

CANAAN VALLEY  
NATIONAL WILDLIFE REFUGE

ANNUAL NARRATIVE REPORT  
Calendar Year 1995





**CANAAN VALLEY NATIONAL WILDLIFE REFUGE**

**Tucker County, West Virginia**

**ANNUAL NARRATIVE REPORT**

**Calendar Year 1995**

**U. S. Department of Interior  
Fish and Wildlife Service  
NATIONAL WILDLIFE REFUGE SYSTEM**

**REVIEW AND APPROVALS**


**CANAAN VALLEY NATIONAL WILDLIFE REFUGE**

**Tucker County, West Virginia**

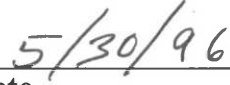
**ANNUAL NARRATIVE REPORT**

**Calendar Year 1995**

  
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Refuge/Manager

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Assistant Regional Director -  
Central/Refuges and Wildlife

  
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Date

  
\_\_\_\_\_  
Assistant Regional Director -  
South/Fisheries

  
\_\_\_\_\_  
Date

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## INTRODUCTION

Canaan Valley (pronounced Ka-nane) is a high, wet valley in Tucker County, West Virginia. Fourteen miles long and three miles wide, it has an average elevation of 3200 feet. It is the highest valley of its size east of the Rocky Mountains. Its climate and habitats are typical of areas much further north, and the plants and animals found here are unusual for this latitude. Many valley species are at or near the southernmost edge of their ranges. Drained by the Blackwater River and its tributaries, the Canaan Valley contains the largest freshwater wetland area in West Virginia, and in the central and southern Appalachian Mountains.

More than 580 plant species known from the valley, and there are forty distinct plant communities, including swamp forests, alder thickets, marshes and bogs. About 20 percent of the species are considered to be northern plants. These various habitats support equally diverse wildlife populations, with 290 species of mammals, birds; reptiles, amphibians and fishes known or expected to occur there. It is a breeding and fall migration area for the American woodcock, and supports many other migratory species including raptors, waterfowl, wading birds, shorebirds and neotropical migrants. The valley supports two listed species--the threatened Cheat Mountain salamander and the endangered Virginia northern flying squirrel.

Canaan Valley was once the site of the best representation of red spruce forest in the Eastern United States--if not the world. Like many areas in West Virginia, the original forest was destroyed by logging and subsequent fires and was completely gone by 1930. In the decades following, parts of the valley were used for grazing or growing vegetable crops, but most of the formerly agricultural land now lies idle. Today there are ski resorts, condominiums and vacation home developments in the southern end of the Valley, which is also the site of Canaan Valley Resort State Park.

As early as 1961 many concerned citizens and groups urged the protection of the valley by establishing a national wildlife refuge there, and by 1979 the Service approved the creation of a refuge and completed an Environmental Impact Statement. Long considered a good site for a hydroelectric facility, Allegheny Power Systems received a Federal license to construct the Davis Power Project in 1977. It would have dammed the Blackwater River and flooded over 7,000 acres. The Corps of Engineers denied the Section 404 permit in 1978, but for the next decade there was litigation and several appeals.

