization our former levels of employment will never again be sustained.

Recreation and tourism largely stemming from the conservation of our natural resources is now bringing \$1.7 billion a year into West Virginia. The New River Gorge National River alone, as a destination for sportsmen, is responsible for generating a great deal of revenue. And, with our 41 state public hunting and fishing areas and nine recreational lakes associated with U.S. Army Corps of Engineers projects along with our state park system, the possibilities are enormous.

So as we continue with efforts to diversify our economy in West Virginia, I do not believe we should lose sight of the basic activities which many of us enjoy that require good stewardship of our land and water resources, whether it is hiking, fishing,

hunting, boating or simply standing on the rim of the New River Gorge to take in the view. These pursuits enhance the spirit, and bolster the economy as well.

With an eye to West Virginia's history, I often quote Mary Mother Jones in my speeches, and I did not fail to do so at Camp Pioneer. During the early years of this century Mother Jones may have been the most widely known and controversial woman in the country. An elderly union organizer, she became a frequent visitor to West Virginia and between 1901 to 1921 participated in several highly dramatic confrontations between the miners and coal operators at places with names like Paint and Cabin Creek and the Battle of Blair Mountain.

"When I get to the Other Side, I shall tell God Almighty about West Virginia," Mother Jones once said and it was this quote I chose to use in my speech at Camp Pioneer. What, exactly, Mother Jones intended to tell the good Lord about my home state is unknown. I like to think her message might have been that our prudent actions in dealing with what Mother Nature has provided us will form the basis of any heavenly judgment.

(Reprinted with permission from National Wildlife Federations Conservation 88.)

Statewide River Assessments

Prepared by J. Glenn Eugster, Chief, Division of Park and Resource Planning, Mid-Atlantic Regional Office, Philadelphia.

Planning for our rivers and streams, and their related land problems, is complex and any attempt to solve these problems is influenced by competing interests with legitimate needs. No easy answer to the many varied problems on our rivers exists. The approach to planning for rivers changes as our knowledge and the uses of these surface water resource change and in general has evolved in response to water management problems. There has been a continual evolution of institutions designed to plan for rivers, allocate water among competing users, resolve disputes, and promote public health, safety, and the general welfare. As we learn more about the multiple values of rivers and the public continues to depend upon these resources for a wide variety of benefits, our approaches to planning will need to change in order to help manage these problems and achieve these benefits.



Glenn Eugster presented his ideas on river planning to the WVHC at the Spring Review. Photo by Jean Rodman.

Although many agencies and organizations plan for the future use of rivers frequently these efforts are singular in focus; not coordinated with other competing interests; fail to fully consider a wide range of environmental values; and frequently lack commitments to carry out recommendations.

Central to the goal of river planning, and to the conflicts which arise in successfully completing such plans, is how to recognize all of a river's public values and meet the most important needs of the involved interests.

In 1968, the Congress of the United States recognized the legitimacy of planning and managing certain river values and uses through the enactment of the National Wild and Scenic Rivers Act.

Over the last decade, the National Park Service has been working cooperatively with public agencies and private organizations through the State and Local River Conservation Assistance Program to help identify outstanding river values. Inherent in the approach to this program is the assumption that state and local governments and private landowners are the cornerstone of any strategy for river conservation.

River Corridors

Surface water resource planning requires an understanding of all the characteristics of a drainage area. One portion of the drainage area which has the most influence on, and is most sensitive to, the quality of a river is the land adjacent to the water. The use of this land and water interface, more so than any other area in a watershed, is directly influenced and influences the character, quality and future uses of rivers and streams. These interface areas, which we refer to as river corridors, are where the greatest variety of important natural, cultural, physical and economic resource values are found. These values are the direct result of the natural processes of the river on the landscape and the uses man has found for these resources.

The many miles of our river and stream corridors are some of our nation's most valuable and desirable resources. Although seemingly abundant these places are limited and the demands for their future use are increasing significantly. The importance of river corridor values warrants a carefully considered and well reasoned balance among the competing uses of these areas. In order to achieve this balance, future river planning efforts must recognize all legitimate beneficial public uses and seek to encourage decisions which result in the maximum public benefit with the least adverse impact on significant river resource values.

Need for a Framework for Decision-making

Land and water use decision-making procedures vary considerably in this country. Economic factors, changes in technology and in the values of the public regularly influence considerations in decision-making. In general, decision-making for our river and stream corridors has not always reflected the full range of public values and frequently has been directed toward single purpose goals or site specific decisions.

For example, although each state in the country has specific agencies which plan for various types of river values such as fish and wildlife habitat, historic areas, hydropower, public access sites and water quality, few states have taken steps to coordinate decision-making between agencies and develop consistent information bases.

In addition, few states have done any type of comprehensive statewide assessment of river corridors to identify and comparatively evaluate various natural, cultural, recreational, physical and economic river values. Few states have established policies which recognize river corridors, the values they possess, or that these hydrologic systems move without regard to political boundaries. The results of this situation are that there is a general lack of public recognition for legitimate river instream and offstream corridor uses; public priorities for the use of certain river corridor areas; and expedient ways to resolve conflicts from competing uses. Government actions in many circumstances reflect a series of small, apparently independent decisions being made without regard to the effects they have on overall river corridor resource values.

Statewide River Assessments

In response to these difficulties, several states, our office and a number of other government and private interests have been rethinking the way we plan for and make decisions about river corridor values. One approach which has been developed and used is a statewide river assessment. A statewide river assessment is a cooperative multi-organization planning method to objectively and systematically identify, evaluate and comparatively assess a variety of river corridor resources of value to the public. The rationale for an assessment is to gather better information about river corridors in order to focus the priorities of river interests, and promote more comprehensive, objective decision-making and conflict avoidance between competing river uses. Statewide river assessments are a way to help more effectively

(continued on page 6)

Beneath T

by

While most West Virginians realize that there are quite a few caves in the state, few people outside the caving community realize that our state is one of the most significant cave areas in the country. Indeed, the eastern portion of the West Virginia highlands area is one of the most significant cave areas in the world.

What makes the Highlands region unique as a cave area is the unusually large number of large caves, especially in Greenbrier and Monroe counties. While there are other areas that have more caves, and nothing in West Virginia approaches the size of Kentucky's Mammoth Cave with its 300+ miles of mapped passage, there is no other area of the country that has as many large caves per unit area as the southern portion of the West Virginia highlands. Currently, West Virginia's largest known cave is the Friars Hole system located in southern Pocahontas and northern Greenbrier counties, with about 45 miles of explored passage. Organ Cave near Lewisburg, part of which is open to the public as a show cave, is the second largest cave in the state with just under 40 miles of passage. These two caves are the 4th and 5th largest caves in the United States.

