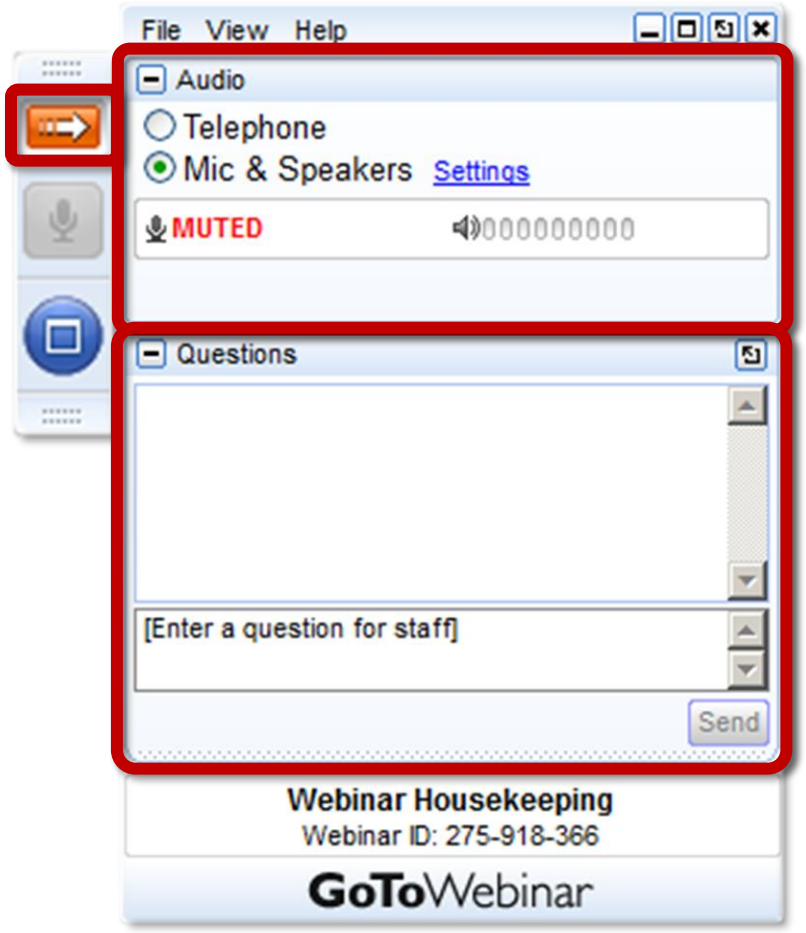
CESA Webinar

State Pollinator-Friendly Solar Initiatives

May 5, 2020

CleanEnergy States Alliance

Housekeeping



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DMME Virginia Department of Mines Minerals and Energy

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Smart Electric Power Alliance

www.cesa.org

Webinar Speakers

- **Georgena Terry**, Research Associate, Clean Energy States Alliance
- **Rob Davis**, Director of the Center for Pollinators in Energy, Fresh Energy
- **Rene' Hypes**, Environmental Review Coordinator, Virginia Department of Conservation and Recreation
- **Ben Inskeep**, Principal Energy Policy Analyst, EQ Research
- **Dan Shaw**, Senior Ecologist & Vegetation Specialist, Minnesota Board of Water and Soil Resources
- **Nate Hausman**, Project Director, Clean Energy States Alliance (moderator)

Fresh Energy

DCR Virginia Department of Conservation & Recreation

EQ Research

BWSR

CleanEnergy States Alliance

Thank you for attending our webinar

Nate Hausman
CESA Project Director
nate@cleanegroup.org

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Upcoming Webinars

Replacing Diesel in an Alaskan Community: Cordova's New Battery Energy Storage System
Thursday, May 7, 2-3:30pm ET

100% Clean Energy States and the 100% Clean Energy Collaborative
Monday, May 11, 3-4pm ET

Decarbonizing Electricity: The Critical Role of Firm Low-Carbon Resources
Friday, May 15, 2-3pm ET

Read more and register at: www.cesa.org/webinars

State Pollinator-Friendly Solar Initiatives

The Importance of Pollinators

- One quarter of agricultural production depends on pollinators.
- Bee populations have declined by as much as 30% annually.
- Many bee species are extinct or at risk of extinction.
- Habitat loss is the primary reason for pollinator declines.
- Other insect pollinators include butterflies, beetles and flies.

