

Envirothon Teacher Training

January 15, 2020

11:50-12:50pm

Grand Island, NE

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Mammal Skull,
Pelt,
& Track
Identification

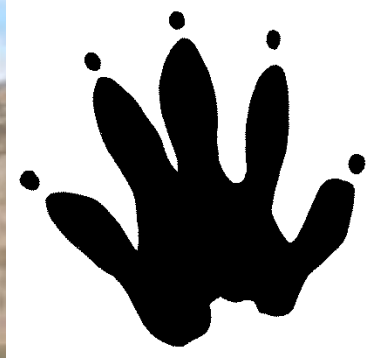
Bobcat (*Lynx rufus*)



- **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



Raccoon (*Procyon lotor*)

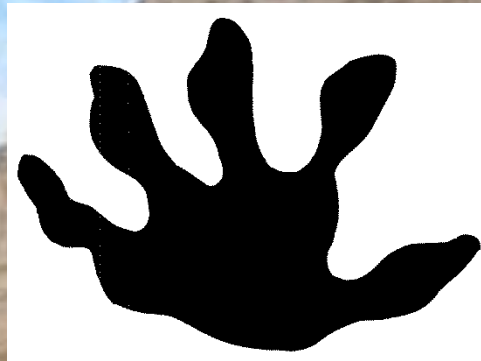


- Skull
 - Non-descript
 - Very similar to badger- though not triangular
 - Different types of teeth
 - ~4.5 inches long
- Pelt
 - Ringed tail
 - Salt and Pepper coloring
 - Dark spots around eyes
- Track
 - 5 slender toes
 - Feet resemble small human hands
 - Claws sometimes visible

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



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**

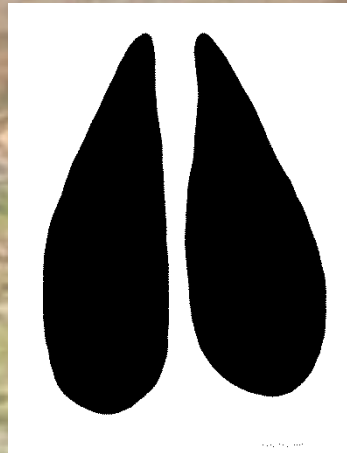
- Very large! (diameter of baseball)
- Top part of pad has 2 lobes, back has 3
- ~3.5 inches long x 3.5 inches wide



White-tailed Deer (*Odocoileus virginianus*)



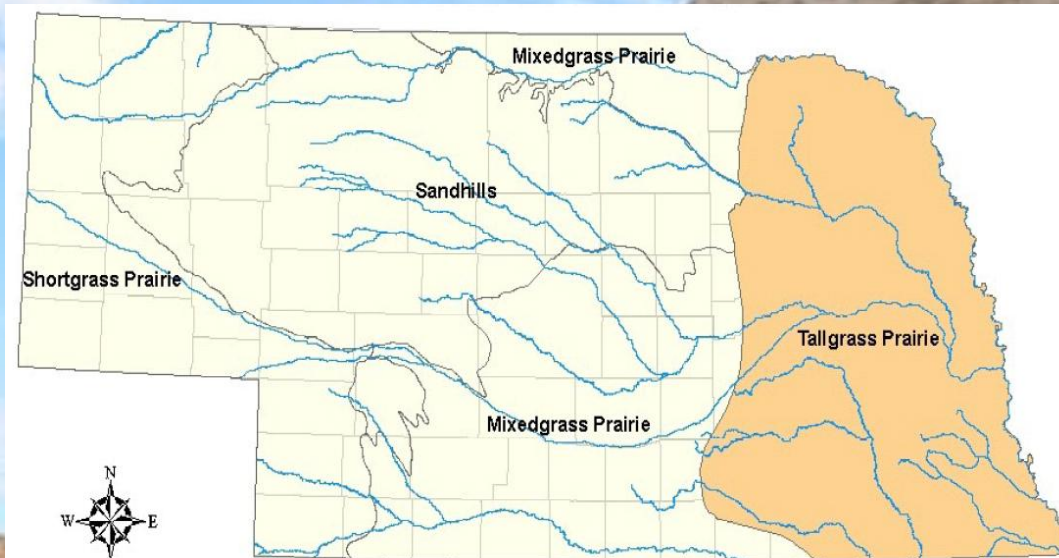
- **Skull**
 - Elongated nose cavity
 - No canines- molars only
 - Peripheral vision
 - Large skull
- **Pelt**
 - Light brown color
 - White tail
 - Large pelt
- **Track**
 - Heart shaped
 - Concave wall
 - Distinctive 2 parts
 - 3.0 inches long x 1.9 inches wide





