

# Biology of Wildlife Reservoirs of Rabies in South Dakota: Skunk

## Ecology

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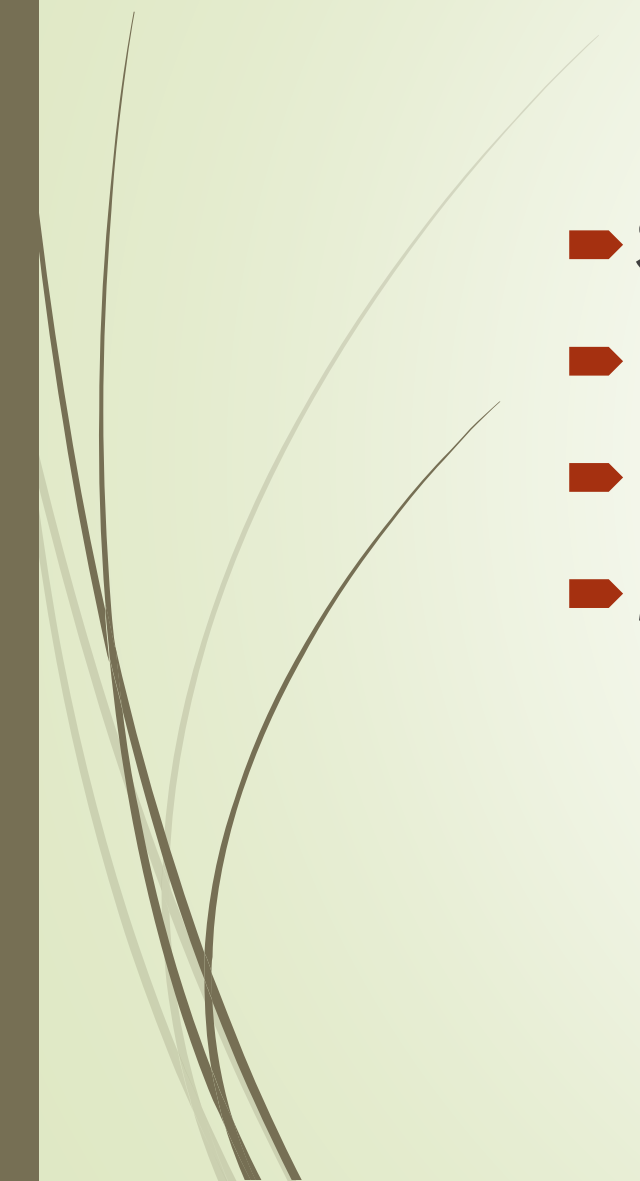
Animal Control Supervisor

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# Topics for today

- Skunk Distribution
  - Natural History
  - Rabies Considerations
  - Management Considerations
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# Skunk Distribution in United States



## Striped Skunk (*Mephitis mephitis*)



Larger (20-28 in., 6-14 lbs)  
Poor climber  
Less agile  
More crepuscular (dawn/dusk)  
More omnivorous/opportunistic  
Common

## Spotted Skunk (*Spilogale putorius*)



Smaller (9-13 in., 1-2 lbs)  
Good climber  
Faster, more agile  
More nocturnal  
More carnivorous, but omnivorous  
Rarely seen in SD, most in SE

Solitary, docile and secretive  
Strong sense of smell  
Sleep/dormant, not hibernate during winter  
Eat agricultural and garden pests (insects, rodents)



# Natural History

- ▶ Considered a furbearer by Game, Fish and Parks
- ▶ Most live 3 years or less
- ▶ Home range ½ to 2 miles in diameter
  - ▶ Breeding season males travel up to 5 miles
- ▶ Dens, hollow logs, stick piles, beneath buildings
- ▶ Open fields, rocky outcrops/piles, dumps, fencerows, wood lots
- ▶ Populations may have increased with small farms
  - ▶ Fencerows, woodlots, rockpiles, brushpiles
- ▶ Populations abundant in urban communities
  - ▶ Garbage, gardens, pet food, shelter, ponds

