



## *Foxes in Rhode Island*

Like many carnivores, foxes have at times been both persecuted and valued by humans. They have been pursued by trappers for the value of their fur and as a game animal by hunters. Because they were perceived as livestock predators and as competitors for game, many states, including Rhode Island, at one time offered bounties for foxes and other predators. Today management approaches and public attitudes towards foxes and other predators have changed. Many people value the experience of seeing one of these beautiful animals in the wild. The public understands the important role that predators play in regulating abundant species of small mammals, and foxes have adapted to living in close proximity to people. Trapping and hunting of furbearers is highly regulated to insure the long-term viability of populations, and bounties are no longer used in Rhode Island. Despite past efforts at suppression, foxes continue to thrive and are an important part of our wildlife community.

### **Description:**

There are two species of foxes in Rhode Island: the gray fox (*Urocyon cinereoargenteus*) and the red fox (*Vulpes vulpes*). Both fox species are characterized by an elongated snout, pointed ears and a bushy tail that is carried horizontally. The red fox has an orange-red coat with black fur on the feet and the back of the ears, a white belly, and a white tipped tail. There are variations in coat color, with some individuals ranging from gray to black, but the white-tipped tail and black feet are distinctive identifying marks of the red fox. The gray fox has a gray, grizzled appearance with some reddish brown on the backs of the ears, the sides, the chest, and the legs. The cheeks, inner ears, and belly are white. The upper side and tip of the tail are black. The red fox ranges between 6.6-13 lbs. and 27-33 inches in length. The gray fox is 6.6-15.4 lbs. and 32-45 inches in length. The red fox is typically more slender than the gray, with longer legs and a longer snout. Both foxes can vocalize, with the red using yaps, yips, screams, howls and barks, and the gray mostly barking. The gray fox, with its long, sharp, curved claws, is the only canine that is adept at climbing trees. In general, less is known about the gray fox.



*Gray Fox*



Red Fox<sup>3</sup>

### **Life History:**

**Range and Habitat:** Red foxes are present in most of North America, except for the Southwest and the Rocky Mountains. The gray fox has a more southerly distribution, mostly absent from Canada but extending into South America. Home range sizes for foxes have been found to range from 142 acres to 1.9 square miles. (The home range is the area regularly used by the animal.) Foxes prefer a diverse mix of habitats that includes forest, brush and grassy areas. This diversity of vegetative cover provides habitat for a variety of

small mammals on which they feed. Historically, gray foxes were more commonly found in forested habitats such as deciduous woodlands and swamps. Red foxes prefer somewhat more open habitat, including agricultural fields, golf courses and even suburban lawns. Today the separation of the two based on habitat preference is probably less distinct, with both species often found in the same area. Both species can be found in heavily urbanized areas, including Providence.

In Rhode Island, both fox species can be found in all mainland communities. The red fox can also be found on Aquidneck Island, Jamestown, and Prudence Island in Narragansett Bay. The gray fox is not known to occur on Aquidneck Island and does not occur on Prudence Island. It has been reported to occur on Jamestown. There are no fox of either species on the smaller islands of Narragansett Bay or Block Island.

There is some debate as to the origin of the red fox in America. Until recently, it was considered a separate species from the European red fox, but now they are known to be the same species. Red foxes were introduced into some areas of North America during the past to augment native populations for hunting purposes. What impact this has had on native populations and distribution is unclear.

**Food Habits:** Unlike some canids, foxes are solitary predators. They are active when prey is active, especially near dawn and dusk. Red foxes will vary their routine according to prey season. Both types of foxes have a varied, omnivorous diet, which changes according to what is available. Small mammals, birds, fruit, and insects are all important food sources. During the summer, their scats may be composed entirely of fruit seeds and skins, while in the winter they may be only fur and bone. Foxes will often bury food in caches for later consumption.



Red Fox Tracks<sup>1</sup>



*Red Fox Kits<sup>2</sup>*

*Reproduction:* Foxes form permanent pair bonds, and are mainly monogamous (this is not certain for gray foxes). When one fox dies, the surviving member of the pair will take another mate. In gray foxes, the mating season ranges from January through April, and in red foxes, from December through March. For both, mating occurs earlier in the south and later in the north. Females breed in their first or second year, and males usually in their first year. The gestation period is about 51-54 days.

Both foxes use dens in mating and reproductive season, but do not often use them the rest of the year. Red foxes may dig their own dens or improve on an abandoned woodchuck den. They have even been known to occupy a woodchuck den with the woodchuck still in residence! Gray foxes do not generally use burrows for dens, but instead utilize dense underbrush, hollow trees, and rock crevices. The male brings food to the den for a few days before and after the arrival of the pups. In gray foxes the average litter size is four, and in red foxes it is five. The pups open their eyes at 10-12 days. During this time, the mother hunts and returns to the den to nurse, clean, and play with her pups. By week three, the young begin solid foods, provided by both the mother and the father. Occasionally, a “helper” fox, often a daughter from a previous litter, may be present and she may also provide food. Beginning at five weeks old, the pups start to explore outside the den. By eight weeks they are weaned. By three months, the pups begin to hunt on their own. Interactions between the young and their parents decrease. By seven months, the young disperse. Males do so earliest and travel farther than the females, who occasionally remain as helper foxes, as noted above. The life span for foxes is typically four to five years in the wild.

