



RED-TAIL
Land Conservancy

*A Land Trust for
East Central Indiana*



Growing Home Habitat Transformation Guide

Red-tail Land Conservancy | fortheland.org

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Photo by Helen Steussy

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Why landscape for habitats?

A habitat is where a living thing makes its home. It has the ideal amount of water, food, shelter and space to meet the needs of wildlife. The ideal amount of each feature can change with different types of wildlife. Yards and gardens can be a perfect habitat for butterflies and birds in the same way acres of nature preserves can be for deer and turkeys.

Landscaping for habitats can be aesthetically pleasing. Many plants local to an area, otherwise known as native plants, come in a variety of colors, textures, blossoms, heights and growing seasons. Notably, since native plants are adapted to their local climate, it often takes less maintenance and water to keep them looking attractive.

Wildlife like birds, butterflies, pollinators and small mammals are part of an important life cycle. Places where they can live are increasingly being developed and made uninhabitable. Even green places like lawns are often not able to support wildlife because many non-native grasses do not provide enough shelter or nutrition for survival.

Transforming places like yards or gardens into habitat is vitally important to the survival of wildlife. Even small areas which strike a balance between beautiful landscaping and natural features help. **Growing habitat through landscaping gives wildlife a place to call home.**

The following document is a guide to fulfill the criteria of Growing Home's habitat transformation certification. The intent is to provide ideas and resources for new gardeners to work from and experienced gardeners to check their work.



Photo by Teresa Villalobos

Certification Criteria

- Habitat applying for certification must be in east central Indiana
- Applicant must be associated with the habitat
- Habitat must provide at least 2 food sources for wildlife
- Habitat must provide at least 1 source of water for wildlife
- Habitat must provide at least 1 source of cover for wildlife
- Habitat must provide at least 1 place where wildlife can raise young
- Habitat must have at least 3 different species of native plants
- Applicant for certification must employ at least 2 sustainable gardening practices
- Landscaping must be generally free of [invasive and exotic plants](#)

Important notes

- Sources can be applied to multiple criteria. Example: Milkweed is a food source and host plant for monarch butterflies to raise young.
- Multiple variations of the same source are allowed. Example: Two different species of pollen-producing flowers meet food source requirements. It is not required to have two completely different food sources like a pollen-producing flower and a birdfeeder.
- For habitats to have the most impact, they are recommended to be at least 50 square feet in area. Area is calculated by multiplying the number of feet length by the number of feet width. Example: A garden bed that is 10 feet long and 5 feet wide is 50 square feet. A bed that is 25 feet long and 2 feet wide is also 50 square feet.
- If there are multiple habitat beds, they must be close but do not necessarily need to be contiguous. For example: Two smaller habitats divided by a walking path can be added together to calculate the square footage, or area, of the habitat. Or, a bed that wraps around a house and is separated by a driveway.

Questions? [Contact](#) one of the Growing Home committee members for mentorship or request a [site visit](#).

Food & Plants

Providing a variety of food sources that attract diverse wildlife create a robust food web. If a particular plant species does not thrive one year, the wildlife depending on it have other sources of food so they can survive.

Criteria: Habitats must have at least 2 food sources

Seeds

The plant-animal interaction in which seeds are almost exclusively a food source for wildlife is called “granivory.” These seed predators can be mammals, birds and insects.

Example Food Source Species: Seeds
<ul style="list-style-type: none">● Oiled Sunflower seeds<ul style="list-style-type: none">○ Attracts: Cardinals, Tufted Titmouse, Mourning doves, Gray catbirds, Evening grosbeaks, Boat-tailed and Common grackles, Bushtits, House finches, Pine siskins, Black-billed magpies and all species of chickadees● Cracked Corn<ul style="list-style-type: none">○ Attracts: Turkeys, Squirrels, Chipmunks● Tree seeds (acorns, walnuts, hickory nuts)<ul style="list-style-type: none">○ Attracts: Squirrels, Chipmunks, Gray and Red Fox, Raccoon, E. Cottontail Rabbit, Turkeys, Blue Jays, various woodpeckers, various ducks

Example Food Source Application: Seeds
<ul style="list-style-type: none">● Bird feeders● Suet cages● Native trees

Pollen

Pollen is the yellow, powdery substance in flowering plants that carries genetic material to other plants for reproduction. Pollination is how pollen is spread, either to other flowers of different plants, cross-pollination, or within the same flower, self-pollination.

Wildlife is a primary source of cross pollination as they search for sugary nectar. But, many insects eat pollen itself as a food source. These “palynivores” include bees, beetles and butterflies.

