



Solar Site Pollinator Establishment and Management Guidelines

Many species of pollinating insects, including bees and butterflies, have experienced population declines in recent years. This document is designed to provide guidelines for establishment of pollinator habitat that meets the criteria of the Pollinator Friendly Solar Site Scorecard for Illinois (525 ILCS 55). Although these guidelines include best practices, they are not all inclusive, nor do they guarantee the successful establishment of pollinator habitat. Soil types, weather and rain patterns, and other factors may impact the success of a new planting.

All methods used or planned for should be outlined in a Vegetation Management Plan (VMP). More details on what is required in a VMP can be found in the “Vegetation Management Plan Guidelines for Pollinator Friendly Solar Sites” on the IDNR’s Solar Site Pollinator Scorecard website.

Site Preparation

Good site preparation is critical and perhaps the most important step to successful establishment of pollinator habitat.

Weed control

- In many cases weeds may be present and must be terminated before planting
- A broad-spectrum systemic herbicide such as glyphosate works in most cases
- In some cases, such as with the presence of *Sericea Lespedeza*, other herbicides may need to be used as well.
- Multiple applications may be required. This is especially true if tall fescue is present.
- Weed seeds can be stimulated by tillage. If tillage is used, wait until weeds reach appropriate height after tillage to spray.
- ALWAYS READ AND FOLLOW ALL HERBICIDE LABELS

Seedbed

- Bare ground is the ideal seedbed
- If using a no-till drill, minimal seedbed preparation is needed. Any eroded gullied or washes should be worked and smoothed.
- If broadcast seeding, work the ground fine then firm the seedbed with a cultipacker or similar. Ground should be firm not hard.

Seeding

Native prairie species are preferred and should be the only thing planted to the perimeter and buffer areas. However, some prairie plants can grow tall. Setting solar panels at taller heights and choosing shorter plants for between and under rows can prevent shading. If this is not an option, mixing some clover (not sweet clover) in with some shorter native species is a less desirable but an acceptable practice.

- Species should be native to the area and adapted to the site (For example: little bluestem grass on a dry site or monkey flower on a wetter site).
- It is very important that seed not be planted too deep. 1/8"-1/4" is the target depth. Some seed sitting on top is ok.
- If broadcast seeding the area should be rolled with cultipacker, harrow or similar after seeding.
- Seeding should generally be done between November 15 and June 15.
- Seeding rates should be calculated by seeds/ ft² (not by weight) of Pure Live Seed (PLS).
 - $PLS = \% \text{ Purity} \times \% \text{ Total Germination} / 100$
- For pollinators, the more flowers the better. A ratio of 25% Native Grass to 75% Native Forbs (wildflowers) is preferred.
- The goal is to provide food for pollinators throughout the year. Having a minimum of three species blooming in the Spring (April-May), Summer (June-August), and Fall (September-October) can accomplish this.
- Slope 5% or less - Minimum seeding rate of 20 seeds/ ft² PLS. (5 Grass Seeds and 15 Forb seeds)
- Slope > 5% - Minimum seeding rate of 40 seeds/ ft² PLS. (10 Grass Seeds and 30 Forb seeds)
- An oat companion crop should be used if slopes are >5% and in areas with erosion potential.
- If the site was previously an agricultural field, the farm may have used an herbicide with residual control. Contact the farmer to get this information and application dates. Then wait until after herbicide effects have expired. A temporary cover of oats, wheat or rye can be used to prevent erosion during this time.
- Planting plugs can be a way to increase diversity without waiting for seeds to germinate. Be sure to keep plugs moist before planting.

Maintenance

Lack of maintenance can cause newly established plantings to fail. Without proper maintenance, pollinator habitat can quickly be over taken by undesirable species such as woody plants or invasive species. Sites should be checked for these undesirable species at least annually. The easiest and most cost-effective management technique is to catch and treat an invasion early. Any equipment (tractors, mowers, hay rakes, etc.) used to manage the site should be cleaned free of weed seed before entering the site.

Short-Term Management

Guidance for short-term or the establishment phase of pollinator friendly vegetation.

- During the first year, mow at a height of 10" or greater 1-3 times during the growing season if undesirable weeds are overtopping the newly established seedlings.
- Use spot mowing and/or spot herbicide treatment to control noxious and undesirable weeds.

- After the first year, avoid mowing (other than spot mowing) between April 15th and October 1st
- Interseeding or plug planting may need to be done during the establishment phase to ensure the requirement of the “Established Pollinator Habitat on Solar Sites Scorecard.”

Long-Term Management

- Broadcast mowing or herbicide application should not be used in long-term management.
- Use spot mowing and/or spot herbicide treatment to control noxious and undesirable weeds.
- Mowing can temporarily control invasion by trees, invasive species, and other undesirable species. However, it is not effective in the long run. Instead, spot treat with herbicide being careful not to damage the grasses and forbs.
- Prescribed fire every 1-3 years is the ideal maintenance method and can be used on perimeter and buffer areas to the solar panels.
- Fire is not an option between and immediately adjacent to solar panels. In place of fire, haying can be used every 1-3 years to remove thatch buildup.
 - Haying should only be done once a season at a height of 6” or greater.
 - No more than half the site should be hayed each year.
- Livestock grazing can be used to help manage solar site vegetation.
 - A separate grazing plan should be created if this method is used.
 - A grazing plan should include goals of grazing, type and number of animals, plans for fencing, time and duration of grazing, and details to ensure vegetation is not overgrazed.
 - No more than half the site should be grazed each year.
- Interseeding or plug planting may need to be done during the life of the solar site to meet the “Established Pollinator Habitat on Solar Sites Scorecard” requirements.

For question, please email DNR.PollinatorSolar@illinois.gov