Animal Habitat and Environmental Factors

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Landscape (habitat) & natural barriers can limit the geographic spread as with sylvatic rabies progression in Europe.
Local Influence of Habitat

• Suitability of habitat for sylvatic, feral, or stray rabies vectors/reservoirs
  – Habitat = food, water, and cover for roosting, breeding, and hiding
Local Influence of Habitat

• Environmental factors: Human activity often represents the greatest “environmental factor”

• Many wild species easily adapt to human-associated changes in the environment
Local Influence of Habitat

- Opportunities for interactions between rabid animals and susceptible humans, wild, and domestic animals = INTERFACE
- Humans may facilitate the interactions
Establishment of dog populations in an environment where contact with wildlife is likely may cause problems...

1. For local wildlife – disease introduction, competition, predation

2. For humans - Increased risk of rabies exposure
Human contact with dogs is more likely than contact with wildlife.

Feral or stray dogs are more likely to bite, especially if protecting pups or food source.
Controlling Wildlife Rabies

- direct control in wildlife is difficult and expensive, but may be possible under certain conditions

- habitat plays a role in oral vaccination programs
Controlling Wildlife Rabies

- indirect control through habitat manipulation to discourage wildlife
- removal of the animals usually unsuccessful: “nature abhors a vacuum”
- rabies may be controllable when no new susceptible animals can enter
Controlling Dog Rabies

Dogs may serve as the reservoir/vector species or as a spillover victim of a wild reservoir (carnivore or bat)
Controlling Dog Rabies

- direct control through immunization or reduction/removal of populations
Controlling Dog Rabies

- indirect control to discourage dog use of the area
- food sources in the environment allow dogs to survive and congregates them, facilitating disease transmission
Controlling Dog Rabies
- Removal of attractants
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Controlling Dog Rabies
- managing human behavior
  (more difficult than managing wild animals)
- requires effective public education