

URBAN WILDLIFE

HABITAT CERTIFICATION GUIDE



DENVER
PARKS & RECREATION

INTRODUCTION

The goal of this document is to **provide guidance for park planners, project managers, park operations, and consultant teams for including certifiable wildlife habitat within Denver’s parks and open spaces.** The majority of the document is specifically aimed at supporting those who work at the planning, site, and detailed design scales such as landscape architects, civil engineers, horticulturalists, and urban designers. Creating a wildlife habitat garden to attract birds, butterflies, and other neighborhood wildlife is fun, rewarding, and can have a significant impact.

This Urban Wildlife Habitat Guidebook will help PM’s, planners, and consultants with the selection of required (for certification) and regionally appropriate wildlife resources for their projects. When completed, each project will receive a certified NWF’s Community Wildlife Habitat placard to post at the site.

THE IMPORTANCE OF URBAN HABITAT

It is now well documented that species around the world are in steep decline (Finn et al., 2023). This is especially true within our urban areas where most of the historic ecosystems have been replaced by ours—roadways, buildings, and parking lots. However, as described in *The Biological Deserts Fallacy* (Spotswood et al., 2021), cities can harbor an incredible array of biodiversity. Although urbanization poses a substantial threat to many urban-sensitive species, cities do successfully support many others; some of which have larger populations, faster growth rates, and higher productivity when compared to conditions outside of urbanization. **You can have a positive impact by**

inviting wildlife and the habitat elements they depend on, back to your projects. Imagine your park teeming with singing songbirds, colorful butterflies, flitting hummingbirds, and other small urban wildlife.

Urban habitats such as parks, cemeteries, vacant lots, streams and lakes, gardens and yards, campus areas, golf courses, bridges, airports, and landfills are extremely diverse and offer resources to a myriad of urban species. In addition, these habitats are highly dynamic, influenced by ecological processes on the one hand and social, cultural, and economic drivers on the other (Elmqvist et al., 2008). They also often represent cases of extreme habitat fragmentation. Habitat patches in the urban core are often isolated from each other making wildlife movement risky and resources like food and shelter highly competed for.

Although much of the focus has been on preserving large open spaces and corridors, smaller patches in urban settings have proven to provide equally high-quality habitats. For example, during a recent study of native pollinators within our park system, Platte Farm Open Space was found to contain 42 different species of pollinating insects (Mola et al. 2024)!

Furthermore, researchers are also discovering that improved urban biodiversity can support healthy immune systems, mitigate mental health issues, promote healing, improve childhood cognitive development, and increase a sense of place and community (SFEI, 2023). In addition, improving the biodiversity in urban areas has a real impact on conservation; cities can become homes to threatened and endangered species, like the imperiled Western bumble bee or lark bunting.

Although many of our urban parks inadvertently support an array of native species, it is becoming increasingly important to intentionally plan for wildlife habitat, ensuring the correct resources and year-round support. With small adjustments to our established practices and traditions in our urban parks, we can each have a profound positive impact on native wildlife.

PROGRAM BACKGROUND

The National Wildlife Federation's (NWF) [Community Wildlife Habitat](#) program partners with cities, towns, counties, neighborhoods, and communities of all kinds to become healthier, sustainable, and more wildlife friendly. Community **wildlife habitats are designed with wildlife in focus, promote the use of native landscapes, work to reduce the use of pesticides and chemicals, and integrate wildlife-friendly practices into park plans and projects.**

EXISTING CERTIFIED HABITATS

Did you know Denver Parks and Recreation already has 55 certified habitat sites? It's also an Urban Bird Treaty City! Here are a few noteworthy examples.

- + Inspiration Point
- + Great Lawn Park
- + Washington Park
- + Babi Yar Park
- + Berkeley Park
- + City of Cuernavaca Park

Western meadowlark
(*Sturnella neglecta*)



CSU POLLINATOR RESEARCH

During the summer of 2023, Assistant Professor John Mola and his Colorado State University research team from the Department of Forest and Rangeland Stewardship, conducted a pollinating insect study across 25 Denver parks. The parks selected represented a broad geographic and economic spectrum.

To their delight, the research team found 143 bee species and 33 butterfly species across the parks. 36 bee species are first-ever records within the county of Denver! Combined with previously known species for the County of Denver, this suggests the surveys detected approximately ~75% of the regional species pool.

