

# Envirothon Teacher Training

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10-11am

Grand Island, NE

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**Mammal Skull,**

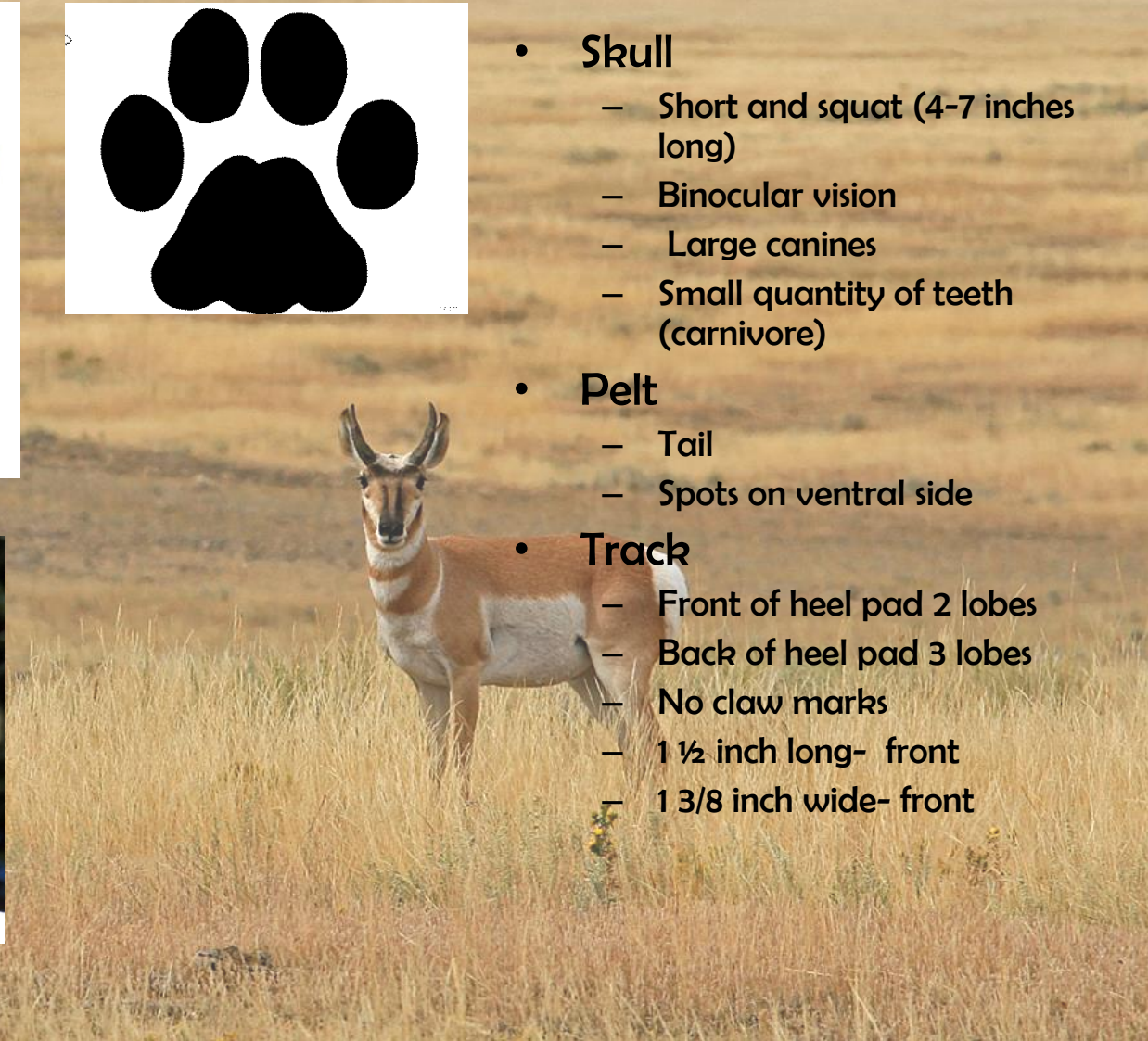
**Pelt,**

**& Track**

**Identification**



# Bobcat (*Lynx rufus*)



- **Skull**
  - Short and squat (4-7 inches long)
  - Binocular vision
  - Large canines
  - Small quantity of teeth (carnivore)
- **Pelt**
  - Tail
  - Spots on ventral side
- **Track**
  - Front of heel pad 2 lobes
  - Back of heel pad 3 lobes
  - No claw marks
  - 1 ½ inch long- front
  - 1 3/8 inch wide- front

# American Badger (*Taxidea taxus*)

- **Skull**

- 5-6 inches long
- Binocular Vision
- Fairly large canines
- Distinct triangle shaped head
- ~5 inches long

- **Pelt**

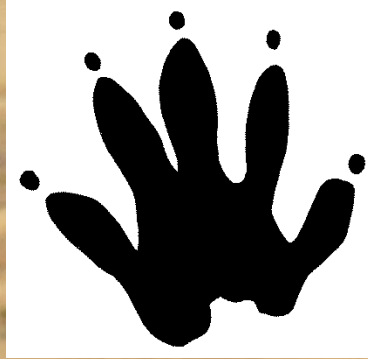
- Thick stumpy tail
- Black and white stripes on face
- Grayish in color
- Long front claws

- **Track**

- Long prominent claws
- 2.5 inches long- front
- 2.0 inches long- front



# Raccoon (*Procyon lotor*)

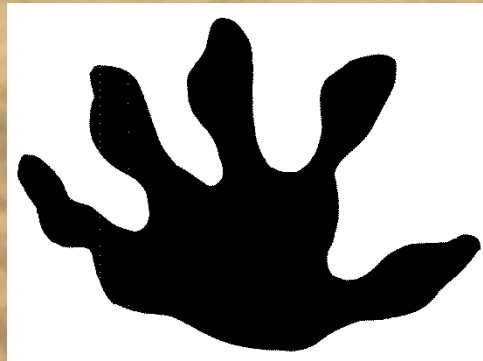


- **Skull**
  - Non-descript
  - Very similar to badger- though not triangular
  - Different types of teeth
  - ~4.5 inches long
- **Pelt**
  - Ringed tail
