

## Our National Wildlife Refuges



USFWS

In 1903, President Theodore Roosevelt ordered that a small shell-and-mangrove covered island in Florida's Indian River be forever protected as a "preserve and breeding grounds for native birds." Paul Kroegel, a sometime boat builder, cook and orange grower, was hired to watch over this 3-acre sanctuary. His mission was clear: *protect the island's pelicans from poachers and plume hunters.*

With this simple promise of wildlife protection, the **National Wildlife Refuge System** was born.

A century later, the Refuge System has grown to more than 150 million acres in size. It now includes 550 refuges, at least one in every state, and over 3,000 Waterfowl Production Areas. This growth was nurtured by many hands; concerned citizens, conservation groups, and the states have all played a vital role.

Refuges are places where the music of wildlife has been rehearsed to perfection, where nature's colors are most vibrant, where time is measured in seasons, and where the dance of the crane takes center stage.

National Wildlife Refuges are gifts to ourselves and to generations unborn ... simple gifts whose treasures are unwrapped every time someone lifts binoculars to the flash of feathered color, every time a child overturns a rock, and every time a hunter sets out the decoys or an angler casts the waters.

Canaan Valley's mission today is much as President Roosevelt's was when he established the Pelican Island Bird Preservation. While the job now takes more than one man and one boat, we remember the promise made when the century was new—*preserve wildlife and habitat for people today, and for generations to come.*

