



## Learn 10 Mammals of the Wenatchee Watershed

Text and photos (unless noted) by Susan & Paul Ballinger.

### Sources:

- American Natural History Museum – photos of displayed animals
- *Mammals of the Pacific States* by Lloyd Ingles
- *Mammalogy* (3<sup>rd</sup> edition) by Terry A. Vaughan
- *Living with Wildlife in the Pacific Northwest* by Russell Link
- Illustrations by William Berry, used with permission. All W.D. Berry images  
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***Ondatra zibethica* muskrat Order Rodentia;**

**Family: Muridae Subfamily: Microtinae**



**Sub-family Microtinae traits:** Tails shorter than head+body length, Ears inconspicuous due to long hairs covering them, Flattened crowns on molars

Named for pair of musk glands found on either side of lower abdomen in both sexes.

Hind foot >2 inches long (from back of heel to tip of longest claw)



Scaly tail laterally compressed



***Ondatra zibethicus* muskrat**

**Habitat-** near freshwater. Eats water-growing plants (cattails, tules, rushes), bulbs, and grasses. Builds a house from aquatic plants; has submerged door.

***Ondatra zibethica* muskrat Order Rodentia; Family: Muridae  
Subfamily: Microtinae**



Named for pair of musk glands found on either side of lower abdomen in both sexes.

**Habitat-** near freshwater. Eats water-growing plants (cattails, tules, rushes), bulbs, and grasses.

Builds a house from aquatic plants; has submerged door.

All Rodents- 1 pair each of upper & lower incisors



Hind foot >2 inches long, from back of heel to tip of longest claw



TRACK ID: Hind foot much larger than fore foot

Scaly tail laterally compressed



flattened crowns on molars



All Rodents- a "gap" – no canine teeth

# *Tamias amoenus* Yellow-pine chipmunk

## Order Rodentia Family: Sciuridae

**Sciuridae Family traits:** tail usually bushy, 4 toes on front feet, 5 toes on hind feet, squirrels & chipmunks have internal cheek pouches.

### *Tamias amoenus* ID traits:

- Strongly marked facial stripes
- Dark-tipped tail; tail 73-85% of head & body length
- White, buffy-tinged belly
- Ears indistinctly bicolored
- Brightly colored with contrasting light & dark stripes on back and upper sides.



Photo: Dave Hillstad



- Day-active
- Hibernators
- Have internal cheek pouches to carry food.
- Cache food underground to eat when occasionally awake & in early spring
- Eat seeds & fruit
- Often associated with Cascades golden-mantled ground squirrel
- Open montane forests



Photo: Dave Hillstad



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# Cascade golden-mantled ground squirrel *Spermophilus saturatus*

## Order Rodentia; Family: Sciuridae

**Family Sciuridae** traits: tail usually bushy, 4 toes on front feet, 5 toes on hind feet, squirrels & chipmunks have internal cheek pouches.

15 species in the Pacific Northwest of ground-dwelling squirrels that are active during the day & spend the night in underground burrows. Most hibernate for 2/3rds of life. Most give warning whistle to alert close relatives when a predator approaches.

Head & shoulders tawny  
(yellowish-brown)