To reduce maintenance costs, areas under solar arrays are often stripped of vegetation which may then be replaced with gravel or turf grass and treated with herbicides.

Where land is cultivated with appropriate vegetation, pollinator habitat can be preserved or created.

This vegetation is less maintenance-intensive than turf grass. It can absorb heat, lowering the temperature of the surrounding panels and increasing panel efficiency.

In areas where pollinator-friendly solar projects are deployed near agriculture that depends on pollinators, agricultural production may be intensified.

State promotion of pollinator-friendly solar through legislative initiatives

- Seven states have passed legislation that allows solar projects to claim they are pollinator-friendly.
- In all states, guidelines are defined for a *voluntary designation* by the solar project owner.
- Most guidelines rely on a scorecard to assess whether the site qualifies for the pollinator-friendly designation.

State Actions

Minnesota — 2013 — Pollinator habitat program (H.F. 976); 2016 — Solar Sanctuaries Bill (H.F. 3353)

Maryland — 2017 — Solar Facilities Pollinator-Friendly Designation (S.B. 1158)

South Carolina — 2018 — Solar Habitat Act (H. 4875)

Vermont — 2018 — Pollinator-Friendly Solar Generation Standard (H. 676)

New York — 2018 — Pollinator-Friendly Solar Bill (A.O. 8083A)

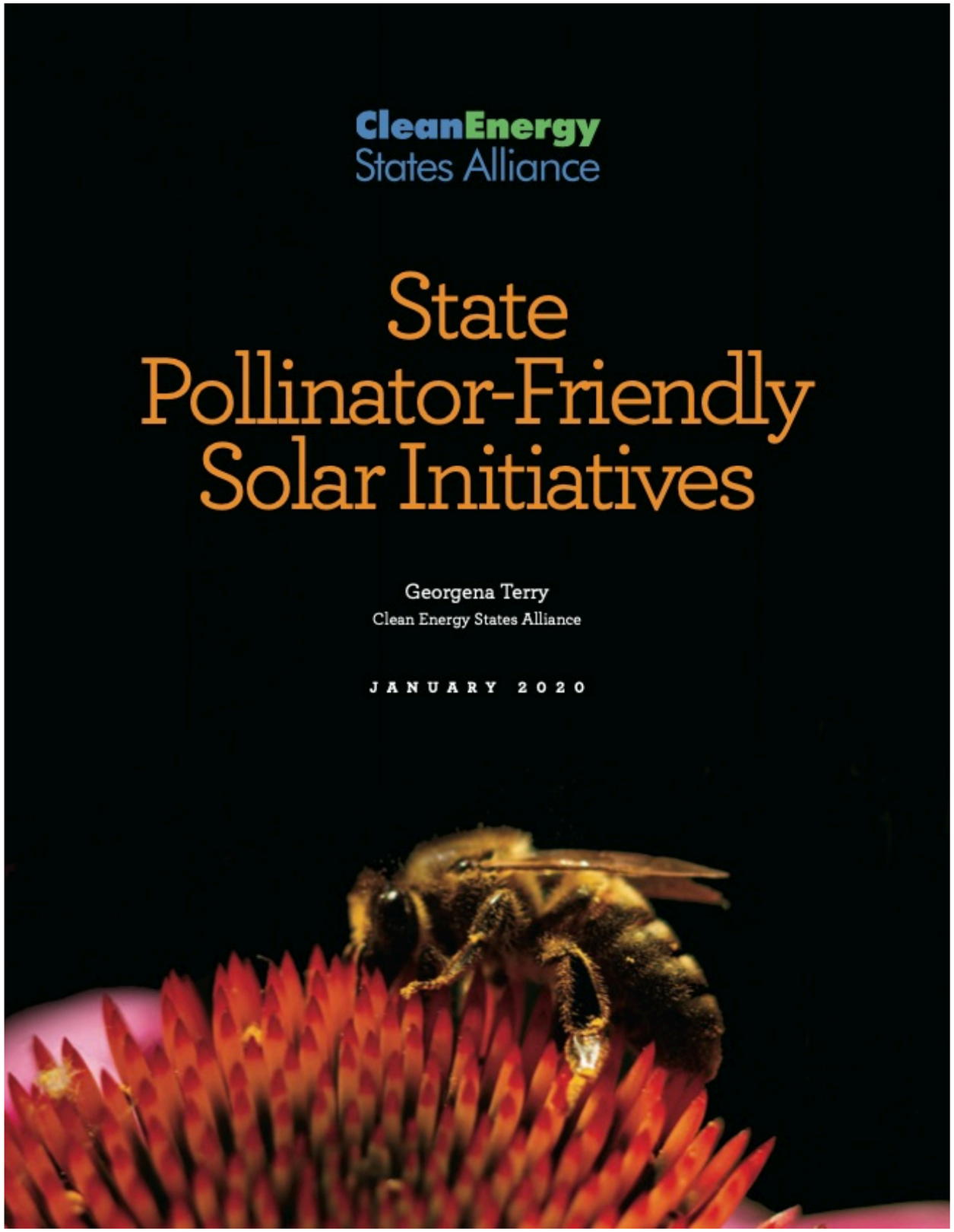
Illinois — 2018 — Pollinator-Friendly Solar Site Act (S.B. 3214)