Ecoregions of Nebraska

Tallgrass Prairie

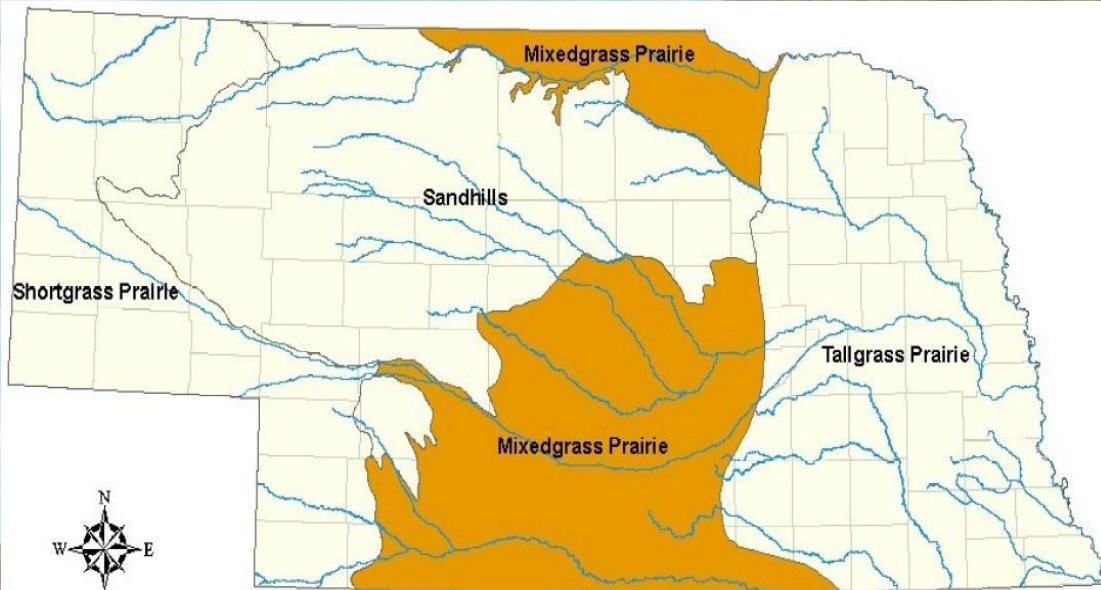


Tallgrass Prairie

- 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

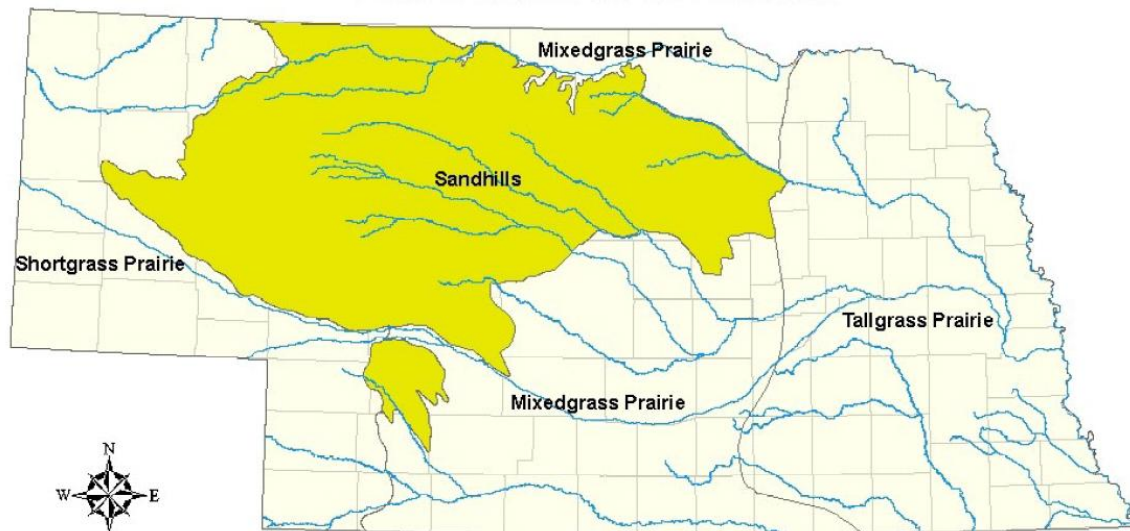


Mixed grass Prairie

- 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

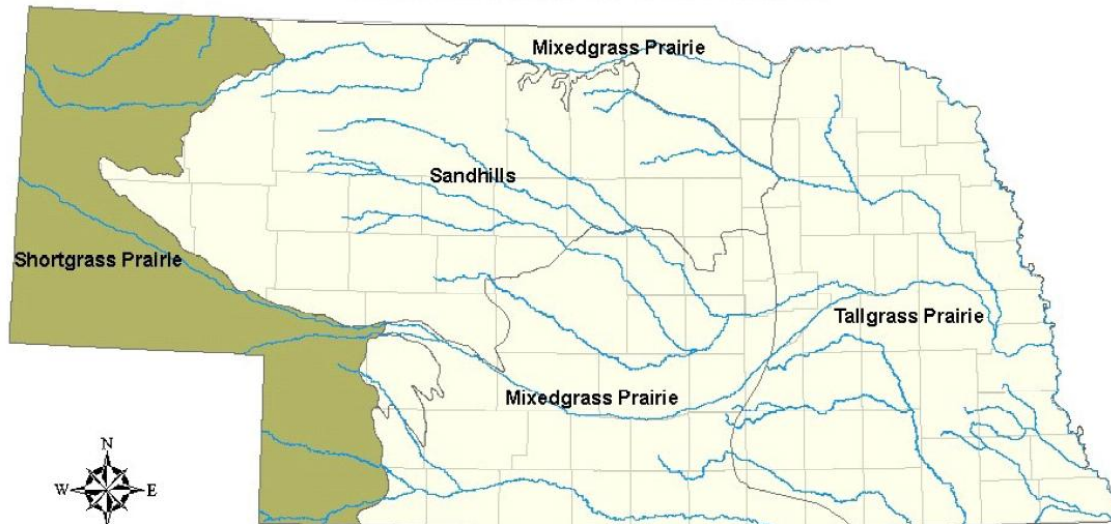


Sandhills

— Rivers
□ Counties
■ Sandhills
□ Ecoregions_NE

- 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



Shortgrass Prairie

— Rivers
□ Counties
■ Shortgrass_prairie
□ Ecoregions_NE

- 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,

A large, flat-topped rock formation (butte) stands prominently in the background, its surface showing horizontal geological strata. The base of the butte is covered in green grass and some low-lying shrubs. The foreground is a vast, open field of green grass. The sky is a clear blue with scattered white clouds.