**Habitat:** in higher eastside Cascades- pine, fir, & spruce forests.

**Eats** nuts & seeds gathered on the ground. **Eaten by** hawks, eagles, coyotes, & badgers.

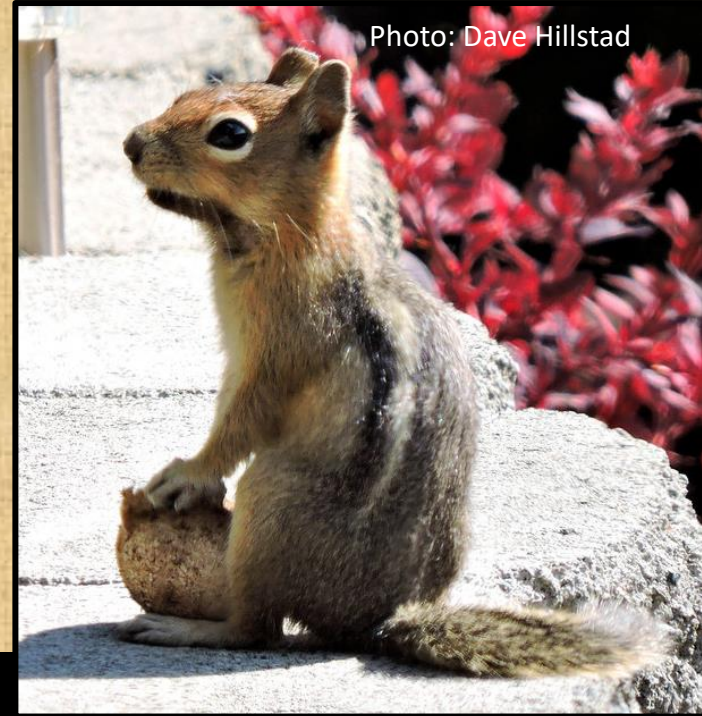


Photo: Dave Hillstad



Photo: Rod Gilbert

One white-stripe on each side of back,  
bordered by 2 black stripes of variable length



about 1 ft. long



# *Marmota flaviventris* Yellow-bellied marmot

## Order Rodentia; Family: Sciuridae

Photos:  
Dave Hillstad



**Family Sciuridae** traits: tail usually bushy, 4 toes on front feet, 5 toes on hind feet

1 of 4 species of marmots in Pacific NW & Canada

Largest members of squirrel family

No internal cheek pouches. Do not cache food; instead store as layers of body fat

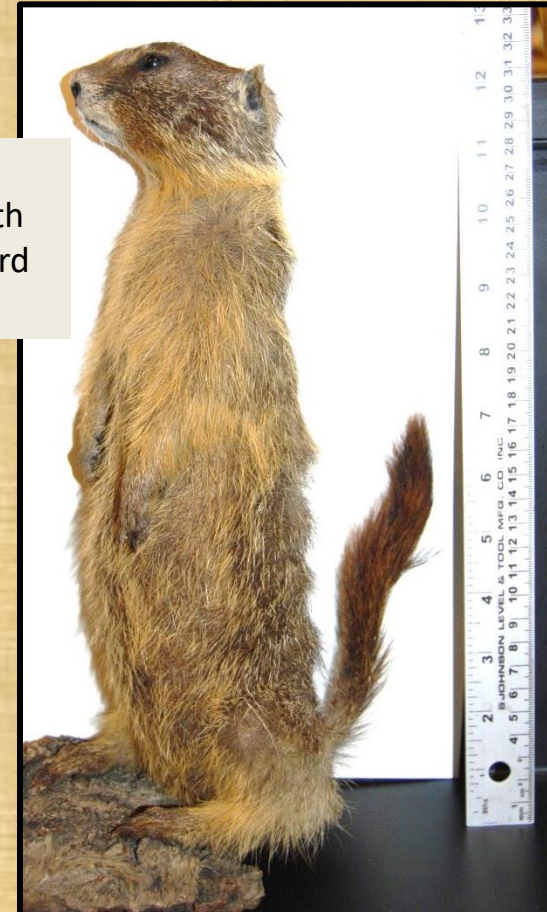
Dormant for much of the year (depends on elevation & location) with summer and winter hibernation

Herbivores: green forbs and grasses. Eaten by badgers, coyotes, eagles, owls, and hawks.

During time of food scarcity, goes into an inactive state, with reduced metabolism & oxygen consumption. Stored fat provides needed energy. An adaptation to live in a harsh environment.



Back: yellowish-grizzly brown, with white-tipped guard hairs.





***Tamiasciurus douglasii* Douglas squirrel or Chickaree** Order Rodentia; Family: Sciuridae

Family Sciuridae traits: tail usually bushy, 4 toes on front feet, 5 toes on hind feet, squirrels & chipmunks have internal cheek pouches.