*Pelican Island*



USFWS

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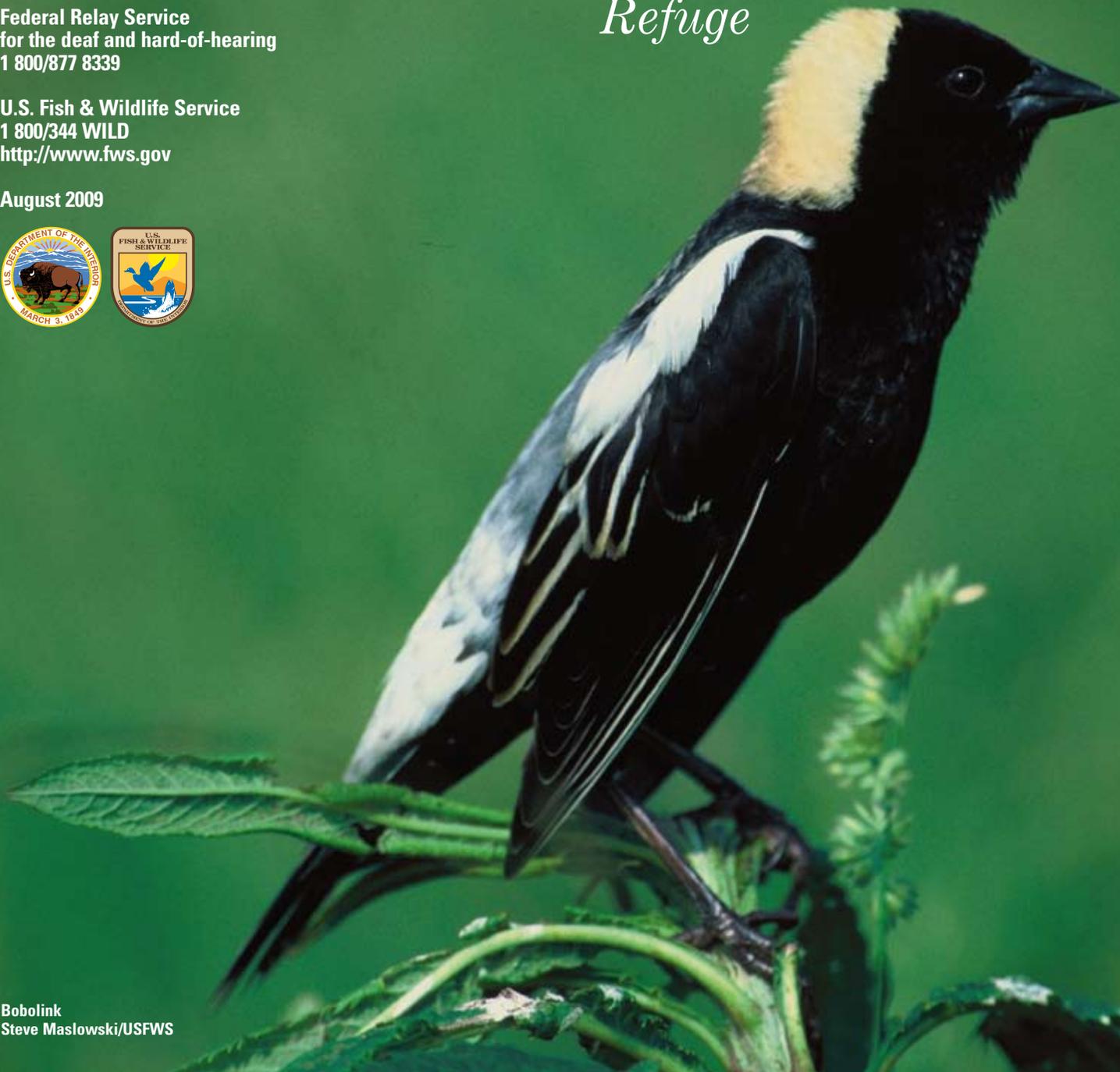
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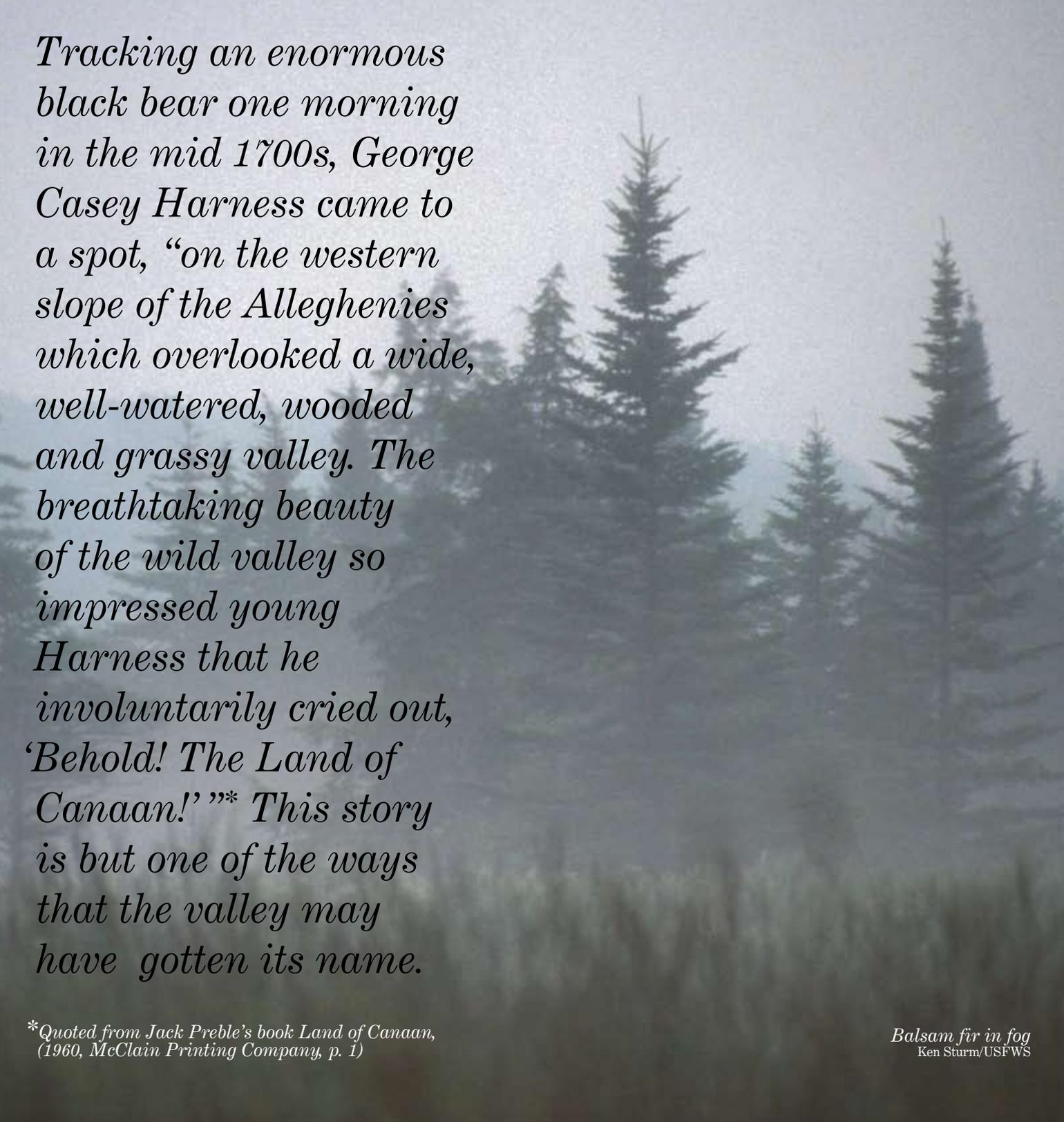


U.S. Fish & Wildlife Service

# Canaan Valley National Wildlife Refuge



Bobolink  
Steve Maslowski/USFWS



*Tracking an enormous black bear one morning in the mid 1700s, George Casey Harness came to a spot, “on the western slope of the Alleghenies which overlooked a wide, well-watered, wooded and grassy valley. The breathtaking beauty of the wild valley so impressed young Harness that he involuntarily cried out, ‘Behold! The Land of Canaan!’”\** This story is but one of the ways that the valley may have gotten its name.

