

## The Benefits of Planting Pollinator Habitat at Solar Farms, Surplus Property, or Brownfields

Solar farms are becoming increasingly popular in the United States and other countries as companies look to reduce their carbon emissions and become more energy independent. There is an extraordinary opportunity for solar farm developers, owners, and operators to multiply the benefits provided in the solar farm's space.

Planting a suite of flowering native plant species in open areas throughout a solar farm can help support declining pollinator populations while also providing other benefits to the environment, owners/operators, and the communities. Here we look at the many benefits of planting native pollinator habitats instead of turf grass at solar farms, including financial and community stakeholder perceptions.

### Pollinator Habitat Supports Declining Pollinator Populations and Increases Biodiversity

Pollinators are essential to the environment and the economy. More than 80% of the world's flowering plant species need pollinators to reproduce. Additionally, over 100 crops in the United States rely on pollinators to produce – including blueberries, apples, watermelons, and almonds. Unfortunately, pollinator species are rapidly declining worldwide due to a variety of pressures. By planting a suite of native flowering plant species in the open areas at their sites, solar farm developers can help support vulnerable pollinators and therefore ensure that the surrounding environment can persist and thrive.

Pollinators are keystone species that act as the glue that keep ecosystems together by supporting the reproduction of a variety of plants. Plant diversity creates habitat for other species including birds and a variety of other wildlife, allowing them to thrive.



Pollinator Habitat at SunTribe Cople Elementary School Project, Westmoreland County, VA

Photo courtesy of Caitlin Cyrus

### Pollinator Habitat Provides Other Important Ecosystem Services and Benefits

When appropriately designed, pollinator habitats can help reduce stormwater runoff, increase erosion and sediment control stabilization, and sequester more carbon over time. The diversity of plant species observed above ground is also reflected by a diversity of root systems belowground, the structure of which is more complex and penetrates more deeply into the soil when compared to the shallow and

uniform roots of turf grass. The diverse assemblage of roots created by pollinator habitat therefore helps to hold more bulk soil in place when compared to turfgrass. Further, the channels formed by these root systems penetrating deeply into the soil profile creates paths for water to flow more readily into the ground after a rain event. Root biomass is created by atmospheric carbon dioxide captured during photosynthesis. The carbon dioxide is eventually transferred into the root systems and deposited into the soil belowground. Therefore, pollinator habitat can sequester more carbon than a traditional turf grass scenario.

### **Pollinator Habitat Reduces Maintenance and Generates Long-Term Cost Savings**

After the initial establishment years, pollinator habitat requires minimal maintenance when compared to turfgrass. Solar farms, surplus property, or brownfields developers need not worry about fertilizing or watering the plants. Mowing schedules are also significantly reduced over time to only once or twice a year. This reduced maintenance schedule allows solar farms to focus on their core missions while also reaping the cost savings of fewer mobilizations.

### **Pollinator Habitat Improves Aesthetics and Provides Other Community Benefits**

Pollinator habitat also helps to improve the aesthetics of a solar farm. Instead of a uniform lawn, solar farm developers can create an attractive and vibrant landscape of flowering plants. This helps to make the solar farm more visually appealing to the neighbors and the public.

### **Pollinator Habitat Can Contribute to Regulatory Compliance**

With all the benefits of planting native pollinators, it is no wonder that states and local regulatory agencies are beginning to require native plant species to be included in any infrastructure project. The use of native plants can help reduce impacts on existing habitats and ecosystems. By complying with regulatory requirements, solar developers can minimize the overall impacts on the environment while providing a tremendous resource for local citizens and adjacent farmers.