  - Salt and Pepper coloring
  - Dark spots around eyes
- **Track**
  - 5 slender toes
  - Feet resemble small human hands
  - Claws sometimes visible

# Opossum (*Didelphis virginiana*)

- **Skull**

- Weird!
- Large sagittal crest
- Large quantity of teeth
- Overbite with canines
- ~4.3 inches long



- **Pelt**

- Mostly grayish color
- Long naked tail
- Small ears

- **Track**

- 5 toes
- Front footprint is wider than it is long
- 1.5 inches long
- 2 inches wide



# Beaver (*Castor canadensis*)



- **Skull**
  - Distinct shape
  - Orange front incisors
  - Only molars
  - Eyes- peripheral Vision
- **Pelt**
  - Orangey-rusty brown color
  - Almost a perfect circle
  - Guard hairs- very thick
  - Small ears and eyes
- **Track**
  - Front and hind feet have 5 toes
  - Back foot has distinct webbing
  - Back foot may be larger than human hand
  - 5.0 inches long- back
  - 5.5 inches wide-back



# Red Fox (*Vulpes vulpes*)

- **Skull**

- Smaller version of a coyote
- Elongated
- Large canines
- ~5.5 inches



- **Pelt**

- Distinctively reddish rusty color
- Black/dark legs
- White chest/chin area

- **Track**

- Similar to coyote-but smaller
- Claws prominent
- One lobe on top
- 2.0 long x 1.8 inches wide
- Inside toes larger than outer