Example Food Source Species: Pollen-Rich Flowers

- Common Chokeberry (*Prunus virginiana*)
- Beebalm (*Monarda fistulosa*)
- Purple Coneflower (*Echinacea purpurea*)
- Butterfly Weed (*Asclepias tuberosa*)
- New England Aster (*Symphyotrichum novae-angliae*)
- Ironweed (*Vernonia gigantea ssp. gigantea*)
- Columbine (*Aquilegia canadensis*)
- Shooting Star (*Dodecatheon meadia*)

A comprehensive list can be found on the Indiana Native Plant Society website.
Click [here](#) to view.

Example Food Source Application: Pollen-Rich Flowers

- Native Flower Beds
 - Native flower beds not only provide pollen to our pollinators but living space for numerous insects, birds, and even smaller mammals. More information on native landscaping can be found [here](#) and [here](#).

Nectar

Nectar is the sugary liquid found in flowers. Like pollen, many animals can get most, if not all, nutrient and energy requirements from it. Many of the same animals that eat pollen also eat nectar, but not all. The majority of nectar feeders are insects and birds.

Example Food Source Species: Nectar-Rich Flowers

- See "[Pollen](#)" Section

Example Food Source Application: Nectar

- Nectar feeders
- Native flower beds
- Quartered fruit

Fruit

Fruit is a preferred food for many different birds. As a source of sugar, it is essential for energy for breeding, migration and maintaining heat in cold weather. Fruit can be a good choice to feed birds without debris, like hulls from seeds.

Example Food Source Species: Fruit

- Elderberry (*Sambucus nigra ssp. Canadensis* (*Sambucus canadensis*)
 - Attracts: Various birds and insects
- Winterberry holly (*Ilex verticillata*)
 - Attracts: Various birds and insects
- Hawthorn (*Crataegus viridis*)
 - Attracts: Various birds and insects

Example Food Source Application: Fruit

- Plant fruit-bearing trees and bushes
- Cut fresh fruit into chunks and place them in a mesh bag or suet cage

Water

All living organisms need water to survive. Providing a readily available source of water helps animals whose habitat may be shrinking or transformed into roads or buildings.

Certification criteria: Habitats must have at least 1 source of water

Pond

Ponds are an invaluable tool for backyard wildlife cultivation. Numerous animals including, mammals, reptiles, amphibians, and birds use ponds for both food and water sources.

One item worth noting is stocked ponds. If fish are kept in the pond, it is best to avoid non-native species (goldfish, koi, asian carp, ect.). It is also important not to overstock the pond as too many fish will prevent certain animals from being able to effectively use the water source (amphibians, reptiles).

Birdbath

Bird baths are not only for birds, but can provide a source of water to other animals, like insects. Birdbaths do not necessarily need to be filled at all times. They do need to have the ability to capture and hold water after rainfall.

Example Water Source Application: Traditional Birdbath Alternatives

- Shallow clay bowls
- Galvanized trash can lid
- Wet rocks
- Rock beds with a shallow depression

Native plants

Certain plants can create small pools of water.

Example Water Source Species: Native Plants

- Cup Plant ([*Silphium perfoliatum*](#))
 - Utilized by: Butterflies, flying insects, small bird species
- Common Boneset ([*Eupatorium perfoliatum*](#))
 - Utilized by: Insects

Cover

Few wildlife can live in full sun at all times. Most require some sort of cover, either to provide cooling shade, visibility protection from predators, or a place to stay warm in winter.

Certification criteria: Habitats must have at least 1 source of cover

Insect hotel

An insect hotel is any structure that provides small pockets of space for insects to nest in. Examples include solitary bees and beetles. Some insects use them exclusively throughout most of the year, while others use cavities as temporary resting or nesting sites. Examples of insect hotels include:

Example Cover Source Application: Insect Hotel

- Built structure. This is one of many variations:
<https://gardentherapy.ca/build-a-bug-hotel/>
- Clay pot with holes punctured in the side filled loosely with soil
- A log with holes drilled into it

Dormant/dead plants

Leaving plants from the previous year instead of clearing them provides an easy source of cover.

Mulch/leaf litter

Dense mats of leaf litter or chemical free mulch can not only provide cover for animals, but be essential to their life cycle. It benefits insects of all varieties, detritivores (decomposers), small rodents (voles, mice).

Bat house

Bat houses are a good way of supporting an essential part of the ecosystem. More information can be found at:

- <https://dnr.wisconsin.gov/topic/WildlifeHabitat/BatHouse.html>
- <https://extension.unh.edu/blog/i%E2%80%99d-buy-and-install-bat-house-my-backyard-w-hat-should-i-look-and-where-should-i-place-it>

Young

Keeping a habitat healthy for a long period of time means multiple generations of beneficial wildlife species should be encouraged. Even migratory animals will return to the same location annually if it meets the requirements to safely raise young.

Certification criteria: Habitats must have at least 1 place to raise young

Birdhouse

Birdhouses can be made of just about anything. There are certain design elements that can make bird houses more attractive to birds.

