

# YARD HERPING

Southeast Partners in Amphibian and Reptile Conservation Education & Outreach Task Force

## Creating Habitats for Reptiles and Amphibians in Your Yard

You have probably heard of creating habitat for birds and butterflies in your yard, but what about other critters like amphibians & reptiles? Why would you want share your yard with reptiles and amphibians? After all, these animals are also known as “herps,” from “*herpeton*” meaning “to creep or crawl” in ancient Greek.

While turtles and toads may crawl or hop through your yard, they and their slimy and scaly cousins Frogs, salamanders, lizards, and snakes (Yes, even snakes – don’t be scared!) aren’t creepy. In fact, there are many reasons to welcome amphibians and reptiles to your yard!

### Reasons to Make Your Yard “Herp-Friendly:”

1. Amphibians and reptiles help with nature’s balance by keeping insects and rodents under control, helping you manage pests in the garden.
2. You and the young naturalists in your family, including children, grandchildren, and friends, will have the chance to see and interact with this unique group of animals from the comfort of your own home – no trip to the zoo or aquarium required!
3. Amphibian and reptile improvements also attract beautiful birds and other interesting wildlife, like rabbits and beneficial insects like butterflies.
4. Amphibians and reptiles are unlike any other group of animals in the natural world, with unique beauty, forms, and habits.

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*Create a yard habitat with “herp friendly” yard features (mini wet-land, rock pile, and/or a wood pile) and share your pictures and yard critters with us using the hashtag #yardherp #herpscape or through [Facebook](#), [Twitter](#), [Pinterest](#), [PARC Habitat Page](#), [Project Noah](#) or [iNaturalist](#) and join our community of yard herp habitat enthusiasts!*

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<https://separc.wordpress.com/products/yard-herping-landscaped-habitats-for-reptiles-amphibians>



Hand-dug wetland in woodland area, Photo: Tom Biebighauser, Wetland Restoration

## Herp Habitats: Mini Wetland

By joining in with other mini-wetland builders across the Southeast, your efforts will be repaid by warmhearted approval from friends and family members, especially children who enjoy interacting with animals and habitats that foster curiosity and the excitement of discovery.

There are numerous small pond designs attractive to amphibians and reptiles, but the one outlined here is affordable (less than \$200), can be constructed in a reasonable time frame, and is amphibian, reptile, and kid friendly. While construction methods & materials for water features in the home landscape are diverse, this mini wetland is designed for both children and wildlife to safely enjoy.

Steep sided, rocky ponds are often promoted as “water gardens” and “fish ponds,” but steep sides with rocky edges make it difficult for kids to safely search for frogs and other animals. What’s worse, steep sided ponds can be dangerous for box turtles, lizards, or other animals that wander into water features, then can’t climb out. Box turtles in particular have a hard time getting back out of steep-sided ponds.

This 100 sq. foot wetland should hold water for at least 90 days, insuring enough time for metamorphosis of amphibians with a biphasic (live on land and in water) life cycle like frogs and salamanders. Adjust your wetland size to your available space and budget, but going smaller than 8’ x 8’ is not recommended.

### Location

The flatter the better – sloped areas mean more digging!

If possible, position your wetland close to a wooded area (avoid tree roots) or wildflower meadow. Walk your property during a rain to learn how water flows across the landscape. Look for water recharge sources – driveway runoff, rain barrel, and air conditioning condensation. Be sure no utilities, septic tanks, etc. are under the site.

## Frequently Asked Questions

### What about mosquito control?

Keep fish out – they eat the predators that keep mosquitoes in check. A wetland constructed in early spring may temporarily give mosquitoes the upper-hand, but the predators will prevail. A healthy wetland with a lot of natural predators like frogs and salamanders will keep mosquito numbers low. A simple rock pile can easily be constructed in a few hours or less.

### Is a liner always needed?

No, see book resources 1 & 2.

### How do I anchor my liner in sandy soils?

Order a liner at least one foot larger than you need. Dig a trench just inside the wetland edge and bury the extra foot of the liner in the trench.

### Should animals from other areas be added to my wetland?

No, there is risk of introducing diseases, and some animals, like Box Turtles, may be killed trying to return home.

### Is it okay for my wetland to dry?

Yes, depending on where you live, drying after late August an actually be beneficial by eliminating fish and other robust species that have become overpopulated.