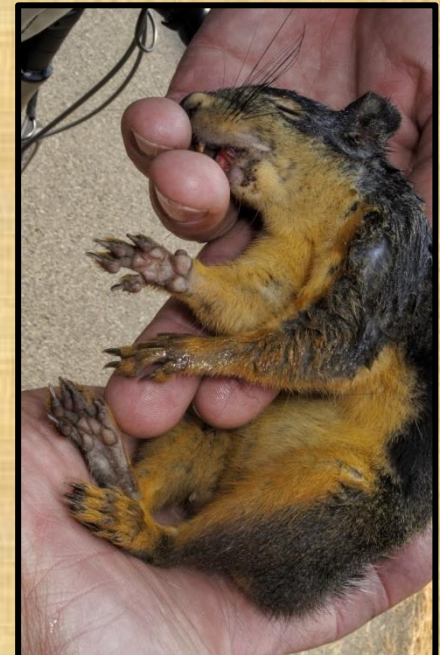
Upper parts- dusky olive; whitish-tipped tail hairs

Underparts- yellowish/white to deep orange

In summer, a dark line demarks dorsal edge

Ears tipped with long hairs

Like all Sciuridae Family, 4 toes on front feet and 5 toes on hind feet



# *Thomomys talpoides* Northern pocket gopher

## Order Rodentia, Family Geomyidae

**Family: Geomyidae traits:** burrowing rodents with fur-lined external cheek pouches, tails always shorter than combined head and body length. Difficult to identify to the 5 Northwest species based on external features alone.



**Herbivores:** eat roots, bulbs, and fleshy plant parts  
Found underground. Under Snowpack, will eat bark of trees and shrubs. Don't require a source of water as they obtain needed water from plant foods.



### ID traits:

- Stout bodied
- Small eyes & ears
- Large-clawed front paws
- Sparsely haired short tail used as a sensory organ.
- Large front teeth used to loosen soil & rocks and to cut and eat plants.
- Short fur, various colors
- Play important role in aerating soil, increasing water-holding capacity of soil, fertilizing, and creating fresh soil for new seedbeds.
- provide burrows for reptiles & amphibians.
- Are prey for mammals, birds, & snakes



Large front claws used for digging

Photo by Ty Smedes <http://wdfw.wa.gov/>

After snow melt, packed dirt that a pocket gopher filled in to an under snow tunnel







## ***Castor canadensis* American beaver Order Rodentia; Family: Castoridae**

2 living species worldwide. Have Adaptations for semi-aquatic lifestyle including: large size, underfur covered by outer long guard hairs for insulation, webbed hind feet for swimming, small eyes with outer membrane covering, valve openings to ears & nostrils, can open mouths while underwater without taking water into the lungs.



Largest rodent in North America, weighing up to 74 lbs  
Herbivores; eat plant leaves and inner bark.



*Castor canadensis* American beaver  
Order Rodentia; Family: Castoridae



Beaver incisor teeth marks visible



Beaver constructed lodge, Methow River



Beaver dam, Methow River



Beaver cuts on a living black cottonwood



Beaver prints along Methow River

***Peromyscus maniculatus* deer mouse** Order Rodentia; family Cricetidae: Subfamily Cricetinae

**Subfamily Cricetinae traits** : Have large membranous ears not covered in hair. Have long tail length of over 3/4s of the head and body length. Have cups on unworn molar teeth.

No external cheek pouches

- 7 species of deer mice in the Pacific states
- Primarily nocturnal
- Wide-ranging and common in any terrestrial habitat in North America
- Eat all kinds of seeds, fruits, insects and store large caches of food.
- Are active all winter above the snow.
- Many birds and mammals are predators.
- Many sub-species