Michigan — 2019 — Amendments to the Farmland Open Space Preservation Program (PA 116)

(Bill introduced in Kansas — 2020 — Kansas Solar Pollinator Habitat Act (H.B. 2623))

Other Ways States Can Promote Pollinator-Friendly Solar PV

- States have a vested interest in pollinator protection for ecological conservation and agricultural productivity.
- They can encourage municipalities to consider pollinator habitats in their solar permitting processes.
- They can provide educational materials on the importance of pollinators which are targeted to solar developers, farmers, or to a wider citizen audience.
- State agencies can take proactive roles in encouraging pollinator friendly solar development.
- State agencies may participate as board members in academia's pollinator research.



This CESA white paper on pollinator-friendly solar initiatives can be found at https://www.cesa.org/assets/State-Pollinator-Friendly-Solar-Initiatives.pdf

Please send questions or comments to:
Georgena Terry
GTerry@cleanegroup.org

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NREL
NATIONAL RENEWABLE ENERGY LABORATORY
40
1977 – 2017

NREL, Bloomberg New Energy Finance, Energytrend.com

Examples of
“status quo” PV solar

RICHARD BEAVEN FOR THE WALL STREET JOURNAL

Energy from more than 1,200 solar panels powers Benjamin Freund's 650-acre dairy farm and home in East Canaan, Conn.

Solar Projects Sow Tension

As panels supplant crops on more farms, states weigh limits on big renewable fields

By Joseph De Avila

The boom in solar energy is forcing states and farming communities to grapple with where large renewable-energy projects should be built.

In Connecticut, a state senator has proposed a bill that would discourage the use of farmland for solar projects. Counties in North Carolina and Washington have already imposed temporary restrictions on solar projects, citing

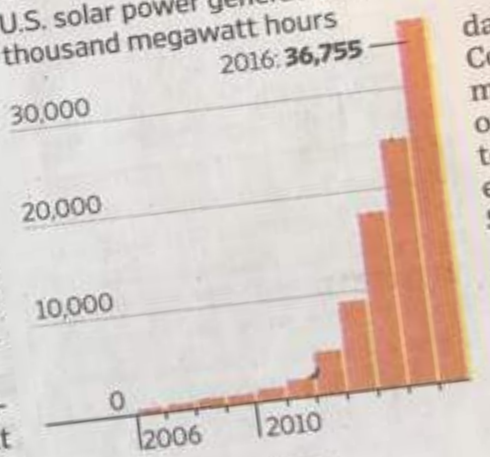
tion of Counties.

The pressure in rural areas stems, in part, from simple economics. Some farmers are installing solar panels on a patch of their land to help offset energy costs. Other farmers are renting out entire fields to solar companies that can afford to pay premium prices for access to clear fields that don't require much work or money to prepare for a solar project.

"Of course, there can be local tension in terms of what people are used to on the farmland, what people like to see in a rural environment," said Amit Ronen, director of the George Washington University Solar Institute. "But I don't see it as a long-term

On the Bright Side

U.S. solar power generation in thousand megawatt hours



Source: Department of Energy

THE WALL STREET JOURNAL.

North Carolina Clean Energy Technology Center.

But large solar installations don't always sit well with local

whelming opposition," said Mr. Scanlon. The county denied the application.

Benjamin Freund, who has a dairy farm in East Canaan, Conn., in recent years installed more than 1,200 solar panels on a patch of his land and on top of his dairy barn. The generated power offsets his entire $6,000 monthly energy bill.

He said he doesn't like competing with solar companies when he needs access to other farmland, but he also doesn't like being told what he can build on his property.