### When should I mow around my wetland?

Mid-winter is best, but you may need to mow sections during the summer for easy access. Delay mowing if you observe tiny frogs hopping around!

### Will cattails become a problem?

Very likely, but controlling them in a small wetland is not overwhelming. When they become too dense, cut them off a few inches below the water line. Pulling them can be strenuous.

### Can leaves in the wetland be a problem?

Leaves are the base of the aquatic food chain, but too much of a good thing is not desirable and you may need to rake some out.

### What herps might I observe?

Many states now have amphibian and reptile checklists by county. See book resources 3 & 4 below. The fun is in the mystery!

### How do I construct a larger wetland?

See book resources 1 & 2.

## Materials

- 1 – 10'x 10' aquatic safe PVC synthetic liner (30 mil or thicker) ~\$.60/sq foot \$60.40
- Two layers of 8-ounce geo-textile fabric ~\$.40/sq foot \$80.00\*
- 26 – 10" galvanized spikes (nails) and washers that fit \$22.00
- Paint or flags \$5.00
- 5 lb. bag of wheat and 2 bales of clean straw \$15.00
- Packet of wetland seed mix \$5.00 + shipping\*\*

\*Fabseal Industrial Liners, Inc. (800) 874-0166 [www.fabseal.com](http://www.fabseal.com)

\*\*Roundstone Native Seed (888) 531-2353 [www.roundstoneseed.com](http://www.roundstoneseed.com)

## Tools

### Required

- Shovel and mattock
- Wheelbarrow
- Line level
- Gloves

### Recommended

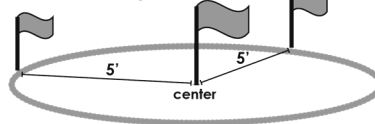
- Rake
- Field marking paint
- Surveying flags or sticks marked with surveyor's flagging tape
- Hose or rope to outline perimeter
- Sturdy hammer to pound in stakes

## Cost

- \$187.40

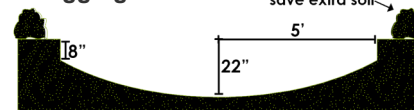
## Steps

### 1. Wetland Layout



- Mark the center of your wetland with a flag or paint.
- Mark the perimeter of a "circle" by measuring out 5 feet in multiple directions from the center point (place surveying flags or sticks with surveyor's tape).
- Outline the perimeter with field marking paint (or delineate your mini-wetland boundary with a garden hose, surveying flags, or length of rope).

### 2. Digging



- Dig down 22" in the center, saving the soil removed.
- Approximately 6" of soil will go back into the wetland after the liner is installed.
- This will give your wetland a maximum depth of 16".
- Dig from the middle outward to the marked perimeter, removing less soil as you move out.
- Think shallow dish with gradual slopes.
- The depth should only be ~8" as you reach the perimeter.
- The 6" of soil going back in the depression will make the final depth around the edge ~2".
- Rake the depression, removing rocks and clods.

### 3. Leveling Edges & Installing Liner



- Use a string level to even-up the perimeter to permit overflow to seep out on all sides and recharge ground water.

- It doesn't have to be perfect, but you want to avoid overflow into a narrow spillway.
- Place the first layer of geo-textile fabric into the depression and even-up the edge around the perimeter using the line level and a board, or a [hose level](#).
- Place the liner over the first geo-textile layer and then cover it with the second layer of geo-textile fabric (The liner should be sandwiched in between the 2 layers of geo-textile fabric).
- Place washers on the spikes and hammer them ~2" below the outside edge of the fabric/liner and about 18" apart around the perimeter.
- Make sure spikes go through all three layers.
- Trim off excess liner on the corners.

### 4. Covering Liner



- Spread about 6" of soil over the entire liner.
- Any remaining soil can be spread around the outside perimeter.
- Add a thin layer of leaves and a few tree limbs.
- The limbs will provide egg laying sites for salamanders and perch sites for frogs, dragonflies, and damselflies.
- Sow native wetland seeds around the edge.

### 5. Buffering Zone

- Spread wheat and straw over any bare spots around your wetland.
- Any leftover wheat or straw can be spread inside the wetland, or use a bale of straw to sit on and admire your work.
- Establish native plants around your wetland to attract different types of invertebrates (amphibian food) and provide protective habitat for herps.