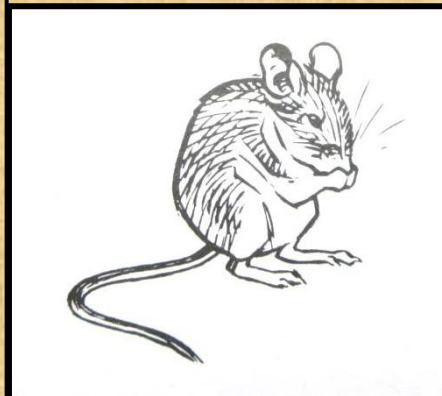
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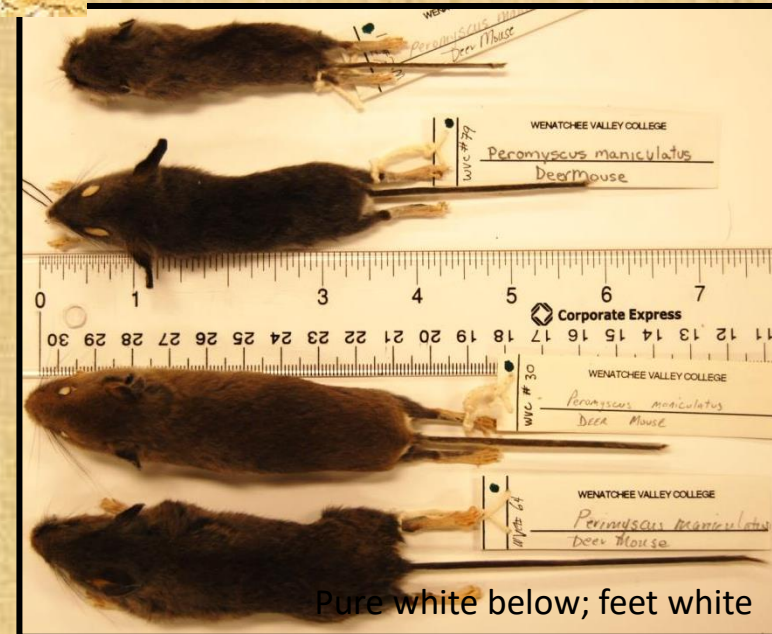
<https://en.wikipedia.org/wiki/Peromyscus>



Tail bicolored- dark above, white below



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Pure white below; feet white



## *Erthizon dorsatum* common porcupine Order Rodentia; Family: Erthizontidae

**Family Erthizontidae** traits: large heavily built rodents, all species have quills tipped with backwards-pointing barbs. Tree-living adaptations include feet with broad soles with pads that increase traction, and toes with long curled claws. Herbivores.

Heavy-bodied, short-legged slow moving, with a waddling gait. Color varies: black to light yellowish brown.

**Habitat** mostly in forests. **Food:** Herbivores. In summer, eat buds, twigs, leaves, flowers, berries, nuts. In winter eat evergreen needles & inner bark of trees and woody shrubs.



**Quills:** sharp barb-tipped that cover most of body, that easily detach after contact with flesh or fur. Quills provide buoyance, so porcupines can swim to get aquatic plant foods.



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Usually solitary.

Den in caves, hollow logs, ground burrows



Body length: 24-36 inches, Tail 6-9 inches

# *Erthizon dorsatum* porcupine

## Order Rodentia; Family: Erthizontidae

**Family Erthizontidae** traits: large heavily built rodents , all species have quills tipped with backwards-pointing barbs. Tree-living adaptations include feet with broad soles with pads that increase traction, and toes with long curled claws. Herbivores.





## *Canis latrans* coyote Order Carnivora; Family: Canidae

**Canidae family** traits: walk on toes, have long legs adapted for running, have non-retractable claws. All have bushy tails and well developed “slicing” cheek teeth (carnassials).

**Size:** Males-25 inches tall at shoulder, 20-35 Pounds. Females slightly smaller.

**Key ID Features:** bushy tail, large pointed ears. Color highly variable- black-brown-gray-rust-tan-to-yellow.

Mostly active at night, but can be seen hunting during daylight hours. Coyotes are extremely wary and have excellent sense of smell, with well-developed sense of hearing and sight.

**Habitat:** Widespread and increasing due to high adaptability to humans



Photo: Lisa Robinson



Coyotes are opportunistic **omnivores**- they eat plants and animals-dead or alive. They hunt small mammals, reptiles, fish, and birds, and eat carrion (dead flesh). In summer, they also eat fruits, berries, & grass.