# Coyote (*Canis latrans*)



- **Skull**
  - Similar to fox but larger
  - Large canines
  - Binocular vision
  - ~7.5 inches
- **Pelt**
  - Depends on season when taken (reddish-orange) (Salt and pepper gray)
  - Large ears
  - Long legs
- **Track**
  - Similar to fox but larger
  - 2.5 inch long x 2.35 inches wide
  - Claws usually present
  - One lobe on pad



# Mountain Lion (*Puma concolor*)

- **Skull**

- Large skull!
- Large canines
- Small quantity of teeth
- Binocular vision
- Squat/wide skull



- **Pelt**

- Light brown to dark brown
- Tail length = body length
- Large paws

- **Track**

- Very large! (diameter of baseball)
- Top part of pad has 2 lobes, back has 3
- ~3.5 inches long x 3.5 inches wide



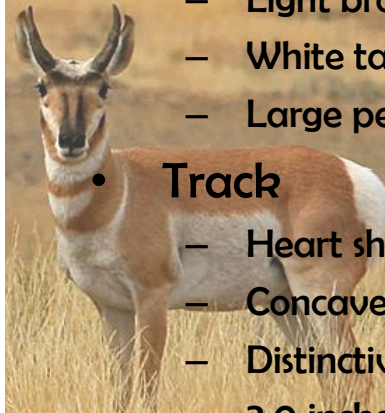
# White-tailed Deer (*Odocoileus virginianus*)



- **Skull**
  - Elongated nose cavity
  - No canines- molars only
  - Peripheral vision
  - Large skull

- **Pelt**
  - Light brown color
  - White tail
  - Large pelt

- **Track**
  - Heart shaped
  - Concave wall
  - Distinctive 2 parts
  - 3.0 inches long x 1.9 inches wide




# Ecoregions of Nebraska

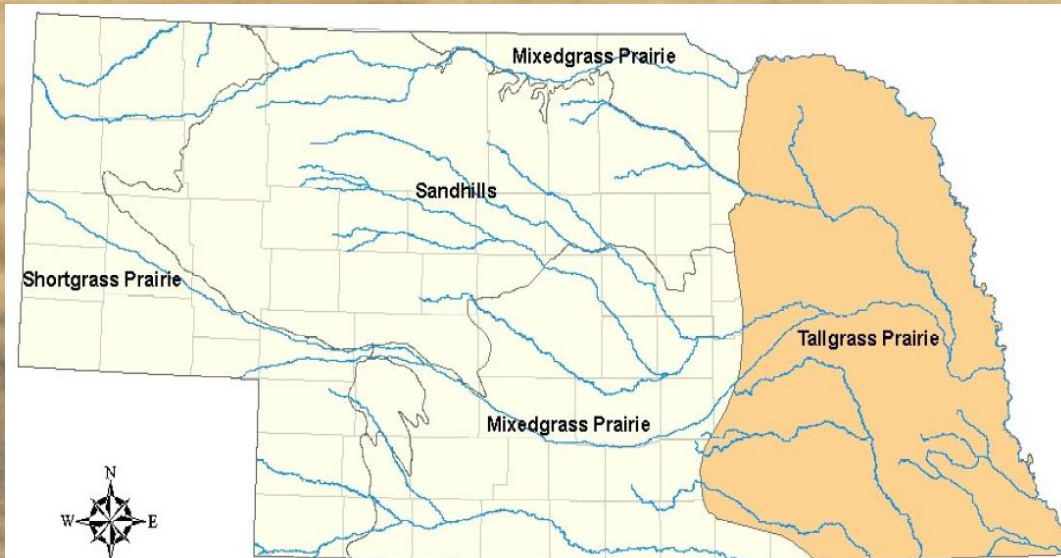


# What is an ecoregion?

Ecoregion is defined as: “A large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions.”

A pronghorn antelope is standing in a field of tall, dry grass. The antelope is facing left, with its head turned slightly towards the camera. The background shows a vast, flat landscape under a clear blue sky.