Threatened & **Endangered** **Species**

State Threatened & Endangered

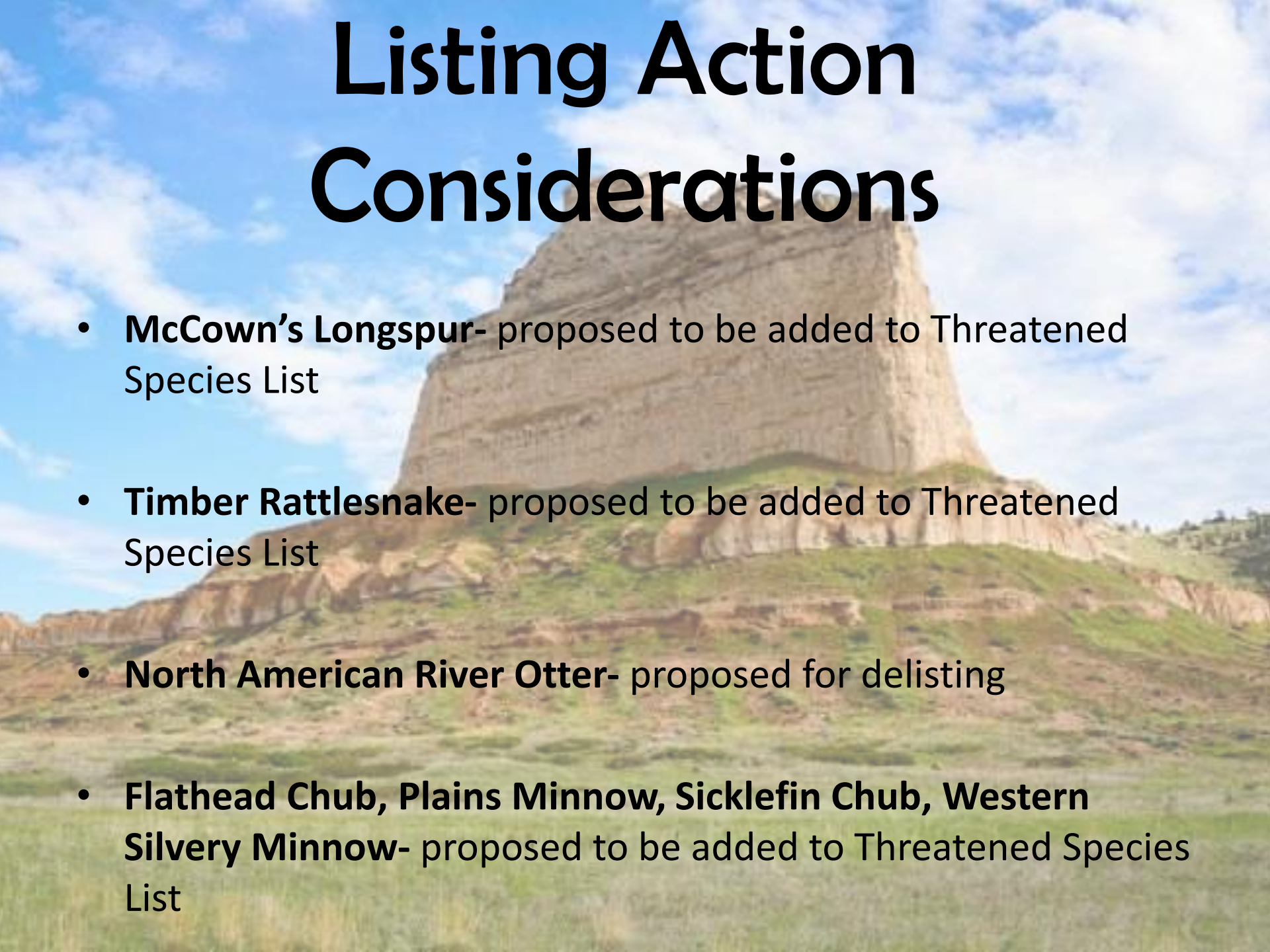
- **State Threatened- 14 species**
- ****Piping Plover, Southern Flying Squirrel, Western Massasauga**
- **State Endangered- 17 species**
- ****Whooping Crane, Swift Fox, Pallid Sturgeon, American Burying Beetle Blowout Penstemon**

http://outdoornebraska.gov/wp-content/uploads/formidable/State-Species-List_02152017.pdf

Federally Threatened & Endangered

- **Federally Threatened- 6 species**
 - **Colorado Butterfly Plant
- **Federally Endangered- 11 species**
 - **Scaleshell mussel, Whooping Crane
- A complete list can be found at:
<http://rarespecies.nebraska.gov/>

Listing Action Considerations

A tall, isolated rock formation, likely a butte, stands prominently against a blue sky with scattered white clouds. The base of the rock is covered in green grass and some low-lying shrubs. The overall scene is a natural landscape.

- **McCown's Longspur**- proposed to be added to Threatened Species List
- **Timber Rattlesnake**- proposed to be added to Threatened Species List
- **North American River Otter**- proposed for delisting
- **Flathead Chub, Plains Minnow, Sicklefin Chub, Western Silvery Minnow**- proposed to be added to Threatened Species List

Know these!