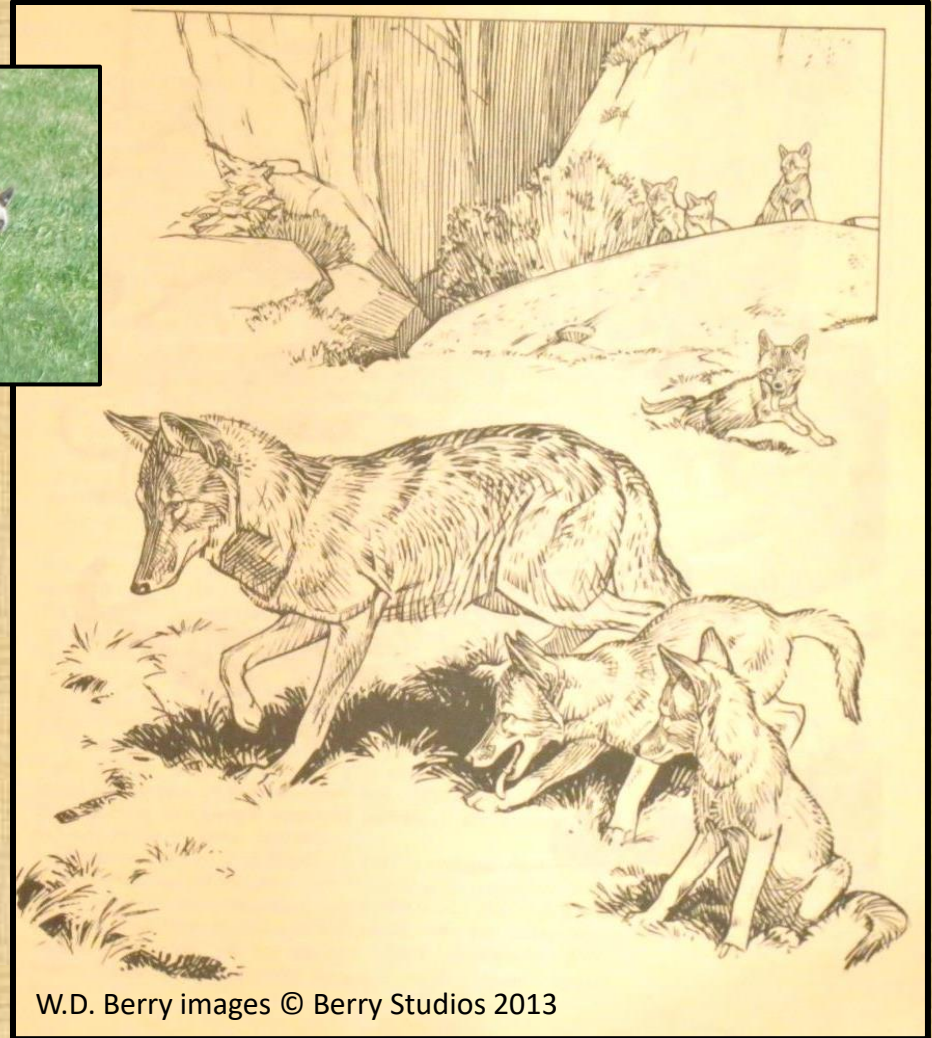
# *Canis latrans* coyote Order Carnivora; Family: Canidae

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Coyote hunting rodents in a hay field

Coyote scat, March, Methow River



W.D. Berry images © Berry Studios 2013

# *Ursus americanus* black bear Order Carnivora; Family: Ursidae

**Ursidae family** traits: walk on entire sole of foot, as humans do. Have rudimentary tails. Molar teeth have blunt cusps that are not as sharp as other carnivore order mammals.

