A photograph of two deer standing on a green lawn in front of a house. The house has a white picket fence porch with brown steps. The deer are looking towards the camera. A black speech bubble is in the top right corner.

Guess who's coming
to dinner?

VERTEBRATE PEST MANAGEMENT

**WSU Cowlitz County
Master Gardener Training**

Please mute your microphones!

If you have a question during the slide presentation press and hold the space bar while you speak!

This will minimize feedback!



Topics Covered:

- **Introduction.**
- **Using the Washington Department of Fish & Wildlife Site.**
- **Moles.**
- **Gophers.**
- **Voles.**
- **Squirrels.**
- **Rabbits.**
- **Rodents.**
- **Racoons.**
- **Opossums.**
- **Skunks.**
- **Nutria.**
- **Beavers.**
- **Deer.**
- **Elk.**
- **Bats.**
- **Birds.**
- **Dogs/Cats.**
- **And the Hardest to Control Vertebrate Pest of All.**

Introduction:

- Vertebrates are animals possessing backbones.
- A pest is perceived or likely to cause aesthetic or economic damage to people or property.
- Pests can be simply managed by manipulating their habitat or target plants.
- Pests can be controlled by removing, by trapping or eliminated by lethal means.

Introduction:

- If an animal is perceived as being a problem the 1st question to ask is control necessary. Before controlling consider:
 - Type of animal.
 - Benefits of control versus the cost of damage.
 - Legalities:
 - Status or aesthetic or recreational value of the species. Regional Office of Washington Department of Fish & Wildlife (WDFW).
 - Any consequences of a control program for non-target species or the environment.

WDFW Webpages:

- Home Page:
 - <https://wdfw.wa.gov/>
- Specifics:
 - <https://wdfw.wa.gov/species-habitats>
 - <https://wdfw.wa.gov/species-habitats/living>
 - <http://wdfw.wa.gov/living/mammals.html>

Washington Dept. of Fish and Wildlife

Home | Washington Department of Fish and Wildlife

wdfw.wa.gov

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About WDFW News Get involved Civil Rights/Accessibility

Home Species & Habitats Fishing & Shellfishing Hunting Licenses & Permits Places to go

Five tips to coexist with black bears this fall

[Learn more](#)

Click Here

Type here to search

11:26 PM 10/25/2020

<https://wdfw.wa.gov/>


Washington Dept. of Fish and Wildlife

Species & Habitats | Washington

wdfw.wa.gov/species-habitats

Species & Habitats

Wildlife in Washington face a wide range of threats, from disease and invasive species to declining habitat and climate change. The Washington Department of Fish and Wildlife is dedicated to conserving and protecting the state's wildlife -- including endangered and other at-risk species -- from these threats. Learn about the work we're doing to protect Washington habitats and what to do if you encounter an orphaned or problematic animal.



Click Here

In this section

[Species in Washington](#)
Looking to learn more about a specific fish or wildlife species in Washington? Start here.

[Living with wildlife](#)
Living in Washington means living with wildlife. Whether you've found a baby bird out of the nest or are dealing with deer

[At-risk species](#)
WDFW is responsible for managing endangered, threatened, and otherwise at-risk species in the state.

Type here to search

Desktop 11:29 PM 10/25/2020

<https://wdfw.wa.gov/species-habitats>

Washington Dept. of Fish and Wildlife

The screenshot shows a web browser window with the URL wdfw.wa.gov/species-habitats/living. The page content includes:

- Aquatic Invasive Species**
- Wildlife diseases**
- Marine toxic contaminants**
- minimize conflicts between humans and wildlife, as well as attracting beneficial wildlife and helping residents better understand the animals in their backyards.**
- Backyard wildlife photos**: Celebrate backyard wildlife -- Share your best animal, habitat, or landscape photos with us to share on social media.
- Nuisance wildlife**: Wildlife is everywhere in Washington -- here's how to stop conflict before it happens, and what to do when it's already begun.
- Injured or orphaned wildlife**: If you find a baby bird out of the nest or a deer fawn on its own, know whether it's better to intervene or leave it alone.
- Dangerous wildlife**: Some wildlife species are potentially dangerous, especially as Washington's human population continues to expand into traditional habitat.
- Species fact sheets**: Learn how to avoid conflicts with common animals found in urban and suburban areas.
- Feeding wildlife**: Many people may be tempted to feed deer and other wildlife, but doing so can easily do more harm than good.

A callout bubble with the text "Click Here" and an arrow points to the "Species fact sheets" link.

Kristen Hartshorn

Windows taskbar: Type here to search, Desktop, 11:37 PM, 10/25/2020

<https://wdfw.wa.gov/species-habitats/living>

Washington Dept. of Fish and Wildlife

The screenshot shows a web browser window with the URL wdfw.wa.gov/species-habitats/living/species-facts. The page content includes a paragraph about wildlife perception, a link to a publications library, and three expandable menu items: Mammals, Birds, and Reptiles and amphibians. A blue oval labeled "Click Here" points to the "Mammals" button. The footer contains "Top tasks", "About WDFW" (Regional offices, Fish and Wildlife Commission), and "Stay connected". The Windows taskbar at the bottom shows the search bar and various application icons.

A conflict also can quickly alter a wildlife lover's perception about a certain species, especially when the situation exceeds his/her current level of tolerance. Such is the paradox that wildlife around homes and property present: We want them and we don't want them, depending on what they are doing at any given moment.

Many species profiles are available in downloadable PDF format. Find the species you're looking for in our [publications library](#).

Mammals +

Birds +

Reptiles and amphibians +

Top tasks

About WDFW
Regional offices
Fish and Wildlife Commission

Stay connected

https://wdfw.wa.gov/species-habitats/living/species-facts#reptiles-amphibians

<https://wdfw.wa.gov/species-habitats/living/species-facts>

Washington Dept. of Fish and Wildlife

Home | Washington Department | Species fact sheets | Washington

wdfw.wa.gov/species-habitats/living/species-facts#mammals

publications library.

Mammals

- [Bats](#)
- [Beavers](#)
- [Black bears](#)
- [Bobcats](#)
- [Cougars](#)
- [Coyotes](#)
- [Deer](#)
- [Elk](#)
- [Moles](#)
- [Moose](#)
- [Mountain beavers](#)
- [Mountain goat](#)

11:46 PM 10/25/2020

Moles (most common pest):

- Not a rodent but are insectivores.
- Feed on grubs earthworms & soil dwelling arthropods.
- Lives entirely underground.
- Fur very dense.
- Large outward facing front feet.
- Except for breeding season & taking care of young, moles are solitary mammals.
- A digging machine. Dig 18 ft/hr in a pre-dug tunnel 80 ft/min.
- Tunneling is beneficial to soil.
- Before trying to control moles, be sure that they are truly a problem. If the individual mole is not really a problem, consider it an asset.
- Breed Mar - early May, 3 - 5 young.
- Lifespan 4 – 6 years.



3 Separate Species:

Shrew-Mole (4 - 5 inches) found along stream banks.