While the exact number of enterable caves in the state is unknown, the official estimate of the National Speleological Society is about 2,700, nearly all of which are in the highlands portion of the state. Most of these caves are of course smaller than giants like Friars Hole or Organ Cave. The typical West Virginia cave probably has from a few hundred to a few thousand feet of traversable passage and consists of a single passage or several more or less parallel, interconnected passages. Grimes Cave in Pocahontas County is shown here as a typical example, although more complex caves

such as Hamilton Cave in Pendleton County do occur and may present quite a challenge to the explorer because of their maze-like character.

Nearly all of the caves of the highlands area developed in limestone, and this is true for most of the larger caves in the world as well. Large caves are also known from certain types of volcanic rocks, although no such caves occur in the eastern U.S. There are 3 different limestone formations in the state that are especially prone to solutional attack by slightly acidified groundwater, and are therefore favorable for the formation of large caves. By far the most important of these is the Greenbrier limestone of Mississippian age that outcrops in the area towards

the eastern edge of the Allegheny plateau and in the upper portions of the Greenbrier River drainage. The Greenbrier thickens progressively from about 100 feet at the Pennsylvania border to nearly 1,800 feet in the southern portion of the highlands region in Monroe and Mercer counties. It is this increase in thickness along with an increase in the surface area over which the limestone is exposed which largely accounts for the increase in the number and size of caves to the south, and which makes the Greenbrier and major cave forming limestone in the state.

Other important cave forming limestones are the Ordovician age limestones of Germany Valley in Pendleton County and the

Devonian age Helderberg formation which outcrop widely in the Valley and Ridge portion of the highlands.

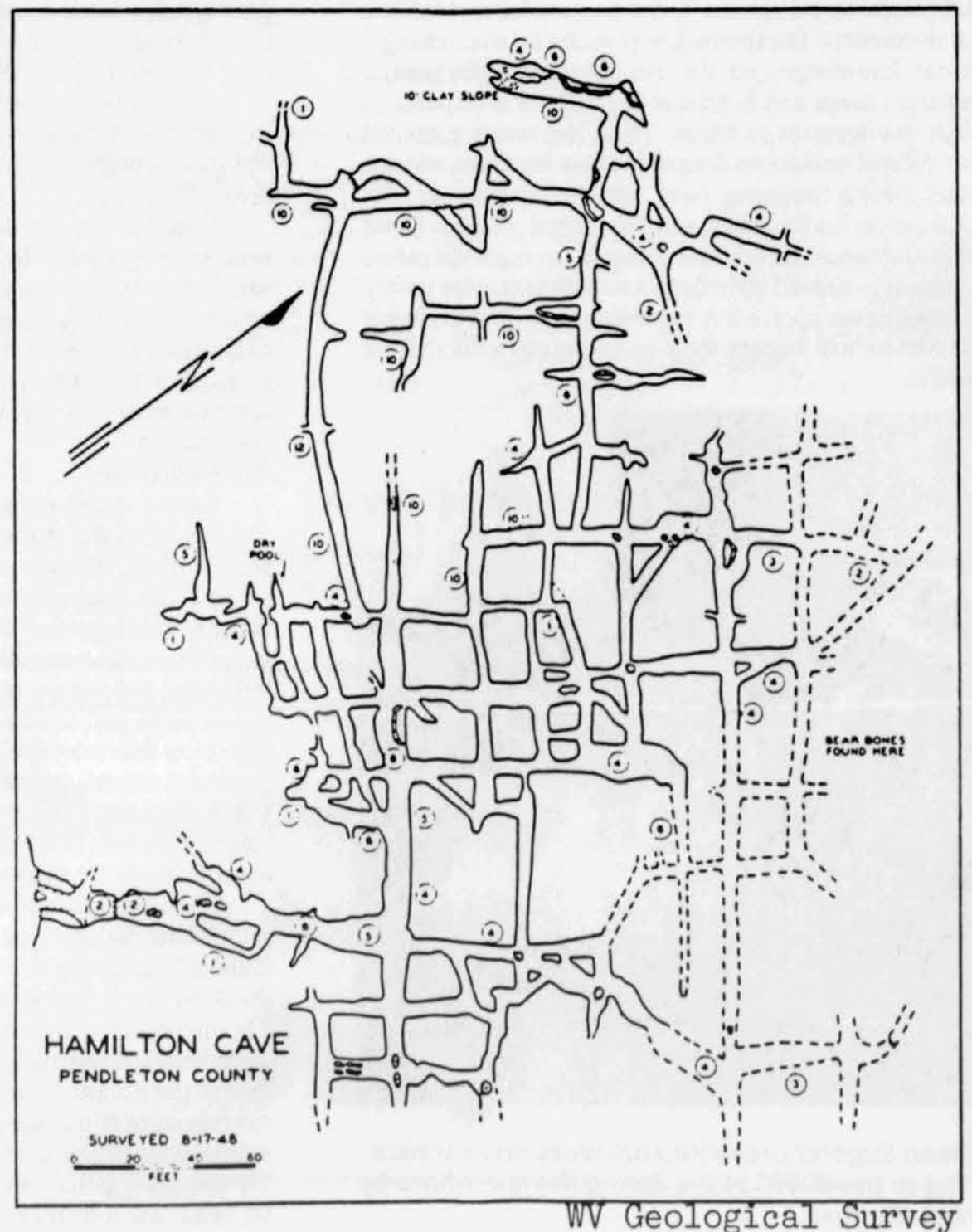
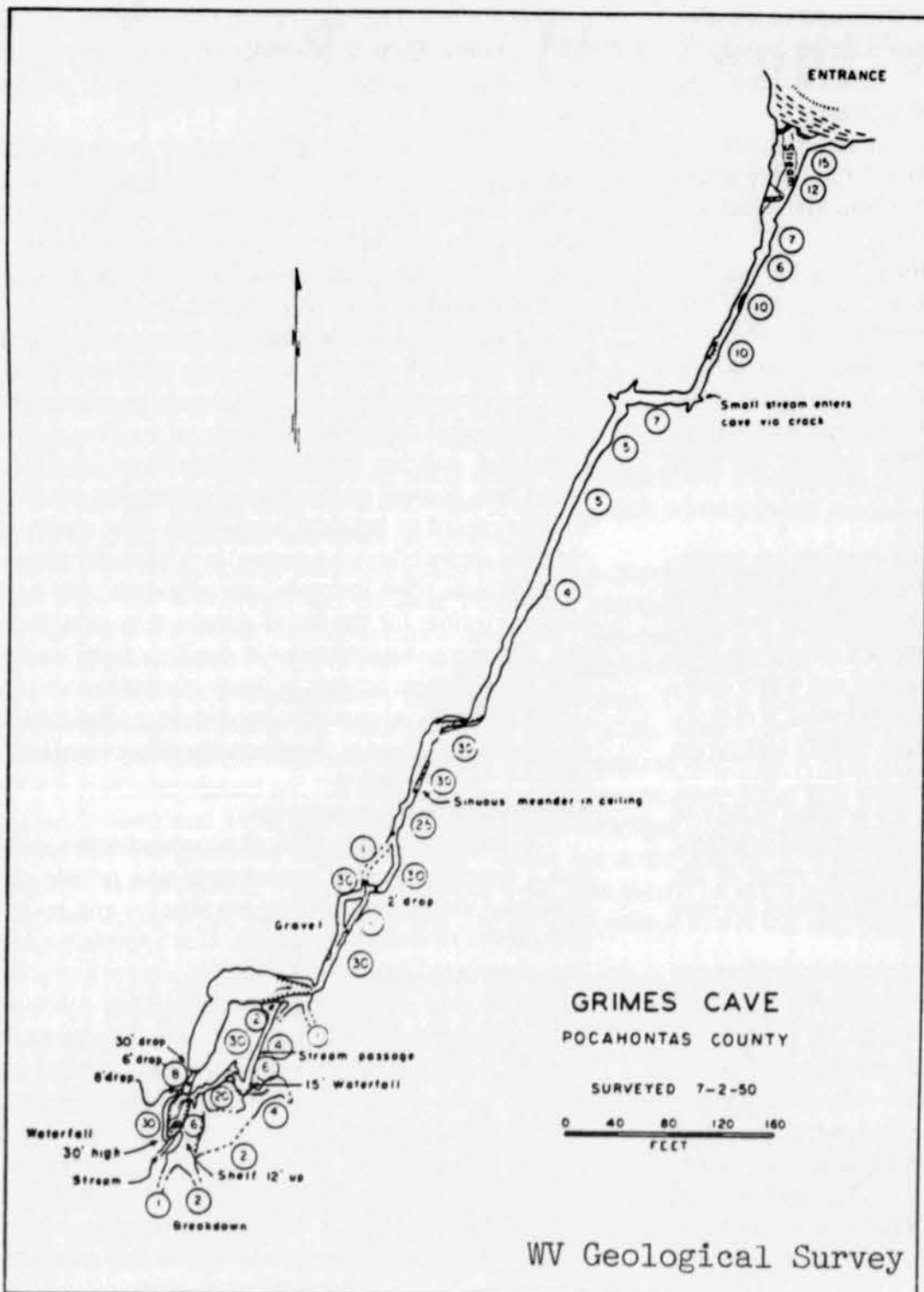
Caves in the different limestones tend to have somewhat different characteristics, although there is broad overlap. In general, caves in the Greenbrier limestone tend to be larger, wetter, and better decorated with formations than the caves of the other limestones. There are many exceptions to this general rule however. Neither Seneca Caverns near Riverton nor Smokehole Caverns near Petersburg is in the Greenbrier limestone, and yet both are quite well decorated, and are open to the public as show caves.

