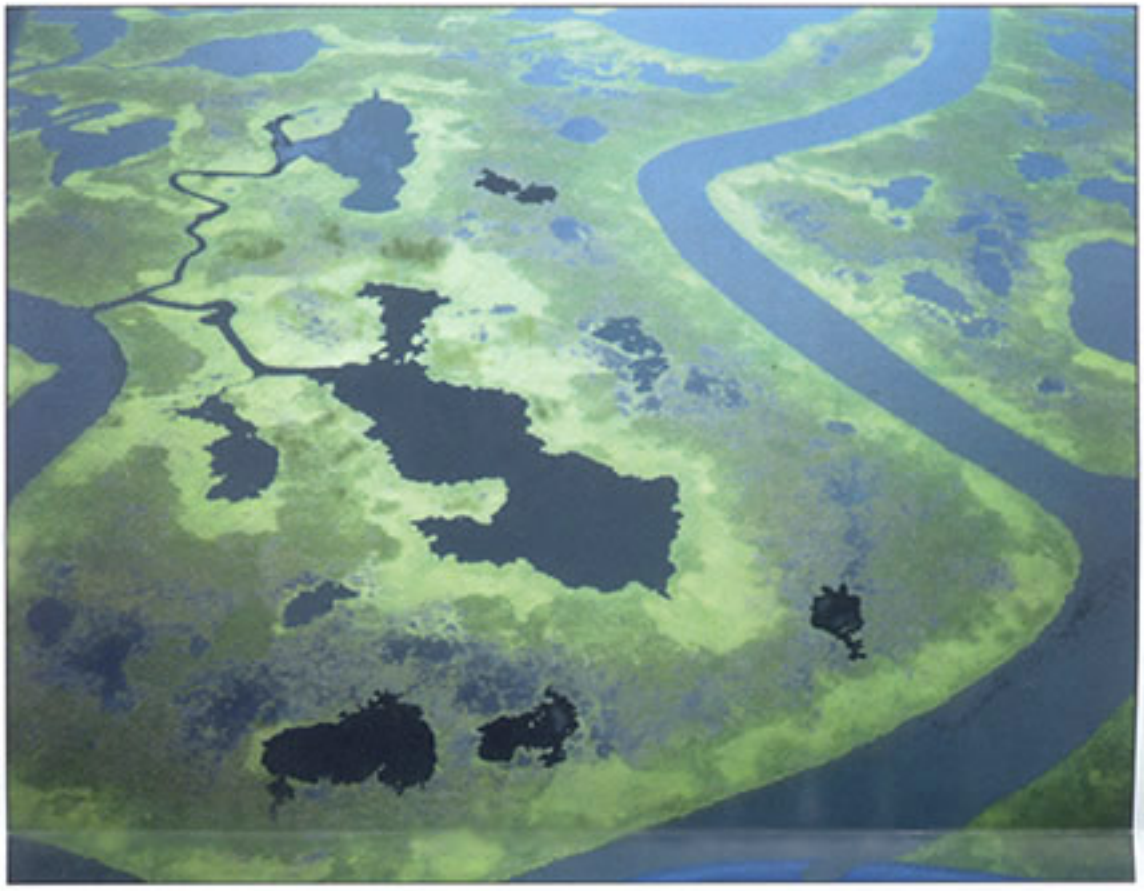
Blackwater National Wildlife Refuge
Key Wallace Hiking Trail

Welcome to the Key Wallace Hiking Trail and Demonstration Forest on the Blackwater National Wildlife Refuge.

This 27,000-acre Refuge, established in 1933, is managed specifically for the protection of wildlife and wildlife habitat.

Blackwater Refuge is one of the main wintering areas for migratory waterfowl using the Atlantic Flyway. It is also a haven for the endangered Delmarva fox squirrel, and the bald eagle (listed as threatened).

The Key Wallace Trail provides visitors with opportunities to observe forest management techniques, wildlife and birds.



An aerial view of the Refuge showing a variety of habitats, including tidal marshes, freshwater ponds, mixed evergreen and deciduous forests and small amounts of cropland.

Forest Management

Over 1/3 of the Refuge is forest, including some of the largest mature tracts on the Delmarva Peninsula. These tracts provide unique and vital habitat for native wildlife and migrating birds.

Much of the Refuge's forest management focuses on increasing habitat for forest interior-dwelling birds and the Delmarva fox squirrel. This is done by enlarging stands of mature forest through a variety of techniques.

Often, the trees most beneficial to forest creatures are slow-growing and can be choked out by faster-growing species. Several management techniques are used to keep these faster-growing trees in check.