Except for Grizzly, our largest carnivore]

**Habitat:** Mountains; ranges widely in search of seasonal foods



**Eats** mostly plants: roots, fruits, nuts, & grasses. Also eats insects, ants, fish, & small mammals. Sometimes preys on larger mammals



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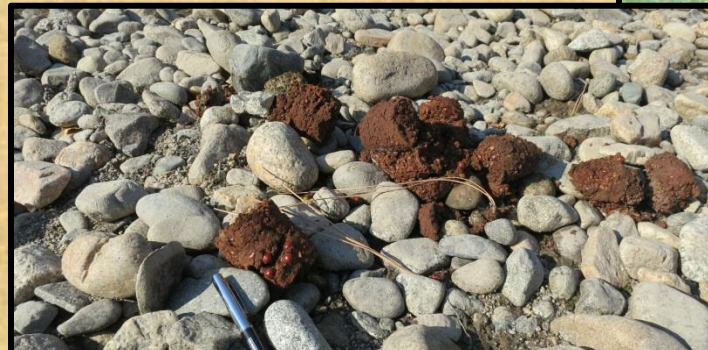


An Omnivore with teeth suited to both plants and meat

Have excellent sense of smell & hearing.  
Poor eyesight



Photo: Rod Gilbert



Bear scat in October along Entitat River, full of chokecherries

# *Procyon lotor* raccoon Order Carnivora; Family: Procyonidae

Family Procyonidae traits: Walk on entire sole of foot, teeth lack “slicing” character of most other Carnivores, have ringed tails. 2 species in North America

**Omnivore:** eats crayfish, fish, turtles, frogs, small mammals, birds, eggs, insects, corn, melons, acorns, berries, grapes



Curious –handle items with sensitive feet

Photo: Rod Gilbert



Habitat: near streams, lakes , marshes. Adaptable to urban environments





# *Martes americana* American marten Order Carnivora; Family: Mustelidae

**Mustelidae characteristics:** All have short legs with 5 toes on each foot, fur of fine quality, and highly developed scent glands. Short rostrum (snout). Have 1 molar tooth on each side of upper jaw, and 2 molars on each side of lower jaw (only group with this pattern).



**Habitat:** dense conifer forest & rockslides in high mountains. Secretive

**Eats:** squirrels, mice, hares, voles, and berries.



- **ID traits:**
- Bushy cylindrical tail
- Rich yellow-brown fur
- Large cat-like ears
- size of a tree squirrel
- Often seen in trees
- Feet and tail-tip blackish
- Yellow-orange on throat & chest

Photo: Drew & Cathy Gaylord



# *Lutra canadensis* Northern river otter Order Carnivora; Family: Mustelidae

**Mustelidae family traits:** Have short legs with 5 toes on each foot, fur of fine quality, highly developed scent glands, and a short nose. One molar on each side of upper jaw, two molars on each side of lower jaw.

**Opportunistic Carnivores** that eat mostly fish &, crabs, crayfish, amphibians, large aquatic beetles, birds (primarily injured or molting ducks and geese), bird eggs, fish eggs, and small mammals (muskrats, mice, young beavers).

**Habitat:** ponds, lakes, rivers, sloughs, estuaries, bays, and in open waters along coast.



Photo: Tim Gallaher, Fish Lake

Adult males: 4 feet long;  
20-28 lbs. Females smaller

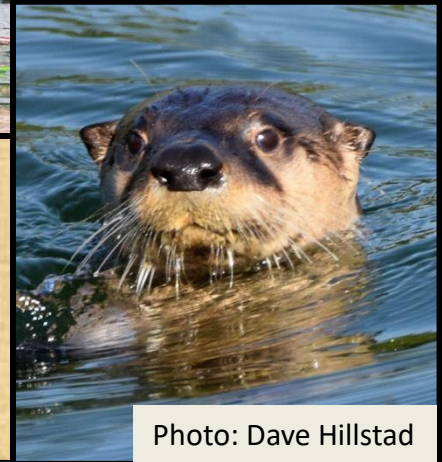
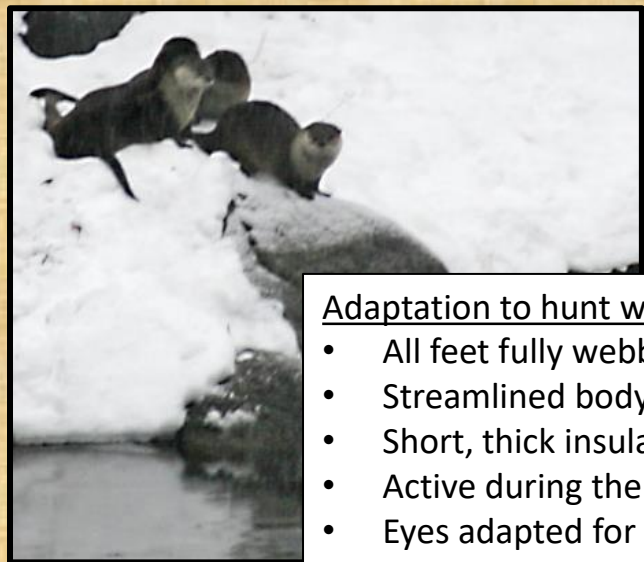