Bee and butterfly richness were not primarily determined by landscape scale factors like urban green space or surrounding population density. Instead, local factors like floral species richness and abundance predict bee and butterfly diversity. In addition, although pollinator diversity was not directly predicted by factors like neighborhood wealth, parks in lower income neighborhoods were more likely to have a dominance of weedy plants and parks with weedy plants tended to have lower pollinator richness (i.e. species diversity). Because pollinator diversity is generally predicted by local factors (e.g. floral abundance and diversity), rather than landscape factors, this suggests that efforts to add pollinator habitat within parks are likely to be successful regardless of the surrounding landscape context—if you build it they will come!

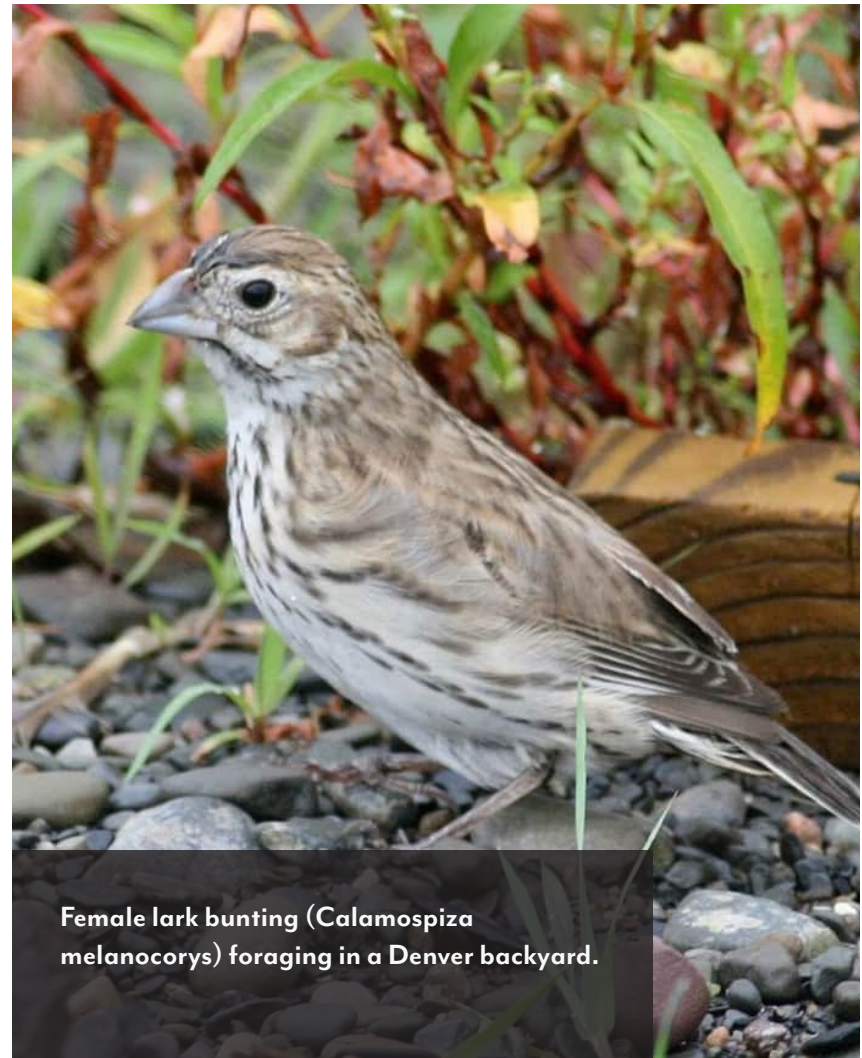
USING THE GUIDE

This document is a guide to assist in the implementation of NWF certifiable wildlife habitat at almost any site. These simple steps outlined herein are best scoped early on in the design process. **Follow the instructions near the top of each matrix to ensure the correct number of habitat components are applied to your project site.** This not only ensures the project is certifiable, but makes certain native wildlife have enough habitat resources.