# Damage

- Dig for grubs in lawns, golf courses, gardens
- Prey on poultry/eggs, bee hives
- Dig under fences, porches, buildings
- Disturb garbage cans



# Reproduction



- Females mate once per year
- Breeding occurs in February-April
- Young born in May/June
- Litter size 6 (range 4-10)
- Mother fiercely protective of young
- Weaned at 6 weeks
- Females tend to stay, males disperse

# Defense!


- Poor runners
- Not built to fight, so they spray
- Spray reaches 10-15 feet, mist 3x that distance
- Spray does not contain rabies
- Predators: badgers, man/cars, owls, fox, dogs





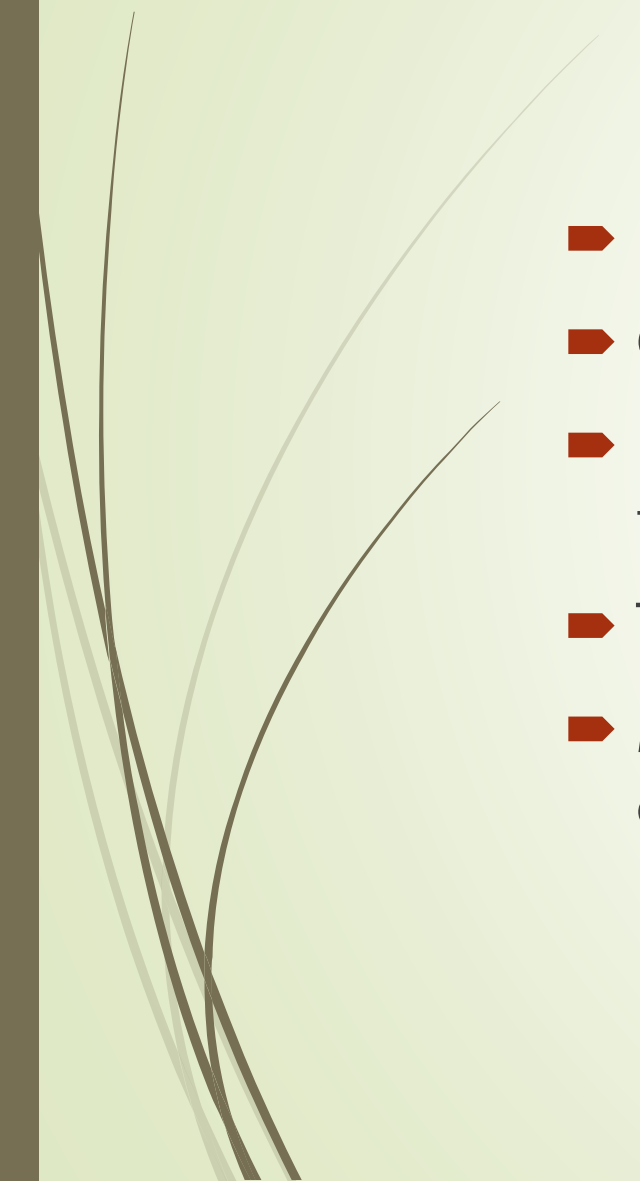


# Management Considerations

- ▶ Helpful in the environment for eating insects
  - ▶ Furbearer classification with Game, Fish and Parks
