Local library's pollinator habitat nurtures birds, bugs, and blooms

The stormwater detention pond at the Laramie County Library was transformed into a thriving pollinator habitat. Photo by Jeff Geyer.

At the Laramie County Library, what was once a 13,000-square-foot monoculture of turf grass is now a pollinator haven rich with biodiversity. The library and its thriving pollinator habitat attract booklovers, birds, and bugs alike.

Making it happen

In 2019, the Laramie County Conservation District (LCCD) received a Wyoming Department of Agriculture specialty crop grant for the Laramie County Library Water-wise and Pollinator Bioretention System project. One of the project's main goals was to transform the library's stormwater detention pond into a large rain garden, planted with regionally native forbs (blooming plants), grasses, and shrubs.

The Laramie County Master Gardeners (LCMG) are active partners in the library pollinator project. In the early stages, they helped with the site design and plant selection as well as locating plant propagators and recommending plant substitutions when seeds or propagators weren't available. They also assisted the LCCD with planting and maintained the site through the critical first three growing seasons.

The LCMG Native Plant Committee stewards what is now called the Library Pollinator Habitat. Volunteers maintain the area; in the fall, they harvest seed from the site to distribute to the Seed Library of Laramie County.

The original stormwater detention pond at the Laramie County Library. Photo by Nancy Loomis.

How it works

Stormwater runoff from the library's parking lot and part of the building's roof flows into the rain garden, infiltrating the soil. Excess water is captured by buried perforated pipes, which empty into Cheyenne's stormwater sewer system.

The bottom of the infiltration basin encounters variable moisture conditions, from intermittent flooding to weeks without significant precipitation. Because wet meadow plant (wmp) species have naturally adapted to tolerate soil moisture fluctuations, they are planted in the bottom of the basin.

The sloped sides are planted with upland plants (upp) that require annual precipitation of 16 inches or less—the average amount of natural precipitation that falls in the area.

Approximately 70 different plant species are planted throughout the reclaimed drainage pond. Blooms occur at different times during the growing season, beginning with pasqueflower in mid to late April, and ending in late October to early November with New England aster, stiff goldenrod, and rubber rabbitbrush.

Monarch butterfly visits meadow blazing star (*Liatris ligulistylis*) in the pollinator habitat. Photo by Nancy Loomis.

The site was planted with nearly 6,000 plants (rather than seed), enabling the creation of 4-foot-by-4-foot clumps of similar species. The habitat attracts a variety of bees throughout the blooming season, including several species of bumblebees, sweat bees, and honeybees.

The large grouping of anise hyssop and New England aster attracts the greatest number of bees, including both native bees and honeybees. The flowering upland plants appear to be visited primarily by native bees.

Butterflies, moths, flies, and beetles also frequent the habitat. These pollinators often have hairy legs and other body parts that hold pollen. Butterfly visitors include swallowtails, monarchs, fritillaries, painted ladies, and azure blues. Popular butterfly plants in the pollinator habitat include Rocky Mountain penstemon, meadow blazing star, plains coreopsis, and wild bergamot.

Tufted evening primrose and ten-petal blazing star exhibit impressive, fragrant white blooms that open after dusk and attract large hawk moths and other nocturnal moths. Stiff goldenrod attracts a particularly large number of pollen-eating beetles, as well as bees and wasps.

Built-in pest control

The habitat is also regularly visited by a variety of pest control insects. The presence of these beneficial insects eliminates the need for pesticides or herbicides.

Dragonflies and damselflies, for example, help manage the mosquito population. Site managers have noticed that many dragonflies alight on 2-year-old plant stems about 24 inches tall. Once the dragonflies find a preferred perching stem, they return to it again and again. Because of this habitat preference, dead stalks are left in place through multiple seasons.

Another pest control insect is the thistle gall fly, a species introduced from Europe that helps control the Canada thistle. The fly's larvae develop inside a large gall (bulbous growth) on the stems of the plant. The galls do not kill the plant but appear to handicap its aggressive growth, giving native plants a chance to compete.

