

# Solar Site Pollinator Establishment Guidelines

Many pollinator species, butterflies, bees, etc., that we rely on for much of our food have seen a decline in recent years. This document is designed to provide guidelines to establish pollinator habitat that would meet the criteria of the Pollinator Friendly Solar Site Scorecard for Illinois (525 ILCS 55). Although these guidelines are believed to be good general practices, they are not all inclusive, nor do they guarantee the successful establishment of pollinator habitat.

## 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 need to 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 need to be made. 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 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 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 (i.e. Little Blue Stem on a dry site or swamp milkweed on a wetter site).
- It is very important that seed not be planted too deep. 1/8"-1/4" is the depth to shoot for. 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 Nov 15 and June 15.

- Seeding rates should be calculated by seeds/ ft<sup>2</sup> (not by weight) of Pure Live Seed (PLS).
  - $PLS = \% Purity \times \% Total\ Germination / 100$
- 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/ ft<sup>2</sup> PLS. (5 Grass Seeds 5 and 15 Forb seeds)
- Slope > 5% - Minimum seeding rate of 40 seeds/ ft<sup>2</sup> 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. Also, without proper maintenance, pollinator habitat can quickly be over taken by undesirable species such as woody plants or undesirable species. Sites should be checked for these undesirable species at least annually. The easiest at most cost-effective management technique is to catch and treat an invasion early.

- 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 between April 15<sup>th</sup> and October 1<sup>st</sup>
- 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, hay between rows every 1-3 years to remove thatch buildup.
- 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.
- Interseeding or plug planting may need to be done after the 3 year establishment phase to meet the "Established Pollinator Habitat on Solar Sites Scorecard" requirements.

For more info on establishing Pollinator Habitat, see link below.

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