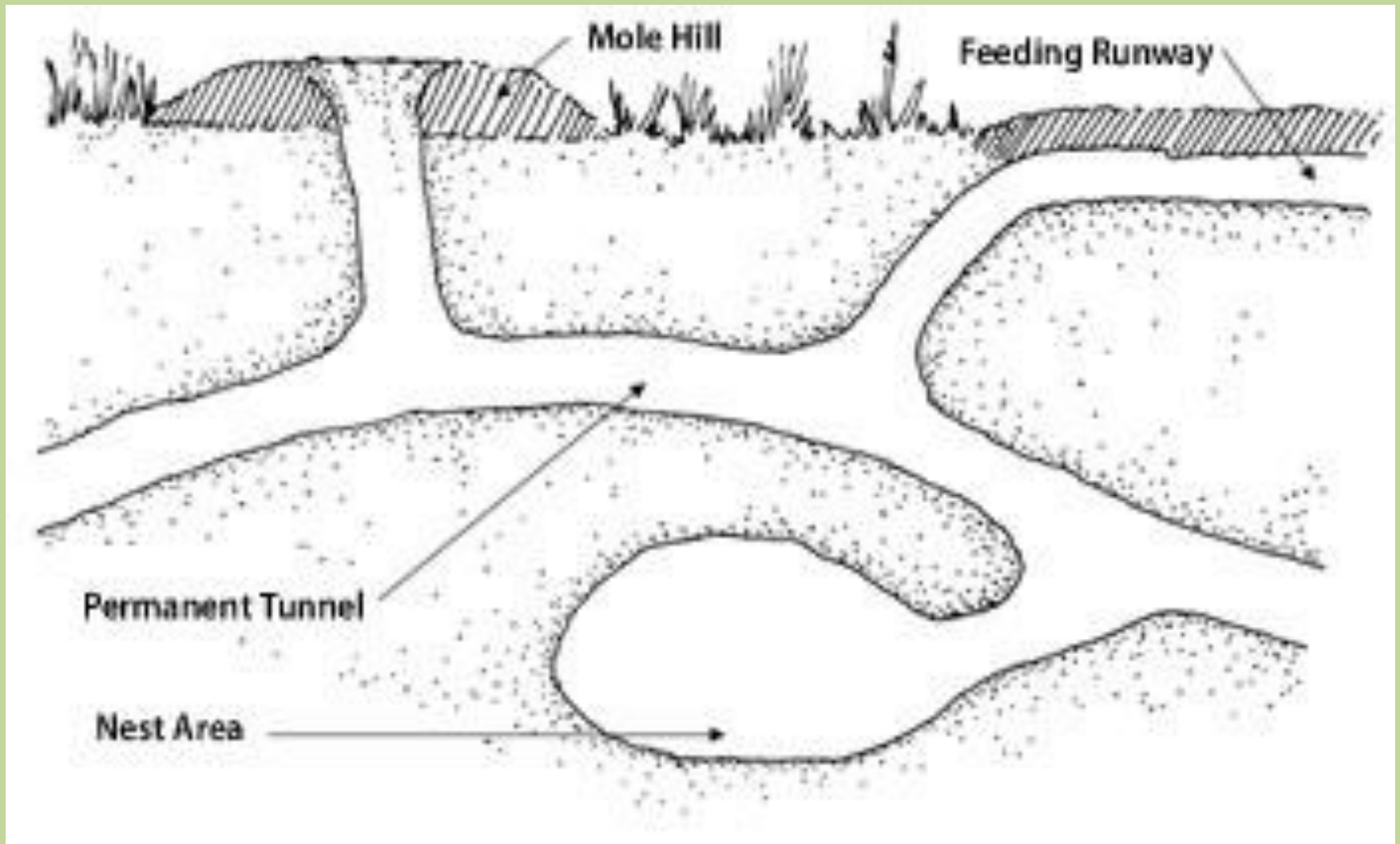
Pacific (Coast) Mole (6 - 7 inches) found in drier, brushier and more wooded habitats.



Townsend Mole (8 - 9 inches) found in meadows, fields, pastures, lawns, and golf courses west of the Cascade mountains.



Mole Tunnel:



Practicing Tolerance:

- **Molehills:** Remove them as they appear or before mowing by shoveling up the earth, scooping up the earth with your hands, or spreading it in place with a rake. Grass seed can be spread over large bare areas throughout the rainy months.
- **Surface ridges:** Flatten these ridges with your foot.
- **Run depressions:** Bring in sand or screened dirt to fill the depressions, and then reseed.

Practicing Tolerance:

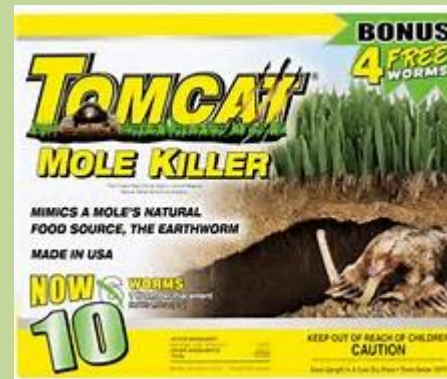
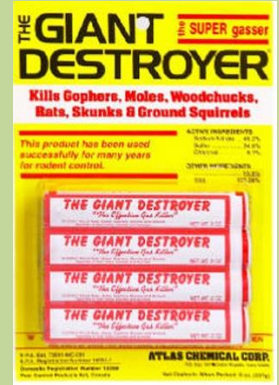
- Passive Acceptance - letting the grass grow longer to hide the mounds.
- Scare Tactics - vibrating stakes, ultrasonic devices, pinwheels, etc (moles do not frighten easily).
- Food Reduction - hard to accomplish.
- Barriers - can be expensive & labor intensive.
- Natural Control - predators



Control (late winter - early spring before breeding):



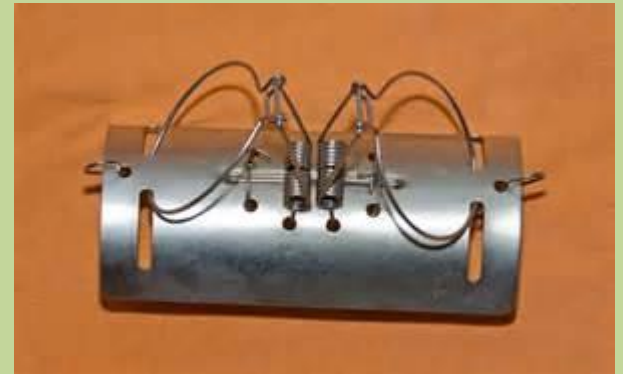
- Flooding.
- Gassing.
- Poisoning.
- Shooting.
- Trapping.



Control:

- The only sure way is by trapping.
- Lethal body gripping traps are not legal in Washington (Initiative Measure 713, 7 Nov 2000).
- Snap traps such as common mouse & rat traps are legal.
- Castor-oil-based or other homemade repellants have not been proven effective.

Stay clear of home remedies!

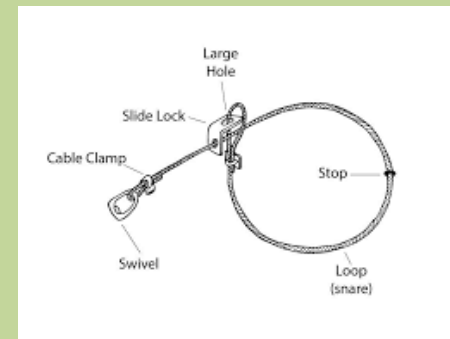


Legalities:

- Moles are unclassified and people may trap or kill moles on their own property when they are causing damage to crops, domestic animals, or their property.
([RCW 77.36.030](#)).
- With the passing of **Initiative Measure 713**, given their body-gripping design, traditionally used mole traps are no longer legal for use in Washington.
([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)).
- There are no exceptions for emergencies and no provisions that allow WDFW to issue verbal approval or special permits.

