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Attract Reptiles and Amphibians to Your Yard

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The study of reptiles and amphibians is called **herpetology**. The word "herps" comes from the same root word.

Herps in your landscape are fun to watch, interesting to learn about, and a benefit to your local ecology. You can attract them by adapting your yard to their habitat needs.

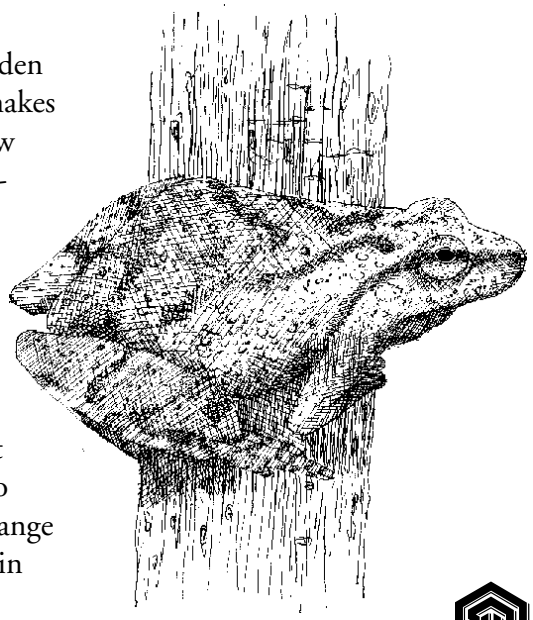
Native species

In the Pacific Northwest, there are about 50 native species of herps. Half are amphibians (frogs, toads, salamanders, and newts), and half are reptiles (snakes, lizards, and turtles). Some of the more common species you might attract to your yard are alligator lizards, fence lizards, garter snakes, chorus frogs, red-legged frogs, and salamanders.

Some herp species are brightly colored, such as painted turtles or young western skinks with their bright blue tails. Others are known by their sounds, such as the Pacific chorus frog with its familiar musical chirping.

Herps help control garden pests. For example, garter snakes and newts are among the few animals that eat slugs; alligator lizards eat aphids; and gopher snakes eat mice, voles, and gophers.

A good way to start your habitat plan is to find out which species live in your region and what habitat they need in order to thrive. Table 1 lists species range and habitat needs for herps in Oregon.



Pacific chorus frog

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Table 1. Descriptions, habitat needs, and range for widespread amphibians and reptiles in Oregon.

Species	Coloration	Adult length	Diet	Habitat	Oregon range
Snakes					
Common garter (*Thamnophis sirtalis*)	Bright cream or yellow stripe down the back; stomach usually gray.	2–3 feet	Earthworms, slugs, snails, salamanders, and frogs.	Gardens, wet meadows, heavy underbrush, logs, downed wood, and rockpiles.	Statewide.
Northwestern garter (*Thamnophis ordinoides*)	Yellow, red, orange, white, or blue stripes running lengthwise over dark gray or black coloration.	<2 feet			West of the Cascades.
Western terrestrial garter (*Thamnophis elegans*)	Grayish brown or black with checkered patterns between yellow stripes running lengthwise.	>3 feet			Statewide, except along the coast and the crest of the Cascades.
Gopher (Bull) (*Pituophis melanoleucus*)	Light brown with dark brown blotches (mimics rattlesnake); distinct dark stripe extending across the head down through the eyes.	3–4 feet	Small mammals and birds.	Hotter, drier areas; south-facing slopes.	Statewide, except along the coast and above 2,000 feet in the Cascades.
Racer (*Coluber constrictor*)	Olive to bluish gray with pale yellow belly.	2–4 feet	Small mammals, lizards, frogs, and insects.	Warm, dry, open, or brushy areas.	Statewide, except along the coast and the crest of the Cascades.
Rubber boa (*Charina bottae*)	Olive green to light or dark brown; rubbery feel and appearance.	<3 feet	Small rodents, mostly mice and shrews.	Rotting stumps, logs, bark, flat rocks, crevices in cliffs, forest litter.	Statewide, except along the coast north of Coos Bay.
Lizards					
Northern alligator (*Elgaria coerulea*)	Brown or dark brown or greenish brown, with a longitudinal fold on each side of the body.	10 inches	Beetles, grasshoppers, crickets, aphids, and spiders.	Moist, forested, cool areas with leaf litter.	West and central Oregon up to 6,500 feet.