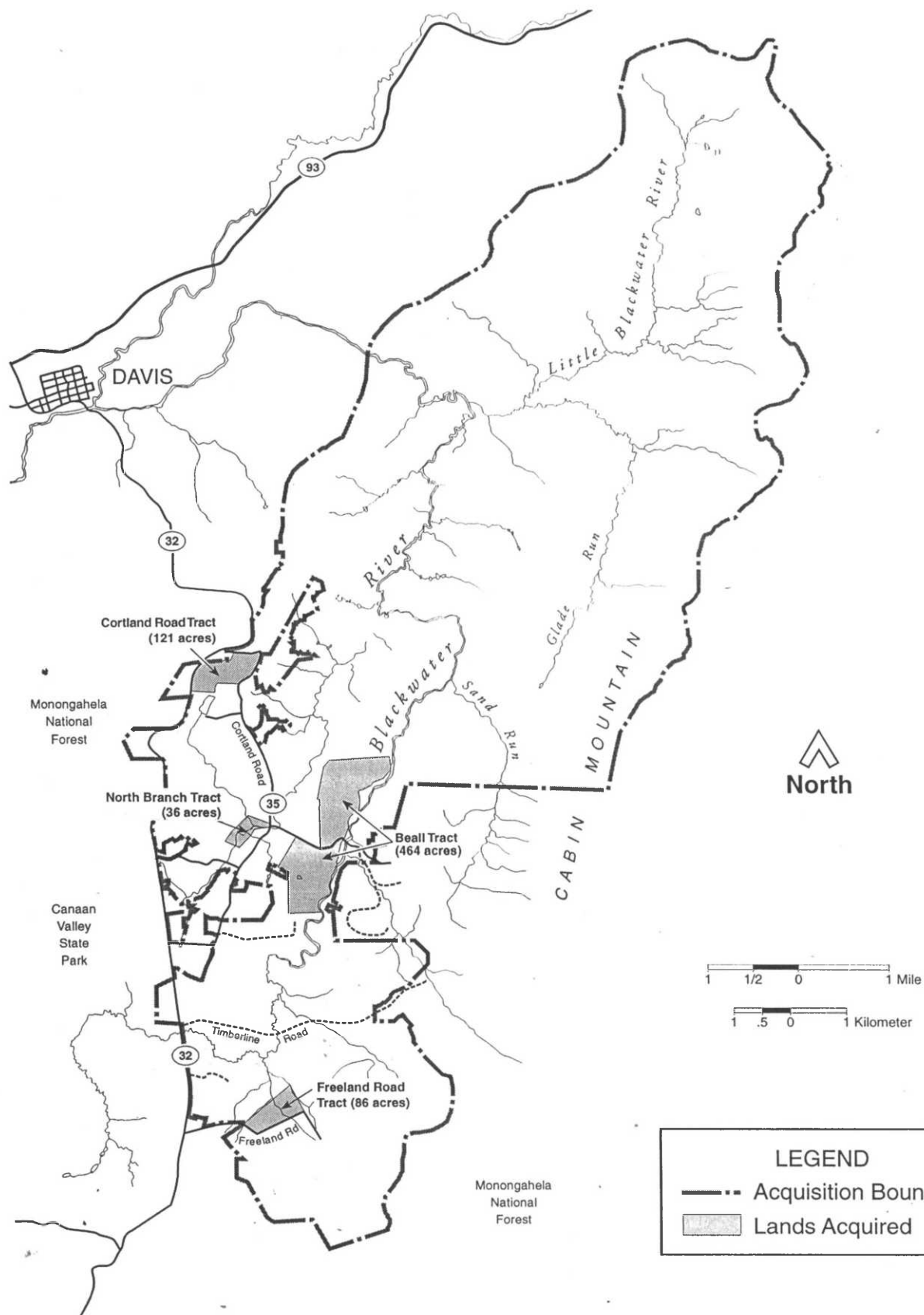


The Service put the refuge project on hold until the early 1990's, when they requested funding, held numerous public meetings and wrote an Environmental Assessment. The Assessment took into consideration the changes that had occurred in the valley during the 1980's; the new acquisition boundary encompasses 24,000 acres, and does not include the developed areas.

The refuge was established in August, 1994 with the purchase of 86 acres in the southern part of the valley. In October another tract was purchased, and the Canaan Valley National Wildlife Refuge was dedicated as the 500th national wildlife refuge. During 1995 two more tracts were added for a total of 708 acres.

# CANAAN VALLEY NATIONAL WILDLIFE REFUGE

Tucker County, West Virginia



## A. HIGHLIGHTS

- A rehabilitated hawk released on the refuge in February, and we got lots of good press! (See G.6.)
- The 121 acre Cortland Road Tract was purchased on May 31. (See C.1.)
- The 464 acre Beall Tract (pronounced "Bell") was purchased on June 23. (See C.1.)
- A Refuge "Open House" was held on October 14 to celebrate National Wildlife Refuge Week. (See H.6.)
- The Canaan Valley Refuge poster came out in November. It was worth waiting for! (See H.7.d.)

## B. CLIMATE

Specific weather data for Canaan Valley still eludes me. I have made a contact with the National Weather Service who is looking into it. The most remarkable weather phenomenon this year was a record snowfall in November, when 64 inches fell!! The weather in the Valley is unique for this latitude, and is the reason why it is often called "a bit of Canada gone astray." Here are some weather facts:

- Canaan's average winter snowfall of eleven feet is nearly four feet greater than the nation's big city snow capital of Buffalo, New York, and about one foot more than the snowiest weather station in Maine.
- In a typical July, the hottest month of the year, Canaan's temperatures average one degree cooler than those in Caribou, Maine, near the Canadian border.
- Only one out of fifteen summers in Canaan Valley records any days in which the temperature is above ninety degrees. Burlington, Vermont, averages five such days each summer.
- The growing (frost free) season averages about 90 days in length. The average date of the last freeze is June 1 and the average date of the first frost is August 30. Frost can occur on the Valley floor during any month. On the average, one out of six Julys will experience a temperature of freezing or below. The growing season is too short for most crops and is about the same as Fairbanks, Alaska.

## C. LAND ACQUISITION

### 1. Fee Title

Cortland Road Tract On May 31 we acquired 121 acres from The Conservation Fund. The tract lies between Cortland Road and Highway 32 and a small portion adjoins the Monongahela National Forest. It is half forest and half open field. Several clear streams tumble down the slopes of the forested portion which borders Highway 32. The big trees are maple, beech and cherry and there are many smaller striped maple trees. The ground cover includes many ferns and clubmosses, several spring-blooming wild flowers and an occasional orchid! There are streams and small springs in the open portion of the tract, and small wetlands as well. The tract is shown in Figures 1 through 5.

Wildlife typical of the woods include many bird species including several species of warblers and thrushes, as well as deer, black bears and squirrels. Birds of the open field habitat include including several species of sparrows and flycatchers as well as bobolink and woodcock. Typical mammals are meadow voles and foxes.

Beall Tract On June 23rd the Service closed on 464 acres of land locally known as the Beall Farm. It too was purchased, through The Conservation Fund. It lies between Cortland Road and the Blackwater River, and is bisected by Old Timberline Road. Much of it is surrounded by Monongahela Power Company property. This tract is shown in Figures 6 and 7.

There are two sizable springs on the tract; the larger of the two is near the river and the other forms a small wetland in the forested area. The pasture has a spring-fed farm pond. About 250 acres is woodland, the typical beech-maple northern hardwoods forest of the area. Seventy acres is hay meadow and 145 acres is pasture. Because of its diversity of habitats, the area is very rich in wildlife. Larger species include deer, bear and wild turkey. Smaller animals include bobcat, three kinds of squirrels, both red and gray foxes, mink and beaver. A variety of songbirds live on the property at certain times of the year; some are migratory and others are year-round residents. Grouse, woodcock and snipe are found in the meadow and pasture, and herons and other water birds live along the river. Raptors--hawks and owls--are also common.

### 3. Other

Two Regional Office appraisers, Celia Hall and Tom Sampson, spent several days in the Valley in during the winter months. It was fun showing them around; during both of their visits the weather was typically cold and snowy! See Figure 8.



Figure 1. View of the Cortland Road Tract. It extends to the fence in the background.



Figure 2. Small spring-fed wetland on the Cortland Road Tract.





Figure 3. "Hunting camp" on the Cortland Road Tract.



Figure 4. Road to the old house site. The trees are all shoots from a large white poplar, a tree introduced from Europe.





Figure 5. The remains of the "Golightly House" on the Cortland Road Tract. A safety hazard, it was burned down by the Canaan Valley Volunteer Firefighters in November.