Examples of Body Gripping Traps:

- "Body-gripping trap" means a trap that grips an animal's body or body part. Body-gripping trap includes, but is not limited to, steel-jawed leghold traps, padded-jaw leghold traps, Conibear traps, neck snares, and non-strangling foot snares.
- Cage and box traps, suitcase-type live beaver traps, and common rat and mouse traps are not considered body-gripping traps.
- Made calls to the State Legislature their response was for larger animals, for prevention of domestic animals getting caught and for fur trappers using them.
- Initiative Measure 713 filed on January 7, 2000 by Lisa A. Wathne of Seattle cruelty to animals. 261,268 signatures were submitted and found sufficient. The measure was submitted to the voters at the November 7, 2000 general election and approved by the following vote: For – 1,315,903 Against – 1,093,587.
- Made calls to WDFW their response was any device that grips a body part or body.

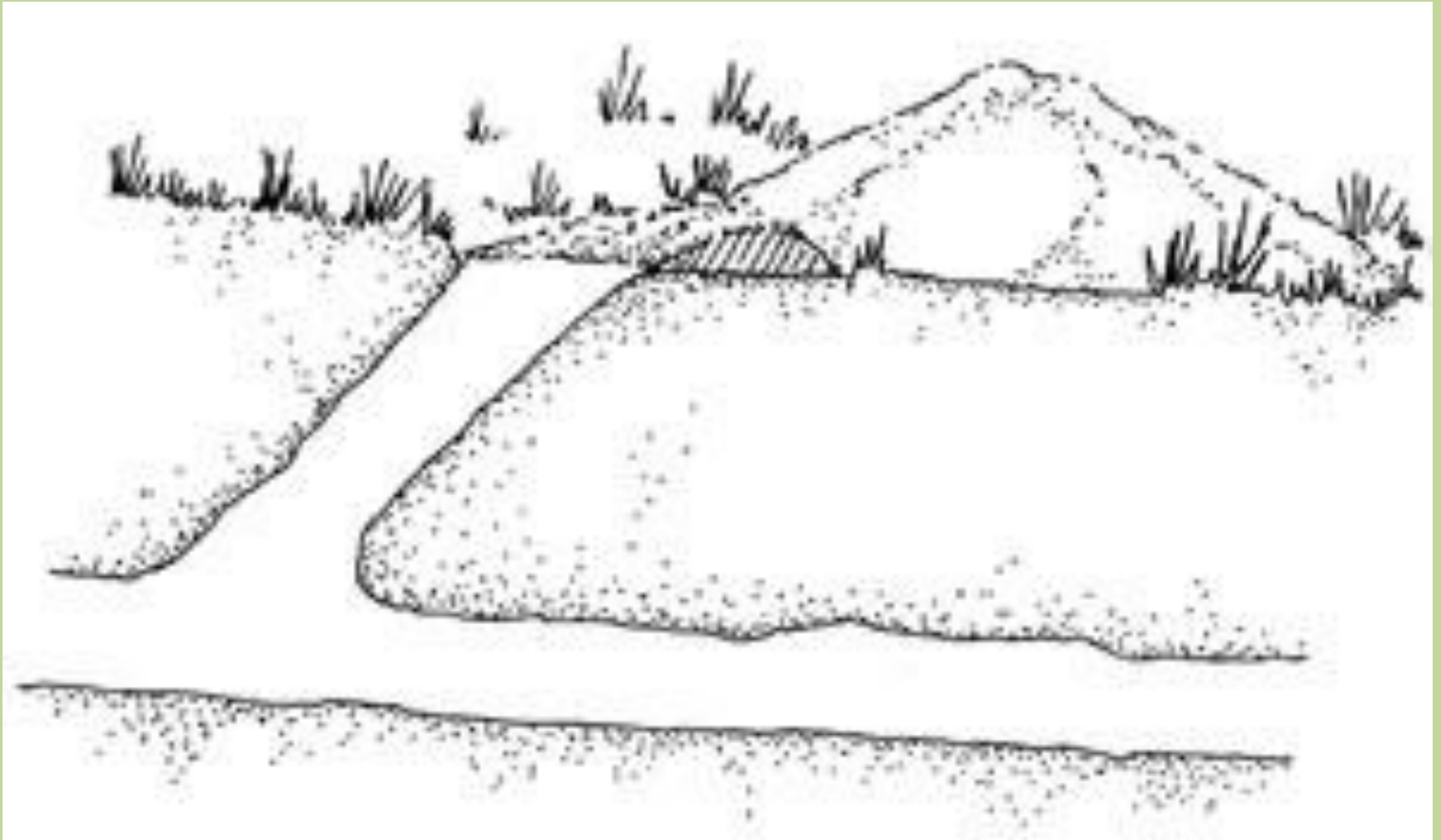


Pocket Gophers:

- Burrowing rodents that cause damage to vegetation, buried cables, dikes & irrigation pipe. Feed mainly on plant material.
- Northern Pocket Gopher (east of the mountains).
- Mazama Pocket Gopher (Olympic Peninsula & southern Puget Sound area) 8 inches in length including their 2.5 inch tail.
- Only eat vegetation.
- Breed early spring to early summer, 3 - 7 young per year.
- Lifespan 1 - 2 years.

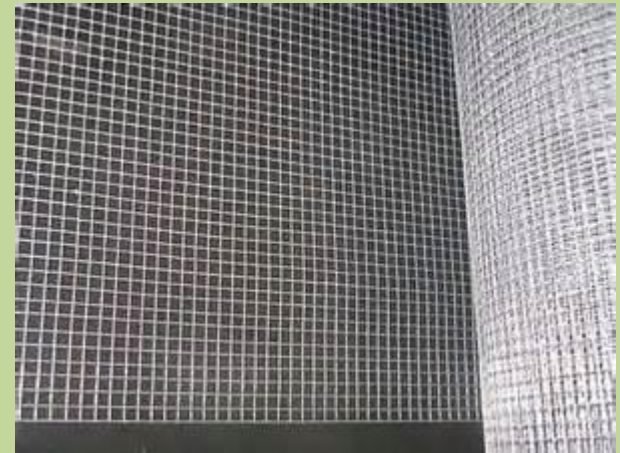


Pocket Gopher Tunnel:



Control: (Late Winter - Early Spring)

- Same method of trapping as moles.
- Smoke is usually ineffective.
- Gopher traps where legal.
- When planting in raised beds ensure you use ½” hardware cloth to prevent entry.



Legalities:

- The **Mazama (Western) pocket gopher** (*Thomomys mazama*) of Thurston, Pierce, Clark, and Mason Counties is a state threatened and the subspecies in Thurston and Pierce counties were listed as Threatened under the U.S. Endangered Species Act in April 2014. ***Because only remnant populations of these subspecies and species exist, people should not use lethal control in these areas.***
- Elsewhere, pocket gophers are unclassified and may be trapped or killed and no special trapping permit is necessary for the use of live traps. However, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)). There are no exceptions for emergencies and no provisions for verbal approval. All special trapping permit applications must be in writing on a form available from the Department of Fish and Wildlife (WDFW) <http://wdfw.wa.gov/licensing/trapping/>.
- It is unlawful to release a pocket gopher anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)).