Table 1. Descriptions, habitat needs, and range for widespread amphibians and reptiles in Oregon *(continued).*

Species	Coloration	Adult length	Diet	Habitat	Oregon range
Lizards (cont.)					
Western fence (*Sceloporus occidentalis*)	Gray, brown, or black with bright blue patches underneath.	6–8 inches	Beetles, flies, caterpillars, ants, and aphids.	Requires vertical structure such as logs, rock piles, trees, fences, or building sides.	Statewide, except along the coast and above 5,000 feet in the Cascades.
Western skink (*Eumeces skiltonianus*)	Wide brown stripe lengthwise on the back bordered by lighter stripes; slender, shiny; young have blue tails.	6–8 inches	Beetles, grubs, ants, and spiders.	Under rocks, logs, or forest litter, in pine or oak woodlands, rocky canyons, and rimrock areas.	Statewide, except along the coast and the crest of the Cascades.
Side-blotched (*Uta stansburiana*)	Gray to brown; males with light blue spots on back; blue-black spot behind each leg.	2–5 inches	Spiders, mites, ticks, flies, grasshoppers, caterpillars, and beetles.	Dry, rocky, sandy areas.	Widespread in eastern Oregon except northeast quarter.
Turtles					
Painted (*Chrysemys picta*)	Top of shell is dark olive-green with thin red lines; yellow stripes on neck, head, and legs; shell bottom has red, yellow, and black markings.	Shell is 4–9 inches long	Crickets, flies, dragonflies, beetles, ants, fish fry, snails, mussels, and aquatic plants.	Slow-moving to still bodies of water such as lakes, ponds, streams, and marshes; prefers muddy bottoms with thick aquatic vegetation.	Willamette Valley and Columbia Gorge.
Western pond (*Clemmys marmorata*)	Olive/dark brown to blackish, often with yellow, black, and brown spots and lines that radiate outward.	Shell is 4–8 inches long	Aquatic plants, crayfish, beetles, earthworms, minnows, and grasshoppers.	Slow-moving to still bodies of water such as lakes, ponds, streams, and marshes; inhabits brackish and sea waters; basks on logs and rocks.	West of the Cascades; rare in Willamette Valley north of Eugene.

Table 1. Descriptions, habitat needs, and range for widespread amphibians and reptiles in Oregon *(continued).*

Species	Coloration	Adult length	Diet	Habitat	Oregon range
Salamanders and Newts					
Northwestern salamander (*Ambystoma gracile*)	Dark brown, smooth, moist skin; large raised glands on sides of head.	8–10 inches	Insects, worms, slugs, and other soft-bodied invertebrates.	Ponds, lakes, and damp lowland forests under sword ferns, rocks, logs, and bark, and in rodent burrows.	Western Oregon up to 10,000 feet.
Long-toed salamander (*Ambystoma macrodactylum*)	Brownish black with yellow or green stripe; grayish coloration on belly; long fourth toe of hind foot.	4–6 inches	Larvae, crickets, spiders, and other invertebrates.	Sagelands, forests, and small bodies of water without fish predators.	Widespread in Oregon, except southeast quarter.
Western redback salamander (*Plethodon vehiculum*)	Blackish gray color with a wide, lengthwise red or yellowish stripe.	2–4 inches	Larvae, crickets, spiders, ants, and other invertebrates.	Doesn't need open water; inhabits moist coniferous forests on talus, boulders, and rock outcrops and under forest debris, wood, and brush piles.	Western Oregon up to snow line; absent from southern Oregon.
Ensatina (*Ensatina eschscholtzii*)	Reddish, orangish, brown, or tan.	4–5 inches	Spiders, springtails, beetles, mites, termites, and ticks.	Doesn't need open water; moist habitat under logs, rocks, wood or bark piles and in stumps on forest and woodland floors, and in yards.	Western Oregon west of the crest of the Cascades.
Pacific giant salamander (*Dicamptodon tenebrosus*)	Terrestrial adults have a marbled pattern of tan and reddish-brown or chocolate on top, tan underside; aquatic larvae are drab brown with short, bushy gills.	12–14 inches	Larvae eat insect larvae, tadpoles, and fish. Adults eat snails, slugs, small mammals, lizards, and other amphibians.	Humid mixed conifer and deciduous forests and riparian zones up to 6,000 feet. Uses downed logs. Larvae occupy cold, clear water.	Western Oregon except the Willamette Valley.
Rough-skinned newt (*Taricha granulosa*)	Brown on top, with an orange-colored belly.	4–8 inches	Aquatic insects, slugs, tadpoles, and other soft-bodied invertebrates.	Wet areas near ponds, lakes, or other permanent bodies of water.	Western Oregon.