While the two caves mentioned above, along with Lost World Caverns and Organ Cave in Greenbrier County are the only caves in the state that are open to the general public, it is the uncommercialized or "wild" caves that most intrigue cave explorers. The West Virginia highlands have been a focus for caving activity in the eastern United States since the late 1940's and continue to be so today. The area continues to attract literally thousands of cavers year-round from all over the United States and from other countries as well. Pocahontas and Greenbrier counties have been a center of activity for Canadian cavers and cave scientists for some years.

Although most of those who visit West Virginia's caves do so for recreational purposes, the area has been important for scientific investigations related to caves as well. In recent years, a disproportionate number of dissertations and theses dealing with cave geology, mineralogy, or ecology have been researched in the West Virginia highlands and the highlands karst areas continue to be a focus for scientific investigations of many types.



Unusual formation in a highlands cave. Photo by Morris Kittle.



The Highlands

by Gundy

One of the ways in which the area's caves are proving particularly significant is in the area of Pleistocene vertebrate paleontology. Caves, especially those with vertical entrances, may serve as natural traps for a variety of large and small animals. While animals that die in surface environments are quickly eaten and all by a variety of scavengers, the skeletons of animals that die in caves are generally left undisturbed and intact. In addition, the relatively constant temperatures and dryness of some caves represent conditions that are especially favorable to the preservation of biological materials. As a result of these factors coupled with the great number of caves and their relative antiquity, a number of highlands caves contain scientifically significant bone deposits. Both Organ Cave and Bone Cave in Greenbrier County contained remains of the giant Pleistocene ground sloth *Megalonyx jeffersonii*, and Hamilton cave in Pendleton County has produced skeletal remains of Jaguar, sabretooth cat, cheeta, short faced bear, badger, peccary, pika, and tapir along with 53 other mammalian species. The mixture of northern forms such as the yellow cheeked vole and pika and tropical and sub-tropical species such as the Mexican freetail bat, jaguar and peccary in these bone deposits suggests that some of the bone caves remained open for extended periods during the profound climatic shifts that characterized the Pleistocene in West Virginia. Some of the Hamilton cave bones are estimated to be up to 700,000 years old.

New bone deposits continue to be discovered in West Virginia and the surface of these deposits, both literally and figuratively, has just been scratched. A few years ago, a complete skeleton of a baby mammoth along with a large number of peccary skeletons was found in the newly discovered Scott Hollow cave in Monroe County.

West Virginia's caves have also served as natural ecological and evolutionary laboratories for a number of scientific studies. Because cave environmental conditions are relatively constant and cave ecological communities are relatively simple and uncomplicated by large numbers of species and complex foodwebs, caves provide ideal setting for the investigation of certain types of problems in ecology and evolutionary biology.