Differences in Types of Holes:

Mole Mound



Pocket Gopher Mound



Top Views

Courtesy of The University of California, Davis

Mole Mound



Pocket Gopher Mound



Side View

Differences between moles and pocket gophers:

Moles

Minute eyes are often not visible.

Muzzle is long and tapering.

The many small teeth are not apparent.

Mounds are round when viewed from above.

Soil plug is in the middle of mound and may not be distinct.

Tunnels are often just beneath the surface, leaving a raised ridge.

Pocket Gophers

Small eyes are clearly visible.

Muzzle is rounded.

Orange, chisel-like pairs of upper and lower incisors are apparent.

Mounds are crescent- or heart-shaped when viewed from above.

Soil plug is in the middle of the V shape or off to the side of the mound and may leave a visible depression.

No tunnels are visible from above ground.

Voles (Meadow Mice):

- Adult is 6 - 9 inches long.
- Head runs into body & tail is no longer than the body.
- Prefers tall grass and brush. Can tunnel but will use mole holes.
- Herbivore & eat the root system. Roots look like they went through a pencil sharpener.
- Active day or night in all seasons.
- 5 litters per year & up to 11 per litter.
- Lifespan about 1 year.



Control: (Anytime)

- Keep grass short & control thatch.
- Keep vegetation/mulch clear of tree trunks.
- Encourage hawks, owls, coyotes, foxes, shrews, snakes, cats, etc.
- Mouse or rat traps with peanut butter (body gripping traps are not legal).
- Pitfall traps (bury a coffee can below a vole run).
- Remove fallen fruits & fallen seed from bird feeders.
- Several mole & gopher baits registered for home use will kill voles. Keep bait dry.
- ¼" galvanized mesh fence at least 8 inches under raised beds.

Pitfall Trap:



Ground Squirrels:

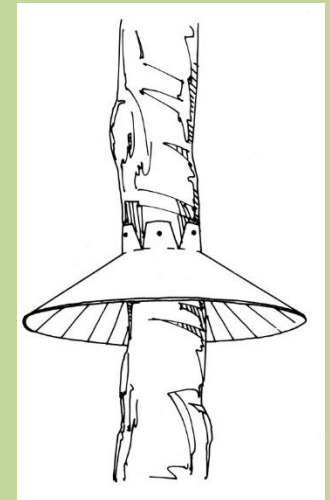
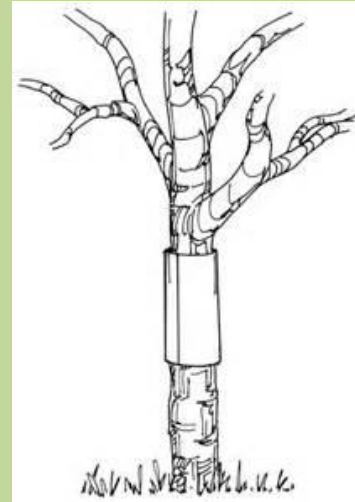
- 5 species in Washington mostly eastern side.
- 9 - 18"
- Herbivores.
- Generally go dormant in the hottest part of summer and hibernate in the winter.
- Improve soil with their burrowing.



Management & Control:

(Legally Protected)

- Metal rodent guards placed around tree trunks.
- Scare devices don't generally work but harassment (filling in holes, using repellants etc.) might drive them away.



Tree Squirrels:

- Several species the native is the Douglas Squirrel. 14" in length. Dark red coat & orange belly.
- Gray Squirrel (20" rust & gray fur & white belly).
- Eastern Fox Squirrel (22" reddish coat & belly).
- Northern Flying Squirrel (14", nocturnal & gray).
- Clip branches, strip bark, raid bird feeders, and devour fruit from nut trees.
- Depending on the species, tree squirrels mate from early winter to late spring. 1 litter of 2 - 4 young from Mar. - Jun.
- All except flying and western gray squirrels may produce second litters in Aug or Sep.
- Lifespan most squirrels die during their first year; if they survive that, they live three to five years.

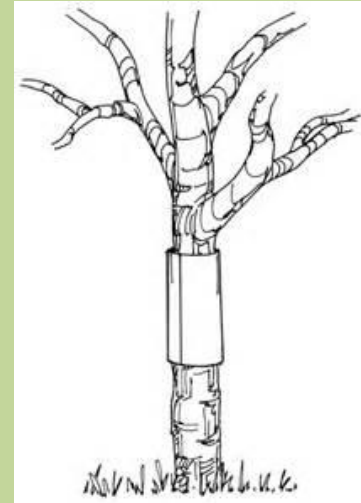


Control:

- Native: Non-lethal methods unless damaging crops, in which case a permit is required.
- Non-native can be killed anytime.
- Elimination of food source.
- Protect plants with wire cages.

Control:

- Metal barriers.
- Trapping can be used with small infestations.
- Repellents are not very effective.



Legalities:

- Because legal status, trapping restrictions, and other information about squirrels change, contact your [WDFW Regional Office](#) for updates.
- The Western gray squirrel is classified as a threatened species and cannot be hunted, trapped, or killed ([WAC 232-12-007](#)). The red squirrel, Douglas squirrel, and Northern flying squirrel are protected species and can be trapped or killed only in emergency situations when they are damaging crops or domestic animals ([RCW 77.36.030](#)). A special permit is required in such situations.
- The Eastern gray squirrel and Eastern fox squirrel are unclassified and may be trapped or killed year-round as long as you have a hunting license. In such cases, no special trapping permit is necessary for the use of live traps. However, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)).
- It is unlawful to release a squirrel anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)).

Rabbits & Hares:

- 7 species of rabbits & hares.
- Eat a variety of plants.
- They feed on woody bark during the winter with twigs neatly clipped at a 45° angle.
- 6 or more litters per year with several kits in each litter. Population can grow quickly.
- Lifespan may live 2 or more years in the wild, but when predators are numerous and weather conditions are extreme, they seldom live more than a year.



Control:

- Barriers.
- 30 - 36" high fence.
- Rabbits & hares are game animals & protected by law.
- Feral domesticated can be caged or trapped but not relocated.
- Dogs & cats.



Legalities:

- Because legal status, trapping restrictions, and other information about rabbits change, contact your local [wildlife office](#) for updates.
- The Nuttall's cottontail rabbit, Eastern cottontail rabbit, and snowshoe hare are classified as game animals. A hunting license and open season are required to hunt them.
- A property owner or the owner's immediate family, employee, or tenant may kill or trap the above species on that property if they are damaging crops or domestic animals ([RCW 77.36.030](#)). In such cases, no permit is necessary for the use of live (cage) traps. However, a special trapping permit is required from the Department of Fish and Wildlife for the use of all other types of traps

Commensal Rodents: (Mice & Rats)

(live in close proximity to humans)

- Minor as garden pests.
- Largely nocturnal.
- Mice droppings $\frac{1}{4}$ " long and look like burnt rice.
- Rat droppings can be up to $\frac{3}{4}$ " long and $\frac{1}{4}$ " diameter.
- Small mice can squeeze through a small $\frac{3}{8}$ " hole.
- Mice have 5 - 10 litters per year and 6 - 8 per litter.
- Rats reproduce year round but tend to mate during warmer months & have 6 - 10 per litter.
- The average lifespan of a rat in the wild is less than one year, with females living longer than males.
- House mice usually live less than one year in the wild, due to a high level of predation and exposure to harsh environments. In protected environments, however, they often live two to three years.