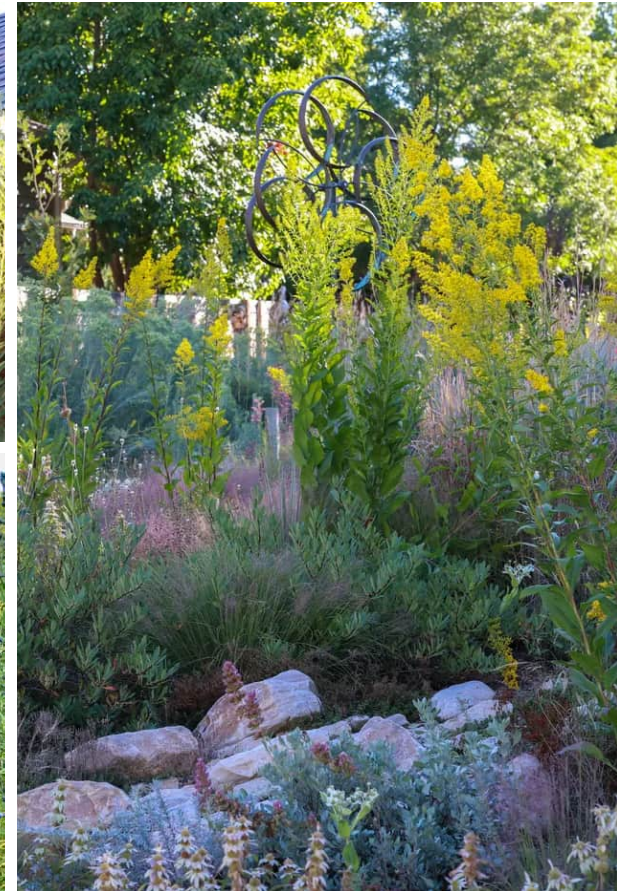
For example, when designing for pollinating insects, key plants like purple prairie clover, Maximilian sunflowers, and showy milkweed provide nectar and pollen resources for a wide variety of generalist species, meaning they aren't picky when selecting floral resources. However, complementary plants like rocky mountain bee plant, spreading fleabane, or goldenrod can help ensure objectives like more cultural relevance, a wider diversity of pollinator species, and insurance against poor years for any particular plant species can be supported.

Or, if designing with native sparrows like the Chipping sparrow or Lark bunting in mind, a water feature, brush pile, an open sandy area with native grasses, and offerings of various seed heads such as sideoats grama and Maximilian sunflower might provide the appropriate resources. Water features are also great for attracting weary migratory songbirds and more urban sensitive species.

Western bumble bee
(*Bombus occidentalis*)



Female lark bunting (*Calamospiza melanocorys*) foraging in a Denver backyard.

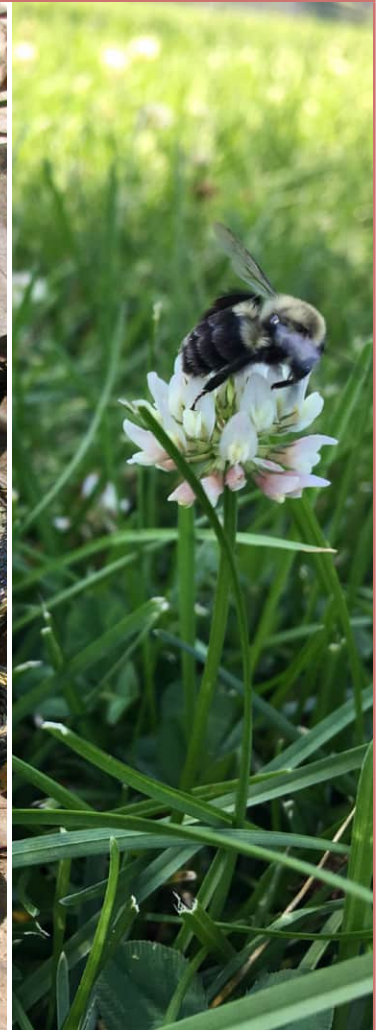


Summerhome Garden, in the Wash Park Neighborhood, includes native and climate-appropriate plants that thrive without soil amendments, heavy watering, or intense maintenance. Due to its plant and material complexity, it offers an abundance of resources for urban wildlife.

FOOD

Native plants provide resources and food eaten by a variety of wildlife and should comprise 60% of the total number of plants in your palette. In addition, the habitat should provide a minimum of two (2) more of the following food sources.

60-100% native plants	Berries and/or seeds	Nectar	Fallen leaf layer	Clover in turf areas
Seed heads remain	Fruits	Tree sap	Pollen	Native milkweed
Early and late season floral resources		Butterfly /moth host plants		Decaying logs



WATER

The habitat needs one (1) of the following sources to provide clean water for wildlife to drink and bathe in.

Spray irrigation	Lake	Stream	Seasonal pool	Wildlife fountain
Spring/seep	River	Puddling area/mud	Rain garden	Stormwater swales
Water feature	Wetland	Irrigation spray	Rock depression for collecting irrigation spray	



COVER

The habitat needs at least two (2) locations for wildlife to find shelter from weather and predators.

Wooded area	Dead habitat tree	Ground cover	Rock pile or wall	Roosting box
Native trees	Brush or log pile	Burrow	Meadow or prairie	Dense shrubs/thicket
Riparian area	Leave dead perennial stems 12-18 inches for overwintering insects			Bare patches of soil



LIFE CYCLE RESOURCES

The habitat needs at least two (2) places for wildlife to engage in courtship behavior, mate and then bear and raise their young.