*\*Quoted from Jack Preble’s book *Land of Canaan*, (1960, McClain Printing Company, p. 1)*

## Conserving the Nature of the Mountains

Welcome to Canaan Valley National Wildlife Refuge, the nation's 500th! The refuge works to preserve the unique wetlands and uplands of this high elevation, moist valley. You may enjoy the refuge by participating in wildlife-dependent recreation, including wildlife observation and photography, hunting, fishing, environmental education and interpretive programs.

The combination of wetlands, forests, shrub lands and old fields throughout the valley provides a diversity of wildlife habitat. In these habitats, animals such as deer, raccoon, geese and squirrel are easy to see. Others such as mink, bobcat and barred owls stay hidden most of the time. Beavers use trees to build dams, altering water levels to suit their needs. Woodcock treat us to their breeding display in spring. Elusive turkey and ruffed grouse provide a challenge for hunters. Along with native brook trout, you will also find other species of trout and bass in the Blackwater River and its tributaries.



*Beaver dam*

On August 11, 1994, with the purchase of 86 acres, the refuge was established. It grew slowly at first, then quadrupled in size in 2002. Today, the refuge is more than 16,000 acres. There are approximately 25,000 acres within the area approved by Congress for acquiring refuge property.



*Valley view*

Bob Phipps/USFWS

## History

During the last ice age 10,000-18,000 years ago northern species died out as the glaciers moved southward. The glaciers did not reach this area, but the cold did. The plants and animals here adapted to a cold climate. At the end of the ice age, as the climate warmed, many of these plants and animals moved northward with the retreating ice, repopulating the newly uncovered earth. These cold tolerant plants and animals also found niches high in the mountains where they could survive far south of what is now their normal range. Canaan Valley, the largest high-elevation valley east of the Rockies, is one of those niches.

*Hermit thrush  
nest on Cabin  
Mt. XC ski trail*



Ken Sturm/USFWS

When early European explorers came to the area, game, fish and edible plants were plentiful in Canaan (pronounced Kah-nane') Valley. "Carpeted with delicious grasses and canopied with massive trees, cold streams teeming with speckled trout and enough wild game in the form of panther, bear, elk, deer, otter and raccoon to last a man a lifetime of



*Stream meander*

sport and subsistence, it was truly a paradise for man or beast.”\* But the explorers also had a difficult time cutting their way through the dense tangled thickets of spruce and rhododendron, “where one could be hopelessly lost within shouting distance of his own camp.”†

\*(Preble, 1960, p. 1-2.)

†(Preble, 1960, p. 2)

*Dragonfly*



In the late 1800s and early 1900s, while railroads delivered products to market, the area’s timber industry boomed. Forests of spruce, birch, cherry, beech and other trees were harvested, leaving branches and tree tops (slash) on the ground.

Without the shade the soils, rich with decaying plants and slash, began to dry. Fires began, ignited by lightning, people or sparks from trains. In some uplands even the decaying plants in the soil burned, leaving inorganic soils exposed to the forces of erosion.

The logging and fires opened up what had been an impenetrable forest. With the soils burned and eroded, forests were slow to regenerate. The drier open areas grew into grasslands. Farming and grazing became important. Today, the rugged and beautiful valley holds various wetlands, forests and grasslands.

## Wetlands

There are relatively few places in West Virginia where ducks call, herons fly, and shorebirds probe the earth for food. Canaan Valley is such a place. Mallards, black ducks and wood ducks nest in the marshes. Solitary and spotted sandpipers are found wherever a small pocket of wetlands exist. Timid herons and snipe squawk in alarm and fly when encountered. Frogs and salamanders mate in the vernal pools. These are among the many animals you may find in Canaan Valley’s wetlands.



*Sundew*

A patchwork of 23 wetland types, including bogs, shrub swamps and wet meadows, carpet the valley floor. At about 8,500 acres, this is the largest wetland complex in the state of West Virginia, and is a regionally significant wetland complex within the southern Appalachians. Currently, 5,573 acres of these wetlands are part of the refuge.