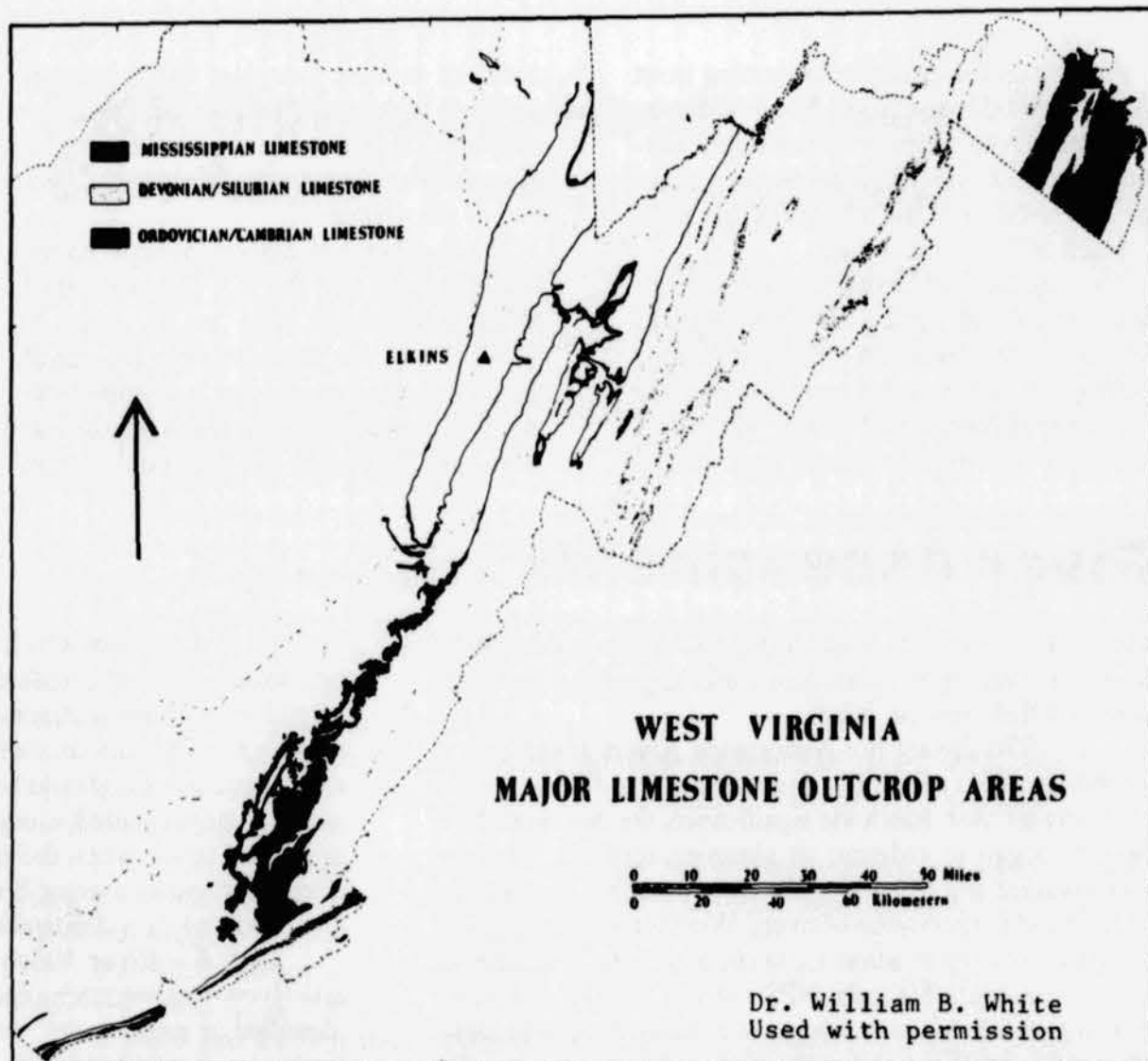
Unfortunately, the same ecological simplicity and environmental constancy that favors the ecological investigator makes cave ecological communities extremely sensitive to disturbance and very likely to be severely disrupted by even minor environmental changes. Because caves are dark, no photosynthesis takes place and so the ecological communities of caves are almost entirely dependent upon biological energy imported from surface ecosystems in the form of dead plant materials or the dead bodies or feces of animals such as bats and woodrats that use the cave for shelter, but which regularly return to the surface to feed. Because of the severe shortage of food materials, most populations of cave organisms are very small and small populations are in general very prone to extinction.

Because caves are such isolated ecosystems, the animals that live in them have also often been isolated for some time and are not infrequently endemic species, that is, species that occur in one or a small group of caves, but nowhere else. In cases such as this, local extinction may be synonymous with absolute extinction. In West Virginia, two cave species, the Virginia Bigeared Bat and the Indiana Bat, are Federally listed as rare and

endangered species. In addition to these, there are presently 20 species of cave dwelling invertebrates in the state that are under status review and which may possibly be listed as threatened or endangered in the future. In the case of the two bat species mentioned, while insecticide use has no doubt played a part in their rapid decline from quite high numbers in the 1940s and 50s, the major cause has apparently been increasing disturbance of maternity and hibernating colonies by cave explorers in the post WW II years. These two species use caves for different reasons. The Indiana bat uses them as hibernacula in the wintertime, and unlike some other bat species, they are very easily aroused from hibernation by even slight noises or other disturbances. Since a hibernating bat has relatively little in the way of stored energy resources, any disturbance that causes the bat to awaken increases the animal's metabolism and burns stored fat. If this occurs too often, the animal burns all of its brownfat resources prior to the time when it can go outside to feed on insects, and it simply starves to death before spring arrives.

The Virginia Bigeared Bat usually does not hibernate in caves, but females do use certain caves as maternity sites where they give birth and raise their young. Any disturbance to a maternity colony is usually disastrous, causing many young bats which normally cling to their mothers or the cave wall to fall to the floor of the cave where they cannot be retrieved and they subsequently starve to death. Because of the sensitivity of these two species to human disturbance, the 8 caves in Pendleton and Tucker Counties which are known to house significant colonies of these species are either gated or fenced by the U.S. Fish and Wildlife Service in order to control access. In addition, several other caves in the highlands that hold small numbers of the endangered species have signs at their entrances which alert cavers that endangered species may be present and that they should be careful not to disturb any bats at critical times. While these access control measures have only been in effect for a few years, and bats have a low reproductive rates, there is some evidence that the protected colonies are actually increasing in numbers.

A number of the caves of the highlands also possess significant historical value. While few West Virginia caves show evidence of entry by early man, Indian Cave, a small rockshelter in Harrison County has a



good collection of pictographs which apparently are of Indian origin. Joes Quarry cave in Berkeley County was excavated in the middle to late 1950's by Carnegie Museum of Pittsburgh and a number of Indian skeletal remains and artifacts were recovered; the cave apparently had been used as a burial site.

In more recent times, several West Virginia caves were visited by important historical figures. Thomas Jefferson explored portions of Organ cave in Greenbrier County and George Washington left his signature and the date 1748 in what is now called George Washington Cave near Charles Town in Jefferson County.

During the Civil War, 25 or 30 different caves in the counties bordering Virginia were used as sources of saltpeter for the manufacture of gunpowder by the Confederacy, which had been denied access to the foreign sources of that material by the Union blockade. Cave earth containing calcium nitrate was dug from the caves and carried in burlap bags to the entrance, often by prisoners of war, where it was placed in V-shaped hoppers lined with straw and then leached by hot water. The leachate was concentrated by boiling, like maple syrup, and then mixed with wood ashes, rich in potassium,

to produce potassium nitrate or saltpeter. The saltpeter caves show various evidence of this use, including mattock marks, wooden water troughs and pipes, soot-blackened walls from torches, rarely leaching hoppers, and occasionally crude bridges or similar features. At least 4 West Virginia caves are known to have been used for similar purposes during the War of 1812 and even earlier use of this type is possible.

Because caves are to a large extent protected from the ravages of weather, and biological materials in caves are protected to some extent from the agents of decay, features such as footprints, mattock marks, and simple wooden structures may be surprisingly well protected from damage and may look as if they are very recent. Like the living biological features of caves, these too are very prone to being destroyed by the thoughtless actions of human visitors to the cave. West Virginia was one of the earlier states to enact a cave protection law. This law provides protection for the biological, geological, and archeological features of the caves of the state and prohibits vandalism or the removal of materials without valid scientific collecting permits.