Mature trees	Meadow or prairie	Nesting box	Wetland	Rock/boulder pile
Burrows	Dead trees or snags	Dense shrubs/thicket	Fallen leaf debris	Riparian area
Milkweed	Plant top 8 larval host plants using NWF's Native Plant Finder Tool			

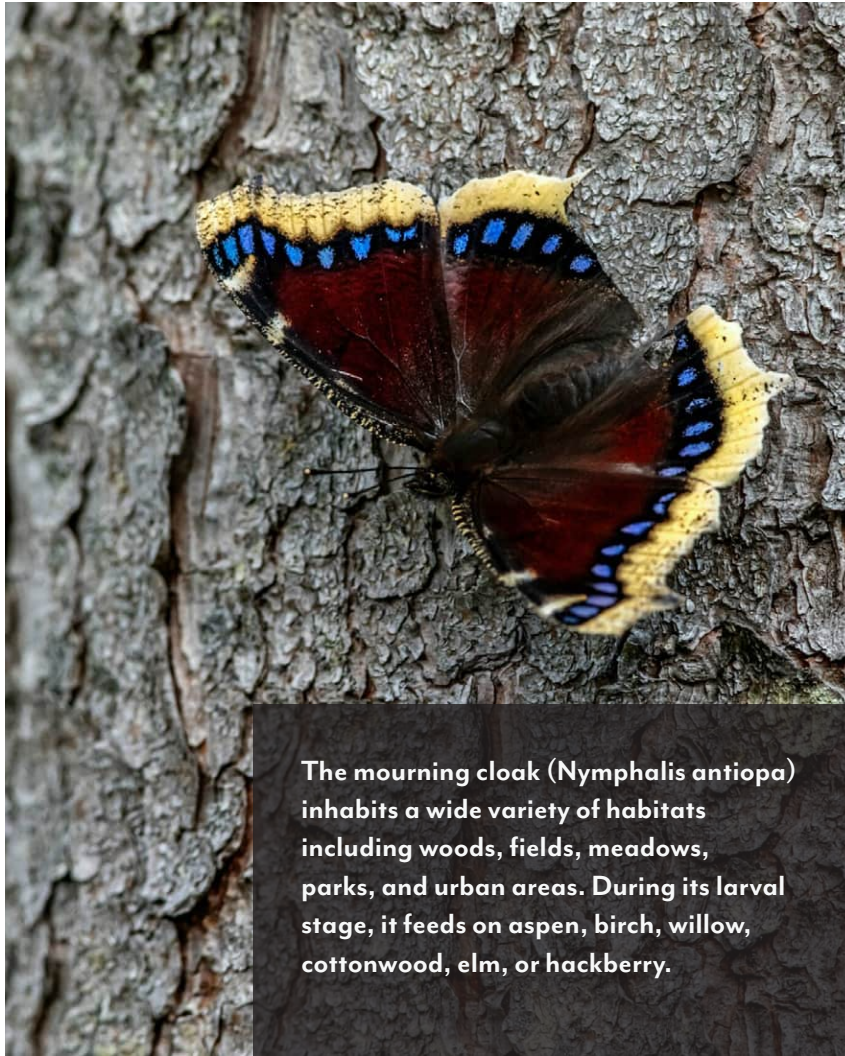


SUSTAINABLE PRACTICES

The habitat must employ every action from at least two (2) of the three (3) categories below to help manage your habitat in a sustainable way.

Organic Practices	Controlling Exotic Species	Soil and Water Conservation
<p>Eliminate chemical pesticides</p> <p>Eliminate chemical fertilizers</p> <p>Specify organic soil amendments</p> <p>Build soils by not removing dead leaf and plant matter</p> <p>Remove artificial lighting sources</p>	<p>Practice Integrated Pest Management (IPM)</p> <p>Remove non-native plants</p> <p>60-90%, Non-cultivar native plants</p> <p>Reduce bluegrass lawn by within project site by 40%</p> <p>Remove artificial lighting sources</p>	<p>Riparian buffer (50' minimum)</p> <p>Capture stormwater in a rain garden</p> <p>60-100%, non-cultivar native plants</p> <p>Install efficient irrigation system</p> <p>Follow erosion control Best Management Practices (BMP's)</p> <p>Use mulch where applicable</p> <p>Build soils by not removing dead leaf and plant matter</p> <p>Remove artificial lighting sources</p>



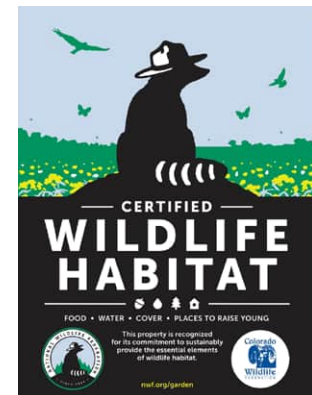


OBTAINING CERTIFICATION

Wildlife habitat gardens are a haven for local birds, butterflies, and other wildlife. Tell us how your yard or garden provides habitat and the National Wildlife Federation will recognize it as a Certified Wildlife Habitat. Once certified, you can share your accomplishment and commitment to helping wildlife with your whole neighborhood by purchasing and posting an exclusive Certified Wildlife Habitat® sign.

