Here are some more ways to help wildlife on your property. Big or small, any extra help counts! And remember: You don't have to be perfect! Not every yard or property has to be 100% environmentally friendly with every inch dedicated to habitat.

☐ Bird bath/watering hole

Clean water is essential to a healthy ecosystem. Adding year-round open water will sustain all the local animals of all sizes

- ▶Bird baths come in various sizes, and can even be outfitted with rocks to accommodate small birds like hummingbirds.
- ▶Bug friendly watering hole
 - Insects need water too! In fact, some animals get their water almost exclusively from the insects they eat. A dish of water filled with rocks gives them plenty of shallow areas to sip from.
- ▶ Large animal friendly watering hole
 - Leaving out a small plastic pond form will not only create its own ecosystem over time, but will also serve as a spot for bigger animals like foxes to take a drink.

□ Vernal or year-round pond

▶Ponds are a vital resource for wildlife. Of course they provide drinking water, but they are also a place for insects and amphibians to reproduce. You can install a pond or if you have an area water naturally pools in, consider converting it into a more substantial vernal pond. These are seasonal ponds fed by rain and groundwater in the spring and fall, important for amphibian reproduction as there are no fish and other predators to eat the eggs.

■ Mud lick for "puddling" butterflies

If you ever see butterflies huddled around puddles on the road, it's because they're sipping mineral rich water. On hot dry days, you can help out by starting a puddle, or making your own out of a plate of mud.

☐ Streambank stabilization

Erosion of stream banks into the waterways is not just inconvenient and dangerous to infrastructure but can pollute the water with soil or other debris. Plants stabilize the bank and help filter the water.

- Live staking is the process of cutting and inserting branches of certain plants directly into the ground. Special plants are capable of rooting straight from these cuttings and can be simple ways to stabilize stream edges.
- Live planting of native shrubs and trees is great, too, especially for smaller areas or yards where you want more control.

☐ Invasive removal

- ► PA Invasive Species of Concern
- ► <u>Spotted Lanternfly PennState Extension</u>
- ▶ Pa Noxious Plant List

- ▶Keep in mind it isn't just plants that are invasive. Watch out for invasive insects like the spotted lanternfly and keep cats indoors to reduce their impact.
- ▶ Make sure to replace with native plants

□ Brush piles

Brush piles are great habitats. These give safe hiding and nesting habitat to small mammals, birds, snakes, and insects. The resident bugs make great food for birds like migrating warblers. In our climate, brush is not the fire hazard it is out west and shouldn't be cause for concern. To be safe, don't start brush piles close to sources of heat or flame like grills and firepits or electrical hazards.

- •Yard trimmings, especially woody debris like trimmed or fallen branches, make excellent habitat for small wildlife. This pile can start small and be added to over time.
- ▶ Christmas trees (the real ones!) make great safe cover for small birds. After the holiday, leave yours out by your bird feeders and watch as finches and sparrows become more comfortable visiting to grab a bite. In the spring, you can move the now brown tree to a more permanent brush pile.

☐ Alternative mulch

- ▶ Colored mulch can contain unsafe chemicals and heavy metals from the dyeing process. Many mulches are also by-products of industrial lumber, which are often chemically treated. Use undyed natural mulch wood chips or eco-friendly dyed natural wood chips to combat this. These may be labeled with a certification from the Mulch and Soil Council (MSC) of the US.
- If you don't want mulch for the aesthetics but just for the nutrient boost and moisture retention, try shredded leaves, grass clippings, or pine needles
- ▶ Consider skipping out on the municipal mulch. Many places may not follow proper techniques to kill off the seeds of invasive plants or eggs of invasive bugs like Spotted Lanternfly that wind up in the mulch stock. This spreads invasive species to you and your neighbors!

☐ Recycling, Compost, and trash reduction

Landfills emit greenhouse gasses and other pollutants impacting the surrounding environment, water quality, and communities. EPA research estimates each person produces 4lbs of trash each day.

▶Compost

- ▶ Yard waste compost is a great way to make your own mulch or fertile dirt. Municipal and community compost and mulch can spread pest, disease, and the seeds of invasive species if not properly handled.
- ► Home and kitchen waste compost is a great way to reduce how much enters landfills. Check here for a list of a few compostable materials.

▶ Recycling

▶Be mindful of what you put in your recycling bin. Many recycling plants send large amounts of waste to landfills because of incorrect disposal.

Only recycle approved items and clean them well before disposal to ensure eligibility. For recyclables that your municipality does not collect, see if there are any public recycling events or drop-offs in your area.

Allegheny County is hosting a traveling glass recycling bin again for the 2023 year. Learn more here:

 $\underline{https://www.alleghenycounty.us/sustainability/traveling-glass-recycling.asp}$

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- ▶Mindful shopping
 - ▶Purchase goods in paper or cardboard packaging, refillable containers.
 - ▶Shop local farm products, eat in season, or grow a garden!