Control:

- Reduce available food & water.
- Reduce habitat.
- Rodent proof structures.
- Remove the rodents (traps).
 - Rats, set one or two rattraps at least every 15 to 20 feet wherever there are tracks, droppings, or trails.
 - For mice, place mousetraps every 5 to 10 feet.
- Cats.
- Poison.



Legalities on Rats:

- Old World rats are not considered to be wildlife and are therefore not regulated by the Washington Department of Fish and Wildlife. The killing of Old World rats is unrestricted.

(Washington is home to both native and non-native rats, the latter sometimes being referred to as **Old World rats**.)

Raccoons:

- Can weigh up to 50 lbs.
- Primarily nocturnal & omnivorous (feeds on plant & animal).
- Tip over garbage cans, knock over corn stalks, raid fruit trees, & raid chicken coops.
- Raccoon feces often contain the eggs of raccoon roundworm which can be deadly to children if ingested.
- Mating season as early as Jan & as late as Jun. 2 - 3 kits are born.
- The average life span of a raccoon in the wild is 2 to 3 years; captive raccoons have lived 13.



Control:

- Barriers 2 strand electric fence. Bottom wire about 6" off the ground.
- Rodent guards on fruit trees.
- Cage, trapped and destroyed if harming crops.
- Dogs.



Legalities:

- Because legal status, trapping restrictions, and other information about raccoons change, contact your [WDFW Regional Office](#) for updates.
- The raccoon is classified as both a furbearer and a game animal ([WAC 232-12-007](#)). A hunting or trapping license is required to hunt or trap raccoons during an open season. A property owner or the owner's immediate family, employee, or tenant may kill or trap a raccoon on that property if it is damaging crops or domestic animals ([RCW 77.36.030](#)). In such cases, no permit is necessary for the use of live (cage) traps. However, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)).
- It is unlawful to release wildlife anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)). Except for bona fide public or private zoological parks, persons and entities are prohibited from importing raccoons into Washington State without a permit to do so ([WAC 246-100-191](#)).

Opossums:

- Only marsupial (external pouch) native to N. America.
- 40" long & 14 lbs.
- Rat-like appearance, pointed snout & naked tail.
- Eat insects, slugs & snails but often raid hen houses, gardens, fruit trees, bird feeders, garbage cans & bird nests.
- Nest under houses & sheds.
- Solitary animals.
- Breeding begins as early as Jan - mid-Nov. 5 - 10 pups 12 days after breeding.
- Lifespan 2 years in the wild.



Control:

- Cage traps same as raccoons if trapped must euthanize or release on same property.



Legalities:

- The opossum is unclassified and may be trapped or killed year-round; no permit is necessary. No permit is necessary for the use of live (cage) traps; however, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)).
- It is unlawful to release an opossum anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)). Except for bona fide public or private zoological parks, persons and entities are prohibited from importing opossums into the state without a permit to do so ([WAC 246-100-191](#)).
- Because legal status, trapping restrictions, and other information about opossums change, contact your local [Fish and Wildlife office](#) for updates.

Skunks:

- 2 types in Washington:
- Striped Skunk: size of a domestic cat (22 - 32" including its tail). Fur is jet black except for 2 white stripes running down its back.
- Spotted Skunk: known as the polecat, (14 - 18" inches, including its tail). Fur is a black or grayish black, with white stripes on its shoulders & sides, & white spots on its forehead, cheeks, & rump.



Skunks:

- Nomadic
- Scavengers and eat everything from mice, rats, voles, birds & their eggs to fruit, nuts & garden crops.
- Breeding: Striped Feb - Mar.
Spotted Sep - Oct.
- Apr - May 4 - 5 young.
- Lifespan: Striped 3 - 4 years & Spotted 1½ - 2 years.

Getting Skunked:

- If a person or pet is sprayed, the quicker you do something about it the more completely you can remove the odor. First, if eyes get irritated, flush them liberally with cold water. Next, because skunk spray is highly alkaline, counteract this by washing with mildly acidic substances such as carboloc soap, tomato juice, diluted vinegar, or the following home remedy:
 - 1 quart of fresh, 3 percent hydrogen peroxide solution (old HP eventually turns into water)
 - ¼ cup of baking soda (bicarbonate of soda)
 - 1 teaspoon of a liquid soap that is known for its degreasing qualities
- Always mix the solution in a large, open container. A closed container can explode. The mixture will bubble because of the chemical interaction between the baking soda and the hydrogen peroxide. Use the entire mixture while it is still bubbling. Wearing rubber gloves, apply the solution, work it into lather, and leave it on for 30 minutes.

******BEST REMEDY IS DON'T GET SPRAYED******



Preventing Conflicts:

- The most effective way to prevent conflicts is to modify the habitat around your home so as not to attract skunks.
 - Don't feed & keep trash closed.
 - Prevent access to denning site.
 - Enclose ducks & chickens at night.



Control:

If all efforts to deter problem skunks fail:

- Trapping skunks should be a last resort and can never be justified without first applying preventative measures.
- Trapping is also rarely a permanent solution since other skunks are likely to move into the area if attractive habitat is still available.
- A wildlife damage control company can be hired to do the trapping, or you can do it yourself.



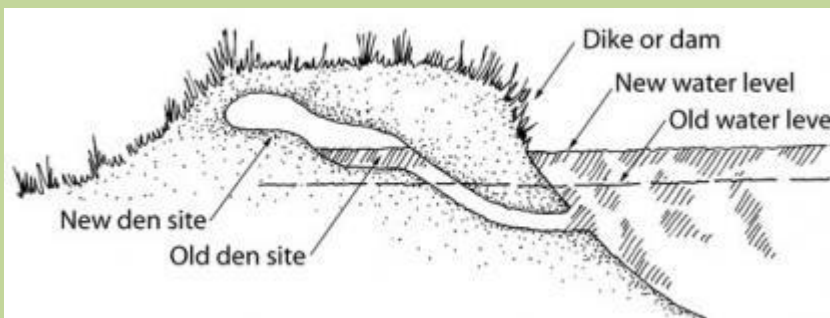
Legalities:

- Because legal status, trapping restrictions, and other information about skunks change, contact your [WDFW Regional Office](#) for updates.
- Skunks are not classified as game animals or furbearing animals ([WAC 232-12-007](#)). People can trap or shoot skunks on their own property when the animals are causing damage to crops or domestic animals ([RCW 77.36.030](#)). In such cases, no special trapping permit is necessary for the use of live traps. However, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)).
- It is unlawful to release a skunk anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)).
- Except for bona fide public or private zoological parks, persons and entities are prohibited from importing skunks into Washington State without a permit from the U.S. Department of Agriculture and written permission from the Washington Department of Health. Persons and entities are also prohibited from acquiring, selling, bartering, exchanging, giving, purchasing, or trapping a skunk for a pet or for export ([WAC 246-100-191](#)).

Nutria:

Semi-Aquatic rodent. Brought in/sold to fur farmers & used to get rid of unwanted aquatic vegetation.

- 24" from nose-base of the tail.
- Tail 12 - 16" round & nearly hairless.
- Males 12 - 20 lbs.; Females 10 - 18 lbs.
- Feed on crops and can destroy banks.
- Not climbers & controlled by fences. 2 litters per year & 5 per litter.
- In the wild, most nutria live less than three years.