Figure 6. A wooded portion of the Beall Tract.



Figure 7. The old barn on the Beall Tract.



Figure 8. Appraiser Tom Sampson crossing the Blackwater River on an abandoned bridge. I took the long way around!

## D. PLANNING

### 5. Research and Investigations

#### a. U. S. Geological Survey

On June 15 the U. S. Geological Survey researchers made their final reports to the community on the water quality studies they had done while funded by the Canaan Valley Task Force. Conclusions from the surface water studies were that the quality is generally good, but that several issues deserve attention. These are fecal bacteria, dissolved oxygen, waste-load allocation, iron and manganese and downstream acid stream flow.

Conclusions of the ground water studies were that the quality of the ground water is relatively good, with a few exceptions. Bacterial contamination, probably from animal waste, is a potential problem. One or two wells had a serious problem with this, but it has since been corrected by proper grouting, etc. of the well. Well yields are adequate for current and future domestic use, but the availability of ground water for new golf courses or snow making for future ski runs is uncertain.

#### b. National Biological Survey

During the spring and early summer a team of biologists from the National Biological Survey studied water bodies and amphibian reproduction in the southern part of the Valley. They were impressed with the bubbling sand spring on the Freeland Road Tract, and said it was pure and healthy and supported a wide variety of invertebrates. See Figures 9 and 10.

## E. ADMINISTRATION

### 1. Personnel

The staff of Canaan Valley National Wildlife Refuge still consists of one person, Gail Baker, the Refuge Manager. I hope this changes in 1996! See Figure 11.

### 5. Funding

During Fiscal Year (FY) 1995 all of the funding for the refuge came from Land Acquisition funds. The refuge budget for FY 1995 was \$125,000. A total of \$2 million was appropriated from the Land and Water Conservation Fund for land purchases in Canaan Valley during FY 1995. Most of it was spent on the Cortland Road and Beall Tracts.





Figure 9. National Biological Survey biologists at the Freeland Road Tract.



Figure 10. Checking out the spring. They pronounced it pure and healthy and found the water temperature to be 47 degrees Fahrenheit.





Figure 11. Gail Baker, Refuge manager.

## 6. Safety

The old farmhouse on the Cortland Road Tract (shown in Figure 5) was tumbling down and a real safety hazard. For a donation of \$100 the Canaan Valley Volunteer Fire Department burned it as part of a training exercise.

## 8. Other Items

Again, this section should be titled "other people" or "cooperation with other programs of the Fish and Wildlife Service." Although I am the sole staff member of the Canaan Valley Refuge, I am not alone. The staff of the West Virginia Field Office (Ecological Services) in Elkins continues to help me. In May Traci Knight took a part-time job with the U. S. Postal Service, but she still works on an intermittent basis. In June, Thelma Flynn took over the position as office secretary; she transferred from the National Education and Training Center in Leetown, West Virginia. She pays my bills, keeps my time, and maintains refuge files.

Tom Gardner, Maintenance Man at the nearby Bowden National Fish Hatchery continues to assist in several ways. During the summer he and Refuge volunteer Mary Gardner spent a day cleaning up both the new and old tracts, and in October he and volunteer R. D. Bruner installed boundary signs on the Freeland Road and Cortland Road Tracts. See Figures 12 and 13.

## F. HABITAT MANAGEMENT

### 1. General

Management of the refuge tracts continues to consist primarily of clean up, as mentioned above. Southern Zone Biologist Hal Laskowski and Regional Woodcock Biologist Greg Sepik spent two days in the Valley in September assessing what we can do to manage the grasslands. One of their conclusions was that the deer are managing the habitat for us!

## G. WILDLIFE

### 1. Wildlife Diversity

There are 290 species of vertebrate animals known from Canaan Valley. Commonly observed mammals include white-tailed deer, raccoon, woodchuck, muskrat, chipmunk, red squirrel, striped skunk and eastern cottontail. Others, such as beaver, black bear, mink, bobcat and red fox, are present but infrequently seen. Commonly seen birds include mallard duck, Canada goose, common raven, American crow, and various species of songbirds, waterfowl, hawks and owls. It is nationally recognized as a breeding and fall migration area for the American woodcock.



Figure 12. Tom Gardner, Maintenance Man at the Bowden National Fish Hatchery, cleaning up trash from the Beall Tract.



Figure 13. Volunteer Mary Gardner with a truck load of junk on its way to the Tucker County Dump.

## 2. Endangered and Threatened Species

In the area of Canaan Valley, there are two Federally-listed species, the Threatened Cheat Mountain salamander and the Endangered Virginia northern flying squirrel. Both are dependent on similar habitat types--those above 3,200 feet in elevation dominated by mature northern hardwoods and conifers such as red spruce. The salamander has been confirmed as present in the southern part of the valley, and optimal habitat for the squirrel exists there as well.

## 6. Raptors

In January a red-tailed hawk collided with a food service truck on Highway 33. The hawk broke the windshield of the truck, bounced off and was picked up by John Fox, who was following the truck. He assumed it was dead, but after it came to life in his car trunk, he contacted Carole Pollock, a local volunteer with the Raptor Rehabilitation Center in Morgantown. Miraculously, the bird had no broken bones, but it was injured and was kept at the Center for a couple of weeks. Since Carole lives across the street from the Freeland Road Tract of the Canaan Valley Refuge, she decided that was the spot to release the bird back to the wild. I heartily agreed!

On February 17 a group of 15 of us, including one reporter, John Fox and his wife and children, released the rehabilitated hawk on the Freeland Road Tract of the refuge. The hardest part of the release was getting the hawk out of the box! Then Carole (wearing welder's gloves) held onto its feet for a minute or two while the hawk surveyed the territory--and all the spectators took photographs. Then she let it go and away it flew! At first it was hard to see where it landed, but then we saw it fly up and perch on a high tree branch. Some of us were as nervous as the hawk! I know I was! See Figures 14 through 17.