Steps 2-5, photos courtesy of Tom Biebighauser





## Herp Habitats: Rock Pile

Because lizards (reptiles) and frogs (amphibians) are ectothermic (cold-blooded), they bask (sunbathe) to warm up and seek shelter in the shade when they become too hot. A well-designed and placed rock pile can meet both of these needs and provide safe cover from predators.

By building this type of habitat, you encourage natural predators that eat insects around your yard and garden. These structures also add visual appeal and interest to your yard and are easy and inexpensive to install!

### Location

Place your rock pile in a mostly sunny area. An area that gets sun in the morning and shade in the late afternoon will work as well. If you have a south-facing slope, this is an ideal location to attract and observe these critters during the Spring and Fall.

Rock piles can stand-alone or be used as a border for your flowerbeds. The closest cover should also influence your choice of location. A lizard or frog that has to travel across open ground is vulnerable to predators like birds, cats, dogs and other animals.

Placing your rock pile alongside a water feature is beneficial to frogs that can leap into the water to escape, and placing a rock pile along the border of a flower garden can give lizards the cover needed to protect them.

Use paragraphs often. A wall of white text makes it hard for the reader to skim a story and find a way to quickly drop in and out of your content. White space gives the user an opening into your information. Don't be afraid to leave spaces open.

## Frequently Asked Questions

**How long will it take to construct?**

A simple rock pile can easily be constructed in a few hours or less.

**What type of maintenance is needed with a rock pile?**

Rock piles require minimal maintenance and upkeep.

**What time of year is best for building a rock pile?**

Although rock piles can be constructed any time of year, most herps (and their prey) become active on the surface beginning in early spring. You may therefore want to build your rock pile in mid to late winter prior to animals becoming active.

**What about snakes?**

One of the benefits of a rock pile is that it will attract reptiles, including nonvenomous and possibly venomous snakes. All snakes pose virtually no safety risk if they are simply left alone and observed from a safe distance. Be aware, however, that care should be taken anytime you must reach beneath rocks or into your rock pile where you do not have good visibility. For more, check out our Habitat Blog Series post "What About Snakes in the Yard?"

**I live in a neighborhood with rules governing property maintenance. Can I still build a rock pile?**

Yes! Even a few rocks placed flush to ground level can attract a variety of herps.

## Materials

- Rocks of varying size
- Demolished concrete of varying size
- PVC pipes
- Clay drain tile

## Tools

- Wheelbarrow
- Gloves
- Hoe
- Some moderate physical labor

## Cost

- \$0—\$150

## Steps

1. Start with the largest rocks on the bottom of the stack to create hiding places between rocks. Dig small holes under large flat rocks to create moist hiding places for frogs and salamanders.
2. Add tunnels and entrances at the base of the pile with clay drain tile or pieces of pvc pipe.
3. Next add rocks and stones of different shapes and sizes to the pile. Arrange the rock pile in a way that creates nooks and crannies.



Rock Pile examples courtesy of Pinterest

## Materials and Cost

When thinking about your rock pile materials, please be sure to be environmentally conscious. Using natural stone looks great, but if you are destroying one natural habitat to create an artificially constructed habitat, then there is a net loss.

Rocks can be purchased at your local gardening or landscape center (~\$150/ton). However, consider using busted up concrete that can often be free at construction sites. These can be landscaped with native plants or painted with non-toxic paint to keep them from looking unsightly.

Be sure to choose rocks of different shapes and sizes. Larger rocks will allow for more in-between spaces.

Short pieces of clay drain tile or pvc, used for underground tunnels, are inexpensive (less than \$5). They can often also be collected (for free!) from friends and family that have them lying about.

## Beautifying Your Rock Pile

- Add soil and plant native plants in some of the nooks
- Add a tree limb to your rock pile so that it sticks out about the rocks for additional interest and lizard basking habitat
- Place flat rocks on top of your pile and use as a place to set container plants or garden ornaments
- Paint some of your rocks with non-toxic paint to add some color





Wood Pile photo by Andrea Drayer, Photo of Yard Herping courtesy of Lisa Powers

## Herp Habitats: Wood Pile

Out of all the possible habitat features that can be used to attract reptiles and amphibians to your backyard, wood and brush piles are arguably one of the simplest and cheapest features to construct.

Wood and brush piles attract a variety of species, especially reptiles (turtles, lizards, and snakes), thanks primarily to the fact that wood features provide sites for animals looking for both shelter and places to bask (sunbathe), plus tasty invertebrates. By building this type of habitat, you encourage natural predators that eat insects around your yard and garden. These structures also add visual appeal and interest to your yard and are easy and inexpensive to install!