The ecological functions of wetlands provide valuable services to people. Wetlands absorb water like a sponge, slowing it down during heavy storms, thereby reducing downstream flooding. This water retention helped reduce flooding in Davis, just downstream of Canaan Valley’s wetlands in 1985. During times of drought, wetlands slowly release water. Along rivers they buffer the shoreline, reducing the erosive effects of the water. They filter sediment, trash and pollutants. Without wetlands we would need more water treatment plants, flood control projects, bank stabilization projects, and relief from natural disasters - all expensive propositions.

*Aerial wetland*





*White-tail deer*

## Forests

Forests of beech, cherry, birch and maple cover the slopes of the mountains and add color to the fall. Scattered stands of spruce, balsam fir and hemlock remind us of the boreal forest that once dominated the valley. Squirrels, ruffed grouse, turkey and bear make their homes in these woodlands. Hermit thrush, ovenbirds and woodland warblers also find their place here. A large diversity of salamanders find their niches in these and other Appalachian woodlands.



*Indiana bat*

Canaan Valley's forests harbor the threatened Cheat Mountain salamander found in areas with spruce forest cover. Endangered Indiana Bats may be found along the stream corridors.

*Cheat Mountain salamander*



## Grasslands

Grasslands are important for the wildlife that they hold, particularly grassland birds. Savannah, field and grasshopper sparrows, bobolink and meadowlark are a few of the species using the refuge's grassland management areas. Grassland habitat is in decline nationwide. This has led to a decline in grassland bird populations including those along the eastern migratory path. The U.S. Fish and Wildlife Service works to conserve these birds, in accordance with the Migratory Bird Treaty Act, here and at other refuges.

Grasslands are also important during the winter months. They provide hunting areas for rough-legged hawks and migrating northern harriers. The short vegetation allows raptors access to the small mammals who also call grasslands their home.

*Field at morning light*



## A Refuge for People Too!



Ken Sturm/USFWS

*Cicada emerging*

We encourage wildlife-dependent forms of recreation. The refuge is open for nature observation, photography, hunting, fishing, environmental education and interpretive programs.

Parking and trail maps are available at all trail heads. You may use the trails for wildlife observation and photography. Please stay on the trails to minimize the disturbance to wildlife and plants.

The refuge has library resources about wildlife and nature. Supplemental curriculum guides and field study equipment are available for educators. Educators may be classroom teachers or youth group (scout, etc.) leaders.

With the help of The Friends of the 500th, the refuge offers a regular schedule of programs and tours. Schedules are available at the visitor center. Requests for special programs will be honored when possible, dependent on staff/volunteer availability.

The Friends of the 500th is a non-profit citizen's group devoted to conserving the unique natural and cultural resources of the Canaan Valley NWR and promoting nature oriented education. The Friends work to promote awareness of the refuge, enlist volunteers for refuge and recreational program assistance, and sponsor special events such as bird and wildflower walks and special studies. The Friends invite visitors to join in this important work.

### *Tour*



Erin Holmes/USFWS



*Common yellowthroat*  
Ken Sturm/USFWS

## Want to Volunteer?

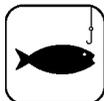
Volunteer opportunities are growing. Qualified volunteers are needed to lead refuge programs, assist with maintenance projects, staff the visitor center, maintain refuge trails, and help with special work days or events. There are also a limited number of opportunities for qualified volunteers to help with biological work.

*Your Cooperation is Appreciated ...*

## Hours

The refuge is open from one hour before sunrise to one hour after sunset.

## Permitted:



- Walking, cross-country skiing, snowshoeing, horseback riding and bicycling are allowed on designated routes. Please stay on these routes to minimize disturbance to wildlife. This also allows adjacent areas to remain or become well vegetated wildlife habitat. Good plant cover stabilizes the soil, preventing erosion.

- Hunting is permitted in accordance with state and Refuge regulations. Obtain a Refuge Hunt Brochure for details.

- Firearms are permitted only during refuge hunting seasons and must be unloaded and cased while in a vehicle.

- Dogs must be on a leash, not left unattended, and are restricted to designated pedestrian routes except when used for hunting during Refuge hunting seasons which allow the use of dogs.

- Fishing is subject to state regulations. Walking access is available from designated routes and parking areas.

- Please help keep the Refuge clean. Littering is prohibited. Take your trash with you.