"From a property rights standpoint, this is a heavy-handed way to say that my property no longer has this development potential simply because of the fact that it's arable land," Mr. Freund said.

Robin Chesmer, managing member of a dairy farm in

Westmill Solar Park
© Guy Parker

What constitutes “pollinator-friendly” in the context of a solar array?

Greenwashing... leads to distrust

Getting started… meaningful and incremental improvement over time.

Greenwashing... leads to distrust

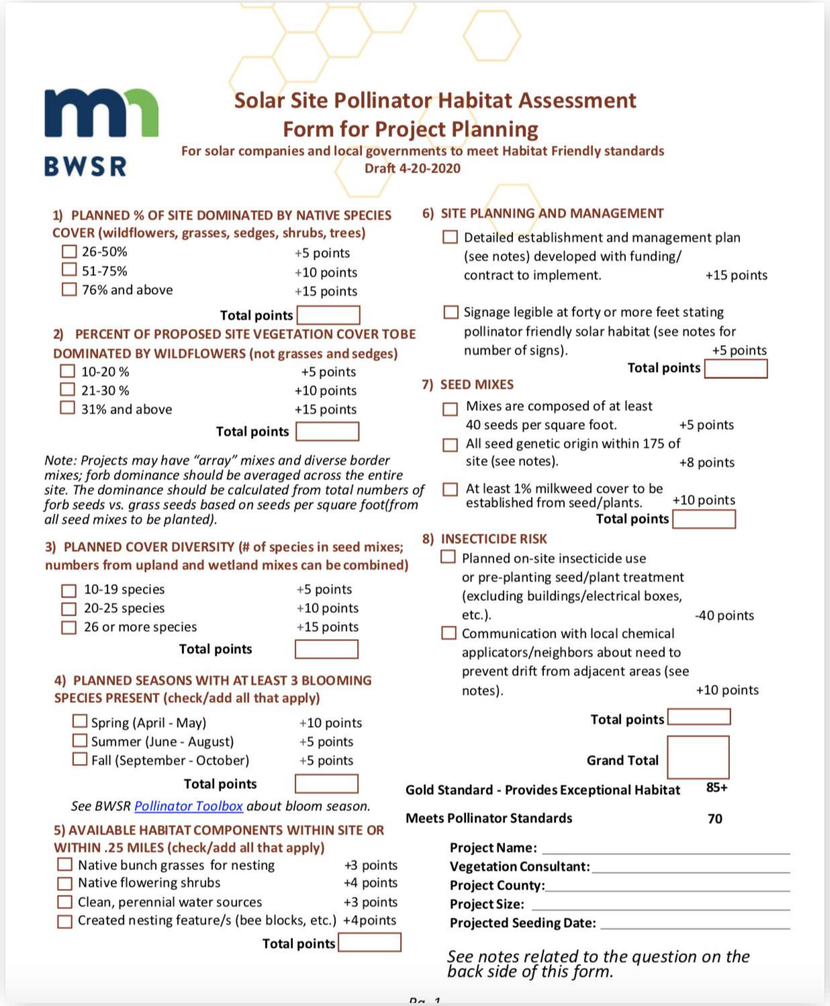
Getting started… meaningful and incremental improvement over time.

Pollinator-friendly Solar Scorecards


Dr. Karen Oberhauser
University of Minnesota
Dr. Marla Spivak
University of Minnesota

Flexible Standard, Vetted by Expert Entomologists

- Percent wildflowers
- Percent native species
- Diversity of species
- # seasons flowering
- Nearby assets
- Signage?
- Managemet plan?



BWSR

Solar Site Pollinator Habitat Assessment Form for Project Planning

For solar companies and local governments to meet Habitat Friendly standards
Draft 4-20-2020

1) PLANNED % OF SITE DOMINATED BY NATIVE SPECIES COVER (wildflowers, grasses, sedges, shrubs, trees)

- ☐ 26-50% +5 points
- ☐ 51-75% +10 points
- ☐ 76% and above +15 points

Total points ☐

2) PERCENT OF PROPOSED SITE VEGETATION COVER TOBE DOMINATED BY WILDFLOWERS (not grasses and sedges)

- ☐ 10-20 % +5 points
- ☐ 21-30 % +10 points
- ☐ 31% and above +15 points

Total points ☐

Note: Projects may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. The dominance should be calculated from total numbers of forb seeds vs. grass seeds based on seeds per square foot(from all seed mixes to be planted).