Most of the state's caves are located on private land. Only 75-80 caves are known to lie within the boundaries of the Monongahela National Forest, although the Forest has in recent years pursued a policy of acquiring significant caves as they come up for sale on land adjacent to the MNF. The MNF has purchased the Cave Hollow-Arbogast Cave system in Tucker County and Peacock Cave in Grant County in recent years to provide protection to colonies of endangered bat species.

The recent increase in interest in recreational caving and the closing of a number of caves on private land have increased the amount of traffic to some of the more popular caves of the highlands, thus increasing the likelihood of damage to the fragile cave environment. Hopefully, the growing recognition among cavers of the damage that they are capable of causing, the public education efforts of the National Speleological Society, and vigorous enforcement of the cave protection law by state officials will protect the delicate cave systems of the highlands for future generations.



Travertine curtain in a West Virginia Highlands cave. Photo by Morris Kittle.

Focus on Fisheries

An agreement aimed at improving trout fishing on the Monongahela National Forest has been signed recently by the Forest Service, the West Virginia Department of Natural Resources, and the West Virginia State Council of Trout Unlimited.

The first project under the new memorandum will take place on Three Springs Run north of Alpena on the Cheat Ranger District. Trout Unlimited members from the Allegheny Chapter will work with other volunteers and Forest Service personnel to

construct at least four dam like structures designed to improve habitat and cover for native brook trout and wild brown trout by concentrating flow to dig pools in the bottom of the stream.

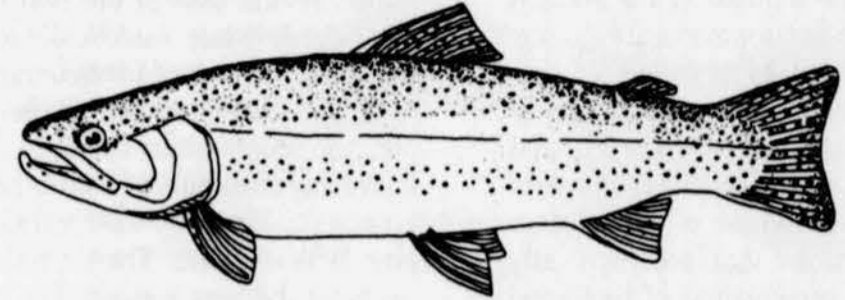
The Gandy Creek agreement between the Forest Service and the WV Department of Natural Resources calls for at least 70 boulders to be placed this summer in areas of the stream where trout cover is severely lacking. The boulders provide cover for the fish and cause the stream to create pools where

the water flows around the rocks. Gandy Creek is located north of Spruce Knob on the Potomac Ranger District.

The Forest Service is contributing \$10,000 to the project and the DNR is contributing \$8,000 along with administration and super-

vision of the contract.

For further information on the above projects, please contact Cal Casipit, Forest Service at 363-1800, Don Phares, DNR at 636-1767 or Gary Lang, Trout Unlimited, 636-7697.



River Assessments (Continued from page 3)

use of river corridors while trying to achieve a consensus about the most appropriate future use of specific river corridors and their related values.

In 1976 during the Nationwide Rivers Inventory, a systematic effort to identify undeveloped free-flowing rivers with greater than statewide significance, the National Park Service began to redesign its planning methods for river conservation and develop different approaches for the evaluation and conservation of rivers. Working with the American Rivers Conservation Council, a private Washington based conservation group, NPS worked closely with state government and private river conservation interests to identify and evaluate important river corridors by specific resource value categories (i.e. recreational fishing, boating, etc.).

During the Inventory, NPS also began working with state governments through the State and Local River Conservation Assistance Program to develop statewide river assessments. The National Park Service supports river conservation efforts throughout the United States through this program created by Section 11 of the National Wild and Scenic Rivers Act. One of the earliest cooperative statewide river assessments began between NPS and Maine's Bureau of Parks and Recreation.

Assessment Method

The statewide assessment method which was designed by the Mid-Atlantic Regional Office of the National Park Service involves nine tasks. Although each state or area of the country is unique and requires an approach specifically tailored to the resources, attitudes, issues and institutions which exist, generally the following tasks, which are summarized in the following outline and briefly described below, will need to be undertaken.

Statewide River Assessment Tasks

Task 1 - Set Goals and Objectives: Either the agency initiating the effort, or a group of involved interests, should identify goals and objectives to define the purpose and direction of the statewide assessment. These goals are statements of what is important to achieve from the effort and will help to clarify tasks, calculate schedules and decide on actions.

Task 2 - Establish an Expert Advisory Committee or Task Force: Establishing a committee of river resource experts, from public and private organizations, to assist in designing the method, providing information and guiding the development of the assessment is essential to a successful project. Experts from state and federal agencies and from private groups will help to ensure that the assessment will be accurate and reflect the interests of various landowners, users, developers, managers and government agencies.

Task 3 - Prepare a Public Involvement Plan: Either the task force and/or the agency initiating the assessment should prepare a public involvement plan to determine the type of public participation which is appropriate for the effort. The plan should determine the members of the public you want to reach, how to involve them in the decision-making process and the techniques you will use.

Task 4 - Identify and Define River Value Categories: Specific types of natural, cultural, recreational, economic and other river value categories should be identified. These categories will serve as a framework for the collection and analysis of river information and should reflect recognized public river corridor values. Using resource experts, the river value categories should be defined. Where possible, and appropriate, category definitions can reflect river corridor values which have been recognized by existing state or federal statutes.

Task 5 - Identify Data Requirements, Sources, Criteria and Standards for Each River Value Category:

In order to determine which river corridors possess important values, a set of standards should be individually prepared for each value category. Initially the standards should identify a "minimum threshold" criteria to determine which river corridor areas should be considered for evaluation. In addition more detailed standards and criteria should also be developed to use when the river corridors are being evaluated. Information sources, both publication and experts, are identified and data deficiencies are noted.

Task 6 - River Value Category Evaluation: With assistance from resource experts, all the river corridor areas identified as meeting the "minimum threshold" criteria are further inventoried and analyzed independently using more detailed standards to substantiate river values. The results of this analysis are then rated on lists by river category according to levels of significance. The significance levels should reflect the importance and uniqueness of the value category. For example, certain river values in the Maine Rivers Study were rated either: 1) of greater than statewide significance; 2) of outstanding statewide significance; 3) of statewide significance; or 4) of regional, within state, significance. The results of this task are lists of river corridor areas rated by levels of resource value significance.

Task 7 - River Value Category Synthesis: All of the river information collected, evaluated and documented in the earlier steps is combined with other related values to summarize all of the values associated with particular river corridor segments. Matrices are frequently used to simplify the recording and display of river values. These matrices identify the total number of corridor resource values associated with each river segment and are also rated by levels of significance.

Task 8 - Comparative River Value Evaluation: Using a standardized method, the combined significance and related river corridor resource values of all the evaluated segments are then evaluated on a comparative basis to determine their relative importance within the state or study area as well as to achieve a sense of agreement between many interests as to these findings. A river corridor's multiple resource values as well as unique values for individual resource categories can be taken into consideration.