The first 1/2 mile of the Key Wallace Trail is a Demonstration Forest depicting several management methods. The remainder of the trail showcases a variety of forest stages, including mature forest, reclaimed agricultural land, and logged tracts.

As the areas surrounding Blackwater Refuge become fragmented by clearing, agricultural use, and residential development, protection of this forest habitat becomes even more essential.

A view of a mature forest – an area of older trees with little undergrowth. The open area between the forest floor and "canopy" provides essential habitat for many bird species.

Delmarva Fox Squirrel

The Delmarva fox squirrel, the largest North American squirrel, can reach 30" in length and weigh up to 3 lbs.

The Delmarva fox squirrel, an endangered subspecies of the Eastern fox squirrel, once ranged from New Jersey to Virginia.

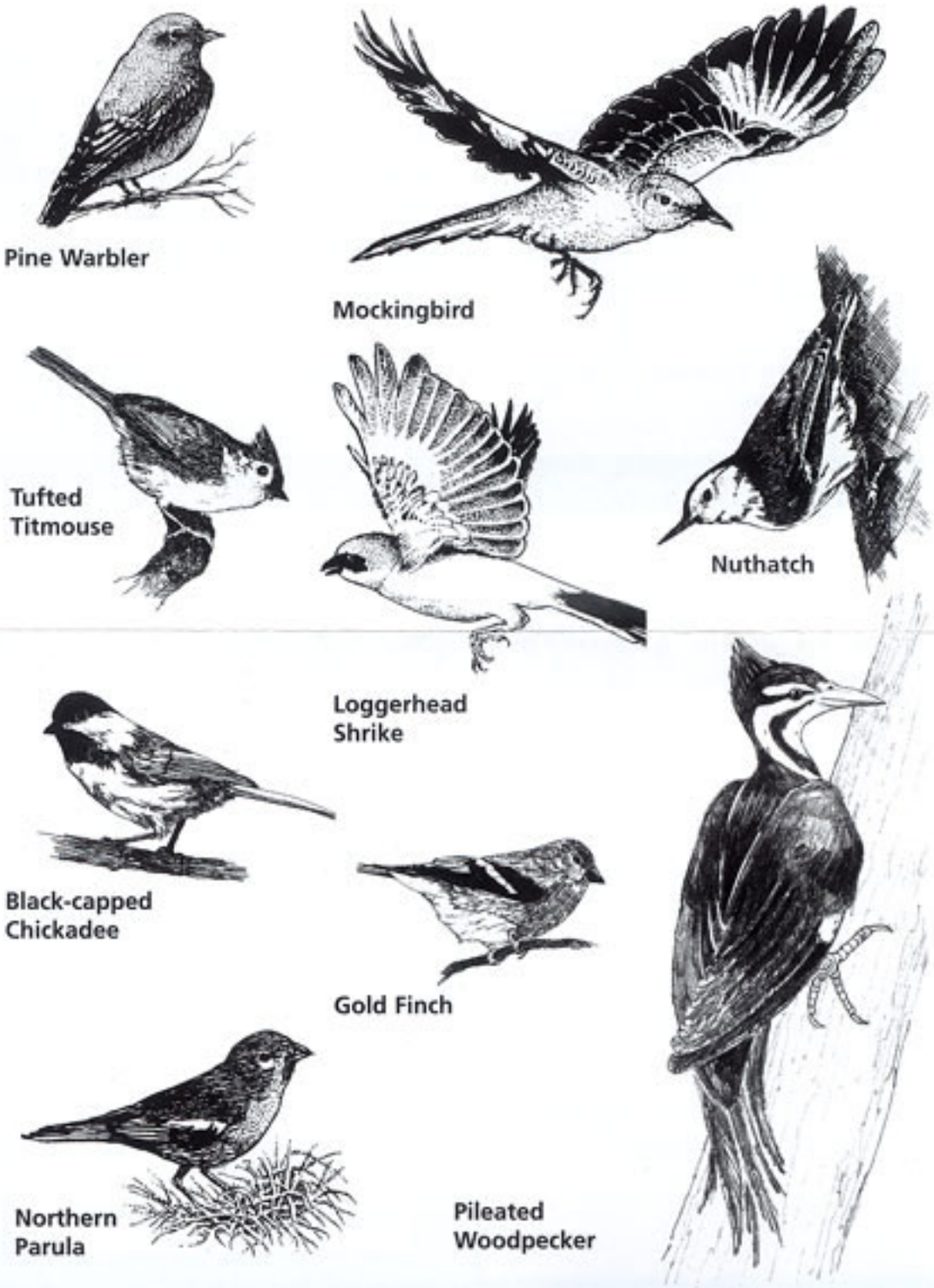
Due to loss of habitat, the overall population declined. At one time, Blackwater Refuge harbored one of the few remaining populations of these squirrels. Here they find mature forests with closed canopies and open understories – ideal for their habits of traveling and feeding on the ground.