Example Raising Young Source Application: Birdhouse Design Elements
<ul style="list-style-type: none">● Ventilation & drainage holes● Roof overhang● Natural building materials● Exterior colors that blend with surroundings● Avoid perches● Seasonal cleaning● Appropriately sized entrance hole

Host plants

There are certain species of insects that exclusively use a single species of plant to lay eggs and rear young. Click [here](#) for a list of host plants for butterflies and moths in Indiana.

Conservation & Sustainability

Building a habitat where wildlife can thrive requires more than thinking about wildlife specifically. Healthy ecosystems have many different components--all of which need to be considered. Creating a healthy habitat in one area does not mean another area should be negatively impacted.

Certification criteria: Applicants must employ at least 2 sustainable gardening practices

Water conservation

Using water efficiently is better for the environment and saves money by reducing water wasted through evaporation.

Example Sustainability Practice: Soil & Water Conservation

- Water by hand
- Compost
- Use mulch (check to be sure the mulch is not from an invasive plant)
- Reduce mono-culture grass lawn and impermeable surfaces (pavement)
- Use a soaker hose
- Rain barrel
- Build a rain garden
 - A rain garden is a depressed area that collects water from downspouts or impermeable surfaces that is designed to stop water long enough to soak into the ground rather than enter the sewer system. They can often be planted with deep-rooted native flowers and grasses. Click [here](#) for more information.

Control Predators

Predation by domestic cats is the number-one direct, human-caused threat to birds in the United States and Canada. Parasites can spread disease to mammals, birds, insects and plants.

Example Sustainability Practice: Predator Control

- Keep cats indoors
- Clean out birdhouses seasonally (to reduce mites & other parasites)
- Provide clean water in bird baths regularly (to reduce mites, mosquitos & parasites)
- Remove perches from bird feeders (to make it harder for predators to enter nests)

Eliminate invasive species

Invasive plants often have very little, if any, value to wildlife and other plants. Frequently their growth will outcompete native plants, leaving wildlife with no food. Native plants have grown in this area for a long enough time to have co-developed valuable services to an ecosystem.

Native vs. Invasive Plant Definitions	
Native	Species that are native means they have been adapting and evolving in the ecosystem for over hundreds or thousands of years. Generally only plants that were prior to European settlement are considered native. Native plants should be planted whenever possible. Click here to learn more.
Non-Native	This category of plants is reserved for species that are not native, but do not necessarily meet the criteria to be labeled invasive. While not nearly as damaging as invasive species, non-natives have not evolved and adapted with our native flora and fauna. Non-native species should be planted sparingly as they are not as good as providing ecosystem services.
Invasive	Invasive species are non-native to a particular ecosystem and cause economic, environmental or human harm. They can quickly take hold of a new area, it is best to completely eliminate them. Click here to learn more.

Organic gardening

Chemical fertilizers can leach into the soil and groundwater and make some plants that were previously edible to wildlife toxic.

Example Sustainability Practices: Organic
<ul style="list-style-type: none">● Eliminate/reduce chemical pesticides● Use locally created compost

Other Learning Resources

This brief guide is intended to give ideas. There are many other ways to meet the criteria not listed here.

Mentorship

If you are unsure how to get started or have questions about how to fulfill Growing Home criteria in the space you have available, the Growing Home committee is available for you to ask questions, or you can schedule a site visit.

- **Jake Gamble**, Stewardship Coordinator, Red-tail Land Conservancy
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- **Jocelyn Bonesteel**, Nursery Plant and Grounds Manager, Wasson Nursery-Muncie
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- **Helen Steussy**, Henry County Removes Invasive Plant Species Coordinator
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- **John Huber**, Master Gardener & Master Naturalist
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Site Visits

Site visits by Growing Home Committee members to offer mentorship advice are available by request (*as COVID-19 safety practices allow*). Contact Red-tail Land Conservancy with general date availability and your habitat's location to be connected with a Committee Member. Email: Info@fortheland.org

Reading material

Check for these books at a public library near you.

- *Bringing Nature Home: How you can sustain wildlife with native plants* by Doug Tallamy
- *Grow Native: Bringing natural beauty to your garden* by Lynn M. Steiner
- *Planting Native to Attract Birds to Your Yard* by Sharon Sorenson
- *National Wildlife Federation(R): Attracting Birds, Butterflies, and Other Backyard Wildlife, Expanded Second Edition (Creative Homeowner) 17 Projects & Step-by-Step Instructions to Give Back to Nature* by David Mizejewski
- *Butterfly Gardening with Native Plants: How to Attract and Identify Butterflies* by Christopher Kline

Other Knowledgeable Organizations

- [Indiana Native Plant Society](#)
- [Master Gardeners](#)
- [Purdue Extension](#)
- [Rinard Orchid Greenhouse & Christy Woods](#)
- Indiana State Park Naturalists
- [Wasson Nursery](#)

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