  - ▶ Skunks are abundant and skunk variant is prevalent in SD
  - ▶ Skunks are omnivores and adaptable so interaction with people/pets is common
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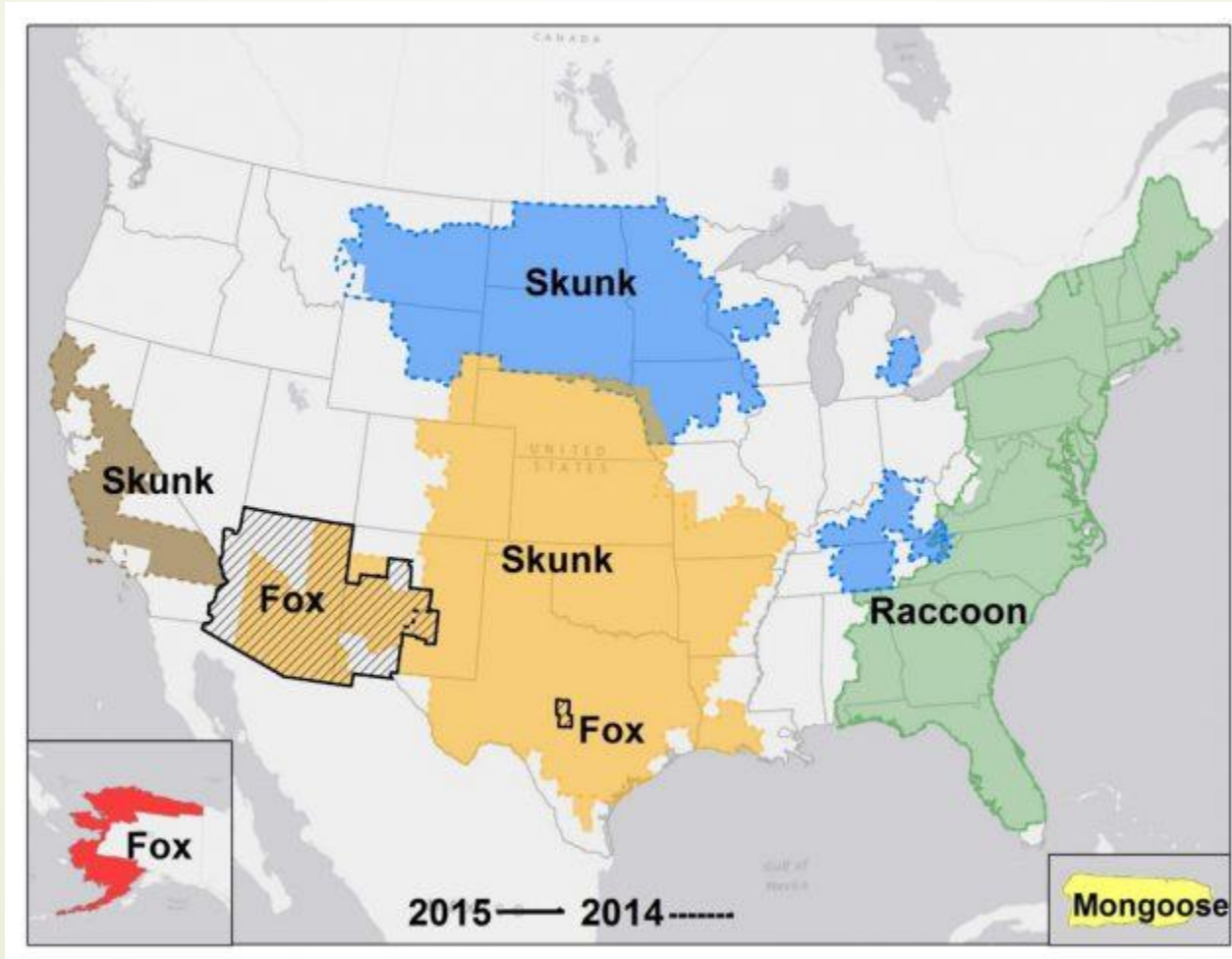
# Rabies Considerations

- Rabies is possible in all mammals
  - Only a few species are reservoirs
  - Direct strains of the virus adapted for raccoons, skunks, fox, bats
  - Transmission through saliva (with skunks, typically bites)
  - May secrete rabies virus in saliva before symptoms appear
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# Rabies variants across the US

## CDC Surveillance Data

[https://www.cdc.gov/rabies/location/usa/surveillance/wild\\_animals.html](https://www.cdc.gov/rabies/location/usa/surveillance/wild_animals.html)