I wrote a "Refuge Ramblings" column on the release, and it became a front-page story, with two photographs taken by Refuge volunteer R. D. Bruner, in the next issue of the Parsons Advocate. A similar story was written by reporter Jerry DiBacco and published in the "Regional" section of the Elkins Inter-Mountain. He took some excellent pictures and published one with the refuge sign clearly in the background. (Ironically, Mr. DiBacco is a Tucker County Commissioner who was, is, and probably always will be, staunchly opposed to the refuge.....)

## 7. Other Migratory Birds

On May 3 Field Office Biologist Lisa McCurdy and I conducted the first woodcock survey of Canaan Valley Refuge. Fortunately, Lisa is a veteran of several woodcock surveys, so one of us knew what we were doing. We heard five woodcocks "peenting" and heard the aerial displays of two others. Some of these were actually on refuge land!





Figure 14. The hardest part was getting the hawk out of the box! It took three of us--me, Carole Pollock and her husband Chazz.



Figure 15. Carole, who volunteers for the Raptor Rehabilitation Center in Morgantown, and the hawk they brought back to health.





Figure 16. The hawk is almost ready.....



Figure 17. ....and off she flies!

The annual Canaan Valley Christmas Bird Count was held on December 17, and Lisa McCurdy was one of the participants. In addition to the usual woodpeckers, chickadees and other winter residents, two rough-legged hawks were observed on refuge tracts, and an eastern meadowlark was observed adjacent to the North Branch Tract--an unusual sighting for that time of year.

#### 8. Game Mammals

On the evening of August 30, West Virginia Department of Natural Resources staff collected five deer from the Beall Tract of the Refuge as part of their on-going Deer Herd Health Study. They took blood samples for a variety of tests, checked for parasites, etc. We will be given copies of the results. They sample each county every five years, and had previously taken some deer from the Beall property. I could not accompany them because of a conflict with the Ohio River Ecosystem Team meeting. However, John Schmidt of the Field Office went along and represented the Service. See Figures 18, 19 and 20.

Help from Lisa and John mentioned in the previous two sections are just two examples of the assistance I get from the West Virginia Field Office.

#### 10. Other Resident Wildlife

The state reported to me that an otter had been trapped in Canaan Valley. Otters were extirpated in this part of the state some time ago, and have been re-introduced. They were not re-introduced in the Valley, however, so this record shows that they are moving and colonizing new habitats. Chalk one up for biodiversity!

### H. PUBLIC USE

#### 2./3. Outdoor Classrooms

Non-Game Weekend Each June the Division of Natural Resources sponsors the "Non-Game Weekend" at Blackwater Falls State Park in Tucker County. I led two groups on tours of the Freeland Road Tract of the refuge. I showed them the planaria, caddis fly larvae and other invertebrates which inhabit the bubbling sand spring, and then we looked at the other habitats--the balsam fir stand, hawthorne savannah and Sphagnum wetland areas. Everything was fine during the Friday afternoon tour until the DELUGE occurred!! Hail and rain!! One of the participants later sent me photographs (Figures 21, 22 and 23) which are included here. We all had a good laugh and I spent the dinner hour in the Davis laundromat dressed in my running clothes as I watched my uniform spin in the dryer....



Figure 18. A West Virginia DNR "sharpshooter" harvesting deer on the Beall Tract as part of the Tucker County deer herd health study.



Figure 19. Some samples are taken in the field.





Figure 20. These deer are headed back to the lab for further study.



Figure 21. Field trip to the spring on the Freeland Road Tract, part of the annual Non-Game Weekend sponsored by West Virginia DNR.



Figure 22. And then the rains came!! And the hail came!!



Figure 23. Canaan Valley is a high, wet valley....



Brooks Bird Club In September 40 members of the Brooks Bird Club spent Labor Day Weekend in the Valley, and I took them on a tour of the Freeland Road and Beall Tracts. The Beall Tract has a small wetland, where I pointed out some nodding ladies tresses orchids in bloom and a bird club member discovered some sundews. This tract provides easy access (through Monongahela Power Company lands) to the Blackwater River.

Open House The refuge open house was held in October to celebrate National Wildlife Refuge Week. About 100 people attended the event, which was held at the White Grass Cross Country Ski Facility across from the Freeland Road Tract. Thelma Flynn and Lisa McCurdy from the West Virginia Field Office spent the day with me; I could not have done it without their help! I provided hot and cold drinks and the Friends of the 500th supplied home-baked goodies and fruit. We gave out pencils, bumper stickers, book marks, posters and information. Lisa and I led tours for 30-35 people on the Freeland Road and Beall Tracts. The event was a success, especially considering that it was the only cool drizzly day for about two weeks.

Mid-Atlantic Highlands Conference This conference, attended by 170 scientists, conservationists, and interested citizens, was held at Canaan Valley Resort State Park in late October. Lisa McCurdy and I again led tours for 35-40 participants.

#### 6. Interpretive Exhibits/Demonstrations

The Canaan Valley National Wildlife Refuge exhibit was set up and displayed at the following events:

- Hooked on Fishing Expo at Meadowbrook Mall in Bridgeport  
(5 days, January)
- Non-Game Wildlife Day at the West Virginia State Capitol  
Building, Charleston (1 day, February)
- Hooked on Fishing Expo, Elkins (2 days, February)
- Canaan Valley Task Force Meeting, Canaan Valley  
(1 day, March)
- Leetown Science Center (Several weeks, June-July)
- West Virginia State Fair, Fairlea (Combined Fish and Wildlife Service  
display, 7 days, August)
- Refuge Open House, Canaan Valley (1 day, October)
- Mid-Atlantic Highlands Conference, Canaan Valley  
(3 days, October)

## 7. Other Interpretive Programs

### a. Talks

As the manager of a new (and controversial) refuge, talking to the local people is a very important part of my job. During 1995 I gave talks to the groups listed below. See Figure 25.