3) PLANNED COVER DIVERSITY (# of species in seed mixes; numbers from upland and wetland mixes can be combined)

- ☐ 10-19 species +5 points
- ☐ 20-25 species +10 points
- ☐ 26 or more species +15 points

Total points ☐

4) PLANNED SEASONS WITH AT LEAST 3 BLOOMING SPECIES PRESENT (check/add all that apply)

- ☐ Spring (April - May) +10 points
- ☐ Summer (June - August) +5 points
- ☐ Fall (September - October) +5 points

Total points ☐

See BWSR Pollinator Toolbox about bloom season.

5) AVAILABLE HABITAT COMPONENTS WITHIN SITE OR WITHIN .25 MILES (check/add all that apply)

- ☐ Native bunch grasses for nesting +3 points
- ☐ Native flowering shrubs +4 points
- ☐ Clean, perennial water sources +3 points
- ☐ Created nesting feature/s (bee blocks, etc.) +4points

Total points ☐

6) SITE PLANNING AND MANAGEMENT

- ☐ Detailed establishment and management plan (see notes) developed with funding/ contract to implement. +15 points
- ☐ Signage legible at forty or more feet stating pollinator friendly solar habitat (see notes for number of signs). +5 points

Total points ☐

7) SEED MIXES

- ☐ Mixes are composed of at least 40 seeds per square foot. +5 points
- ☐ All seed genetic origin within 175 of site (see notes). +8 points
- ☐ At least 1% milkweed cover to be established from seed/plants. +10 points

Total points ☐

8) INSECTICIDE RISK

- ☐ Planned on-site insecticide use or pre-planting seed/plant treatment (excluding buildings/electrical boxes, etc.). -40 points
- ☐ Communication with local chemical applicators/neighbors about need to prevent drift from adjacent areas (see notes). +10 points

Total points ☐

Grand Total ☐

Gold Standard - Provides Exceptional Habitat 85+

Meets Pollinator Standards 70

Project Name: _____
Vegetation Consultant: _____
Project County: _____
Project Size: _____
Projected Seeding Date: _____

See notes related to the question on the back side of this form.

Pollinator-Friendly Solar

Incremental <> Meaningful

Solar site vegetation that helps bees and beneficial insects

Minnesota Power solar
Prairie Restorations


Bee the Change

Enel Green Power
Photo © Josh Janske,
Minnesota Native Landscapes

© Rob Davis

September 2016

Engie solar project, Wisconsin
Photo © Engie

September 2017

Engie solar project, Wisconsin
Photo © Prairie Restorations

Engie solar project, Wisconsin
Photo © Engie

Denison University,
Photo by Susan Studer King

University of Dayton
Before Seeding

University of Dayton
Photo by Terry Levy

Connexus Energy, Minnesota

Pine Gate Renewables, Oregon

Maryland

President Carter's Farm
Plains, Georgia
Seeded in 2019 to be pollinator-friendly

Global Energy Innovators

Enel Green Power

Photo courtesy Jake Janske

Engie

Multinational corporations, each with >150,000 employees

Solar Developers

- Eden Renewables
- OneEnergy Renewables
- Encore Renewables
- Pine Gate Renewables
- US Solar
- Sun Tribe
- Namaste Solar
- SunCommon
- Innovateus
- IPS Solar
- SolAmerica
- SunShare
- Solar Energy Systems
- Community Energy
- C2 Energy

US Solar Corporation

Utilities

- Connexus Energy
- Xcel Energy
- Southern Municipal Power
- MCE Clean Energy

- Alliant Energy
- Dairyland Power

Benefit: *Universities want pollinator-friendly solar*

University of Dayton

DENISON

The Inquirer

Solar as a crop? Penn State to install state's largest solar array on 500 acres of farmland.