Table 1. Descriptions, habitat needs, and range for widespread amphibians and reptiles in Oregon (*continued*).

Species	Coloration	Adult length	Diet	Habitat	Oregon range
Frogs and Toads					
Pacific chorus frog (*Pseudacris regilla*)	Gray, green, brown, or tan with a black stripe along nose, eye, and shoulder.	2 inches	Insects and spiders.	Bodies of water, moist meadows, forests, or underbrush. Rocks, logs, burrows.	Statewide; most common frog in Oregon.
Red-legged frog (*Rana aurora*)	Reddish to yellow belly and legs, brownish to olive on top with lighter spots.	4–5 inches	Beetles, crustaceans, larvae, aquatic insects.	Slow moving bodies of water, marshes, and moist forests.	Western Oregon; populations are sensitive and declining.
Western toad (*Bufo boreas*)	Brown and green back with a pale stripe; dry, warty skin.	Females 5 inches; males 4¼ inches	Algae, insects, earthworms, spiders, crayfish, and various other invertebrates.	Brushy, forested, and mountain meadows near water with logs and rocks.	Statewide except for the Willamette Valley; populations are sensitive and disappearing from some areas.
Great Basin spadefoot (*Scaphiopus intermontanus*)	Gray or greenish gray; brown or reddish spots and pale stripes on sides and back.	2–3 inches	Grasshoppers, flies, ants, and beetles.	Sagebrush, prairie, open pine forests, and temporary bodies of water.	Eastern Oregon except northeast quarter.

Natural history

Herps are **ectotherms**. That means their body temperature is regulated directly by the environment. To escape very hot or very cold temperatures, most herps hibernate in the winter and aestivate (hibernate) in summer in hot areas. Hibernation sites include burrows, ponds, logs, stumps, and rock piles.

Many amphibians live in water in some life stages and on land in others. Most amphibians lay their eggs in water or in moist locations on land such as rotten logs, leaf litter, or on riverbanks.

Pond-breeding species of salamanders have aquatic young called larvae. Frogs' young, called tadpoles, live in water. Then, as adults, they live mostly on land.

Reptiles usually lay eggs on land. Sometimes, they use moist, protected areas to help conserve the moisture content of their eggs and keep them at moderate, more constant temperatures.

Most herps are secretive. The only ones you are likely to see are garter snakes and frogs.

Elements of a herp habitat

You have more chance to attract herps to your property if it is next to an undeveloped site, greenway, or freshwater area. But, you also can add features to your property, such as ponds, rock walls, brush piles, and basking (sunning) sites, to improve your chances of observing more species. These features provide places for herps to reproduce, feed, bask, shelter, and hibernate.

Although reptiles and amphibians have different habitat needs, they do use many of the same areas.

Ponds

The best way to provide water for herps is to make a pond. A pond can be any size that suits your property. But, all ponds should have the following features.

Your pond should offer both sun and shade. It should be at least 20 inches deep, with a shallow gradient at the edges. It should have lots of plants that grow above the waterline from the pond bottom. A good ratio of open water to plants is 50:50. See "Plants," below.

Big logs, down wood, and plants near your pond provide shelter for your herps. Herps like natural basking sites that protrude out of the water, such as rocks, logs, and fallen limbs.

For larger ponds, you can build a floating platform. Anchor it so that it stays in the middle of the pond.

For details on how to make a pond, see *Create a Garden Pond for Wildlife* ("For more information," p. 11).

Pond plants

Plants are important in the herps' habitat. They provide oxygen, reproductive sites, and cover where the herps can hide and find protection from weather. They provide habitat for insects and other invertebrates that herps eat. Plants also help control algae growth by shading out the sun.

Algae is essential in your pond. It creates oxygen and food for tadpoles. Algae establishes itself in your pond using nutrients and sunlight.

Too much sun or nutrients (such as from decayed vegetation or fertilizer) can cause outbreaks of algae called **blooms**. Algae blooms also occur in new ponds and in the spring before plants get big enough to shade the water. If algae blooms persist, you might need to clean your pond or plant more vegetation.

