

CAPTIVE REARING OF FOXES



Elisa Fosco

Director of Animal Care

Walden's Puddle, Wildlife Center of Greater Nashville

CANIDAE FAMILY

- Includes wolves, jackals, and dogs
 - Carnassial teeth
- 8 genera of fox
 - 27 species
- Gray (*Urocyon cinereoargenteus*) and Red (*Vulpes vulpes*) found in North America



RED FOX (*VULPES VULPES*)

- “Cat-like canid”
- Widespread, naturally occurring in 4 continents
- Many variations in coat color
- Adapts well to urban environments
- *Mainly* carnivorous, consuming invertebrates and rodents



GRAY FOX

(UROCYON CINEREOARGENTUS)



- ❑ Among most primitive of canids
- ❑ Found only in North and South America
- ❑ Monogamous
- ❑ 1 of 2 canids capable of tree climbing, also good swimmers
- ❑ Omnivorous, consuming more vegetable matter than red fox

HABITAT SELECTION

RED

- Highly adaptable to urban environments
- Prefers farmland, and wooded lots with open fields



GRAY

- Gray foxes are more seclusive than reds
- Prefer thicker forested and partially open brush
- Do NOT prefer rural landscapes

BREEDING

- Dens are used during breeding season
 - Crevices in rock, groundhog burrows, hollow trees, etc.
- Gestation: ~53 days
- Average litter size: 4-5
- Related females co-parent



NEONATE IDENTIFICATION: RED FOX

- **White tail tip!!**
 - Identifying characteristic
- Charcoal fur at birth
 - Stockings not distinguishable in first couple weeks
- Black elliptical pupils



NEONATE IDENTIFICATION: GRAY FOX



- ❑ Russet patches behind ears
- ❑ Black stripe on dorsal surface of tail
- ❑ **Black tail tip**

FOX REHABILITATION

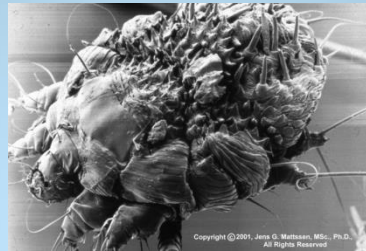


Reasons for Admission:

- ❑ Mange
- ❑ HBC
- ❑ Gunshot
- ❑ Viral issues
- ❑ 2° Rodenticide toxicity
- ❑ Orphaned
 - likely due to the above

FOX MANGE

- *Sarcoptes scabiei*
 - Mite
- More common in *red* foxes
- Most often treated with Ivermectin, Selemectin or Bravecto™
- Standard mange treatment may also include aggressive fluid therapy for rehydration and wound management as needed
- *Mange is also commonly seen in coyotes, raccoons and squirrels.*



HOUSING CONSIDERATIONS

Patients With Mange...



First 48 hours

- ❑ No straw, newspaper or disposable bedding
- ❑ Laundry to go straight into washing machine