Photo: Dave Hillstad



### Adaptation to hunt while swimming:

- All feet fully webbed
- Streamlined body & tail
- Short, thick insulating fur
- Active during the day & night
- Eyes adapted for seeing underwater in low light



## cougar *Felis concolor* mountain lion/puma Family *Felidae*

**Family Felidae** traits include: sharp, flesh-cutting cheek teeth. 3 species in Pacific Northwest : bobcat, lynx, & cougar (all with retractable claws).

**Males:** 8 ft. nose to tail tip; 180 pounds

**Male Home range** = 50-100 square miles, depending upon food availability, time of year, and age of male. Often overlaps with several female home ranges.



### Cougars

- Are solitary and secretive,
- known for their ability to jump using powerful legs
- Have a powerful jaw that enables it to take down kill prey larger than itself
- Largest cat in N. America

Color varies from reddish-brown, to tawny, to gray.



Black tipped tail

Females: 25% smaller than males

**Prey:** deer, also small mammals like skunks, & porcupines.

**Habitat:** widespread in western U.S. Uses steep canyons, boulders, and dense Vegetation to remain hidden while hunting

Snowshoe hare *Lepus americanus* Order: Lagomopha Family Leporidae -



**Family traits:** long ears, long hind legs, soft fur, & short cottony tail. Move by hopping.



Has 2 annual molts: brown in summer; white in winter

Ears scarcely longer than head

Underside of tail is brown year-round

Long hairy hind feet



**Food:** bark & twigs of aspen, willow, alder, & conifers.

**Eaten by:** coyote, fox, bobcat, lynx, great horned owls

**Habitat:** Conifer forests & wetland thickets in mountains



# *Oreamnos americanus* mountain goat Order Artiodactyla Family: Bovidae

**Order Artiodactyla Family: Bovidae:** usually large sized; do not shed horns. Horns may be present in both sexes. Lack upper incisors; all chew-cud & have complex stomachs. Lower canine is spatula-shaped. World-wide, provide meat, milk, leather, wool, and serve as beasts of burden.

- Permanent horns in both sexes. Black, saber-like in shape
- Long white hairs & wooly under-fur all over body, except on face
- Two toes have large hooves with soft pads (help to grip rocks)
- Food: grasses, forbs, shrubs, and lichens
- In summer, found above timberline & in spruce/hemlock forests. Move to lower elevations in winter



Photos: Dave Hillstad



# Rocky mountain big horn sheep *Ovis canadensis canadensis*



**Order Artiodactyla Family: Bovidae:** usually large sized; do not shed horns. Horns may be present in both sexes. Lack upper incisors; all chew-cud & have complex stomachs. Lower canine is spatula-shaped. World-wide, provide meat, milk, leather, wool, and serve as beasts of burden.

- Both sexes have horns. Male horns spiral
- Except during mating seasons, adult males move in separate bands from females & ewes.
- Mating season is Nov.-Dec. when males have terrific fights, with predictable aggressive moves
- A severe winter and food shortages are the biggest predator of young. Subject to domestic sheep diseases
- Have acute vision & hearing

Abdomen, insides of legs, & rump are white



Food: sedges, grass, & small forbs

Photos: Dave Hillstad

Most U.S. populations have been re-introduced. Current range is open alpine meadows & grassy slopes near cliffs and rock ridges in mountains. They prefer sites with good visibility and little competition from other grazing animals. Often move downslope in winter.