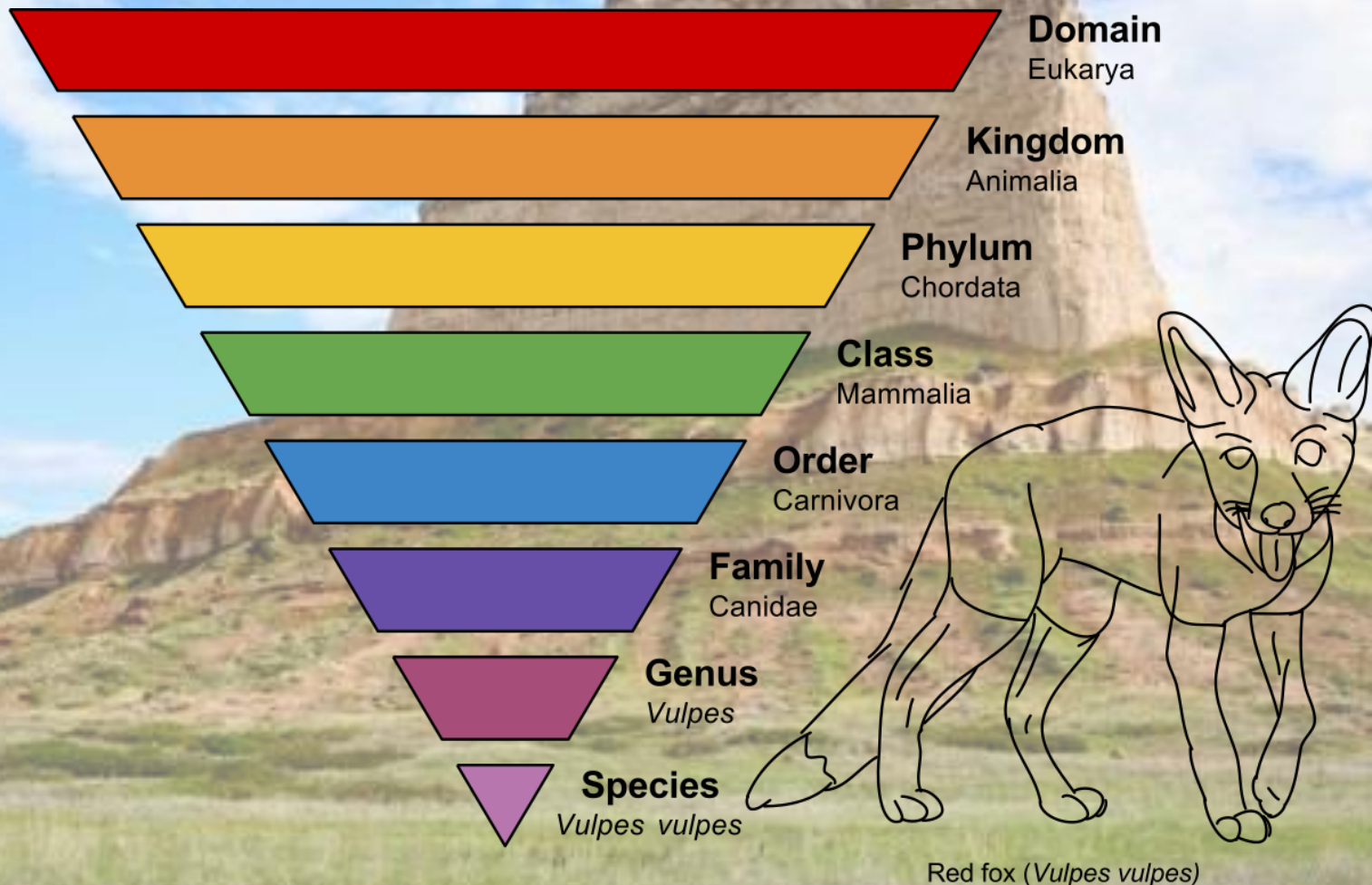
- Limiting Factor
- Extirpated
- Endemic
- Native
- Non-native
- Introduced
- Carrying Capacity
- Succession
- Invasive
- Carnivore
- Herbivore
- Fossorial
- Phototrophic
- Crepuscular
- Monotypic
- Insectivore
- Omnivore
- Piscivore
- Ungulate
- Density Dependent Factors
- Zoonotic