Native plants are a good choice for your pond. They are more familiar to wildlife and are well adapted to the environment. Plant a mix of submerged, floating, and marginal plants (see Table 2).

Many invasive species, such as purple loosestrife (*Lythrum salicaria*) and reed canarygrass (*Phalaris arundinacea*), are aggressive and will outcompete other plants.

Rock piles

Rock piles or rock walls are excellent habitat for herps. Herps use them as cover from predators and weather, as places to raise young, and for basking.

You can build rock piles from bricks, rocks, or broken concrete. You might find rocks in your backyard or collect them from some other place. Or, you can buy them from a quarry or landscaping center. If you collect the rocks yourself, be sure no animals are using them. Preserving natural habitat is more important than creating new habitat.

Where to place a rock pile

Place your rock pile where it receives both sun and shade each day. If your summers are cool, put the rock pile where it will be in the sun for most of the day. If your summers are hot, place the rock pile in a mostly shady spot.

A good place for a rock pile is next to a creek or pond. That way, your herps have two habitats to choose from.

Do **not** put rock piles next to the street. Doing so increases the chances of animals being hit by a car.

How to build the rock pile

Use large rocks to form the bottom layer. If you live in a region where it freezes, lay some rocks below ground level. They provide more shelter from freezing temperatures.

Leave space between some of the rocks in the base layer. The herps can use these cavities for nesting, hibernating, and shelter. Place some sand, leaves, or straw in the cavities to make them more attractive to the herps.

You can place a plastic, ceramic, or concrete pipe in the base layer so it sticks out of the bottom of the pile (Figure 1). The herps can use it as an entrance to some of the cavities. It should be about 1 to 2 inches in diameter and 2 feet or less in length.

In the second layer, use smaller rocks that cover the cavities. Also, you can cover a section of your rock pile with a piece of black plastic to ensure that part of the shelter stays dry.

Brush piles

Many wildlife species use brush piles. Herps and small mammals usually use the base layer, and birds inhabit the rest. Brush piles provide shelter for herps from rain, sun, and predators. They also provide food by attracting insects.

Table 2. Native plants for ponds.

Submerged plants
Coontail, *Ceratophyllum demersum*
Elodea, *Elodea canadensis*

Floating leaf plants
Water fern, *Azolla mexicana*
Watershield, *Brasenia schreberi*
Duckweed, *Lemna minor*

Marginal plants
Great water-plantain, *Alisma plantago-aquatica*
Inflated sedge, *Carex vesicaria*
Spike rush, *Eleocharis palustris*
Wapato (duck potato, arrowhead), *Sagittaria latifolia*
Hardstem bulrush, *Scirpus acutus*
Wool grass, *Scirpus cyperinus*
Small-fruited bulrush, *Scirpus microcarpus*
Soft-stem bulrush, *Scirpus validus*
Cattail, *Typha latifolia*

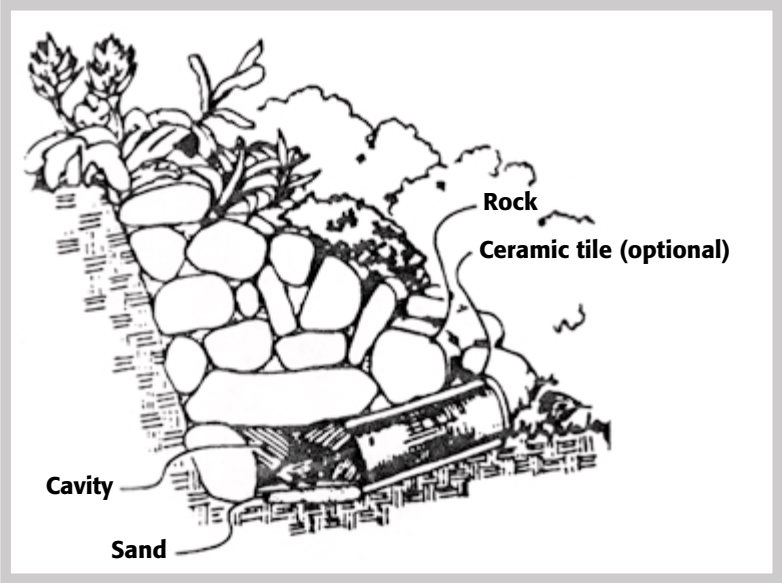


Figure 1. Example for constructing a rock pile.
(From: *Landscaping for Wildlife in the Pacific Northwest,* University of Washington Press and Washington Department of Wildlife.)