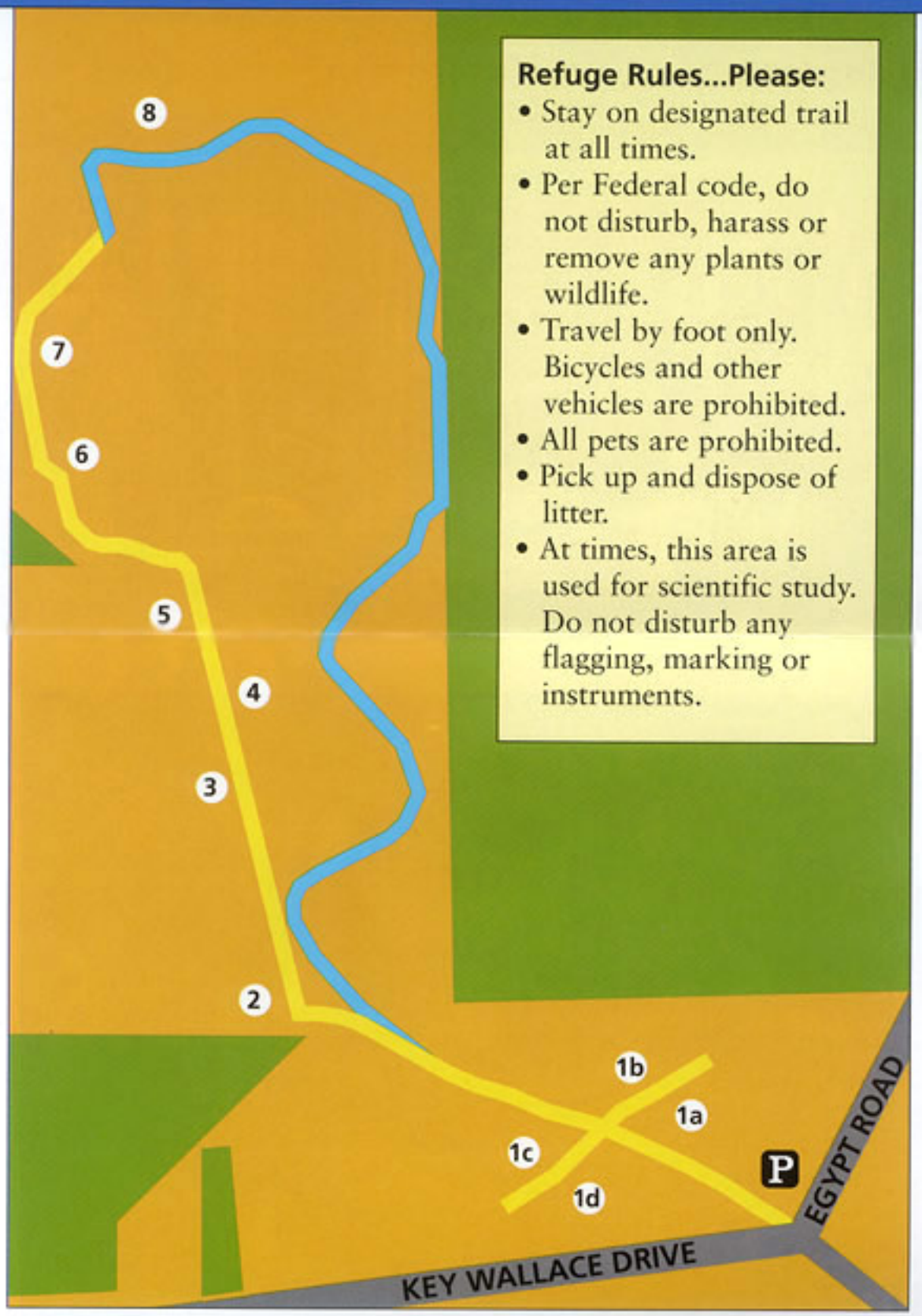
Refuge management efforts have increased the population. Today, these squirrels are being reintroduced in many areas.

