



Photo Credit Debbie Roos

Part THREE:

Creating and Improving Pollinator Gardens and Habitat

Spring pollinator flowers: beardtongue, yarrow, golden alexander and columbine.

What is a Pollinator Garden?

Quite unlike normal landscaping and flower gardening, a pollinator garden is a bit messy, and once established requires little care except to cut back in winter / early spring. It is packed with plants clumped together, has big bunches of flowers, has plants that bloom in all seasons, has leaf litter, and it is **not** cultivated -- so as to protect bees' nests or overwintering queen bees. It has old logs and woody debris with holes for cavity-nesting bees, bunch grasses and bare soil for ground-nesting bees. It takes patience to see results, as the gardens can take two or three years to establish.

What is Pollination?

[Link to Part 3-A](#), to learn about why pollination is so important for our food supply and ecosystem, and how it works.

How to Create Pollinator Gardens: What do native bees need?

[Handout - Think Like a Pollinator \(short version\)](#): link here to our 2-page handout with an illustration showing essential garden components, with a short list of pollinator plants.

[Bees' Needs, \(long version\)](#): Link here to specific nutritional and habitat requirements in a pollinator garden. Why are some plants better than others for pollinators? Why do bees need certain habitat components? How do non-native honeybees affect native bees?

Meadows

[Establishing Pollinator Meadows from Seed](#) Xerces Society's "how to" prepare and plant seeds for new meadow habitat, site selection and preparation, plant selection and techniques and on-going management for meadows. Shorter instructions, titled *Establishing a Seed Mix*¹ comes from Prairie Moon Nursery; another link called *Establishing a Native Plant Community*² has more detail, such as dealing with weeds, when to plant seeds and mowing.

Farms

The Xerces Society publishes "[Farming for Pollinators: Guidelines for Creating Native Bee Habitat on Farms](#)". The Natural Resources Conservation Service (NRCS) publishes a [Pollinator Habitat Assessment Form](#), a guide for evaluating and ranking farm and agricultural landscape features for existing pollinator plants, nesting and foraging also publishes an [Installation Guide and Job Sheet](#) focused on New England with checklists, seed mixes, site preparation methods and seed installation to help in planning a meadow.

Roadsides - Best Management Practices for Pollinators

Roadsides can be important habitat for pollinators, since they are often in the sun, have flowering plants and only need occasional mowing. This [document](#) was prepared in 2014 for the US Department of Transportation, in response to the call for a national pollinator strategy. It gives advice on roadside maintenance, designing roadside vegetation and includes information on:

- Reducing negative impacts of some vegetation management techniques on pollinator habitat,
- Practices to increase the quality of roadside vegetation for the benefit of pollinators, and
- Landscape design to increase the value of new roadside plantings for pollinators.

A [technical guide](#) from the Pollinator Partnership, *Maintaining Roadsides for Pollinator Establishment, Restoration, Management and Maintenance: A Guide for State DOT*

Managers and State Managers and Staff has case studies and details for comprehensive evaluation and strategy. A less detailed, shorter document than either of these is [Pollinators and Roadsides: Managing Roadsides for Bees and Butterflies](#), from the Xerces Society; it has lots of pollinator information and a good discussion of various mowing strategies, referencing research on this.

Golf Courses

[Making Room for Native Pollinators](#) by Matthew Shepard. Guidelines for golf course managers from the Xerces Society.

Hedge Rows / Using Small Trees and Shrubs

While the meadow habitat areas described above provide food for bees and other pollinators, the focus is on the herbaceous layer. Small trees and shrubs such as pussy willow (right), shadbush (*Amelanchier* species), maple and redbud trees, dogwood shrubs and choke cherry bloom very early in the year when few meadow flowers are blooming, and provide high quality pollinator food to augment meadow plantings for the first pollinators to emerge in the spring. Further, these plants provide habitat for birds and other animals. Link here to a [short list](#) some of these woody plants.



Cold Season (Bunch) Grasses Have Pollinator Value

It is recommended that we plant some native bunch grasses such as little blue-stem, prairie dropseed or purple lovegrass; these plants are relatively low-growing. Unlike many lawn or field grasses with rhizomes that crowd out flowers, bunch grasses will not spread laterally; bees can overwinter or build nests in the bare soil near their base. Some are not tall, many are deep rooted and help retain soil and stormwater, some add structural interest to a garden. There are some native sedges that have similar qualities. Native bunch grasses are host plants for 70 species of native moth and butterfly larvae. [Link here for an essay](#)³ about the value of these grasses, and description of the grasses.

A recent article in *Nature*⁴ (below) confirms the value of these meadow modifications, as bumblebee colonies thrive and spread into new flowering plant habitat. From the abstract of the lead article, researchers state: *'we show that the survival of family lineages from the summer worker to the spring queen stage in the following year increases significantly with the proportion of high-value foraging habitat, including spring floral resources, within 250–1,000 meters of the natal colony. This provides evidence for a positive impact of habitat quality on survival and persistence between successive colony cycle stages in bumblebee populations. These findings also support the idea that conservation interventions that increase floral resources at a landscape scale and throughout the season have positive effects on wild pollinators in agricultural landscapes'*.

A related note in the same issue states: *'Carvell and colleagues' primary finding is that the quality of the habitat that surrounds nest sites affects lineage survival between years (Fig. 1). Beneficial features include: mixed semi-natural vegetation (for example, field margins sown with flowers); spring flowers from trees and hedgerows that are good for queens early in the season; and summer flowers that are good for workers.'*

Updated February 2018

¹ Paste this secure link in your browser - <https://www.prairiemoon.com/blog/site-preparation>

² Paste this secure link in your browser - <https://www.prairiemoon.com/PDF/growing-your-prairie.pdf>

³ This site is from mid-west. It lists buffalo-grass, which is not native here; it probably won't thrive here if planted.

⁴ Cavelle, Clare et al [Bumblebee family lineage survival is enhanced in high-quality landscapes](#) by *Nature* volume 543, pages 547–549 (23 March 2017)

Notes In the same issue summarize these results:

Lozier, JD. *A helping habitat for bumblebees* *NATURE* Volume 543, pages 498-499 (23 March 2017)