# Tallgrass Prairie

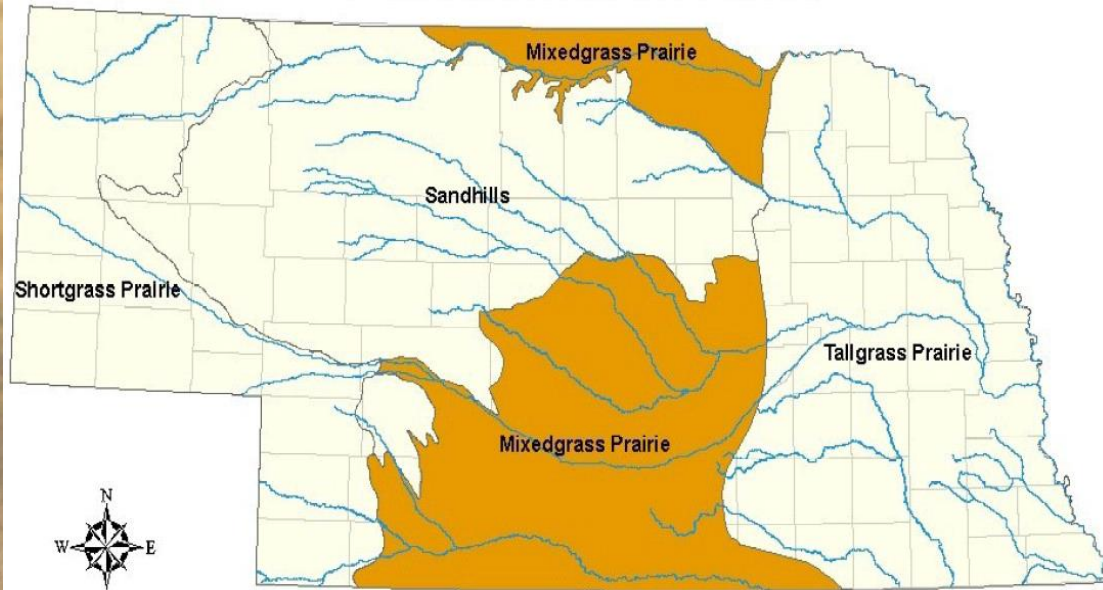


Tallgrass Prairie

- Rivers
- Counties
- Tallgrass\_prairie
- Ecoregions\_NE

- Most endangered ecosystem in the world
- 25-36 inches of rain annually
- Big Blue Stem, Indian Grass, Switchgrass
- Wildflowers, forbs
- Native Woodlands- bluffs, Wet meadows
- 300 species of birds
- 55 mammal species
- 75 fish
- 53 amphibians & Reptiles
- Insects!!
- \*\*Southern Flying Squirrel, Timber Rattlesnake, Massasauga, Regal Fritillary, Pallid Sturgeon, Piping Plover, Bell's Vireo, Saltwort