Forest Birds

Blackwater Refuge is host to dozens of species of long distance migratory songbirds such as tanagers, warblers and vireos. Resident and short distance migrants include woodpeckers, owls and hawks.

These birds need large forested areas to live and breed. The Refuge protects unfragmented habitat to sustain the diversity of forest birds. Other species benefit, including mammals, amphibians and wildflowers.





Refuge Rules...Please:

- Stay on designated trail at all times.
- Per Federal code, do not disturb, harass or remove any plants or wildlife.
- Travel by foot only. Bicycles and other vehicles are prohibited.
- All pets are prohibited.
- Pick up and dispose of litter.
- At times, this area is used for scientific study. Do not disturb any flagging, marking or instruments.

Key Wallace Trail

This trail follows new paths and existing roads as it winds through the forest. The trail is 2.7 miles long and takes about 2 hours to hike.

The trail is divided into two sections, yellow and blue. Color-coded markers will guide you along the entire trail. (The yellow section is 1.4 miles, and the blue section is 1.3 miles.)

One or both sections of the trail may be closed during hunting season. Closures will be posted on the kiosk at the head of the trail and on the Refuges' website.

Private Property

Refuge Property

Poison Ivy

1 Demonstration Forest

The Demonstration Forest is divided into four sections to study different management methods:

a) *Chemical thinning*: use of herbicides to reduce the number of trees

b) *Lop and scatter*: cutting and dispersing selected trees

c) *Girdling*: cutting a deep furrow around the trunk of a tree to cut off its nutrients

d) *Control*: this section is left untouched.

This forest contains oaks, pines, red maple, sweet gum, black gum, beech and American holly. Shrub species include greenbriar, high bush blueberry and sweet pepper bush.

The Demonstration Forest ends at the access road.

2 Hazard Fuel

Managers are reducing hazard fuel in the forest to the left of this sign. "Hazard fuel" refers to brush, dead trees, leaves or other combustible natural material which can encourage the spread of wildfires.

3 Fire Program

This site consists of two 50-acre plots. One plot serves as a control, while the other is burned. By comparing the two plots, managers learn more about hazard fuels, invasive plant spread, and the Delmarva fox squirrel's population and movements. This information helps Refuge staff plan more effective local fire management.

4 Reforestation

This 9-acre site has been reclaimed from agricultural use and replanted with hardwoods and loblolly pine to increase habitat, especially breeding habitat, for forest interior-dwelling birds.

5 Older Forest

This portion of the trail passes through one of the Refuge's oldest stands of trees. Oak and beech trees range in age from 80 to more than 130 years old, and pines generally range from 60 to 80 years old. This area is excellent habitat for Delmarva fox squirrels, forest interior-dwelling bird species, and other wildlife.

6 Vernal Pools

To the left of this marker lies a large tree that was felled by high winds. Note the depression in the ground where the tree's root mass once was; this is a vernal pool. A seasonal pond, it fills with water for only part of the year, providing drinking water for animals.

7 Tree Cavities

Note the cavities in these mature trees – they supply food and shelter for many animals. The cavities were created by a fungal disease, known as heart rot or heart decay, which weakens the wood fibers in trees, hastening their death.

8 Streambeds?

Several of the foot bridges on the trail seem to span dried-up "streambeds." These are actually old drag paths left by the timbering industry when draft animals were used to haul timber from the forest to the main road.

Leaves shown (from left to right) are: greenbriar, American beech, red maple and sweet gum.

For More Information

The United States Fish and Wildlife Service manages more than 540 refuges. The Refuge System is a network of lands and waters managed for the protection of wildlife and wildlife habitat, and represents the most comprehensive wildlife management program in the world.

Funding for this trail was provided by the Chesapeake Bay Gateways Network, the Waterfowl Festival, and the Friends of Blackwater.

- The Friends of Blackwater
  www.friendsofblackwater.org
- The Blackwater National Wildlife Refuge Visitor Center
  2145 Key Wallace Drive
  Phone 410-228-2677
  Exhibits, gift shop with field guides for sale.
- Blackwater National Wildlife Refuge
  http://blackwater.fws.gov
  Email: fw5rw_bwnwr@fw.gov
  Mailing address:
  2145 Key Wallace Drive
  Cambridge, Maryland 21613

Blackwater National Wildlife Refuge, a Chesapeake Bay Gateway, is one of your entry points to enjoy and learn about the places, stories, spirit and mysteries of the Chesapeake and its watershed. Explore this and other sites in the Gateways Network. Visit www.baygateways.net for more information.

WATERFOWL Festival