### **Diseases:**

Like all wild animals, foxes may carry a variety of parasites and diseases.

**Rabies** is probably the best-known disease associated with foxes and other mammals. Along with raccoons, skunks, and bats, foxes are a known host of the strain of rabies virus currently found in Rhode Island. From 1994 through 2004, on average only three foxes tested positive for the virus in the state per year. Symptoms exhibited by infected animals may include unusual behavior such as listlessness, aimless wandering, poor coordination, unprovoked aggression and self-mutilation. The rabies virus is concentrated in the saliva of infected animals and is spread when they bite or scratch. It also can be passed without an actual bite occurring when the saliva of an infected animal is introduced into a wound or into the eyes or mouth of a person handling a rabid animal. If you have been bitten by any wild mammal or have had contact with a suspected rabid animal, immediately flush any wounds with water. In addition, contact your physician, the Department of Health at 222-2577, and the DEM Division of Enforcement at 222-3070. The Division of Enforcement will attempt to capture the animal for testing in order for you to avoid unnecessary rabies vaccinations.

**Mange** is common disease of red foxes, but has not been reported in wild gray foxes. It is caused by a mite (*Sarcoptes scabiei*) that burrows into the skin, causing intense itching and hair loss. Foxes with mange may become weak and emaciated and eventually die. Dogs are susceptible to infection, and humans may get a temporary rash after exposure to the mite.

**Canine distemper** is a virus that causes respiratory distress, diarrhea, and neurological problems in canids and some other animals. The symptoms may resemble those of rabies. The infection is often fatal. Gray foxes suffer from the disease more than red, and juveniles of both species suffer more than adults. Domestic dogs are also susceptible and should be vaccinated. Humans are not affected.

### **Avoiding Problems:**

Many people enjoy seeing foxes that live near their homes, without experiencing problems. Healthy foxes pose little or no threat to humans. However, occasionally difficulties do occur. Eliminating potential food sources and den sites will eliminate most problems. Never intentionally feed foxes. They will become acclimated to people and it will create future problems for the foxes and your neighbors. Garbage cans, compost piles, bird feeders and pet food should be kept inaccessible to foxes and other animals. Free-ranging poultry are at risk to a wide variety of predators, including foxes. Properly constructed enclosures will prevent most predator problems. Foxes can dig under poor fencing or squeeze through cracks, so fences must be sturdy and secure. They should also be high enough to keep foxes from jumping over them. Keeping domestic animals inside at night is advisable; foxes have been known to attack house cats. A common complaint from homeowners is that foxes have dened under a toolshed or other area close to their home. They will often see the adults traveling to and from the den site or see the pups venture out for the first time when they are several weeks old. Foxes are not aggressive towards people and attacks on people are extremely rare. It is important to keep in mind



*Gray Fox<sup>2</sup>*

that these den sites are only used temporarily and when the young are old enough, the site will be abandoned. To prevent future use of the sites, fill in holes and install fencing around the bottom of sheds, porches and buildings to prevent access by foxes and other animals. Remove brush piles or other debris if you do not want them utilized by wildlife. For additional information concerning fox problems, contact Rhode Island DEM Division of Fish and Wildlife, Field Headquarters at 401-789-0281.

**Regulatory Status:**

Neither the red nor the gray fox is endangered or threatened. In Rhode Island, foxes are classified as protected furbearers under Rhode Island General Law 20-16-1. They may be trapped or hunted using legal methods during the appropriate season. The use of foothold traps, snares, or poison is prohibited. For complete rules and regulations regarding the hunting or taking of foxes, contact the Rhode Island DEM Division of Fish and Wildlife, Field Headquarters at 401-789-0281 or Division of Enforcement at 401-222-3070. Town and city ordinances may prohibit or further restrict hunting or discharge of firearms in residential and urban areas. Check with your police department for local laws.

This publication is also available on the Department of Environmental Management website at [www.dem.ri.gov/topics/wltopics/htm](http://www.dem.ri.gov/topics/wltopics/htm)

It is the policy of the Department of Environmental Management to offer its services and accommodations to all orderly persons, and, as required, to all properly licensed persons, without regard to race, religion, color, national origin, ancestry, sex, age, or disability. If you believe you have been discriminated against in any program, activity, facility, or if you desire further information, please write to the Office for Equal Opportunity, US Department of the Interior, Office of the Secretary, Washington, DC 20240.



*Red Fox<sup>2</sup>*

### Selected References

Chapman, J.A., Feldhammer, G.A. 1982. Wild Mammals of North America: Biology, Management, and Economics. John Hopkins University Press, Baltimore and London. 1147 pp.

Cronan, J.M., Brooks, A. 1968 revised. The Mammals of Rhode Island. Wildlife Pamphlet no. 6, Rhode Island Department of Natural Resources, Division of Conservation. 133 pp.

Davidson, W.R., Nettles, V.F. 1988. Field Manual of Wildlife Diseases in the Southeastern United States. University of Georgia, Athens. 309 pp.

Whitaker, J.O., Jr. 1998. Mammals of the Eastern United States. Cornell University Press, Ithaca and London. 583 pp.

*Title drawing courtesy of Northeast Furbearer Technical Committee*

*Additional images courtesy of:*

<sup>1</sup>*Northeast Furbearer Technical Committee*

<sup>2</sup>*US Fish and Wildlife Service*

<sup>3</sup>*“The World of the Fox,” Tom and Pat Leeson*