☐ Leave the leaves and plants

Fallen leaves and dead plants are essential habitat for insects, especially over the winter. They make great hiding places and insulate them from the cold to reemerge in the spring. This is also great for the birds! Areas with leaf litter and left over plant stalks can become bug buffets for birds and other small animals.

☐ Housing

- ▶Bird nest boxes
 - ► Check out bird box plans by locality and species! https://nestwatch.org/learn/all-about-birdhouses/
- ▶Bat boxes
 - Look into adding a bat box to your property. These are perfect for breeding populations of our endangered or threatened bat species.
- ▶Bee boxes

There are a few kinds of bee box designs out there, ranging from clusters of bamboo to holes drilled in chemical-free wood. Here are a few blueprints to try out.

- ► How To Construct A Sturdy, All Wood Mason Bee House
- ▶ Farming for Bees Guidelines for Providing Native Bee Habitat on Farms Chapter 7- Protecting and Creating Bee Nest Sites starts on page 44, and pages 47-49 go over box building and orientation. The whole chapter (and the whole PDF if you own farm property) is worth a read, though!

□ Ground nesting animals

Bees, wasps, rabbits, burrowing animals, snakes, birds, and many other animals rely on the ground itself as a place to raise young. Respect them if they use their yard and teach kids to be careful! Bees and wasps only sting when provoked and all animals deserve their personal space.

☐ Keep pets indoors

•Outdoor and feral domestic cats are responsible for 1.3 to 4.0 billion bird deaths and 6.3 to 22.3 billion mammal deaths every year in the US alone and have contributed to the extinction and endangerment of various animal species. TNR programs don't cut down on the deaths of animals caused by these cats.

Cats and Birds - American Bird Conservancy

Irresponsible release of pets contributes to the introduction of invasive species like turtles and cats. It is illegal to release pets, native or not, into the wild. Look for help rehoming pets, and trap released and feral domesticated species to reduce their impact.

☐ Host plants and keystone species

Native plants are important food sources for many things, especially insect larva like caterpillars. These caterpillars are in turn important food sources for other creatures, especially baby birds. Find the best native host plants in your area:

Native Plant Finder - National Wildlife Federation

☐ Year-round food

Native plants are just great as in-season nectar plants, but leaving the plant alone through the winter will make their seed and fruit available during food-sparse times. These are especially good for migrating birds as they expend great amounts of energy. Some of our favorites for birds are: oak species, blackgum tupelo, cherry species, and serviceberry.

Check out Audubon's native plant database: <u>Native Plant Database - Audubon</u>
•Bird feeders

- ▶seed and nuts: black oil sunflower, nyjer, (plants: sunflower, thistle);
- ▶suet (cages and on trees); peanuts,
- ▶ fruits and natural jellies;
- ►hummingbird nectar (plants: jewelweed, monarda, cardinal flower, etc.)

☐ Insect-friendly spaces

Insects are the main diet of many creatures and the decline of insects has directly influenced almost every part of the food chain.

- ▶Other topics on this page are great to boost insect populations. Not using chemicals (especially pesticides!), leaving leaves and snags, making brush piles, putting outdoor lights on sensors, and providing nesting space like bee boxes are all great ways to help insect populations. Studies suggest 40% of insect species are in decline, with a 2.5% yearly decrease in insects globally. With the decline of insect diversity, pest insects are likely to become more prevalent.
- ▶ Check out the Xerces Society for more information on making your yard pollinator friendly and a checklist of their own

https://xerces.org/publications/habitat-assessment-guides/habitat-assessment-guide-for-pollinators-in-yards-gardens

☐ Light pollution reduction

Light pollution affects insects, birds, and even some mammals.

Studies have shown street lamps have been found to reduce moth caterpillar numbers by half. Caterpillars are a staple food source for rearing young birds, so less moths means less birds!

detectors to cut down on light pollution. ☐ Safer windows for birds ▶Use window stickers or decals These can be found in local stores or online. Be sure to give enough coverage, only leaving 2-3 inch gaps between them. Full window films are especially useful for businesses as they can have full designs on them. ▶Window screens are effective only if they are on the outside of the window and fully cover the whole window. Many people may have half-screens; those can be paired with stickers or decals to give full coverage. ☐ Chemical reduction Reduction of chemicals like herbicides, pesticides, and fertilizers is great for the environment and for your wallet! Save money by letting the dandelions grow in your remaining lawn space and feed pollinators while you're at it! Chemicals negatively impact water, killing off important insects at the base of the food chain and loading the water with nutrients to cause harmful amounts of algae to bloom. □ Leave snags when safe to do so Many unhealthy, dead, or dying trees are not as unsafe as you might think. A tree dropping branches will still live for a few more years, and life will live on inside it for many years to come. If a dead or dying tree is in a safe spot, leave it standing for the wildlife. If not, consider leaving the felled tree somewhere in your yard as part of a bug-rich brush pile.

Most outdoor lights don't need to be on all night, so hook them up to motion