Legalities:

- The nutria is classified as a Prohibited Aquatic Animal Species ([WAC 220-12-090](#)). Due to this classification, all live-trapped nutria should be euthanized and not returned to the wild. (See [Trapping Wildlife](#) for information, including euthanization.)
- No special trapping permit is necessary for the use of live traps. However, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)). There are no exceptions for emergencies and no provisions for verbal approval. All special trapping permit applications must be in writing on a form available from the Department of Fish and Wildlife (WDFW).
- It is unlawful to transport nutria, and all other wildlife, anywhere within the state without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)).

Mountain Beavers:

- Coastal lowlands and mountains Western Washington.
- Is not really a beaver but more closely related to squirrels.
- Tailless rodent.
- Dark brown fur with large digging claws.
- Vegetarian rodent feeds on plants & trees.
- Solitary rodents digging shallow tunnels. They make a lot of holes.
- Breeding Feb - Apr, 2 - 4 young.
- Lifespan 5 - 10 years.
- Can die below 50° F.



Control:

- Enclosing individual plants with wire.
- Electric fence bottom wire 3" above ground.
- Cage trapping but must be euthanize or released on the same property. Use rabbit size cage.



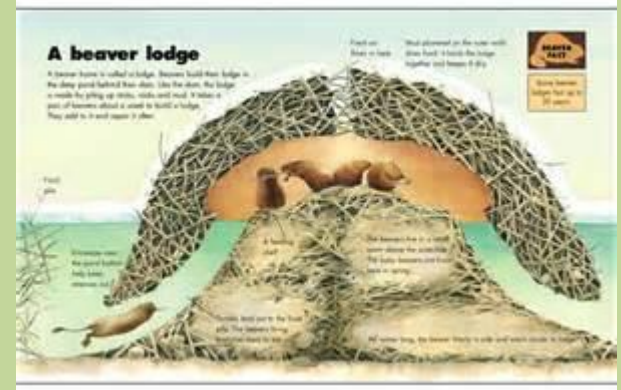
Legalities:

- The mountain beaver is unclassified and may be trapped or killed year-round without a permit. Although no special trapping permit is necessary for the use of live traps, a special trapping permit is required for the use of all traps other than live traps ([RCW 77.15.192](#), [77.15.194](#); [WAC 232-12-142](#)). There are no exceptions for emergencies and no provisions for verbal approval. All special trapping permit applications must be in writing on a form available from the Department of Fish and Wildlife.
- It is unlawful to release a mountain beaver anywhere within the state, other than on the property where it was legally trapped, without a permit to do so ([RCW 77.15.250](#); [WAC 232-12-271](#)).
- Because legal status, trapping restrictions, and other information about mountain beavers change, contact your local [Fish and Wildlife office](#) for updates.



Beavers:

- Largest of the rodents. 60 lbs. Can be 3' in length.
- Semi-aquatic.
- Accomplished engineers famous for their lodges & dams. Takes a permit to remove a dam.
- Dams are sometimes beneficial but can cause flooding.



Beavers:

- Eat the leaves, inner bark, and twigs of aspen (a favorite food), alder, birch, cottonwood, willow, and other deciduous trees.
- Beavers also eat shrubs, ferns, aquatic plants, grasses, and crops, including corn and beans.
- Can mate for life.
- Breeding Jan – Mar.
- 1 – 8 kits Apr – Jun.
- Lifespan 5 – 10 yrs.



Tail Tales:

- 15 inches long and 6 inches wide.
- Covered with leathery scales and sparse, coarse hairs.
- In the water:
 - acts as a four-way rudder.
 - frightened, a beaver loudly slaps the water with its tail; warning all beavers in the vicinity that danger is near, and perhaps serves to frighten potential predators.
- On land:
 - acts as a prop when a beaver is sitting or standing upright.
 - serves as a counterbalance & support when a beaver is walking on its hind legs while carrying building materials with its teeth, front legs & paws.
- The tail stores fat, and because it is nearly hairless, releases body heat, helping the beaver to regulate its body temperature.

Beavers do not use their tails to plaster mud on their dams.



Control:

- Wrap trees & shrubs with chicken wire or fencing.
- Repellents of egg solids or blood meal.
- Homemade repellent with $\frac{2}{3}$ cup masonry sand in 1 quart of latex paint.
- Removal by Washington Department of Fish & Wildlife (WDFW).

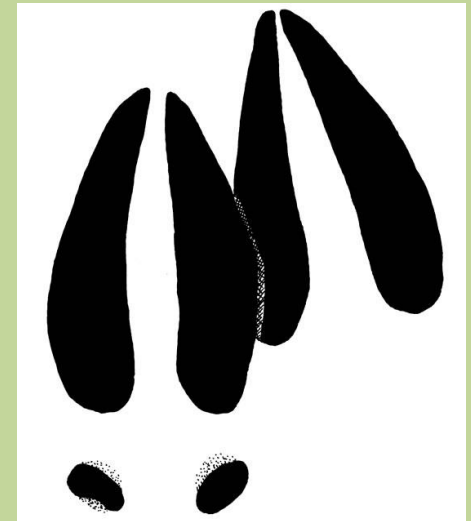
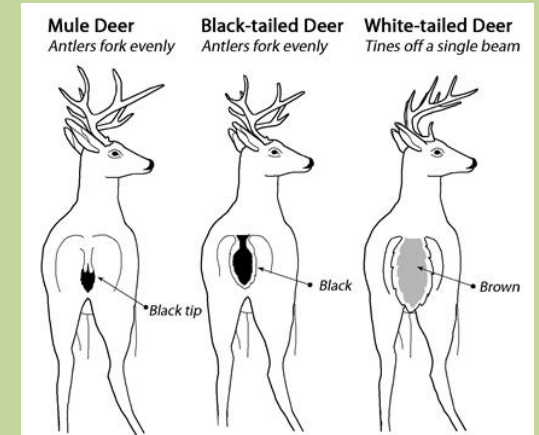


Legalities:

- Because beavers' legal status, trapping restrictions, and other information change, contact your local wildlife office for updates.
- The beaver is classified as a furbearer (WAC 232-12-007). A trapping license and open season are required to trap or shoot a beaver.
- The owner, the owner's immediate family, an employee, or a tenant of property may shoot or trap a beaver on that property if a threat to crops exists (RCW 77.36.030). In such cases, no special trapping permit is necessary for the use of live traps. However, a special trapping permit is required for the use of all traps other than live traps (RCW 77.15.192, 77.15.194; WAC 232-12-142). There are no exceptions for emergencies and no provisions for verbal approval. All special trapping permit applications must be in writing on a form available from the Department of Fish and Wildlife (WDFW).
- It is unlawful to release a beaver anywhere within the state, other than on the property where it was legally trapped, without a permit to do so (RCW 77.15.250; WAC 232-12-271).
- To remove or modify a beaver dam you must have a Hydraulic Project Approval (HPA)—a permit issued by WDFW for work that will use, obstruct, change, or divert the bed or flow of state waters (RCW 77.55). A permit application can be obtained from your WDFW Regional Office or from the Hydraulic Project Approval (HPA) web page.
- In emergency situations (when an immediate threat to property or life exists), verbal approval from WDFW can be obtained for work necessary to solve the problem. A 24-hour hotline (360) 902-2537 is available for emergency calls during nonworking hours. During normal hours, contact your nearest WDFW Regional Office.