River corridor areas are then ranked, based on the number of significance of various river values, and placed into composite categories which represent a range of overall river values.

Task 9 - Documentation: The assessment findings are documented narratively and graphically with emphasis placed on the resource values of the rivers and river segments found to possess multiple and/or unique resource values.

Potential Uses

Statewide river assessments can be used in a variety of ways. Most importantly an assessment will lead to the compilation of a consistent and verifiable resource data base which can be used by all concerned organizations to help make objective decisions about river corridors. Some examples of the ways which federal and state government agencies have used the resource data from statewide river assessments include:

1. The Pacific Northwest Power Planning Council, the Bonneville Power Administration and four states are using statewide river assessments to identify resource consideration which might have a bearing on hydropower development. The ultimate objective of their effort is to identify river areas where new hydropower development will have minimal impact and thus be appropriate.

2. In South Carolina, the Water Resources Commission plans to use the assessment to provide an objective framework to guide its Scenic Rivers Program in the future. Maryland, New York and states in the Pacific Northwest are

using assessments to help direct their work.

3. The State of Maine found over 200 uses for their assessment including incorporating it into their State Energy Master Plan; using it for an assessment of public access and campsite needs on 26 rivers; prohibiting the state licensing of new dams on nearly 1,000 miles of 16 outstanding river segments; targeting community block grants and coastal zone management funds for the revitalization of deteriorating waterfronts; and preparing specific fishery management plans for 10 rivers.

4. Within the National Park Service, the assessments are used to assist us carry out our environmental review responsibilities required by the National Environmental Policy Act.

5. In Vermont and Maine, assessments have been used to provide input into State Comprehensive Outdoor Recreation Plans to help set priorities for federal Land and Water Conservation Funds.

6. The National Park Service uses assessment information to review various types of federal legislation which is proposed and government and private sector requests for planning assistance through the State and Local River Conservation Assistance Program.

7. In Maryland, an assessment was used to help private non-profit conservation groups identify priority areas for private landowner conservation projects.

8. In Virginia and Pennsylvania, the Commonwealths' have used statewide assessment information to coordinate highway construction projects with significant undeveloped and free-flowing river segments.

Conclusion

The planning and management of rivers, like the natural and physical processes that created them, is a complicated, slow and time-consuming business. River corridors are a valuable and diminishing natural, cultural and economic resource. The competition for these valuable areas has never been greater and can be expected to increase over the next decade. This competition can be a positive force to encourage agencies and organizations to work cooperatively to increase recognition of the public values of river corridors and the need for planning, decision-making and management which affords the maximum benefits to the public and seeks to avoid conflicts between competing uses.

States and federal government should give strong consideration to developing policies which recognize river corridor values and provide guidance for achieving a balance among various river corridor uses. A statewide rivers assessment is one way to begin to provide that recognition and shape those future policies.

References Cited

State of Maine, Department of Conservation and National Park Service, U.S. Department of the Interior. MAINE RIVERS STUDY. May 1982.

Bonneville Power Administration. PACIFIC NORTHWEST RIVERS STUDY MANUAL. October 1984.

State of South Carolina, Water Resources Commission. STATE WATER ASSESSMENT. September 1983.

U.S. Water Resources Council. THE NATION'S WATER RESOURCES, 1975-2000, VOLUME 1: SUMMARY. December 1978.

Author

J. Glenn Eugster is with the Mid-Atlantic Regional Office of the National Park Service, 600 Arch Street, Room 9428, Philadelphia, Pennsylvania 19106. He works with state and local governments and private groups nationally preparing river conservation plans and co-authored the method used in the Maine Rivers Study with Drew Parkin and David Lange.

NEWS BRIEFS

Stream Acidification In East Getting Worse, Survey Shows

WASHINGTON — A survey of streams in the Eastern United States by the Environmental Protection Agency shows that the acidification of freshwater is much more widespread than was previously known.

A draft report on the survey said that there was a significant number of acidified streams in the Middle Atlantic coastal plain stretching from New Jersey to North Carolina, particularly in the Chesapeake Bay and New Jersey areas, and in the northern Appalachian plateau of West Virginia, Pennsylvania and New York.

The report said about 4.4 percent of the 66,000 miles of stream in the Mid-Atlantic survey area were acidic and roughly half of the streams in the area were found to have a potentially low capacity to neutralize acid rain.

The survey was based on a sample of about 500 streams and was made available to The New York Times by agency officials.

EPA officials noted that the survey was not designed to establish a cause-and-effect relationship between acid rain caused by pollution from coal-burning power plants and other industrial sources and the acid content of Eastern streams. But several key officials said the results of the survey were a clear indication that the damage acid rain causes to surface waters was being seen in large parts of the Eastern United States.

"What we are seeing here is a fully documented, statistically designed survey showing a broader geographical extent of environmental effects from acid rain than we previously realized," said Courtney Riordan, director of the Office of Environmental Processes and Effects Research.

Sunday Gazette-Mail, 5/22/88

Birds May Signal Global Ecological Disaster

PALO ALTO, Calif. (UPI) — Birds, acutely sensitive to poisons and imbalances in the environment, are foreshadowing a global ecological disaster, an expert said Thursday.

"We are destroying habitats that are vital to our own food resources in ignorance and in the name of development and the birds are pointing it out to us," Paul Ehrlich, a Stanford University ecologist, said at the annual meeting of the Peninsula Conservation Center.

Birds are signaling the worsening of such widespread environmental problems as toxic contaminations, deforestation, acid rain, pollution of vital bays, estuaries and wetlands and scarcity of clean fresh water, he said.

"If we don't get a lot of action soon, there may yet be a 'silent spring' in our future," Ehrlich said, referring to Rachel Carson's 1962 warning that uncontrolled pesticide spraying would hush songbirds forever — a rallying cry that galvanized the environmental movement in the United States.

"Birds, which are quite sensitive to poisons in the environment, serve as an early warning system," said Ehrlich, author of "The Birder's Handbook," a field guide to the natural history of North American birds.

A recent epidemic of bird deformations in the United States appears connected to selenium, mercury and other toxic elements in agricultural runoffs and drainage from power plants and mines, he said.

A decline in warblers and other songbirds is linked to forest clearing in the East.

Around the nation's capital, the number of some songbirds has plummeted as much as 90 percent from the World War II levels, and some species have disappeared in Washington as a result of local deforestation, suburbanization and destruction of the birds' winter habitat in South America.

Duck and loon populations are dwindling where acid rain has wiped out aquatic insects, fish and other prey animals in the birds' breeding grounds, he said.

What is happening to the birds as a result of the deterioration of Earth's environment "presages what will happen to human populations," he said.