Civilian Conservation Corps (Camp Horseshoe, January)

Tucker County Chamber of Commerce (January)

Tucker County Rotary Club (April)

Tucker County Development Authority (On site, May)

Brooks Bird Club Foray (New Martinsville, June)

Timberline Homeowners Association (July)

Deerfield Village Condominium Association (July)

(I provided materials to Association president Jack Fish, a retired National Park Service Regional Director, and he gave the talk.)

"Campfire Talk" at Canaan Valley State Park (August)

Sierra Club Gala Weekend (Camp Horseshoe, September)

Tucker County Retired Educators (September)

Canaan Valley Women's Club (October)

Elkins Women's Club (Elkins, October)

### b. Video

In January the existing "Canaan Valley, A National Treasure" video was updated. I worked with Stephen Dolbert, who produced the first one several years ago. Stephen was able to get the same narrator, and dub in very similar music, and I provided some new slides. It was expensive, but it worked! The video is used in most of the talks and some of the exhibits. I give copies away as well.

### c. Print Media and Radio

The weekly Tucker County newspaper, the Parsons Advocate, continues to give the refuge good press. During 1995 I wrote five "Refuge Ramblings" columns:

"Hawk Release!" (February)

"Peent" (May)

"Watch Out for the Bears" (July)

"National Wildlife Refuge Week" (October)

"Money Worries" (December)

I also wrote articles on the Cortland Road and Beall Tracts when we acquired them, and a report on the Refuge Open House.



Figure 25. Giving a talk to the Tucker County Rotary Club. The display was a science project done by the daughter of the Executive Director of the Tucker County Convention and Visitors Bureau.

The Elkins Inter-Mountain published articles on the hawk release and on the Refuge Open House (from a press release I prepared). There were many other local articles which mentioned the refuge, including a three-part Inter-Mountain series on federal land ownership in Tucker County. Several of these focused on the apparent "profit making" of our non-profit partner, The Conservation Fund. Others were critical of federal land ownership, and reported the establishment of local groups whose goals are to stop more federal ownership. Although the U. S. Forest Service was the prime target, the refuge was usually mentioned as well.

In April the National Geographic published a brief article and one photograph, announcing the establishment of the 500th national wildlife refuge.

I did two radio interviews during June. One was on the purchase of the Cortland Road tract, and the other was on government "budget cutting" and how it would affect the refuge. I did not hear either program, but others did and said both were fine.

#### d. Fact Sheets and Posters

In January I installed two "flyer boxes" at the Freeland Road Tract, and wrote a specific fact sheet for the tract; in November I did the same thing for the Cortland Road tract. Two or three hundred of the sheets have been picked up by people driving by. The Tucker County Convention and Visitors Bureau keeps the general Canaan Valley Refuge fact sheet on hand and gave out a few hundred during the year.

In November the long-awaited Canaan Valley Refuge poster was published, and it was well worth waiting for!! I have been giving them away at every opportunity, and some are now prominently displayed at local businesses.

### 18. Cooperating Association

The "Friends of the 500th" was organized informally in September. An actual membership drive and fund raising will have to wait until their status as a non-profit corporation is confirmed. Members provided cookies and fruit for the Open House!

## I. EQUIPMENT AND FACILITIES

### 6. Computer System

In January the refuge received its own computer and printer; previously I borrowed one from the West Virginia Field Office. The refuge was then hooked up to electronic mail, and my life was changed forever. I love it--in part because it reduces the amount of paper and the number of phone calls I have to deal with....

### 8. Other

In March the refuge received a hand-me-down vehicle, a 1987 Jeep Cherokee. Like the refuge manager, it is middle-aged but in pretty good shape.

## J. OTHER ITEMS

### 3. Items of Interest

#### a. Congressional Contacts

In February Rick Jorgensen and Tony Legere and I briefed members of Senator Byrd's and Congressman Mollohan's staffs on the status of the refuge. In late August Rick and returned to brief another Mollohan staffer. I have been in telephone contact with a member of Senator Rockefeller's staff--who said he would frame the poster and hang it in the front office!

#### b. State Contacts

I stay in contact with Jim Rawson of the Elkins Operations Center of the Wildlife Resources Section of the West Virginia Department of Natural Resources. In April I met Wildlife Resources Section Chief Bernard Dowler at a meeting in Parkersburg that was also attended by Jerry Wilson and other Ohio River Islands Refuge staff members.

### 4. Credits

This report was written and put together entirely by me, Gail Baker, the Refuge Manager. Photographs were taken by the following people: Gail Baker, R. D. Bruner, Mary Gardner, Tom Gardner, Rick Jorgensen, John Northeimer, John Schmidt, George Walburn and Dereck Williamson.





# Canaan Valley

## NATIONAL WILDLIFE REFUGE

Tucker County • West Virginia

U.S. FISH AND WILDLIFE SERVICE • FACT SHEET

## America's 500th National Wildlife Refuge

Canaan Valley in Tucker County, West Virginia, is a beautiful and rare treasure with nationally significant wetlands, unusual character and unparalleled opportunities for outdoor education and research.

High altitude and a cool, moist climate have created a unique wetland and northern forest treasure in Canaan Valley. In recognition of the Valley's unusual attributes, the Secretary of the Interior designated a portion of Canaan Valley a National Natural Landmark in 1974. The Valley was praised for its grandeur and magnificence and compared to Yosemite and Yellowstone valleys. The designation recognized the Valley as a significant natural area, one of a very special group of places illustrating the diversity of the country's natural history.

On August 11, 1994, the U.S. Fish and Wildlife Service purchased land establishing Canaan Valley National Wildlife Refuge as the 500th refuge in the National Wildlife Refuge System. Managing land within Canaan Valley as a refuge will maintain the ecological diversity of the Valley and the Blackwater River drainage basin for present and future generations of West Virginians and all Americans.