## Prohibited:



To protect wildlife and visitors, the following are prohibited:

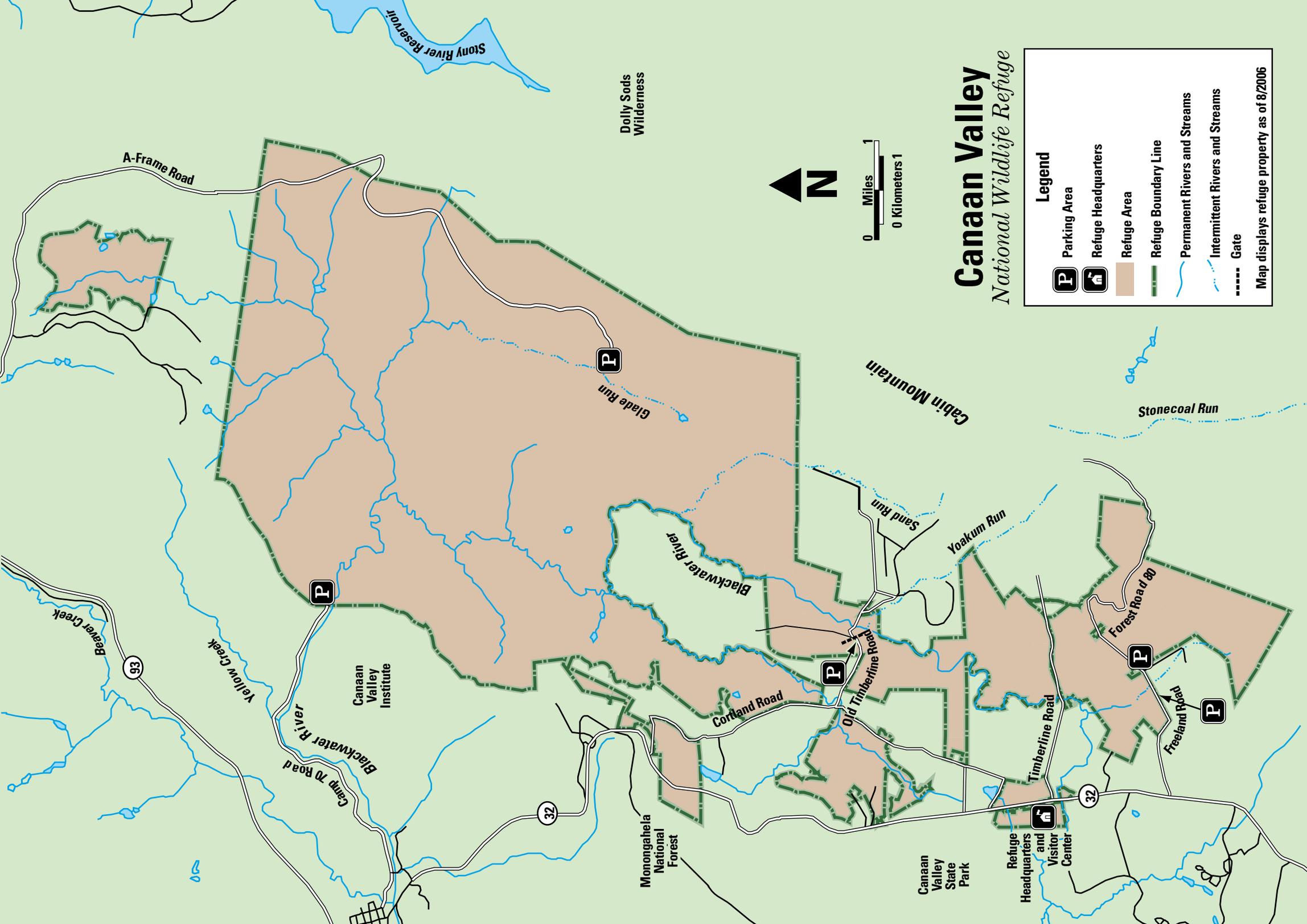
- Camping
- Open fires
- Cutting firewood
- Off-road vehicles including snowmobiles and all terrain vehicles
- Abandoning wild or domestic animals on the refuge
- Driving on routes other than those designated for vehicle travel.
- Permanent structures such as tree stands, stairways or rope swings.
- Collecting plants, animals or other natural, historical or archeological items is not permitted.

Respect private and public land closures or limitations. Sometimes the USFWS restricts use of an area because of the potential for harm to wildlife. An example is walking through fields during nesting season for ground-nesting birds. Even if you don't step on a nest the chance for a disturbance that will reduce nesting success is high.



## Tour on Freeland tract





# Canaan Valley

## National Wildlife Refuge

**Legend**

- Parking Area
- Refuge Headquarters
- Refuge Area
- Refuge Boundary Line
- Permanent Rivers and Streams
- Intermittent Rivers and Streams
- Gate

Map displays refuge property as of 8/2006