PennState

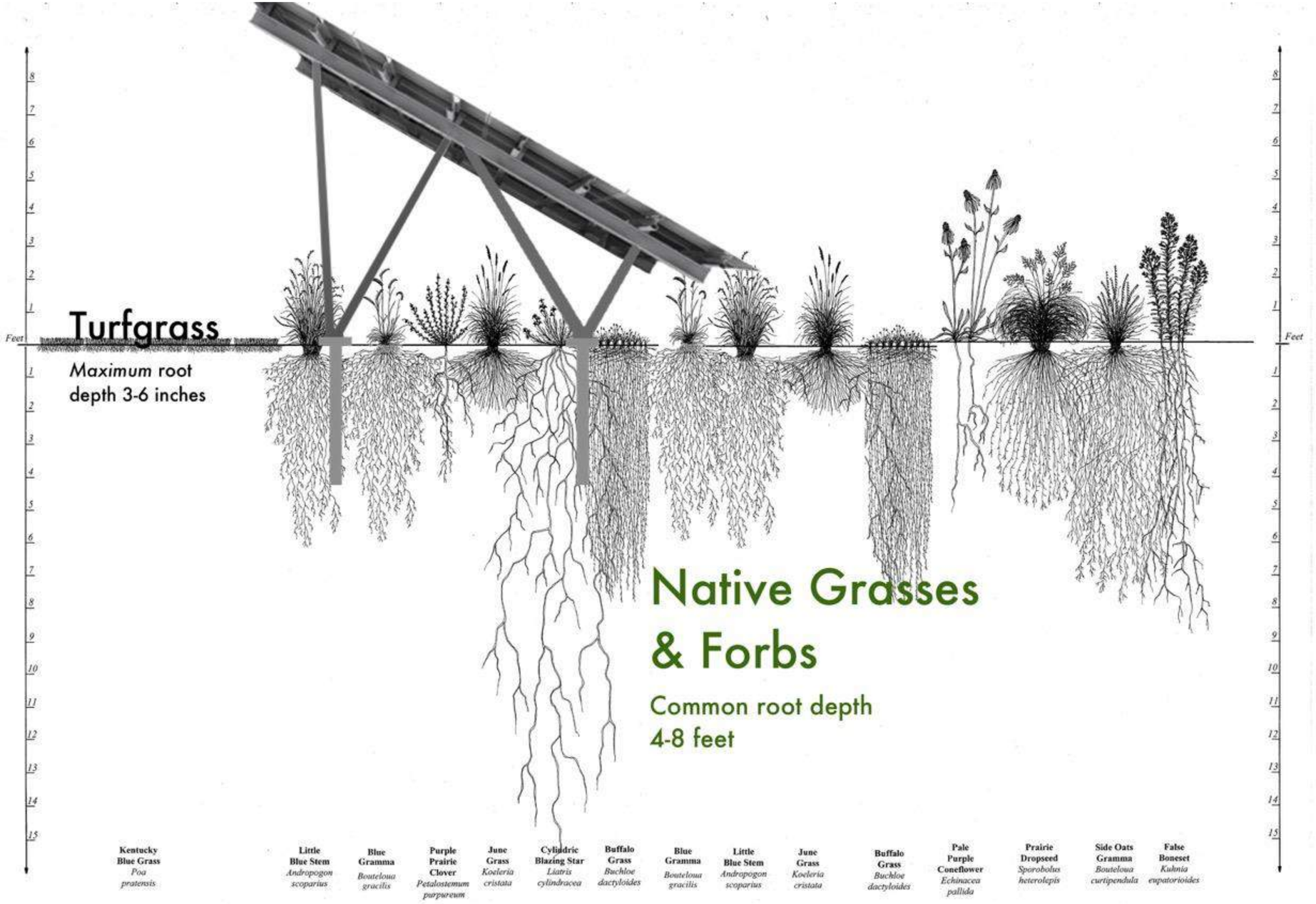
Benefit:
Corporations want pollinator-friendly solar

CLIF BAR & COMPANY

Organic Valley launches community solar partnership to be 100 percent renewably powered by 2019

Farmer-owned cooperative will become the largest food company in the world to source all its electricity from renewable resources within the decade.

