

## Habitat establishment for Honeybees

### Overview:

Managed honeybees are an integral part of Wisconsin agriculture, but their populations are in steep decline due to a number of contributing factors, including poor nutrition, disease, parasites, pesticide exposure, and habitat loss. NRCS has dedicated funds through the Environmental Quality Incentives Program to help improve the health of honeybees by increasing the quantity and quality of honeybee forage resources and implementing practices that minimize pesticide exposure. Protecting, enhancing or creating habitat with nectar and pollen-rich plant species will strengthen bee food sources, benefiting both honeybees, other wildlife species, and, in turn, human agriculture.



Diverse prairie planting, *photo credit: Amber Barnes – Pollinator Partnership*

Honeybees require a diversity of flowering plants to fulfill their nutrition requirements, but in the absence of natural areas, honeybees lack forage resources particularly in the early spring and late summer to fall. Thankfully, there are ways to add a diversity of plant species to your landscape that will supply excellent nectar and pollen, effectively providing bee populations with sustainable floral resources throughout the entire season. Most honeybees forage within a 2.5 mile

radius, but forage ranges can depend on resource availability and weather. Having multiple blooming species at any given moment in the season, along with diversity and redundancy, allows for more resilient habitat, and provides additional resources for wild pollinators that are also in desperate need for increased habitat.

### **Benefits of adding or improving habitat for honeybees:**

- Adding plant species that provide a high quality, diversified diet throughout the entire season can increase honey production, hive resiliency and winter survival for Wisconsin beekeepers. More floral resources available to honeybees means less need to supplement with sugar and pollen before winter.
- Many native flowers that are good food sources for honeybees also provide support for our imperiled native pollinators, such as monarchs and native bees, as well as provide habitat for birds and other wildlife
- Habitat and management used for pollinators can also help windbreaks on farms, improve soil structure and stabilization, reduce soil erosion and water runoff, and improve surrounding water quality
- Native plant habitat hosts multitudes of beneficial insects and the services they provide including insect pest control and decreased need for pesticide use
- Providing habitat for honeybees also has potential for protecting pollinators from pesticide drift

### **What can I do on my own property?**

There are many types of NRCS incentive programs, which fund projects to incorporate honeybee habitat into your land and/or current agricultural practices. Each program varies by timeline, acreage, and the type of habitat your life and property can support. Below is a list of just *some* of the services in which NRCS provides landowners with financial assistance. Please check with your regional NRCS office for more details and opportunities.



Native species cover on a farm, photo credit: Amber Barnes – Pollinator Partnership



Purple prairie clover, photo credit: Amber Barnes – Pollinator

### **Establish perennial pollinator conservation cover:**

*Native species cover* – This conservation cover is a seed mix composed entirely of native perennial species. Plant species selected will have a sequential but overlapping bloom time in order to provide continuous sources of food for honeybees. Species selection must contain at least 3, and preferably 5, species from each of the bloom periods of early, mid and late, and also include two native bunch grasses for added structure and nesting sites for native species. Establishment

and site preparation will depend on the scale of the project (a ½-acre minimum); and methodology can accommodate both conventional and organic farming practices. Seeding can be done by no-till or broadcast planting methods. Primary maintenance objectives will include managing weeds and ensuring that grasses do not become dominate by conducting prescribed fires in the fall. Once plant species are established, the area must be maintained without disturbance throughout the entire growing season. Species used will depend on soil moisture regime and support overlapping bloom periods the entire growing season, and may include species such as goldenrods, asters, purple and white prairie clover, golden alexander, mountain mint, ox-eye sunflower, purple coneflower, milkweed *sp.*, blazing star *sp.*, partridge pea, wild lupine, wild bergamot, spiderwort, evening primrose, black-eyed susan, and many others (*uses CP 327 conservation cover, CP 386 Field Border*)



*Non-native/introduced species cover* – While native species are preferred, there are circumstances where non-native, introduced species (but not invasive) can be applicable, for example, as cover crops, or buffers between crop fields. Cover crops comprised of mostly forbs and legumes can provide high-quality bee forage habitat. Some species included are alsike, white and crimson clovers, alfalfa, Timothy or orchard grass (*uses CP 327 conservation cover*)

From top to bottom: Smooth blue aster, Swamp Milkweed, and Goldenrod *sp.* are all excellent native food sources for honeybees *photo credit: Amber Barnes – Pollinator Partnership*

Establish seasonal cropland – For situations where only seasonal cover is applicable, you can use annual forages such as clovers, buckwheat, sunflowers, borage, and lacey phacelia, which provide excellent foraging opportunities for honeybees (*uses CP 327 conservation cover or CP 328 conservation crop rotation, CP 340 Cover Crop*)



Left: Honeybee on a borage flower; Right: Buckwheat in bloom *Photo credit: Laura Jach Smith – Pollinator Partnership*

Incorporate flowering species into your prescribed grazing plan – Lands used for grazing can incorporate perennial flower resources that are highly utilized by honeybees, such as the white, red, and alsike clovers. These species can be inter-seeded into cool season grasses (*uses CP 528 Prescribed grazing, CP 512 Pasture and Hay planting*)



White clover is a high-quality forage for honeybees and grazing livestock *Photo credit: Amber Barnes – Pollinator Partnership*



Left: Maple in bloom, Right: Willow in bloom *photo credit: Amber Barnes – Pollinator Partnership*

Establish native trees and shrubs –

Flowering tree and shrub species that bloom in the early spring provide much-needed nectar resources to honeybees in before most herbaceous crops are flowering. Trees and shrubs such as willow, oak, sugar maple, dogwoods, black-, pin- and chokecherry, serviceberry, elderberry, and sumac all provide high-quality food attractive to honeybees, *uses CP 612 Tree/Shrub establishment*

Protect pollinators with windbreaks and hedgerows – Vegetative barriers can significantly reduce pesticide drift to areas of pollinator habitat. Species chosen for a windbreak/hedgerow can be further selected for their seasonal pollen and nectar availability, *ie. CP 391 Riparian Forest Buffer, CP 612 Tree/Shrub establishment,*

Minimize or delay mowing, haying and burning – Site management that extends and maximizes late-season flowering species can increase foraging time for honeybees, as well as protect overwintering wildlife and native pollinators. To maximize forage time, haying or mowing should be delayed until fall or winter. *ie. CP 511 – Forage Harvest management*

**Additional Information:**

For more information about native species for pollinator habitat, such as establishment, operation and maintenance, and recommended species, please visit your local USDA Service Center, or visit the Wisconsin NRCS website at [www.wi.nrcs.usda.gov](http://www.wi.nrcs.usda.gov). Financial assistance for establishing native pollinator habitat is provided to producers through the Environmental Quality Incentives Program (EQIP).