

**The Natural History
of the
Red Fox**

Red Fox

Vulpes vulpes



Distribution

- **Historical range**
 - Northern North America, Europe, parts of Asia and northern Africa
- **Present range**
 - Most of North America and Eurasia, as well as Australia



Australia

- **Introduced ca. 1800**
- **Colonized the continent within 100 years**
- **Populations of 11 species of birds, mammals and reptiles are seriously threatened by the fox**

North America

- **Native to northern North America**
- **Introduced to southeastern US circa 1700**
- **Introduced in NC for hunting**
- **Introduced to western US for fur trade**



Are NC Red Foxes Native?

- DNA
- Natural range expansion
- Most think it was introduced

Physical Characteristics

- **Primarily red, but can be dark chestnut or have a golden tint**
- **Some black or silver populations**
- **White underbelly**
- **White-tipped tail**
- **Vertical pupils**

Physical Characteristics

- **Adults average 39-41 inches**
- **Adults average 8-15 pounds**
- **Males are usually larger than females**
- **Foxes in northern latitudes are usually larger**

Red vs. Gray

Red Fox

Family: Canidae

Genus: *Vulpes*

Species:
Vulpes

Gray Fox

Family: Canidae

Genus: *Urocyon*

Species:
Cinereoargentus

Red vs. Gray

Physical Characteristics

- **Red Fox**

- **White-tipped tail**
- **Usually red color on back with white under belly**
- **Adults are larger than gray fox (8-15 pounds)**
- **Longer legs**

- **Gray Fox**

- **Black-tipped tail**
- **Mostly gray color on back with red under belly**
- **Adults are smaller than red fox (7-11 pounds)**
- **Shorter legs**



Red vs. Gray Habitats

- **Red Fox**

- **USUALLY associated with open habitats**
- **Edge predators**
- **Fragmented and old field habitats**
- **Den in open areas**

- **Gray Fox**

- **USUALLY associated with wooded habitats**
- **Edge predators**
- **Timberland and swamp habitats**
- **Den in wooded areas**

Climbing



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Red vs. Gray Skulls

- **Red Fox**

- Dental Formula
- Temporal ridges form a “V”

- **Gray Fox**

- Dental Formula
- Temporal ridges form a “U”



Home Territories

- **Distinct territories**
- **May have several dens in their territories**
- **Size of home range and territories depend on habitat quality and other foxes**
- **Range is marked by scent (anal) glands, urine and feces**

Reproduction

- **Monogamous?**
- **In NC, breed in December-January**
- **Gestation is \pm 53 days**
- **\pm 5 kits born and emerge from maternity dens within five weeks**
- **Males provide food for female and kits for a short time**



