

Squirrels and Rabbits

(Dave Pehling)

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Squirrels can be a serious problem in the garden; in particular, the Eastern Gray Squirrel, and that is the species we will be concentrating on.

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There are several species of squirrels in Washington. Some we will be mentioning are the Northern Flying Squirrel, the Red Squirrel, the closely related Douglas Squirrel, which is our west side species; the Red Squirrel occurs primarily east of the mountains; and of course the Eastern Gray Squirrel.

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The Northern Flying Squirrel is our only nocturnal squirrel, and is fairly carnivorous. They feed on not only a wide variety of not only meat type materials: raiding bird nests, eating insects of all kinds, etc., they feed on mycorrhizal fungi in the forest and are very important to the forest ecosystem by spreading the spores through the forest in their feces. These animals are quite common even in suburban areas if there are green belts. They are primarily found in forest habitat.

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The Douglas' Squirrel is our most commonly seen native squirrel in western Washington. On the east side, the Red Squirrel with the white belly, closely related species is the most common. Most of these squirrels feed on a wide variety of materials, primarily seed materials. The Douglas' Squirrel in particular concentrates on seeds of coniferous trees.

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The Eastern Gray Squirrel is our main problem squirrel, at least in western Washington. This animal and the related Fox Squirrel which has orange under parts were introduced in Washington state probably in the early 1900s and they spread quite extensively up and down the I-5 corridor.

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Eastern Gray Squirrel is fairly prolific, quite often having at least a couple litters per year. As the population increases, those young migrate away and spread that population throughout the area.

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In their native habitats, these animals feed largely on mass crops, that is nuts and seeds of various kinds. But they will feed on all sorts of vegetation. They will raid bird's nests, steal birds' eggs, kill and eat fledglings, things of that sort. They are fairly omnivorous.

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If they get into structures, they can cause damage similar to that we see with rats. They are after all basically bushy tailed rats. They will chew through roofing material in some places, they will gnaw on corners to gain access to attics, chew on electrical wires, etc.

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They will chew through doors to get into places where there is food available, similar to that we see with rats.

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So, how do we manage squirrels? Well primarily, at least with the Eastern Gray, it is important that we discourage feeding by neighbors. These animals are very cute and it is hard to resist feeding them. And a little bit of feeding is probably okay. But, if you increase the food sources, you will increase the carrying capacity, and thereby the population.

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One of the main draws for squirrels as it is with rats are bird feeding stations. So, these need to be made as rodent resistant as possible. Most of the steps we talked about when dealing with rats will work quite well with squirrels. But keep in mind that squirrels are much more agile. So feeding stations have to be considerably farther from trees, fences, overhanging structures, etc. For those feeders that are mounted on vertical poles, any of the guards we talked about when dealing with rats are fairly effective.

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On the left, we see a pretty good squirrel resistant feeder. It has a couple different climbing barriers around the poll, so the squirrel cannot climb up the poll. It also has a couple deflectors on the top so if the squirrel tries to gain access by leaping onto the feeder they'll have a hard time hanging on. Same with the feeder on the right. Note that it is hanging from a tree so you will have to be extra careful to protect that kind of feeder from squirrels.

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Squirrels can cause damage in a number of ways. And they will attack garden fruit crops and ornamental trees.

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This, for instance, is an example of barking which is sometimes done by squirrels. For some reason in the early spring, squirrels will chew the bark off of some trees; this is a Japanese maple, and they will literally scrape the cambium off the tree causing extensive damage. This is a Japanese maple in front of our Extension office in Snohomish County and this only happened one year on this particular tree. It is recovering but it will always be scarred on top of these limbs.

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In this picture you can actually see the grooves left in the wood by the incisor teeth of the squirrel.

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Squirrels will attack a variety of crops, also. Even if the crop is not very edible, sometimes they will chew into it during the summer to get water.

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Squirrels will also clip twigs off of trees. And I have not heard an adequate explanation exactly why they do that. Sometimes of course they are gathering nesting material, but quite often they will just leave the twigs lay on the ground. You can readily see the incisor marks on these branches, very similar to that which you would see if rats were to do this, but this would be uncommon damage for rats, at least on trees.

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There are a variety of repellents that can be used for squirrels labeled in the state of Washington. None are highly effective as far as we know, so there are none that Master Gardeners can specifically recommend but they are worth a try to keep squirrels off of ornamental plants in particular. Be sure to read the label directions. Make sure the plants are the kind of plants you are applying this material to are on the label.