## A Very Special Place

The Valley harbors a unique boreal ecosystem—a collection of plants and animals usually found much farther north. Some say it's a little bit of Canada gone astray. The site contains a high diversity of species and communities because of the wet soils, high altitude and cool climate. The many northern species found here make Canaan Valley a virtual living museum of the Ice Age in West Virginia.

The Valley contains the largest freshwater wetland area in the Central and Southern Appalachians, and its extensive wetland ecosystem has been specifically identified as a priority for protection at the federal level under the Emergency Wetlands Resources Act of 1986. The West Virginia Department of Natural Resources considers the Valley the most important wetland in the state. Canaan Valley represents an uncommon opportunity to protect such a large and unique wetland ecosystem.

## Geography

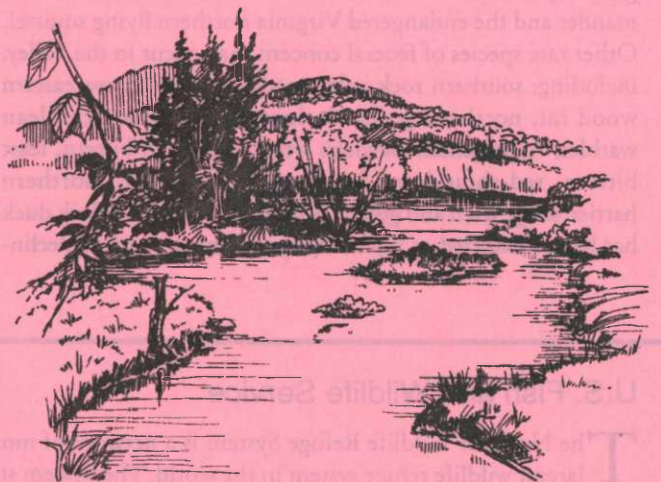
Canaan Valley NWR is West Virginia's second refuge and the only refuge wholly within the state borders. Located in some of the most rugged and mountainous terrain in West Virginia, the Valley is 14 miles long and 5 miles wide and has an average elevation of 3,200 feet. It is the highest valley of its size east of the Rocky Mountains.

Drained by the Blackwater River and its tributaries, the Valley contains more than 8,400 acres of wetlands. The quality of water that collects from the entire Valley and drains into the Blackwater is an important factor in the health and well-being of all the plant and animal communities in the area.

## Habitat

The Valley supports many unusual and rare plants and animals, not only for West Virginia, but also for the Eastern United States. Several species in the Valley are at or near the southernmost edge of their ranges.

Canaan Valley is home to 40 different wetland and upland plant communities supporting more than 580 different species of plants. Many plant species were introduced during the Pleistocene glacial period. The cool, moist climate maintained species here that elsewhere followed the retreat of the glaciers north to Canada.



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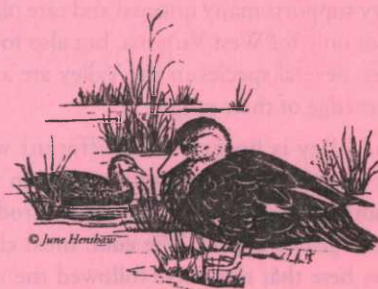
As many as 109 plant species in the Valley have distinctly northern ranges, and at least 25 plant species are listed as rare in West Virginia. Among these are woodland horsetail, northeastern lady fern, American mannagrass, nannyberry, alder-leaved buckthorn, Jacob's ladder, and several bulrushes and sedges. Two plants of federal concern for their rarity may occur in the Valley: Darlington's spurge and butternut.

The Valley wetlands contain swamp forests, alder thickets, muskegs, wet meadows and wet aspen, spiraea and hypericum thickets as well as marshes and bogs. Much of the habitat above 3,200 feet is dominated by mature northern hardwoods and conifers such as red spruce.

## Fish and Wildlife

The diverse Valley habitats support equally diverse wildlife populations, with 290 species of mammals, birds, reptiles, amphibians and fishes known or expected to occur there. Canaan Valley is a breeding and fall migration concentration area for the nation's largest breeding unit of American woodcock, and it supports many other migratory species, including raptors, waterfowl, wading birds, shorebirds and songbirds.

Bald eagles and peregrine falcons occasionally use Valley habitats during migration, and eagles nest within 15 miles of the Valley.



The Valley supports two species on the federal Endangered Species List—the threatened Cheat Mountain salamander and the endangered Virginia northern flying squirrel. Other rare species of federal concern may occur in the Valley, including: southern rock vole, northern water shrew, eastern wood rat, northern goshawk, loggerhead shrike, cerulean warbler, Appalachian Bewick's wren, American bittern, least bittern, red-shouldered hawk, short-eared owl, northern harrier, sedge wren and golden-winged warbler. The black duck has been identified as a priority species because of its declin-

ing populations. Species of state concern include Jefferson salamander, northern coal skink, osprey, long-eared owl, Cooper's hawk, pygmy shrew, star-nosed mole and meadow jumping mouse.

## People

Today, a steady population of nearly 8,000 people resides in and around Canaan Valley in Tucker County. Many families here trace their ancestral roots to the pioneers who settled the Valley more than 100 years ago. Many seasonal residents also make their vacation homes in this area. Tourist-related retail, recreational or service jobs have replaced many of the mining, farming or forest-related livelihoods of the past.

Hundreds of private landowners, local citizens, conservation organizations, and federal, state and municipal agencies have worked together during the past 15 years in order to establish the Canaan Valley NWR as the newest treasure in the nation's National Wildlife Refuge System.

## Refuge Management

The Service has recognized the unique attributes of Canaan Valley since the early 1960s. By 1979, a refuge proposal was approved; however 15 years passed before land was purchased to establish the refuge.

While the potential refuge acquisition area encompasses more than 20,000 acres, land will be purchased only from willing sellers as money becomes available to the Service for that purpose.