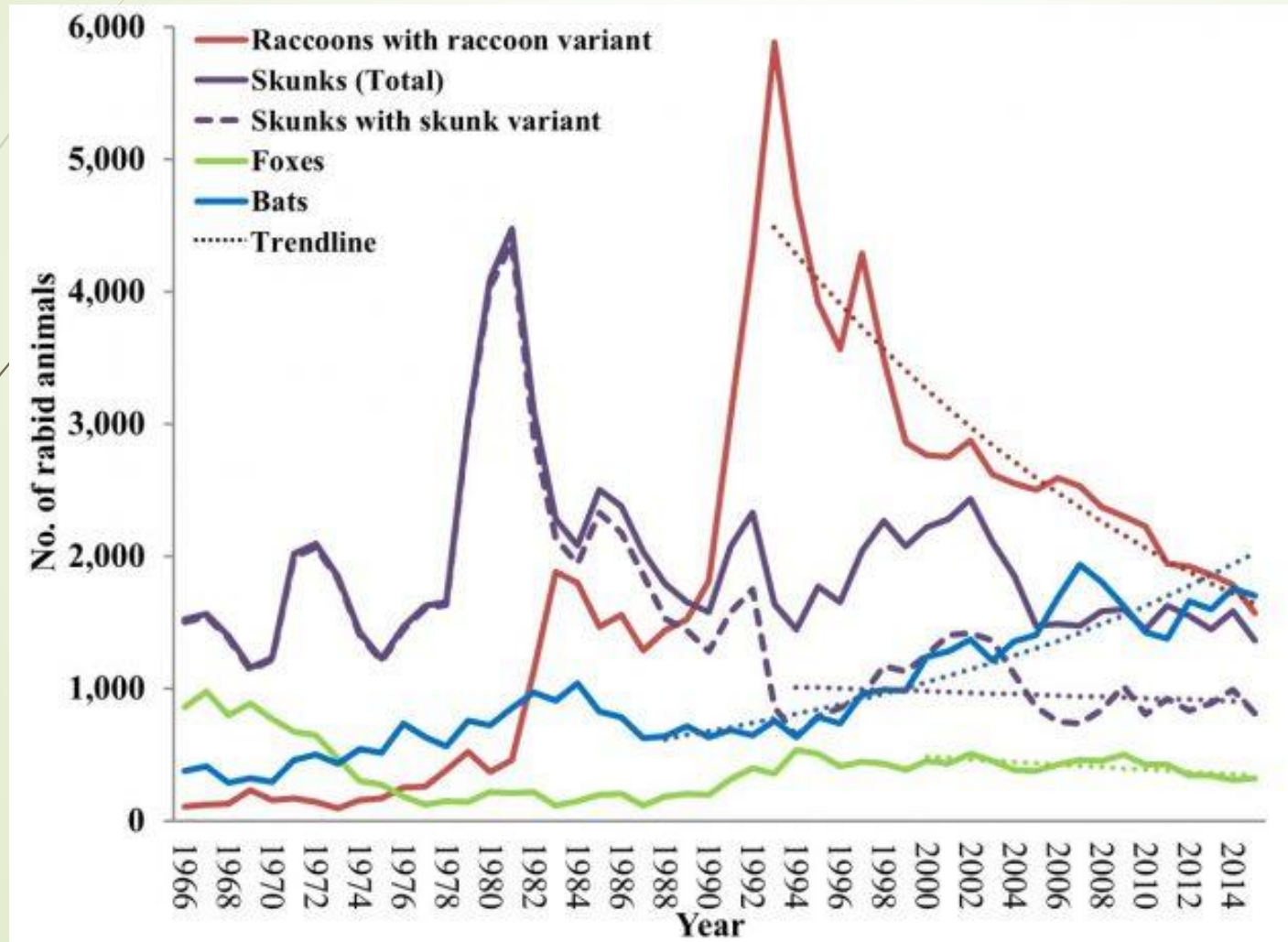


# Symptoms of Rabies in Skunks

- Out in the daytime (could be other causes too)
- Aggressive behavior “furious rabies”
- Unlikely to spray
- Lethargic
- Seizures
- Excessive salivation (muscles undergoing paralysis)
- Difficulty walking (loss of coordinated movement)
- Aversion to water
- Vocalizations