### Location

Since amphibians and reptiles use wood piles for a variety of reasons, it is often best to choose a location for your wood pile that will maximize its suitability for various species. Siting your wood pile where roughly equal parts of the structure receive shade and sunlight works best. You may also choose to build separate wood piles, with one in the sun and one in the shade.

A few important considerations for both wood and brush piles:

- Wood will naturally decay over time, so place it where you can easily add more wood or brush to replenish your pile.
- Piled wood and brush can pose a fire hazard. Do not locate the wood pile near a structure such as a home or outbuilding.
- Animals including rabbits, rodents, and other small mammals will also likely call your wood pile home. A location farther from your own home will keep the animals at a safe viewing distance.
- Wood piles can attract insects like ants and termites (tasty snacks for your amphibians and reptiles!). A dry site away from your home will discourage ants and termites from foraging in your home.
- Most importantly, remember that you are building a home for reptiles and amphibians. Be sure to locate your wood or brush pile away from roads, driveways, or alleyways to minimize interactions with traffic as the animals venture from their home to find food or mates.

## Frequently Asked Questions

### How long will it take to construct?

A simple wood pile can easily be constructed in a few hours or less.

### What type of maintenance is needed with a rock pile?

Wood piles require minimal maintenance and upkeep. In fact, higher levels of decay are often best for many species, since wood decay produces more nooks and crannies inside logs for animals to hide.

### What time of year is best for building a rock pile?

Although woodpiles can be constructed any time of year, most herps (and their prey) become active on the surface beginning in early spring. You may therefore want to build your woodpile in mid to late winter prior to animals becoming active.

### What about snakes?

One of the benefits of a woodpile is that it will attract reptiles, including nonvenomous and possibly venomous snakes. All snakes pose virtually no safety risk if they are simply left alone and observed from a safe distance. Be aware, however, that care should be taken anytime you must reach beneath rocks or into your rock pile where you do not have good visibility. For more, check out our Habitat Blog Series post "What About Snakes in the Yard?"

### I live in a neighborhood with rules governing property maintenance. Can I still build a rock pile?

Most wood piles will not detract from the attractiveness of your yard. However, you may want to consult your local homeowners' association or local government office if rules are in place governing the appearance of property to ensure that a wood pile can apply.

### I can't find enough wood to create a complex wood pile. Can I still attract herps to my yard?

Yes! Even single pieces of plywood placed flush to ground level can attract a variety of herps. Cover plywood with leaf litter or vegetation or leave it exposed to sunlight to provide both shelter and basking sites for various species.

## Materials

- Sticks
- Branches
- Logs
- Lumber
- Plywood

## Tools

- Gloves
- Hoe
- Hand saw

## Cost

- \$0

## Steps

1. Wood piles can be large ( 6 x 6 feet) or small (3 x 3 feet), but they all start with a base of logs (for large piles) or branches (for small piles) several feet in length. Criss-cross the logs allowing for open spaces on the inside of the pile.
2. Next, begin adding smaller logs and branches to the base, again crisscrossing them in a grid-like manner.
3. Continue with smaller branches until a dense, woven structure of wood is produced.
4. The ultimate goal for any wood pile is creating complexity, a mixture of wood and open space for animals to use.



Rock Pile examples courtesy of Pinterest

## Materials and Cost

Wood piles can be built with branches, logs, and even old building materials (plywood, lumber) that you may already have on your property, incurring virtually no cost.

Important: never use wood “treated” with rot-resistant chemicals, like railroad ties or pressure-treated landscape timber. These rot-resistant chemicals can be toxic to amphibians.

The best option is natural wood and brush cleared during pruning or fallen during a storm. When moving dead and downed wood, however, check for signs of use by wildlife – such as active burrows near or beneath the wood – and avoid disturbing any features that appear to be currently used as habitat by creatures.

## Beautifying Your Wood Pile

- Dress up” a wood pile with native flowering vines. If choosing this approach, be sure to only use native plants and avoid exotic or invasive species.
- Add rocks around the edge of the wood pile as a nice border.
- Place flat rocks on top of your pile and use as a place to set container plants or garden ornaments.
- Paint some of your wood pieces with non-toxic paint and create some unique patterns.