Brush piles can be any size. A pile 3 feet high by 5 feet wide is usually right.

Usually, building materials are easy to find. You can use old fence posts, wood pallets, prunings, and down wood from your own or a neighbor's backyard. Always ask the property owner for permission before you scavenge.

Do not use wood or other materials that have been chemically treated. Remove nails for safety.

Where to place the brush pile

The best places to build brush piles are near a hedgerow, shrub, thicket, or mature tree. Other good choices are near a pond, snag (standing dead tree), or recently cleared area.

If you have enough land, make several brush piles and place them in spots that get different amounts of sunlight. This gives herps choices for prime habitat.

Do not place brush piles in low areas where there is standing water in rainy weather. You want your piles moist, but not soaking wet.

How to build a brush pile

Use big logs for the base layer. Place them parallel to each other on the ground about 6 to 12 inches apart. Be sure there are lots of spaces in the base layer. Pack leaves into these cavities to keep the brush pile moist.

You can place a plastic, ceramic, or concrete pipe in the base layer so it sticks out of the bottom of the pile, as for a rock pile. The herps can use it as an entrance to some of the cavities. It should be about 1 to 2 inches in diameter and 2 feet or less in length.

Use smaller logs to make the next layer. Place them somewhat randomly over the base layer (Figure 2). You can make as many layers as you want, but be sure the pile is stable and won't fall over.

Your brush pile can last for several years if you take care of it. As the top branches collapse and the pile begins to settle over time, add branches and logs to the base and the top of the pile. Do this before spring, so it doesn't disturb nesting sites.

Basking sites

Herps need both sunny and cool places to help them maintain a tolerable body temperature. A key element of habitat that you can provide is a variety of basking structures or sites.

Open areas allow reptiles to sun themselves and raise their body temperature. Large, flat rocks, dark-colored pavement, patches of dirt, and other dense, solid surfaces retain heat and provide an extended source of warmth.

In contrast, shade and ponds provide herps with cooler, damper areas where they can cool down.

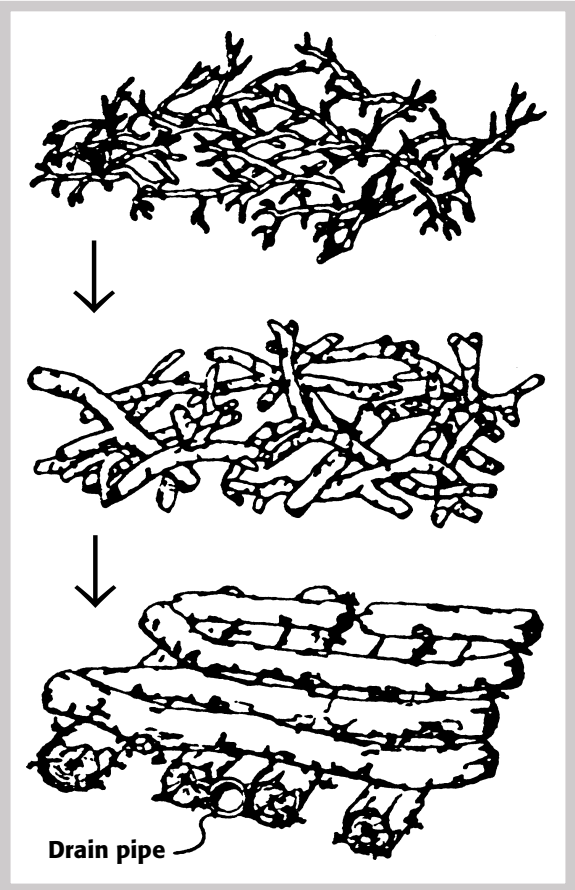


Figure 2. Example for constructing a brush pile. (From: *Landscaping for Wildlife in the Pacific Northwest,* University of Washington Press and Washington Department of Wildlife.)

Travel corridors

To attract and maintain a breeding population of amphibians, your pond should be within ½ mile of another pond or wetland that already has breeding amphibians. There must be an undisturbed, natural pathway from other ponds to yours. This is called a travel corridor.