Deer:

- Columbian black-tailed deer (most common) crest of the Cascades west to the ocean.
 - Many of the physical characteristics are similar to mule deer.
 - Tail is broader & the backside is covered with dark brown hair that grades to black near the tip.
 - Adult bucks weigh 140 - 200 pounds; adult does weigh 90 - 130 pounds.
- Columbian white-tailed deer lower Columbia River.
 - Federally listed as an Endangered species in Washington and Oregon in 1967.
- Hybrids of mule deer/black-tailed deer and mule deer/white-tailed subspecies are known to occur. Mule deer/black-tailed deer hybrids are common where their ranges overlap. Mule deer/white-tailed deer hybrids are not common, but are occasionally seen where both species occur in close proximity.



Deer:

- Rocky Mountain mule deer or mule deer east of the Cascades in Washington.
 - Tan to light brown in summer; salt & pepper gray in winter.
 - Large, dark-edged ears.
 - 7 to 8” tail is white, except for a black tip.
 - Adult bucks weigh up to 250 pounds; adult does weigh 120 - 170 pounds.
- White-tailed deer eastern Washington on farmlands.
 - Reddish tan in summer; brownish gray in winter.
 - 10 to 11 inch long broad tail.
 - Adult bucks weigh 150 - 200 pounds; adult does weigh 110 - 140 pounds.

Deer:

- Will either jump long or high not both especially if they can't see a landing zone.
- Fencing: minimum 6 - 7'.
- Eat a wide variety of plants.
- Ruminant (4 stomachs).
- Breed Nov - Dec. Younger does, 1 fawn; 3 - 9 year does, twins.
- Lifespan 5 - 10 yrs.



Antlers:

- Shed their antlers once per year.
- Bucks carry their antlers through the fall, dropping them late Dec - early Mar.
- Each year antlers grow in mass & diameter.



Preventing Conflicts:

- Fencing.
- Barriers.
- Landscaping with deer resistant plants.
- Cattle guards.
- Dogs.
- Repellents.
- Motion sensor lights.



Repellent:

- **An All-in-One Homemade Deer Repellent**
Mix the following in a 1-gallon tank sprayer:
 - 2 beaten and strained eggs— strain them to remove the white strings surrounding the yolk, which otherwise will plug up your sprayer). 1 cup milk, yogurt, buttermilk, or sour milk.
 - 2 tsp. Tabasco sauce or cayenne pepper.
 - 20 drops essential oil of clove, cinnamon, or eucalyptus, found in small bottles at health food stores.
 - 1 tsp. cooking oil or dormant oil.
 - 1 tsp. liquid dish soap.
 - Top off the tank with water and pump it up. Shake the sprayer occasionally and mist onto dry foliage. One application will last for 2 to 4 weeks in dry weather.

Legalities:

- Because legal status, hunting restrictions, and other information about deer change, contact your [WDFW Regional Office](#) for updates.
- Mule deer, black-tailed deer, and white-tailed deer are classified as game animals ([WAC 232-12-007](#)). A hunting license and open season are required to hunt them.
- After obtaining a permit issued by the Department of Fish and Wildlife (WDFW), a property owner or the owner's immediate family, employee, or tenant may kill a deer on that property if it is damaging crops ([RCW 77.36.030](#)). You must notify WDFW immediately after taking a deer in these situations.
- The Columbian white-tailed deer is classified as a state and federal Endangered animal and may not be hunted or killed ([WAC 232-12-014](#)).

Elk:

- **Roosevelt elk**, occur in the Coast Range, the Olympic Range, and other areas west of Interstate 5. Olympic National Park in northwest Washington holds the largest number of Roosevelt elk living anywhere (about 5,000). This subspecies is the state mammal of Washington.
- **Rocky Mountain elk**, occur primarily in the mountain ranges and shrub-lands east of the Cascades crest. Small herds have been established, or reestablished, throughout other parts of western Washington.
- Rocky Mountain elk are slightly lighter in color than Roosevelt elk & are slightly smaller in size. The antlers of Rocky Mountain elk are typically more slender, have longer tines, and are less palmated than Roosevelt elk antlers.
- Hybrids, or genetically mixed populations of Roosevelt elk and Rocky Mountain elk, are common in the Cascade Range.

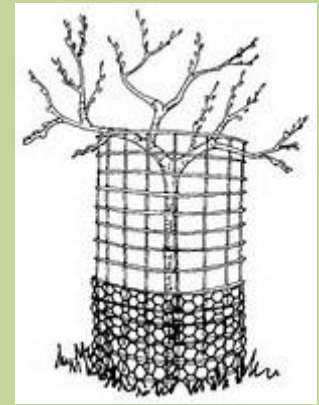
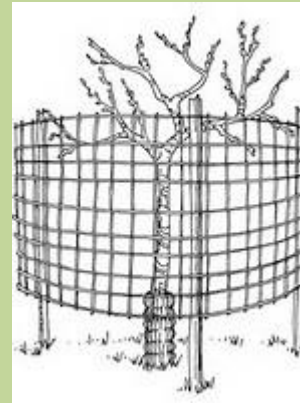


Elk:

- Fencing: minimum 8 - 9'.
- Superb sense of smell, excellent hearing & can run 35 mph.
- Eat: (like deer are ruminants)
 - Spring - Summer: Grazers feeding on grasses, sedges & plants.
 - Fall: Browsers eat sprouts & branches of trees & shrubs.
 - Winter: Continue to eat grasses not covered by heavy snow.
- Breed: Fall and deliver 1 - 35 lbs. calf May - Jun.
- Lifespan: Cow 16 - 20 yrs; Bull 12 yrs.

Preventing Conflicts:

- Fencing.
- Barriers.
- Cattle guards.
- Dogs.
- Repellents.
- Motion sensor lights.



Antlers:

- Antlers of bull elk grow during spring & summer beneath a hairy skin covering known as velvet.
- Late summer the velvet dries & falls off the fully grown antlers.
- Shed their antlers beginning in late Feb for the largest males - late Apr & even early May for younger ones.
- New antler growth begins soon after shedding.



Legalities:

- Roosevelt elk and Rocky Mountain elk are classified as game animals ([WAC 232-12-007](#)). A hunting license and open season are required to hunt them. After obtaining a permit issued by the Department of Fish and Wildlife (WDFW), a property owner or the owner's immediate family, employee, or tenant may kill an elk on that property if it is damaging crops ([RCW 77.36.030](#)). You must notify WDFW immediately after taking an elk in these situations.
- Because legal status, hunting restrictions, and other information about elk change, contact your local wildlife office for updates.

Bats:

- More than 15 species:
 - **Little brown bat** most common.
 - **Townsend's big-eared bat** rarest.
- Head to tail, bats range in length from the 2.5 - 6”.
- Very beneficial.
- Night feeders on insects.