Canaan Valley NWR will be managed by the U.S. Fish and Wildlife Service, an agency in the Department of the Interior, for the people of the United States as part of the National Wildlife Refuge System. The Service is the principal agency through which the federal government carries out its responsibilities to conserve, protect and enhance the nation's fish and wildlife resources.

Refuge development will emphasize wildlife management, environmental education, interpretation and a broad range of wildlife-oriented recreation. Public involvement will continue to be part of the refuge planning process.

For further information please contact: Canaan Valley National Wildlife Refuge, Temporary Office, P.O. Box 1278, Route 250, South, Elkins Shopping Plaza, Elkins, West Virginia 26241 (304) 637-7312.

## U.S. Fish and Wildlife Service

The National Wildlife Refuge System is a network of more than 90 million acres of lands and waters in the United States—the largest wildlife refuge system in the world. The System stretches from Northern Alaska to Caribbean islands and from Northern Maine to Hawaii and Pacific islands. Refuges in all 50 states, eight territories and the Commonwealth of Puerto Rico provide a legacy of natural resources for our nation.



# Canaan Valley National Wildlife Refuge Freeland Road Tract

DEPARTMENT OF THE INTERIOR • U.S. FISH AND WILDLIFE SERVICE

## Status of the Refuge

Welcome to Canaan Valley National Wildlife Refuge! Canaan Valley Refuge was established in August, 1994 with the purchase of the Freeland Road Tract. Three more tracts make up the refuge, which now includes over 700 acres. The second tract, much of which is marsh, is along the North Branch of the Blackwater River on the west side of Cortland Road. The third is 120 acres of woodlands and fields across from Black Bear Woods Resort; it is bounded on the west by Highway 32 and on the east and north by Cortland Road. The fourth tract was known as the Beall Farm and is roughly cut in half by Old Timberline Road. Comprised of meadows and woodlands, part of it borders the Blackwater River. These tracts are the beginning of what will be a large refuge of several thousand acres which will include many of the wetlands and much of the wildlife habitat in Canaan Valley. See the map on the reverse side.

## Land Acquisition Policy

The Fish and Wildlife Service land acquisition policy is to purchase land from willing sellers. The Service does appraisals and is required by law to pay fair market value.

## What's So Special About This Tract?

The land you see before you is dominated by a large stand of evergreen trees. Most of them are balsam fir, but there are some hemlocks and red spruce mixed in. This "balsam fir swamp" as we call it, is one of the largest in the Valley, and extends onto tracts which border this one. More of these trees grow with the large hardwoods along Freeland Run, the stream which flows along the east side of the tract.

Used as summer pasture for many years, this is the first summer that this tract has not been grazed. Do you see differences between it and the pasture across the road? If you walk around you will notice thorny hawthorne trees, wet areas of Sphagnum moss (peat moss) or hair-cap moss, shrub thickets of pipestem (*Spiraea*) and two bubbling sand springs. In the summer you will see daisies, hawkweeds, buttercups, clovers, yarrow, goldenrods and other wildflowers.

Many wildlife species are secretive or are active mainly at night, but you may see deer scampering through the area or red-shouldered hawks hunting for mice and other small mam-

mals. Woodcocks can be heard in the spring, and bobolink nest here in the summer. Rough-legged hawks use it in winter and are often seen in the large trees. A beaver pond once existed below one of the springs but nearly all evidence of it is gone now. Black bears sometimes rest and feed in the balsam fir swamp and are occasionally seen in the field.

## What Are Those White Pipes?

The white pipes (which may not be visible in the summer) are shallow groundwater monitoring wells. They enable us to check the groundwater levels at different times of the year and at different places on the tract. They are part of a Service effort to learn more about Canaan Valley wetlands.

## What Can I Do Here?

Formal public use plans for the refuge will be written (with public input) during the next few years. Much of the refuge will probably be open to hunting in the fall of 1996. In the meantime, you may hike, watch wildlife, study wildflowers, or just drive by and know that this tract will be preserved. (If the former owner gave you permission to hunt on this tract, you may continue to do so in 1995.) Wheeled vehicles are not allowed, and the plants and wildlife are to be observed and enjoyed, but not picked or disturbed.