# Mixedgrass Prairie

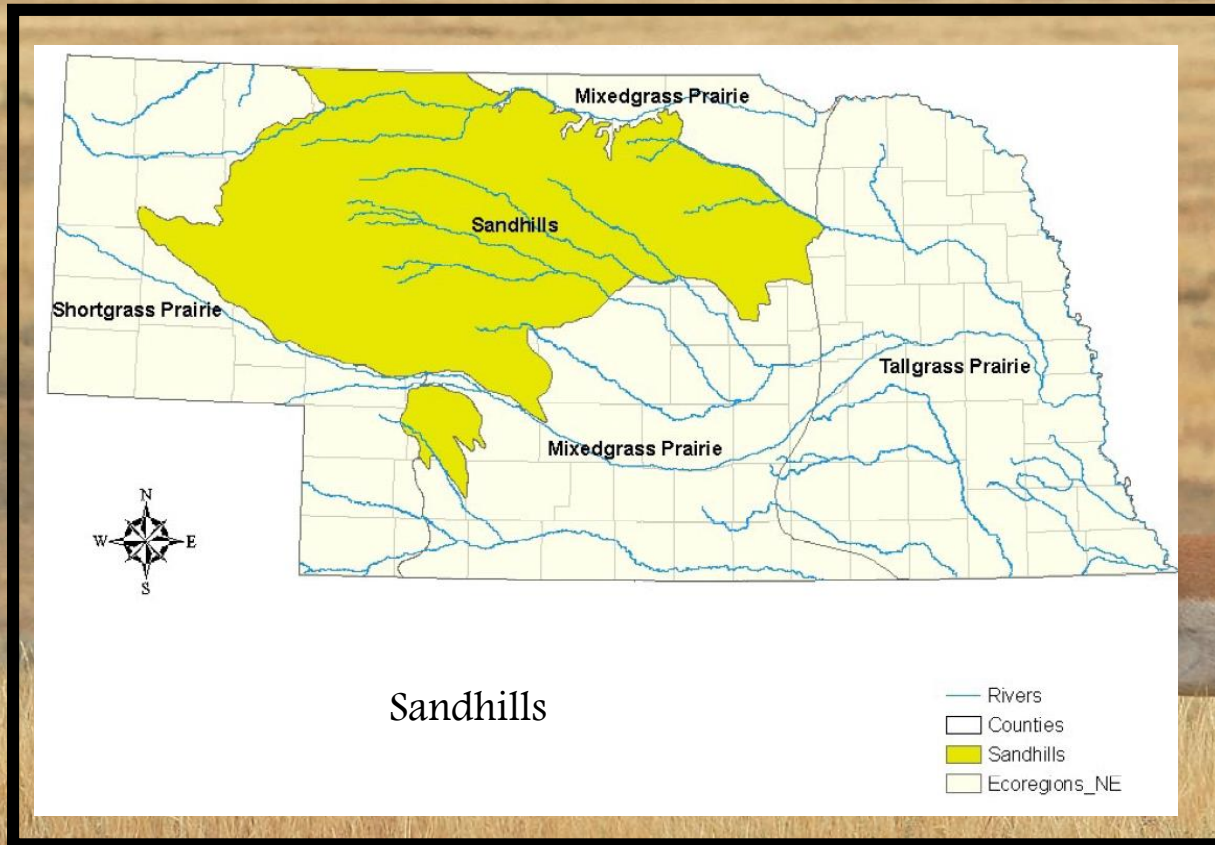


Mixed grass Prairie

- Rivers
- Counties
- Mixedgrass\_prairie
- Ecoregions\_NE

- Transition Zone
- 20-28 inches of rain annually
- Ogallala Aquifer
- Rainwater Basin- wetlands & migratory birds
- Tallgrass plants in east, shortgrass plants in west
- 350 migratory birds
- Many mammals- elk, Ord's Kangaroo Rat
- Reptiles & Amphibians
- \*\*Holds largest populations of American Burying Beetles
- Burrowing Owl, Prairie Chicken, Whooping Crane
- Platte River
- Blanding's Turtle

# Sandhills



- Largest stabilized dune system in the Western Hemisphere
- 17-23 inches of rain annually
- 1,000,000 acres of wetlands
- 700 native plant species
- Blowout Penstemon
- 300 species of migratory birds
- 55 species of mammals
- Bailey's Eastern Woodrat
- 75 species of fish
- 27 reptiles & amphibians
- \*\*Trumpeter Swan, Burying Beetle, Finescale Dace, Small White Lady's- slipper, Western Prairie Fringed Orchid, Blanding's Turtle