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For protecting fruit-bearing trees, it is important that guards be put on the trunk. Simple sheet metal in this case, aluminum flashing twenty-four inches wide, mounted three feet off the ground will create a barrier so animals cannot climb into the tree. This works not only with squirrels but for rats, raccoons, opossums, animals of that sort. Again, if you are trying to protect the crop on a fruit tree, that tree has to be fairly isolated because squirrels can jump a long way from one tree to another.

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You can also trap the offenders. Eastern Gray Squirrels are not protected in Washington state since they are nonnative animals, so they can be legally trapped and dealt with.

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A small cage trap such as that you would use for rabbits or similar sized animals are adequate for catching squirrels. Keep in mind that Washington state law prohibits releasing these animals off the property on which they were captured. So, with Eastern Grays you are pretty much stuck with euthanasia. As for native species, if they are causing problems, be sure to contact your local Department of Fish and Wildlife and get their recommendations on how to deal with the native animals. This does not seem like a very practical application to many people, but if you are trapping a squirrel that is inside the structure, you can trap the animal, take it outside, repair the damage (that is, rodent proof the building), then you can safely release the animal outside.

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There are several species of rabbits and hares in Washington state but in most populated areas these two species can be the most trouble: the Eastern Cottontail which was introduced in the early 1900s as a game animal is wide spread now and we do have some native cottontail species too but they are rather rare in most places. And we have the native Snowshoe Hare, which as the name says is a hare not a rabbit. These are native animals and occur throughout much of North America except in the dry desert areas.

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Colors of these two species, the Snowshoe and Eastern Cottontail, can vary widely. The Snowshoe, for instance, on the east side up in the mountains tends to be much lighter in color but they ordinarily have a more definite outline on the edges of the ears and the cottontail, as the name implies, has larger, fluffier, cottony-like tail.

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Both of these animals can cause extensive damage in the garden and both are quite prolific. So, over the course of years you can wind up with a rather large population. During the winter, both of these species can cause damage in fruit orchards by barking trees, feeding on the cambium layer of the trees, and actually clipping off twigs. This for instance is an apple tree.

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If there are a lot of rabbits in the area or a lot of hares, they can completely girdle trees and kill them off. You can see this damage is very similar to what we would see with meadow voles, but if you look very closely, the incisor marks are much wider. Rabbits, although they are not related to rodents, have incisor teeth very similar to that we see in the *Rodentia*.

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This is typical winter damage for rabbits and hares. Notice that there are little chips taken out of the side of the twig, and there is a nice, clean 45-degree cut which you will

also see sometimes with mountain beaver. But, only the rabbits and hares, as far as I know, make those little chipping marks in the sides.

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Here we see the nice, neat 45-degree angle that is commonly left by not only rabbits and hares but pretty much rodents also, if they feed on browse type material.

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Remember that we can differentiate deer damage from that left by rodents, rabbits, and hares by the fact that deer lack the upper incisors. So, when they are browsing they tend to leave ragged tips on the browse. Whereas the rabbits, hares, and rodents with their nice sharp incisors leave a nice clean cut.

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As far as protecting young orchards, simple plastic sleeves can be very effective. These animals of course do not feed underground, so these guards only have to touch the ground. You can also make these out of hardware cloth, but plastic is usually adequate.

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For keeping rabbits and hares out of larger areas, you need a rabbit proof fence of some sort. Now for the Washington Snowshoe and the Cottontail, probably two feet high of one-inch chicken wire is adequate. If you are in the desert areas and have larger jackrabbits, you probably want to go up to about three feet high. It is a good idea to have a couple foot apron flat on the ground in front of the fence also to prohibit digging.

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There are several repellents that are registered for rabbit management. Again, these are inconsistent in control. So WSU Master Gardeners don't recommend anything specifically. However, these are available in the garden stores and nurseries. So, the public can certainly try them if they so wish. But, as with all repellents, don't expect complete control even at the best of times.

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In some situations, these animals can also be trapped. Both of these animals that we have talked about, the Snowshoes and the Cottontails, are important game animals. So, it is best to contact the Department of Fish and Wildlife to get information from them as to how they want you to deal with them. Sometimes rabbits are quite difficult to trap. Other times, especially if you are lucky, they can be induced to enter a cage type trap or homemade cage traps, such as this contraption. Try a variety of baits. Fruit sometimes works well. The vegetation they are feeding on you can try. Even alfalfa pellets sometimes work.