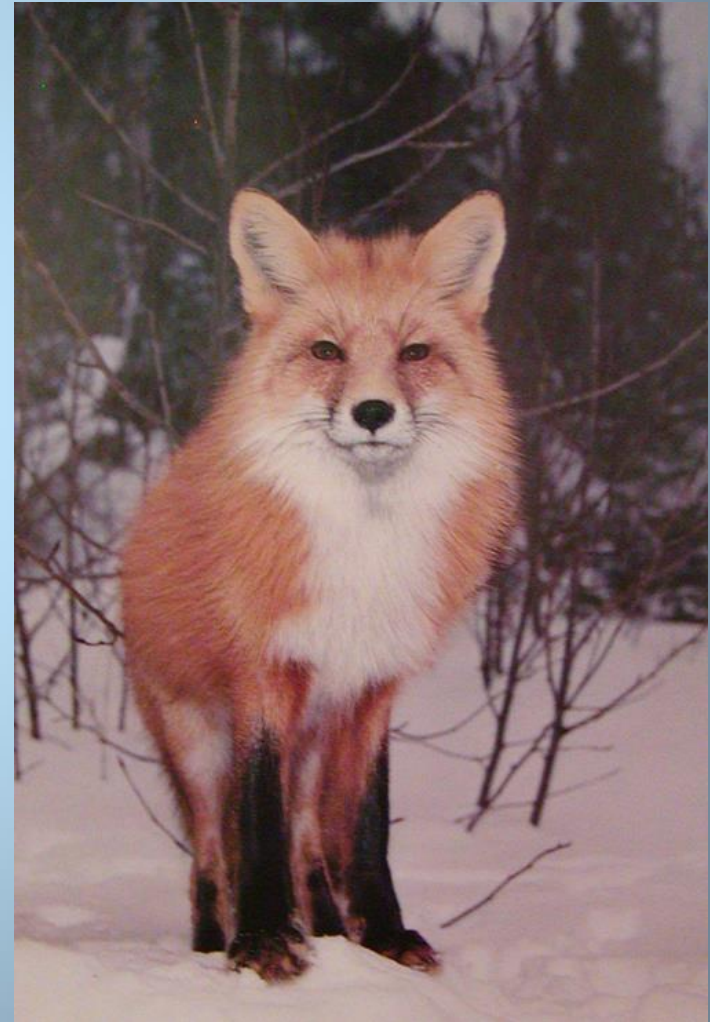
After 48 hours

- ❑ Straw, newspaper, blankets & *toys* ok
- ❑ Greenery & natural enrichment ok

VACCINATIONS

- Rehabilitators should follow standard vaccination protocols for all RVS including foxes
- This includes immunization for both rabies and canine distemper*

*Until there is more information, gray foxes should not be vaccinated for Canine Distemper due to vaccine-induced complications (Maylin 2012)



MEDICAL CARE





HEATHER REID

Use Only Isoflurane

RAISING FOXES



FORMULA OPTIONS



- **Vixen milk composition**
 - Fat: 18.3%
 - Protein: 35%

- **Esbilac™**
 - 1 part powder: 2 parts water
OR canned

- **Fox Valley 32/35**

- **We use Four Paws™ Vet Nipples**



THE EARLY STAGES (1-2 WEEKS)



- Born deaf and blind (eyes closed)
 - Eyes open at 11-14 days
- Need supplemental heat for first 2 weeks
- Feed every 2-3* hours from birth-1 week, increase time 1-2 hours as teeth begin to erupt in 2nd-3rd weeks
 - One night feeding required
 - Stimulate *after* feeding
- Will mainly be sleeping and eating at this point, not much activity



FEEDING TIME



LITTERMATES ARE ESSENTIAL!



- ❑ Like all wild babies, it is crucial for foxes to have littermates
- ❑ Must have 2nd fox when eyes open to prevent mal-imprinting
- ❑ **Social interaction is critical** for normal behavioral development...



THREE TO FOUR WEEKS...



- ❑ Foxes will become very active
 - In nature, foxes come out of den around four weeks, beginning exploration outside the den
- ❑ At this age, we offer solid food for foxes to smell, play with, and taste
- ❑ Kits will begin playing with one another, an essential start to establishing dominance
- ❑ Feed formula 4-5 times/day

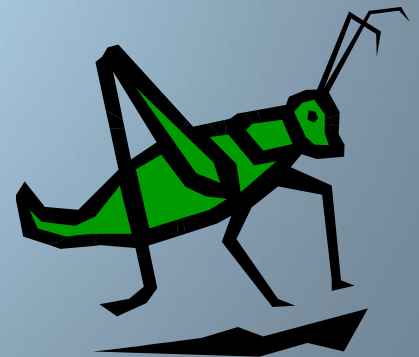
FOUR TO FIVE WEEKS

- At this age, kits should be encouraged to drink from bowl
- Before feeding, offer bowl
- Bottle feed as needed



WEANING (SOLID) FOODS

- ❑ Puppy & cat chow
- ❑ Fruits, nuts, grasses, dirt
- ❑ Insects, small mammals and birds
- ❑ Eggs, slightly boiled chicken parts



FIVE TO SEVEN WEEKS

- Fur will begin changing, with adult coloration becoming more evident
- Formula should now be provided in a dish, and begin decreasing feedings as more solid foods are eaten
 - May have to provide several feeding stations for less dominant foxes to obtain food
- Kits should be in extra large crate, cage room or *small outdoor cage*
 - Allow kits time and space to exercise daily if no outdoor cage available at this stage



APPROX 7 WEEKS OLD



EIGHT TO TEN WEEKS



- ❑ **Kits should be weaned in this age range!**
- ❑ Adult coloration is present, features also resembling adults including extended muzzle and long, pointed ears
- ❑ Must be housed in outdoor cage with lots of natural enrichment





EIGHT TO TEN WEEKS



- ❑ Adult coloration is present, features also resembling adults
- ❑ Provide hiding places, dirt mounds, natural enrichment (branches, leaves, etc)
- ❑ Foxes should be practicing hunting techniques
 - Offer live insects, hide food around enclosure to encourage hunting



PRE-RELEASE CONSIDERATIONS

- Ensure that all foxes are capable of live hunting
 - Mice, grasshoppers/crickets
- Young foxes should have a recognizable fear/avoidance of humans
- De-parasitize, vaccinate, overall pre-release health check
- *We do a dose of selemectin at release



RELEASE DAY!

- ❑ Both red and gray foxes should be released at least 5 months of age if behaviorally appropriate
- ❑ They should exhibit normal avoidance behavior
- ❑ Ideally foxes should be reared and released in natural sized litters





Thank you!



This presentation is dedicated to friend and mentor- Donald L. Burton 1951-2015