Charleston Gazette, 5/6/88

Byrd Helps Dedicate Stonewall Dam

WESTON (UPI) — Sen. Robert C. Byrd, D-W.Va., helped dedicate the Stonewall Jackson Dam in a Saturday ceremony, saying the long-awaited project has "turned the peril of the West Fork River into promise for the future."

Byrd predicted the massive flood control project will serve as a catalyst for economic development through tourism and recreation.

"My dream is that West Virginia, long a power in heavy industry and mining, may also be discovered by the nation as a tourist attraction," he told the gathering. "Tourism means new jobs and economic opportunity for the people of our state."

"The scenic beauty and recreational features offered by Stonewall Jackson Lake may help us to realize our potential in the tourism business," he said. "It is my hope that this project may be a step in attracting travelers to West Virginia."

In 1983, Byrd restored funding for the project after the House voted to delete continued appropriations.

"That funding came none too soon," Byrd said, reminding his audience of a horrendous flood that ravaged West Virginia in November 1985. At the time, the dam was about 80 percent complete.

Sunday Gazette-Mail, 5/22/88

DNR Biologists Hoping Lake Trout Can Adapt To Summersville Lake

Last month, the Department of Natural Resources released 23,000 seven-inch lake trout in the Nicholas County reservoir, accounting for the first significant stocking of lake trout anywhere in the state. DNR biologists will closely monitor how well the lake trout — native to Canada and the northern U.S. — adapt to life in West Virginia.

If the transplanted trout grow and reproduce here, fishermen will have the chance to angle for members of an adult population that may weigh more than 20 pounds, and have been known to surpass the 60-pound mark.

"Lake trout require cool, clean water, and they'll have it at Summersville Lake," said Bert Pierce, director of reservoir management for the DNR. "Near the bottom of the lake, temperatures are in the 40s, even in the summer."

Water temperatures of less than 55 degrees are needed in order for lake trout to flourish.

Pierce said transplanted lake trout have done well at Dale Hollow Lake along the Kentucky-Tennessee border, so there's no reason why a move to a southerly latitude would prevent the fish from adapting to life here.

The lake trout now in Summersville Lake were hatched and reared at the federal fish hatchery at Bowden. In their current stage of development, they will feed primarily on tiny invertebrates like plankton.

If the lake trout program is to be a success, the fish will have to reproduce and replenish their population, since it costs too much and takes up too much space to continually rear lake trout fingerlings in the state's system of hatcheries.

If an adequate population is established, the DNR is expected to establish special length and creel limits for lake trout.

A much smaller experiment involving transplanted lake trout fingerlings was begun last year at Jennings Randolph Lake (formerly Bloomington Lake) along the Potomac River on the West Virginia-Maryland border. Only 2,000 young lakers were involved in that stocking.

Stonecoal Lake may be able to support a lake trout population, if the experiment at Summersville proves a success. Few other West Virginia impoundments have water with the right temperature, clarity and oxygen content to support a lake trout population, according to Pierce.

Charleston Gazette, 5/23/88

Endangered Species Notes

In February, an adult bald eagle was found dead near the vicinity of the state's only known active nest. It was immediately sent to Madison, Wisconsin for an examination. There it was found to be an older female that had been struck from behind causing internal bleeding and a broken pelvis. It may have been hit by a low flying aircraft, or perhaps by a car when feeding near a roadway.

As of mid-April there was only one adult at the nest, and no eggs. Biologists have spotted several eagles in the vicinity of the old nest, however, so there is some hope that the site will yet product young. As it has been several years since the first known nestlings were fledged from this nest, biologists are actively searching for new nests in the area.

This summer will mark the second year the WV Nongame Wildlife Program will release peregrine falcons in the state. Peregrine chicks will again be obtained from the Peregrine Fund and "hacked" at the New River Gorge site. Depending upon the hatching success at the World Center for Birds of Prey in Boise, Idaho, a captive breeding facility, West Virginia may have one or two additional release sites this summer. The new sites will be on cliff areas in the Monongahela National Forest, in a cooperative program with the U.S. Forest Service.

WV Nongame News, Spring 1988

National Parks System Suffered During Reagan Years, Group Says

WASHINGTON (UPI) — America's national parks system has deteriorated alarmingly during the Reagan presidency, The Wilderness Society said Tuesday, naming 10 parks it considers the most endangered.

"The threats to these parks run the gamut from clear-cutting and oil drilling on their perimeters to low-flying helicopters and bombers," said George Frampton Jr., president of the group. "This is a shabby way to treat the very best of our natural heritage."

The conservation group did not rank the parks by the degree of deterioration, but listed them alphabetically:

Everglades National Park in Florida; Glacier National Park in Montana; Grand Canyon National Park in Arizona; Great Smoky Mountains National Park in North Carolina and Tennessee.

Manassas National Battlefield Park in Virginia; Olympic National Park in Washington; Rocky Mountain National Park in Colorado; Santa Monica Mountains National Recreation Area in the Los Angeles area; Yellowstone National Park in Wyoming, Montana and Idaho; and Yosemite National Park in California.

Interior Department spokesman David Properi disagreed with The Wilderness Society, saying, "We don't think any of the national parks are in jeopardy." Properi said, "We've doubled the size of the Park Service budget since 1981."

The Wilderness Society, founded in 1935, has asked Congress to increase the National Park Service budget — now \$730 million a year — by almost \$200 million.

The Charleston Gazette, 5/25/88

Monongahela National Forest Hiking Guide Now Out

Edition 5 of the WVHC **Monongahela National Forest Hiking Guide** is now available. This edition is bigger and better than ever, with 320 pages, 60 maps, 39 photographs, descriptions of 164 trails totalling 780 miles, a new section on ski-touring, and a full-color cover. The authors are Allen de Hart and Bruce Sundquist. Allen has hiked all the trails of the Monongahela N.F. over the past few years. Bruce edited Editions 1-4. The hiking community and the U.S. Forest Service provided the authors with trail reports and photographs.

In the U.S. Forest Service's planning process that led to

the 1986 Land and Resource Management Plan, over 35,000 comments were received from the public. The gist of these comments is that the Monongahela is a "Special Place." And indeed it is. The hiking and backpacking opportunities it provides are among the best in the eastern U.S. The more outstanding areas are becoming known far and wide — Otter Creek Wilderness, Dolly Sods Wilderness, Flat-rock Plains, Roaring Plains, Blackwater Canyon, Spruce Knob, North Fork Mountain, Shaver's Mountain, Laurel Fork Wilderness, Cranberry Back Country, Cranberry Wilderness, among others. This guide will help you get to know

these and other special places in the forest.

Profits from the sale of these guides support a wide variety of worthy environmental projects in the West Virginia Highlands Conservancy.

To order your copy of **Monongahela National Forest Hiking Guide**, send \$9.95 plus 5% sales tax for WV residents (6% after June 30), plus \$1.25 postage (book rate) to West Virginia Highlands Conservancy, Suite 201, 1206 Virginia Street E., Charleston, WV 25301.