# CDC Rabies Surveillance Data 1966-2014

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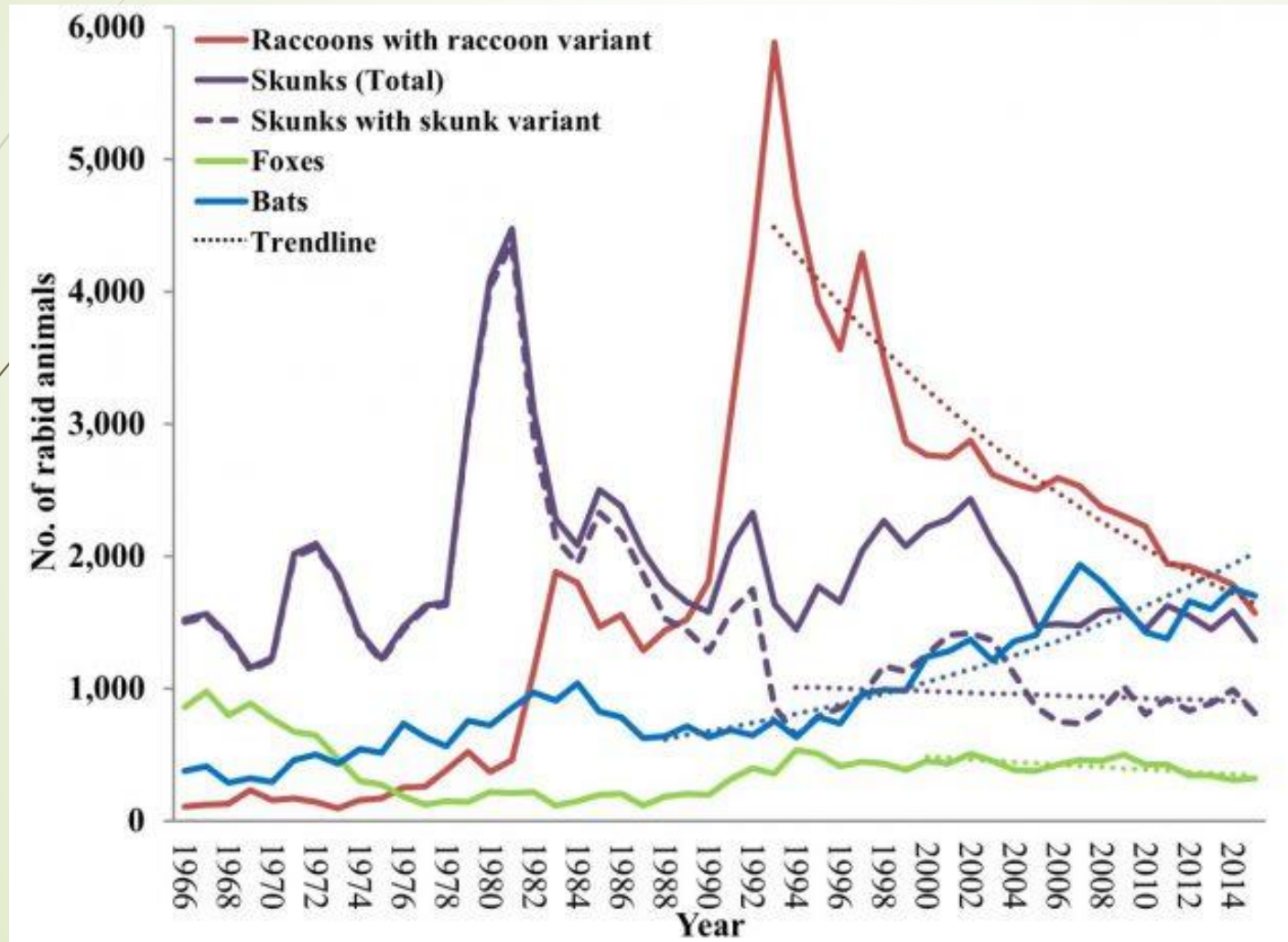