If you have a lawn, keep your grass taller. This gives herps a safe travel corridor.

Obstacles to success

It can be difficult to keep wild herps in most yards. Loss of habitat, lawnmowers, pesticides, pets, and cars all take their toll.

Because of the barriers to their travel created by urban development, it may be difficult for herps to make it to your property. It might take 1 to several years before you see herps in your yard. Their ability to move into your yard likely depends upon the condition of neighboring landscapes. If your property is surrounded by concrete or highly maintained landscapes, your chances are slim for attracting herps.

If you have a cat or dog, the chances of seeing herps in your yard become even slimmer. Cats and dogs often attack herps. So, either don't have pets, or keep them in restricted sections of your property.

Do not remove herps from wild areas and put them in your yard. They often try to return to their place of origin and get killed on roads or by pets in hostile urban environments. If you provide suitable habitat, reptiles and amphibians will move to your property on their own.

Nonnative species

It is illegal to release nonnative species. Do not release exotic or pet store species of herps into your yard.

Exotics can be extremely detrimental to native species of plants and animals. For example, the bullfrog eats the young of native snakes, frogs, fish, turtles, ducks, and small mammals. This has a very negative effect on their populations.

Furthermore, many exotics die if released. They are not able to tolerate the environmental conditions in the Pacific Northwest.

Coexisting with herps

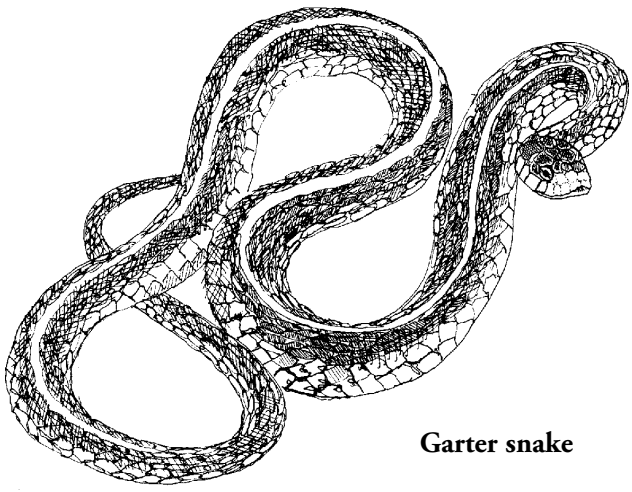
To help protect and maintain habitat for herps on your property, you must establish a successful coexistence between herps and humans.

1. Protect and maintain riverbanks, areas with leaf litter, and places with decaying plant matter. Herps need these places to help them regulate their body temperature.
2. Don't mow grass on riverbanks, alongside bodies of water, or next to brush and rock piles.
3. Do not use chemicals such as fertilizers and pesticides in areas used by herps. This is especially important for amphibians, because their skin is extremely sensitive to environmental chemicals. Although reptiles' skin is less permeable, they also are affected adversely by toxic chemicals.
4. Talk to your neighbors. Let them know what you're doing and why, so they will be more likely to help protect herp communities. Encourage your neighbors to create safe travel corridors for amphibians and reptiles.
5. Teach children about herps, so they will respect and admire them and be less likely to harass or harm them.
6. Snakes only bite when they feel threatened. If you leave them alone, they will leave you alone. The only venomous snake in the Pacific Northwest is the Western rattlesnake. It is not common in most areas, and its bite is rarely lethal. It is dangerous, but only if you interact with it in the wrong way.
7. Do not handle "your" herps. Some amphibians, such as toads and newts, have poisons in their skin glands. They might harm you or your pets, if pets eat them. Or, the oils, lotions, and bug repellents on your skin might harm the herps.

Viewing herps

When you watch herps, keep your distance, move slowly, and use binoculars.

To improve your chances of seeing them, learn about the species' natural history. For example, amphibians are more active at lower temperatures than reptiles. You often can see or hear them in early spring. Usually, you don't see reptiles until summer.



Garter snake

You also can look for signs that herps are living in your yard. Some herps may leave tracks or their shed skins. Others' eyes reflect light and seem to glow in the dark.

It can be difficult to catch sight of herps. But, if you create essential habitat on your property, with safe travel corridors to wild habitat, you have a good chance to see these fascinating animals.

For more information

OSU Extension publications

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