Bountiful birds

The site attracts birds as well as insects. Hummingbirds are the most common pollinating bird in the continental U.S. They are attracted to the brightest, showiest flowers, such as the native nectar plants Indian paintbrush, scarlet gilia, fireweeds, columbines, larkspurs, and penstemons.

In the library habitat, hummingbirds can be seen beginning in mid-July. They are drawn to the orange tubular flowers of Orange Carpet® Hummingbird Trumpet and red-blooming penstemons, such as firecracker penstemon, pineleaf penstemon, Bridges' penstemon, and scarlet bugler penstemon.

The garden attracts hummingbirds with nectar, but

Bumblebee visits leadplant (*Amorpha canescens*) in the pollinator habitat. Photo by Nancy Loomis.

Laramie County Library's Top Plant Picks

Common Name	Botanical Name	Plant type
anise hyssop	*Agastache foeniculum*	wmp
basin wild rye	*Leymus cinereus*	wmp
big bluestem	*Andropogon gerardii*	wmp
blue grama	*Bouteloua gracilis*	upp
Bridges' penstemon	*Penstemon rostriflorus*	upp
buffalograss	*Buchloe dactyloides*	upp
Colorado butterfly plant	*Gaura diffusum* var. *coloradensis*	wmp
firecracker penstemon	*Penstemon eatonii*	upp
golden currant	*Ribes aureum*	upp
Indian ricegrass	*Achnatherum hymenoides*	upp
little flower sunflower	*Helianthus pumilus*	upp
Maximillian sunflower	*Helianthus maximiliani*	wmp
meadow blazing star	*Liatris ligulistylis*	wmp
narrow-leaf purple coneflower	*Echinacea angustifolia*	upp
New England aster	*Symphyotrichum novae-angliae*	wmp
orange butterfly weed	*Asclepias tuberosa*	upp
*Orange Carpet® Hummingbird Trumpet	*Epilobium canum garrettii Orange Carpet®*	upp
pasqueflower	*Pulsatilla patens*	upp
pineleaf penstemon	*Penstemon pinifolius*	upp
plains coreopsis	*Coreopsis tinctoria*	wmp/upp
prairie violet	*Viola pedatifida*	wmp
Rocky Mountain penstemon	*Penstemon strictus*	upp
rubber rabbitbrush	*Ericameria nauseosa*	upp
scarlet bugler penstemon	*Penstemon barbatus*	upp
stiff goldenrod	*Solidago rigida*	upp
swamp milkweed	*Asclepias incarnata*	wmp
ten-petal blazing star	*Mentzelia decapetala*	upp
tufted evening primrose	*Oenothera cespitosa*	upp
western sandcherry	*Prunus pumila* var. *besseyi*	upp
whorled milkweed	*Asclepias verticillata*	upp
wild bergamot	*Monarda fistulosa*	wmp

many other bird species are drawn to the area by plants that provide seeds, berries, and fruit. Little flower sunflower, narrow-leaf coneflower, Maximillian sunflower, and Colorado butterfly plant are favorite plants of seed-eating birds in the library habitat. Fruit-producing shrubs include golden currant and western sandcherry.

The garden also creates habitat for insects and insect larvae, such as caterpillars. Host plants for monarch butterfly larvae include swamp milkweed, whorled milkweed, and orange butterfly weed. Native grasses, including big bluestem, basin wild rye, buffalograss, blue grama, and Indian ricegrass, serve as host plants for native butterflies known as skippers. Prairie violet, which attracts fritillary butterflies, and numerous other larval host plants also grow in the habitat.

It takes a tremendous number of insects to raise a clutch of wild baby birds. Their parents act as accidental pollinators, transferring pollen from one flower to another as they hunt.

What's next?

Now that the library pollinator habitat is established, the plan is to maintain a healthy population of native plants as well as identify and catalog pollinator species using the iNaturalist app. The goal is to pair the identified pollinators with the specific flowers they visit and the time of year when they are seen to better understand the habitat as it evolves.

Laramie County Master Gardeners **Nancy Loomis, Ken Kranz, Wanda Manley,** and **Peggy Zdenek** believe a fulfilling library experience includes plants and pollinators as well as books. To learn more about the Laramie County Library Pollinator Habitat, contact Loomis at antiquescheyenne@aol.com.