America's Forest Tree Planting Hits All-Time High

In 1987, for the first time, according to the 1987 U.S. Forest Planning Report, Americans reforested over 3 million acres with 2.3 billion tree seedlings, an area about the size of Connecticut.

"This is the fifth consecutive year the nation has broken the record for planting forest trees," Forest Service Chief F. Dale Robertson said today. We established a tree planting record in 1981 with 2,374,794 acres planted and have broken it every year since then."

The Conservation Reserve Program (CRP), established as part of the Food Security Act of 1985, contributed over one million of the three-million acres of trees planted in

1987. The CRP is designed to remove from cultivation highly erodible agricultural land and plant it to grass, trees, and other vegetative cover.

Today's record-breaking pace surpasses other major tree planting efforts. The Civilian Conservation Corps (CCC) planted 2 1/3-million acres to trees over a 10-year period in the 1930's and early 1940's. The Soil Bank Program, which provided funds for planting trees on reserve cropland, planted more than two million acres in late 1950's and early 1960's.

Almost 90 percent of the lands planted to trees under

the Soil Bank Program are still growing trees and provide living memorials to the value of forest planting.

"The growing activity in reforestation will ensure that in 20 to 30 years we'll be looking at trees that were planted in the 1980's and marvelling at their successful growth," Robertson said. Private forest owners and farmers have shown the largest percentage increase in the last decade. In 1987, 87% of the tree plantings were on private lands, primarily in the South. "The record tree planting today is based on the realization that growing trees is effective land stewardship and can be a profitable investment as well," Robertson said.

Proposed Expansion (continued from page 1)

plants where construction will occur.

Wildlife - No significant loss likely.

Water Quality - Additional waste water may exceed treatment plant capacity, resulting in impact on Club Run.

Air Quality - Wood-burning fireplaces will increase particulate matter.

Precautionary Measures

1. Siltation must be kept out of the small wetland located west of the cabin site.

2. Cabins should be located as far from the roadway as possible, to reduce visual impacts.

3. A buffer strip of trees and shrubs should be retained to screen cabins from the road.

Ski Lodge

Environmental Impacts

Water Quality - Water quality of Mill Run will be adversely impacted by additional waste water which will result from the increased number of skiers.

Precautionary Measures

1. Mill Run, located immediately north of the existing ski lodge, must be protected from siltation resulting from construction.

2. Additional waste water treatment facilities must be added to prevent waste water from polluting Mill Run.

3. The lodge should be landscaped with spruce trees to reflect the natural stands of spruce already present.

Ski Chair Lift

Environmental Impacts

Wildlife - The Cheat Mountain salamander, a Species of Special Concern, could be impacted by the upper lift towers.

Water Quality - Siltation runoff during construction is likely due to steepness of the terrain. This silt could enter Mill Run and affect water quality and aquatic organisms living there.

Visual - Only a slight negative impact on the visual aesthetics of the area.

Precautionary Measures

1. Siltation must be kept out of the nearby stream.

2. Noise levels from snow blowers must be reduced to prevent disturbance to park visitors and individuals living nearby.

3. The ski slope should be positioned to partially screen it from view.

Ski Lodge Water Tank

Environmental Impacts

Water Quality - Slight possibility of siltation entering Mill Run.

Visual - A negative visual impact will result from the unnatural form of the tank conflicting with the surrounding

landscape.

Precautionary Measures

1. Siltation must be reduced to protect the nearby tributary of Mill Run.

2. The tank should be screened by native conifers capable of exceeding the tank in height.

3. The tank should be painted with a flat paint, preferably tan or brown to match the hillside's winter colors.

Ski Lodge Parking Area

Environmental Impacts

Vegetation - A loss of old-field habitat will occur. No unique plant species will be affected.

Wildlife - Common old-field wildlife will be adversely affected, but no species of Special Concern will be impacted.

Water Quality - Pollutants from the parking lot and vehicles using it will enter the tributary of Mill Run. Siltation occurring during construction could also enter the stream.

Visual - The acres of gravel and/or cars parked in the lot will detract from the vista afforded skiers and summer visitors.

Precautionary Measures

1. Construction siltation and parking lot pollutants must be prevented from entering the nearby stream.

2. The visual impact of the parking lot must be dissolved by breaking up its uniformity through design and screens of vegetation.

3. Trees and shrubs that provide both food and cover should be planted for wildlife.

Golf Course Site A1

Environmental Impacts

Vegetation - Small wetlands and a balsam fir stand will be impacted.

Wildlife - Species of Special Concern that could be impacted include: American bittern, least bittern, northern harrier, northern goshawk, Cooper's hawk, pygmy shrew, star-nosed mole and Jefferson salamander. White-tailed deer will increase and could cause increased vehicle accidents. Fertilizers and pesticides used on the golf course will adversely affect several species of wildlife.

Fish - Fish in Mill Run and the Blackwater River could be adversely impacted by pollutants from the golf course.

Water Quality - Pollutants from the golf course could affect Mill Run and the Blackwater River. Irrigation could add extra stress on the Blackwater River.

Visual - A golf course would reduce the aesthetic views visible from Route 32.

Precautionary Measures

1. Avoid the balsam stand and wetlands.

2. A buffer zone of 150-300 feet should be maintained between the golf course and wetlands.

3. Pesticides and fertilizers must be prevented from entering wetlands or streams.

4. Ponds must be constructed to provide irrigation water and to intercept golf course pollutants.

5. Bridges should be built to cross wetlands.

6. Woody vegetation should be planted along fairways to benefit wildlife.

7. A deer-proof fence should be constructed along Rt. 32.

8. A visual barrier should be planted along Rt. 32 to screen the golf course from passing motorists.

Golf Course - Site A2

Environmental Impacts

Vegetation - Small wetlands and Club Run would be impacted.

Wildlife - Species of Special Concern that could be impacted include: Cooper's hawk, water shrew, pygmy shrew, star-nosed mole, meadow jumping mouse, and Jefferson salamander.

Fish - Silt from construction and pollutants from golf course maintenance could affect fish in Club Run.

Water Quality - Sediments, herbicides, and pesticides could adversely affect Club Run.

Visual - A golf course at this site would encroach on several picturesque views, although few park visitors visit the area.

Precautionary Measures

1. Wetlands and Club Run must be avoided and protected.

2. A buffer zone of 150-300 feet should be maintained between the golf course and wetlands.

3. Bridges should be built to cross small streams.

4. Existing conifer stands must be protected.

5. Small ponds should be constructed to hold excess runoff of fertilizer, pesticides, and herbicides.

Golf Course - Site 3

Environmental Impacts

Vegetation - Hardwood forest and old-field communities would be impacted, but no unique plant species or communities occur at this site.

Wildlife - Wild turkey, ruffed grouse, and woodcock populations would be adversely impacted. The Cooper's hawk, a Species of Special Concern, could be affected.

Precautionary Measures

1. Small streams should be avoided during construction.

2. Bridges should be constructed for golfers to cross streams.