Reproduction

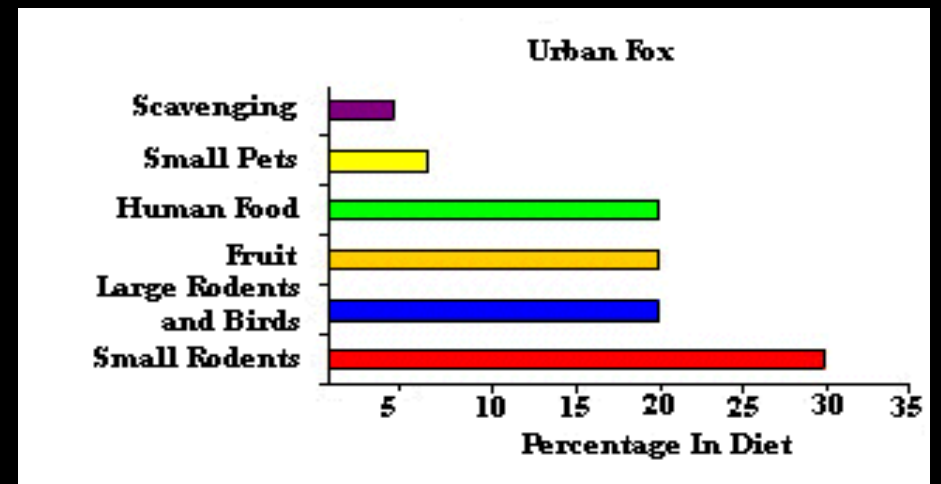
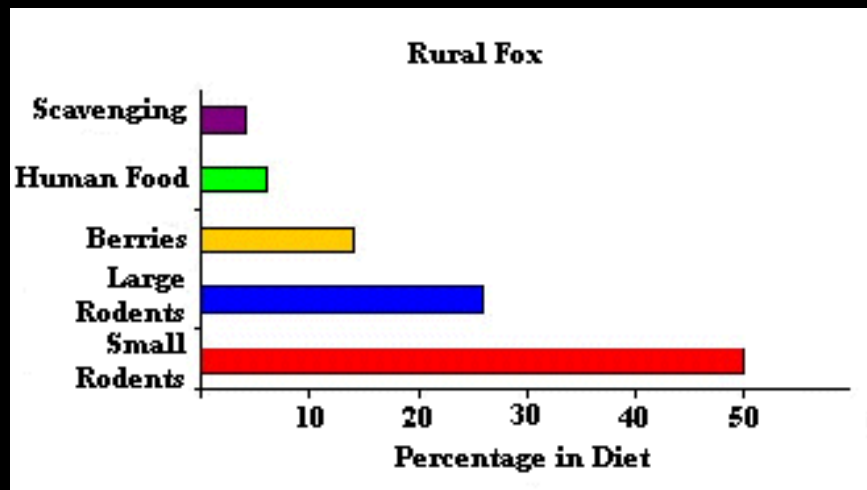
- Kits remain with female
- Weaned in ten weeks
- Kits disperse in \pm nine months
- Are able to reproduce their first year
- May live over ten years in captivity, but has a much shorter life expectancy in the wild

Foods

- **Primarily crepuscular to nocturnal, but can be active anytime**
- **Classified as a carnivore, but it is omnivorous**
- **Solitary predator**
- **Keen sense of smell**
- **Hearing (low frequencies)**
- **Eyesight?**

Foods

- **Opportunistic!**
- **Small mammals**
- **Birds and bird eggs**
- **Small reptiles and amphibians**
- **Plant material**
- **Insects**



Predators

- Humans



Predators

- **Humans**
- **Vehicles**
- **Nuisance animals**
- **Coyotes**

Fox Sign

- **Tracks**
 - **Four toes**
 - **Claws usually appear**
 - **Diagonal walker**
 - **Can be hard to ID**



Fox Sign

- **Scat**
 - Variable
 - May be in areas to mark territory



Human Interactions



Human Interactions



Diseases

- **Sarcoptic Mange**
- **Canine Distemper**
- **Rabies**



Table 2. RABIES, Percent Positive among High Risk Wildlife Species Tested, North Carolina 2008 High Risk – Wildlife

	Tested	Positive	% Positive
Bats	1104	18	1.6
Beaver	3	1	33.3
Bobcat	3	3	100.0
Coyote	5	3	60.0
Fox	117	57	48.7
Groundhog	38	0	0.0
Raccoon	549	251	45.7
Skunk	108	93	86.1
Total	1927	426	

Table 4. RABIES, Foxes Submitted and Testing Positive by County

Total Foxes Submitted	Positive	
Wake	16	4
Forsyth	10	8
Guilford	7	7
Mecklenburg	7	1
Randolph	6	4
Surry	6	2
Rowan	5	2
Orange	4	1
Carteret	3	2
Catawba	3	1
Cherokee	3	3
Sampson	3	1
Cabarrus	2	1
Cleveland	2	0
Davidson	2	2
Halifax	2	0
Mitchell	2	1
Montgomery	2	2
Rockingham	2	2