# Additional Resources

## Mini Wetland

1. [Guide to Creating Vernal Ponds](#) by Thomas R. Biebighauser – Free PDF
2. [Wetland Restoration and Construction: A Technical Guide](#) by Thomas R. Biebighauser
3. [Wetland Restoration & Training](#) by Thomas R. Biebighauser
4. [Frogs & Toads of the Southeast](#) by Mike Dorcas and Whit Gibbons
5. [Salamanders of the Southeast](#) by Joe Mitchell and Whit Gibbons (other books in this series include Turtles, Snakes, Lizards and Crocodylians)

## Rock Pile

1. [Inviting reptiles and amphibians to your backyard](http://www.ncwildlife.org/Portals/0/Conserving/documents/InvitingReptilestoYourBackyard.pdf) <http://www.ncwildlife.org/Portals/0/Conserving/documents/InvitingReptilestoYourBackyard.pdf>
2. [Living With Wild Reptiles and Amphibians](http://www.californiaherps.com/info/livingwithherps.html) <http://www.californiaherps.com/info/livingwithherps.html>

## Wood Pile

1. [Inviting reptiles and amphibians to your backyard](http://www.ncwildlife.org/Portals/0/Conserving/documents/InvitingReptilestoYourBackyard.pdf) <http://www.ncwildlife.org/Portals/0/Conserving/documents/InvitingReptilestoYourBackyard.pdf>
2. [Maryland Department of Natural Resources Wildlife and Heritage Service](http://dnr2.maryland.gov/wildlife/Pages/habitat/wabrush.aspx) <http://dnr2.maryland.gov/wildlife/Pages/habitat/wabrush.aspx>
3. [Michigan State University Extension Service – Brush Pile Overview](http://msue.anr.msu.edu/news/habitat_in_the_backyard_part_1_the_beauty_of_a_brush_pile) [http://msue.anr.msu.edu/news/habitat\\_in\\_the\\_backyard\\_part\\_1\\_the\\_beauty\\_of\\_a\\_brush\\_pile](http://msue.anr.msu.edu/news/habitat_in_the_backyard_part_1_the_beauty_of_a_brush_pile)
4. [National Wildlife Federation – Wildlife Brush Shelters](http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Gardening-Tips/Wildlife-Brush-Shelters.aspx) <http://www.nwf.org/How-to-Help/Garden-for-Wildlife/Gardening-Tips/Wildlife-Brush-Shelters.aspx>

# Education & Outreach Task Force

The purpose of the Education & Outreach Working Group is to teach and distribute PARC messages (habitat conservation, cooperation among agencies, endangered species conservation, “keeping common native species common”, etc.) through educational products and public outreach. The group is focused on “best practices” and “tried and true” methods for educating diverse audiences about amphibian and reptile conservation in the Southeast.

“Creating Habitat for Amphibians and Reptiles in Your Yard” was generously contributed by Andrea Drayer, Theresa Stratmann, and Tanner Jessel with input from the [Southeast PARC Education and Outreach Task Team](#).



## Connect

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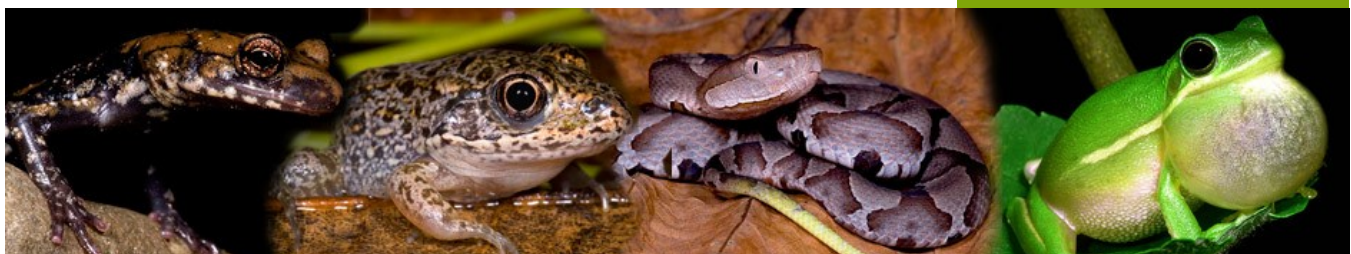
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<https://separc.wordpress.com/products/yard-herping-landscaped-habitats-for-reptiles-amphibians>