Family Names

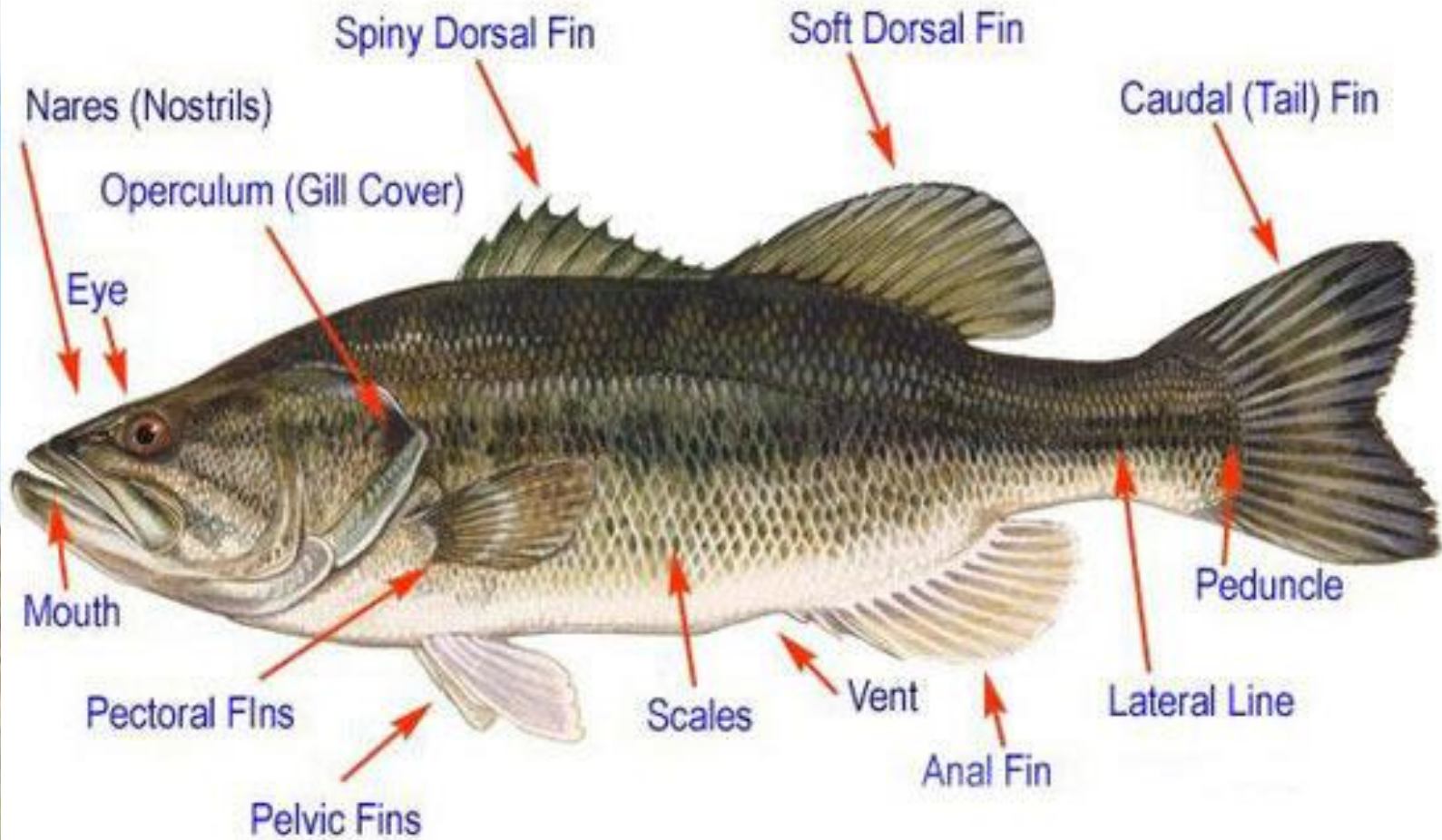
- Pronghorn- Antilocapridae
- Rabbits- Leporidae
- Mustelidae
- Felidae
- Canidae
- Didelphidae- opossum



Taxonomic Hierarchy



Basic Anatomy



Basic Biological Information

- Beaver
- Bobcat
- Coyote
- Mountain Lion
- Opossum
- Raccoon
- Prairie Dogs
- Whooping Cranes
- Elk
- Turkey
- Bighorn Sheep
- Prairie Chicken



A large, flat-topped rock formation, likely a butte, stands prominently in the background. The formation is composed of light-colored, layered rock. The foreground is a grassy field with patches of green and brown. The sky is blue with scattered white clouds.

Nebraska “Hot” Topics

- 
- Pollinators
 - White-nose syndrome
 - Epizootic Hemorrhagic Disease (EHD)
 - Climate Change
 - Mountain Lions
 - Invasive Species
 - Prescribed Fire
 - Threatened & Endangered Species
 - Monarchs
 - Wildlife Diseases
 - **Legislation- RAWA** (The Recovering America's Wildlife Act will redirect \$1.3 billion of existing revenue annually to state-led wildlife conservation efforts, effectively allowing the states to more fully implement their State Wildlife Action Plans)



Questions?