# Shortgrass Prairie



- Diverse topography
- 12-17 inches of rain annually
- Buffalo grass and Blue Grama,
- Plants rarely exceed 10 inches in height
- Pine woodlands- Ponderosa Pine
- Ungulate mammals dominate- Bighorn Sheep, Mule Deer, Pronghorn, Elk
- Prairie Dogs, Mountain Lions, Swift Fox,
- Lots of fish species- small stream fish like Dace
- Prairie Rattlesnake, Mountain Short Horned Lizard, Ornate Box Turtle
- \*\*Colorado Butterfly Plant, Swift Fox, Ferruginous Hawk, Mountain Plover,

# Rocky Mountain Bighorn Sheep



# Massasauga Rattlesnake



# Pallid Sturgeon



# American Burying Beetle



# Blowout Penstemon



# Whooping Crane



# Mountain Lion



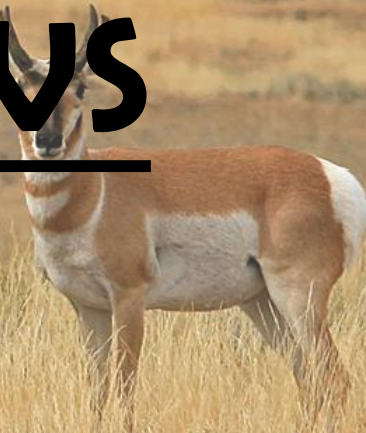


# Regal Fritillary



# Federal Wildlife

# Laws



# The Lacey Act (1900)

Prohibits trade in wildlife, fish, and plants that have been illegally taken, possessed, transported or sold.

**\*\*Protects plants and wildlife from being illegally taken**



# International Migratory Bird Treaty Act (1918)

- If a bird (or part of a bird or its nest or its egg(s)) is captured or killed or carried in a way that illegal, it's against the law to transport the bird (or part, nest, egg) to another state, territory, or foreign country.



# Bald Eagle & Golden Eagle Protection Act (1940)

- Provides the protection of the Bald Eagle and the Golden Eagle by prohibiting taking the birds, possessing the birds, and using the birds for commercial purposes.



# Endangered Species Act (1973)

- Provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife and plants depend.



# Conservation on International Trade in Endangered Species (CITES) 1973

- The CITES establishes a system of import/export regulations to prevent the over-exploitation of plants and animals listed by CITES



# The Federal Aid in Wildlife Restoration Act 1937

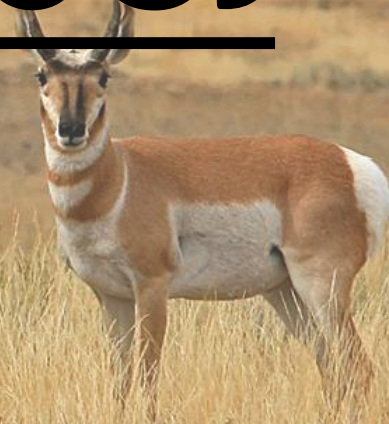
- Also known as the Pittman-Robertson Act
- The revenue generated from the excise tax is apportioned to state wildlife agencies for conservation efforts, hunter's education and shooting projects and programs.





**Conservation**

**Heroes**



# Edward Abbey

- Wrote *Desert Solitude* – about his time in the National Parks, and his disdain for commercialism there
- Wrote *Monkey Wrench Gang*, highlighting eco-tourism



# Aldo Leopold

- Devotion to “land ethics”
- The “father of conservation”
- Wrote *A Sand County Almanac*



# Jon Muir

- Took President Theodore Roosevelt on a 3 day camping trip- where he convinced him to preserve areas around Yosemite National Park
- Co-founder and president of the Sierra Club
- One of America's most famous naturalists and conservationists



# Rachel Carson

- Wrote *Silent Spring* because of this the US Government banned use of DDT



**Nebraska**

**“Hot” Topics**



- **Pollinators**
- **White-nose syndrome**
- **Epizootic Hemorrhagic Disease (EHD)**
- **Climate Change**
- **Mountain Lions**
- **Invasive Species**
- **Fire**
- **Threatened & Endangered Species**
- **Monarchs**



**Questions?**