The secure \$20 application processing fee and sign purchase directly support the National Wildlife Federation's programs to protect wildlife and its habitat.

This [online application](#) is for single site properties only. International, national or regional businesses and corporations are required to contact us at corporatehabitats@nwf.org for certification opportunities.





REGIONALLY NATIVE PLANTS FOR POLLINATOR AND AVIAN SUPPORT

The following list of regionally native species is intended to **provide a baseline for native wildlife support**. With a goal of at least 60% native, this list can be augmented with the thousands of additional native and climate-adapted species available.

STREET TREES (FORESTRY APPROVED)

- + *Quercus buckleyi* (Texas red oak)
- + *Quercus macrocarpa* (bur oak)
- + *Acer negundo* (box elder)
- + *Amelanchier alnifolia* (Saskatoon serviceberry)
- + *Celtis reticulata* (netleaf hackberry)

INTERIOR TREES (FORESTRY APPROVED)

- + *Juniperus scopulorum* (Rocky Mountain juniper)
- + *Pinus edulis* (Colorado pinyon pine)
- + *Pinus ponderosa* (Ponderosa pine)
- + *Acer grandidentatum* (bigtooth maple, Wasatch maple)
- + *Quercus gambelii* (Gambel oak)
- + *Amelanchier alnifolia* (Saskatoon serviceberry)

SHRUBS AND CACTI

- + *Yucca glauca* (soapweed yucca)
- + *Artemisia tridentata* (big sagebrush)
- + *Artemisia ludoviciana* (prairie sage)
- + *Rosa blanda* (Woods rose)
- + *Ribes cereum* (wax currant)
- + *Prunus virginiana* var. *melanocarpa* (chokecherry)
- + *Rhus trilobata* (three-leaf sumac)

- + *Opuntia polyacantha* (Plains prickly-pear cactus)
- + *Cylindropuntia imbricata* var. *imbricata* (cholla)
- + *Coryphantha missouriensis* (mesa nipple cactus)

VISUAL SCREEN (XERIC)

- + *Quercus gambelii* (Gambel oak)
- + *Artemisia tridentata* (big sagebrush)
- + *Ericameria nauseosa* (rubber rabbitbrush)
- + *Rosa blanda* (Woods rose)
- + *Prunus pumila* var. *besseyi* (sand cherry)
- + *Rhus trilobata* (three-leaf sumac)

RIPARIAN ZONE

- + *Symphoricarpos occidentalis* (western snowberry)
- + *Populus deltoides* (plains cottonwood)
- + *Populus angustifolia* (narrowleaf cottonwood)
- + *Salix* spp. (native willows)
- + *Sambucus caerulea* (blue elderberry)
- + *Rosa woodsii* (Wood's rose)
- + *Ribes aureum* (golden currant)

NATIVE PRAIRIE

- + See DPR standard native seed mix specifications

Host plants of the western tiger swallowtail (*Papilio rutulus*) include willow and cottonwood, Colorado hairstreak (*Hypaurotis crysalus*) caterpillars feed on Gambel oaks (*Quercus gambelii*), and juniper hairstreak (*Callophrys gryneus*) caterpillars eat junipers (*Juniperus* spp.).

PROJECT EXAMPLE



*Mature
Trees*

*Kentucky
Bluegrass*

*0% Native
Plants*

Nectar

*Spray
Irrigation*

Pollen

CITY OF CHENNAI
PARK



Mature
Trees

Nesting
Box

Spray
Irrigation

Thicket

Prairie

Log Pile

Berries

60-100% Native
Plants

Nectar

Pollen

Bare Patches
of Soil

CITY OF CHENNAI
PARK

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Preble's meadow jumping mouse
(*Zapus hudsonius preblei*)



Woodhouse's toad (*Anaxyrus woodhousii*) can be found primarily in deep soils in river valleys and flood plains. They burrow into soil to escape drought or cold and can be found statewide at elevations up to 8,000 feet.



B. Stayfield