## Where Can I Get More Information?

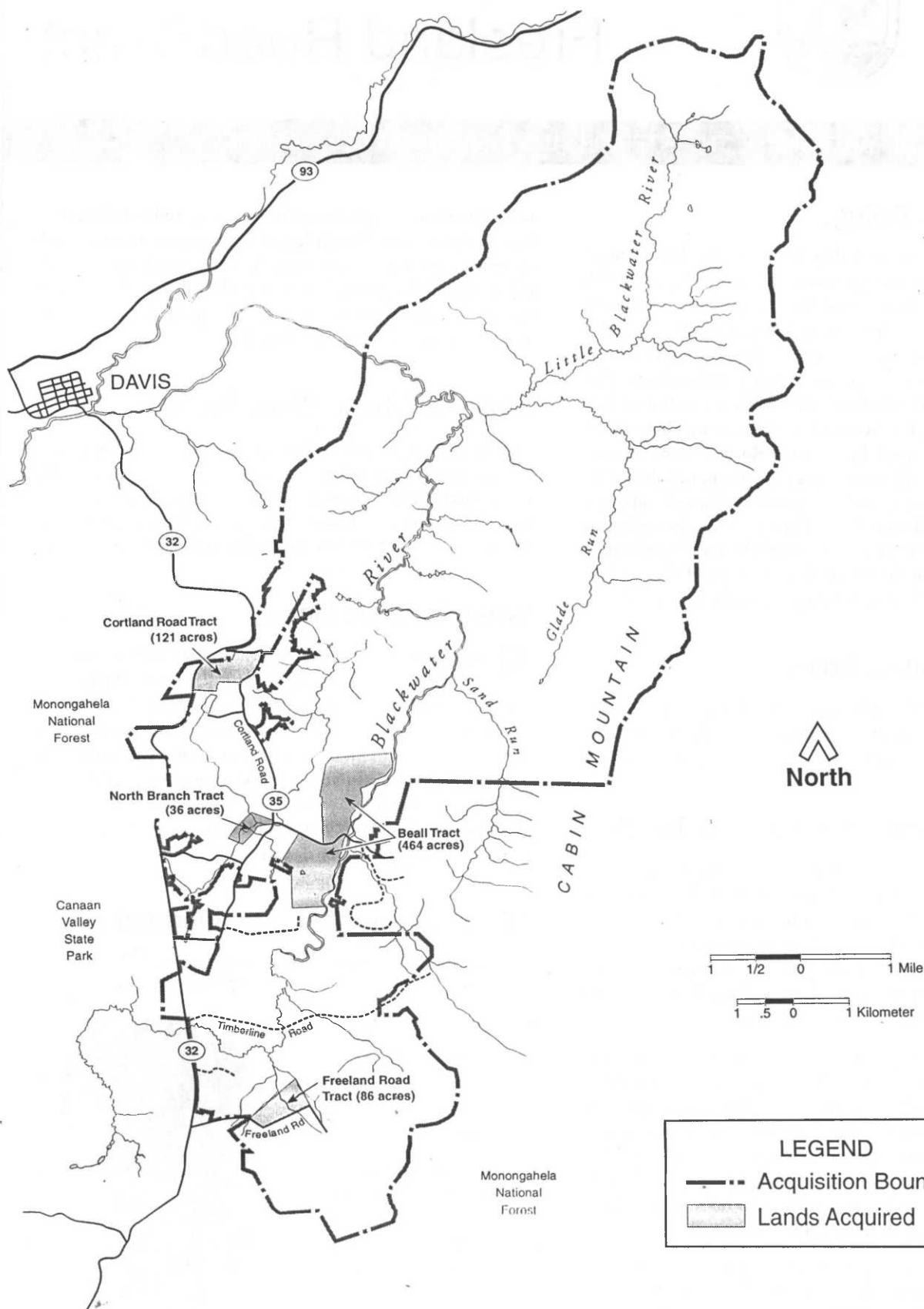
Contact the refuge manager, Gail Baker, at the temporary refuge office in Elkins (637-7312) if:

- you want more information,
- you would like her to give a program (or lead a field trip) for your class, club or group, or
- you are interested in selling your Canaan Valley property to the Fish and Wildlife Service or want to discuss that possibility.



# CANAAN VALLEY NATIONAL WILDLIFE REFUGE

Tucker County, West Virginia







# Canaan Valley National Wildlife Refuge Cortland Road Tract

DEPARTMENT OF THE INTERIOR • U.S. FISH AND WILDLIFE SERVICE

## Status of the Refuge

Welcome to Canaan Valley National Wildlife Refuge! This 121-acre parcel was purchased in May 1995 as the third tract of Canaan Valley National Wildlife Refuge. The refuge was established in August 1994 with the purchase of 86 acres on Freeland Road which is mostly "old fields" but also includes two springs and part of a large balsam fir stand. The refuge includes two other tracts, and now totals 726 acres. One of these tracts, most of which is marsh, is along the North Branch of the Blackwater River on the west side of Cortland Road about a mile south of this tract. The fourth parcel was formerly known as the Beall Farm and is roughly cut in half by Old Timberline Road. Comprised of meadows and woodlands, part of it borders the Blackwater River. We hope the refuge will eventually consist of several thousand acres and include most of the wetlands and much of the wildlife habitat in Canaan Valley. See the map on the reverse side.

## Land Acquisition Policy

The U.S. Fish and Wildlife Service purchases land from willing sellers. The Service conducts appraisals and is required by law to pay fair market value for any property purchased.

## What's so Special about this Tract?

The Cortland Road Tract is half forest and half open field. Several clear streams tumble down the slopes of the forested portion which borders Highway 32. Watershed protection was a prime reason for purchasing this land. The large trees are sugar maple, beech and black cherry and there are many smaller striped maple trees. Ground cover includes a variety of spring wildflowers, especially violets, spring beauty, dwarf ginseng and Indian cucumber-root. Ferns and clubmosses carpet many areas because the deer don't like to eat them! Wildlife typical of the woods includes many species of birds as well as deer and black bears. Warblers and thrushes are common in the spring and summer.

If the deer population in the southern portion of Canaan Valley continues to increase, the forest trees and ground cover plants will gradually change. There will be fewer kinds of trees

and ground cover plants. With less diversity of plant species there will be fewer types of birds and other small wildlife species.

The old field part of this tract was a working farm from the early 1900's until about 1960, and at one time a small sawmill operated here. The apple trees and large stand of white poplar (a tree introduced from Europe) are lasting evidence that people once lived here. Streams, springs, and a small wetland are hidden within the fields. Birds of the open habitat include several species of sparrows and flycatchers as well as bobolinks and woodcock. Typical mammals are meadow voles and foxes.

## What Can I Do Here?

A Visitor Services Plan for the refuge will be prepared and circulated for public comment during the next few years. A Hunt Plan will be written in 1996 and much of the refuge will probably be open to hunting in the fall of 1996. Because this area is so close to homes and roads, hunting with rifles may not be allowed on this tract for safety reasons. You may hike, observe wildlife, study the wildflowers, or just drive by and know that this tract will be preserved. Wheeled vehicles are not allowed, and the wildlife and plants (other than the apples, which are delicious!) are to be observed and enjoyed, but not picked or disturbed.

## Where Can I Get More Information?

Contact the refuge manager, Gail Baker, at the temporary refuge office in Elkins (304-637-7312) if:

- you want more information;
- you would like her to give a program (or lead a field trip) for your class, club or group;
- you are interested in selling your Canaan Valley property to the Fish and Wildlife Service or want to discuss that possibility.

We hope you enjoy your visit to Canaan Valley National Wildlife Refuge.





# CANAAN VALLEY NATIONAL WILDLIFE REFUGE

Tucker County, West Virginia