## *Odocoileus hemionus hemionus* mule deer Order Artiodactyla Family: Cervidae

**Order Artiodactyla traits:** main axis of foot directly between 3<sup>rd</sup> and 4<sup>th</sup> digit, ankle bone has both ends rounded, premolars are simpler than the molars, 1st molar usually 3-lobed. Many families are ruminants.

**Cervidae family traits:** Cud-chewing ruminant with no upper incisors. Have complex 4-chambered stomach that break down plant cellulose enabling them to graze or browse for a long period and then retire away from predators & midday heat to cud-chew and digest. antlers shed every year, antlers usually only on males

Mule deer have large dark ears. Tail (7-8 inches long) is white, except for a black tip. Largest deer in Pacific NW- Adult bucks up to 250 lbs. Color: summer- tan to light brown; winter- salt-& pepper gray. In Pacific NW, 2 species & 4 subspecies of deer occur.

**Habitat:** east of the Cascades in WA, OR, and Interior B.C. preferring open forest and shrub-steppe. Are **Browsers** – eat the growing tips of trees & shrubs. In late winter, eat grass & herbaceous plants. In winter, prefer bitterbrush over sagebrush. In summer use over 30 species of trees and shrubs



Mule deer range elevationally long distances during spring and fall to follow food and avoid snow.



Males: antlers fork evenly

# *Cervus elaphus nelsoni* Rocky Mountain elk Order Artiodactyla Family: Cervidae



**Cervidae family** traits: Cud-chewing ruminant with no upper incisors. Have complex 4-chambered stomach that break down plant cellulose enabling them to graze or browse for a long period and then retire away from predators & midday heat to cud-chew and digest. antlers shed every year, antlers usually only on males

Larger than deer, smaller than moose.  
Summer: reddish tan color, with buff-colored rump.  
Winter: dark brown with a shaggy mane hanging from the neck to chest.  
Social: Live in herds much of year; use distinct summering & wintering areas.  
Bull (male) elk have large spreading antlers, shed annually in late winter.  
  
Food: Spring-Summer: grazers of grass, sedges, flowering plants.  
Food: Fall-Winter: browsers of shrub & tree branches; all graze on grass



Photo source: <http://wdfw.wa.gov/gallery>



# *Lynx rufus (Felis rufus)* Bobcat Order Carnivora; Family: Felidae

Family Felidae traits include: sharp, flesh-cutting cheek teeth. 3 species in Pacific Northwest : bobcat, lynx, & cougar (all with retractable claws).

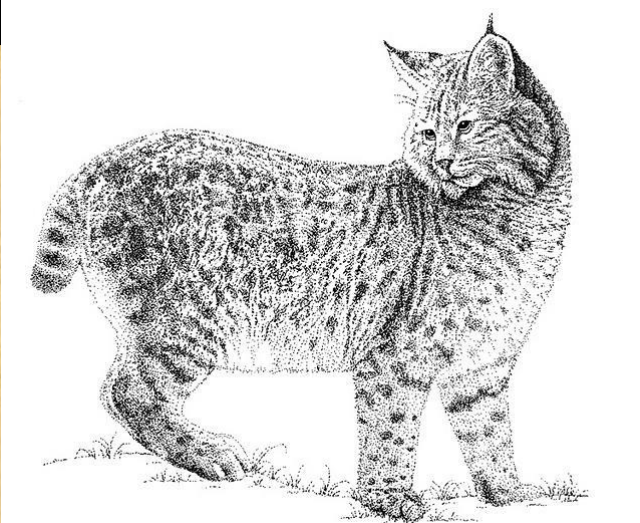
**Habitat:** wide-ranging from sea level to above timberline in Pacific NW. Rock ledges, cliffs, & outcroppings used for shelter, resting, & rearing young.

**Size:** 3 feet long; 20-30 pounds. Males slightly larger than females

**Food:** opportunistic, feeding on small mammals, insects, reptiles, birds, & carrion. Seldom seen; hunt using sight & sound. Bobcats avoid open areas & stay close to cover.



Long ears, with black tufts at end



spotted all over

Source: <http://wdfw.wa.gov/gallery/index.php/wildlife/Mammals/album19/Lynx2>



3 inch, short bobbed tail