Bats:

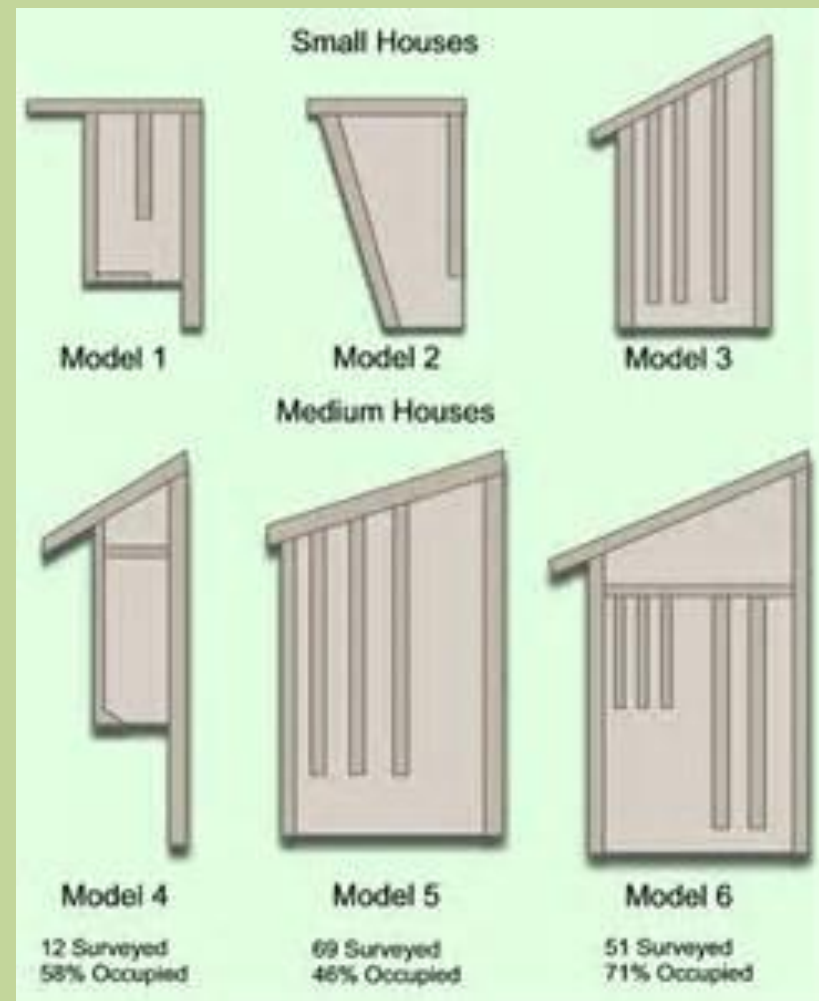
- Only true flying mammal.
- Not blind & don't get entangled in hair.
- Can be rabid.
- Enter hibernation late Sep - Oct. Breed during hibernation late fall - early winter.
- Store sperm until spring then pups are born. 1 pup per litter.
- Live approx. 30 yrs.



Bat Houses:

- For bats living in Washington, especially west of the Cascades, bat houses should be painted with multiple coats of flat black exterior latex paint and placed where they will receive full sun. A house baking in the sun is what our bats need and seek a nice warm place to raise their young, and that lets them decrease their metabolic needs during roosting.
- At least 2 feet tall and 14 or more inches wide. A roughened or screen-covered landing platform measuring 3 to 6 inches should extend below the house.
- The house can be single-chambered or multi-chambered, but chambers should be $\frac{3}{4}$ to 1 inch wide.
- The houses should be caulked during construction and preferably be screwed together (tight microclimate inside the house).
- Place the house in full sun, preferably on its own pole; the next-best location is on the southern side of a building in full sun. The optimal temperature range is between 85 and 104 degrees F. Don't put it on a tree, as it will be in too much shade and too close to perch sites used by hawks and owls. Keep the area around the entrance clear of obstructions for 20 feet. 12 feet high however, between 15 - 20 feet is optimal.

Bat Houses:



Numerous directions on how to build bat boxes online.

<https://www.nwf.org/garden-for-wildlife/cover/build-a-bat-house>

<https://www.batcon.org/wp-content/uploads/2020/09/4-Chamber-Nursery-House-Plans.pdf>

<https://batcon.org/wp-content/uploads/2020/04/RocketBoxPlans.pdf>

Preventing Conflicts:

- Excluding bats is the best way prevent conflicts.
- Close off all entries after the bats are evicted.
- Cause problems in attics & wall voids.



Legalities:

- Many Washington bats are currently being studied and may be recommended for protection under the Endangered Species Act. For current legal status and other information, contact your local wildlife office.
- All species of bats are classified as protected wildlife and cannot be hunted, trapped, or killed ([WAC 232-12-011](#)). The Department of Fish and Wildlife makes exceptions for bats found in or immediately adjacent to a dwelling or other occupied building. In such cases, these animals may legally be removed and no permit is necessary ([WAC 232-12-011](#)).



Birds:

- Crows, robins, flickers, woodpeckers/sapsuckers, starlings & sparrows, & geese.
- Most are protected by law.



Control:

- Netting.
- Scarecrows.
- Reflective strips, flags, balloons.
- Noise.
- Aluminum pie pans or CDs.



Dogs & Cats:

- Can cause physical damage (digging).
- Health hazard in gardens.
- Prevent by fencing.



The Hardest Vertebrate Pest to Control:

- Neighbor fence: minimum “as high as the city or county will let you build”.
- Pears and figs in the front, apples and blueberries in the back.



Summary:

- **Using the Washington Department of Fish & Wildlife Site.**
- **Moles.**
- **Gophers.**
- **Voles.**
- **Squirrels.**
- **Rabbits.**
- **Rodents.**
- **Racoons.**
- **Opossums.**
- **Skunks.**
- **Nutria.**
- **Beavers.**
- **Deer.**
- **Elk.**
- **Bats.**
- **Birds.**
- **Dogs/Cats.**
- **The Hardest to Control Vertebrate Pest of All.**

QUESTIONS?



References:

- <https://wdfw.wa.gov/>
- <https://apps.leg.wa.gov/rcw/>
- <https://apps.leg.wa.gov/rcw/default.aspx?Cite=77>
- <https://www.batcon.org/about-bats/bat-houses/>
- <https://www.nwf.org/garden-for-wildlife/cover/build-a-bat-house>
- <https://www.batcon.org/wp-content/uploads/2020/09/4-Chamber-Nursery-House-Plans.pdf>
- <https://batcon.org/wp-content/uploads/2020/04/RocketBoxPlans.pdf>
- WSU Master Gardener Training Manual, Chapter 18

Interested in becoming a Cowlitz Master Gardener?

We'd love to have you join us!

Visit:

<https://extension.wsu.edu/cowlitz/mg/projects/>

or

<https://www.cowlitzcomg.com/partners>

or contact

Gary Fredricks at WSU Extension Cowlitz County

Email: garyf@wsu.edu

Phone:(360) 577- 3014 ext 3

Presented by the
WSU Cowlitz County Master Gardeners

**WSU Extension of Cowlitz County
1946 3rd Ave
Longview, WA 98632
(360) 577- 3014**

M - F, 9 a.m. - 12:30 p.m.

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<https://www.cowlitzcomg.com/>

WSU Extension programs and employment are available to all without discrimination.
Evidence of noncompliance should be reported to your local WSU Extension office.

Upcoming Workshops:

How-to Mini-Workshops (Tuesdays @ Noon)	
11/10	Right Plant, Right Place

MG Evening Workshops (Wednesdays @ 6 P.M.)	
11/11	Home Invaders; Unwanted Pests

All Workshops are Located at the Following Hyperlink:

<https://www.cowlitzcomg.com/lookingahead#minicourses>