# Effects of outbreaks

- Greenwood et al (1997). Population and movement characteristics of radio-collared skunks in North Dakota during an epizootic of rabies. *Journal of Wildlife Diseases* 33:226-241.
- Survival rates fell from 0.85 skunks per km<sup>2</sup> to 0.17 skunks per km<sup>2</sup> in 1 year (1991-1992)
- Time and distance traveled decreased nearly 50% during the 14 days preceding death
- Some rabid skunks became immobile 2-3 days before death
- Deaths tended to be “clumped” spatially
- Pregnancy rates of skunks during outbreak were lower than in other years
- Epizootic disease outbreaks help control population numbers

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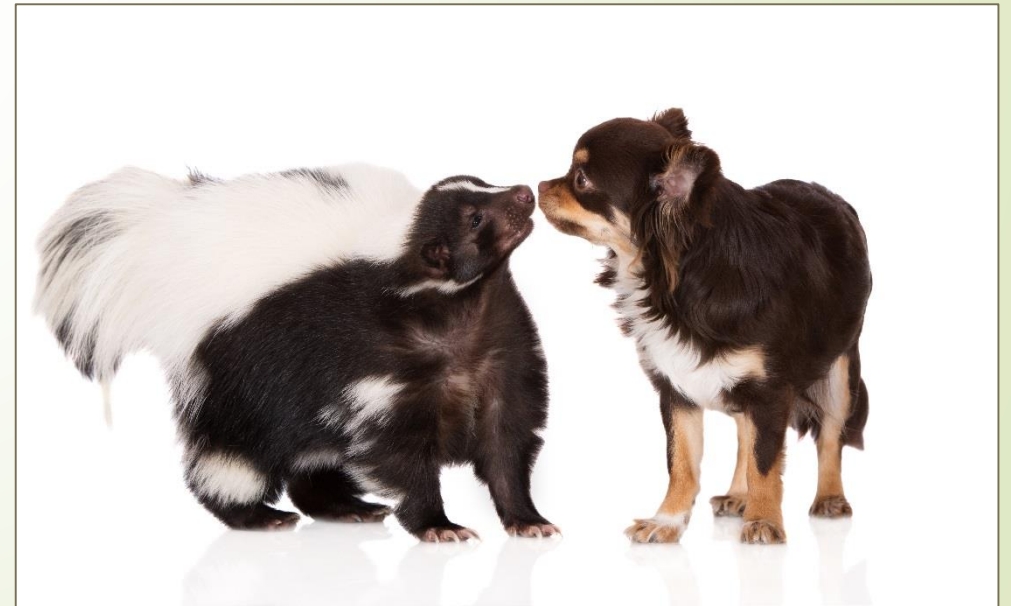
# Ecology of Skunks and transmission/outbreaks in SD


- Generally solitary animals
- Peaks in positive rabies skunks in Spring and Fall/early Winter
- Antagonistic behaviors during breeding
- May have communal dens in winter
- Young establishing new territories in fall
- Activity slows in late winter and mid-summer



# Animal Control in Sioux Falls

- Euthanizes all skunks caught in traps
- Tests suspicious skunks and raccoons for rabies
- Requires rabies vaccinations for resident pets
- Skunks not allowed as pets (no vaccine available)
- All Animal Control Officers receive the pre-exposure vaccination
- Feeding strays is prohibited



A cartoon skunk character with a white body, black stripes, and a black tail. It has large, expressive blue eyes and a red nose. The skunk is holding a grey rectangular sign with its right hand. The sign contains the text "Are there any questions?".

Are  
there  
any  
questions?