ORGANIC VALLEY

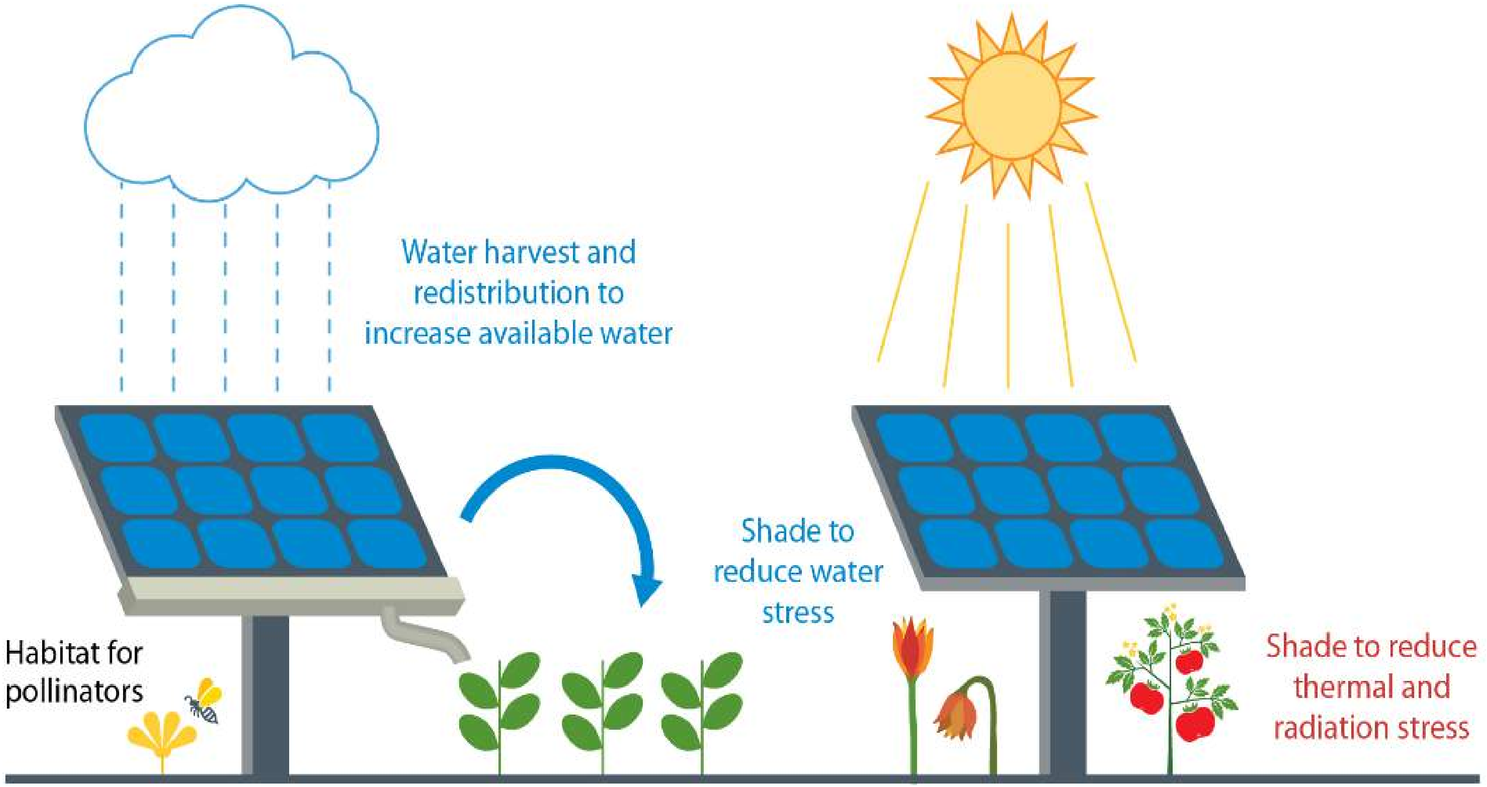


Solar Site Management for Soil, Storm Water, and Pollinator Benefits

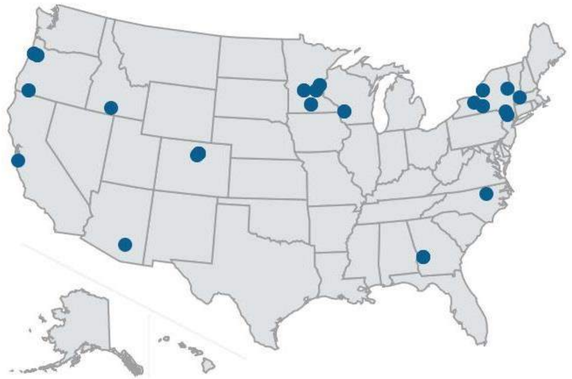
Rob Davis, Fresh Energy

Adapted with permission from Heidi Natura, Living Habitats © 1995

InSPIRE Project Overview



InSPIRE Project Sites



Select from the options below to display all sites using that technology.

- Beekeeping
- Co-location of Solar and Agriculture
- Native Vegetation
- Solar-Integrated Greenhouse
- Beneficial Predators
- Dryland Agriculture Co-location
- Pollinator Habitat

Field-based research topics:

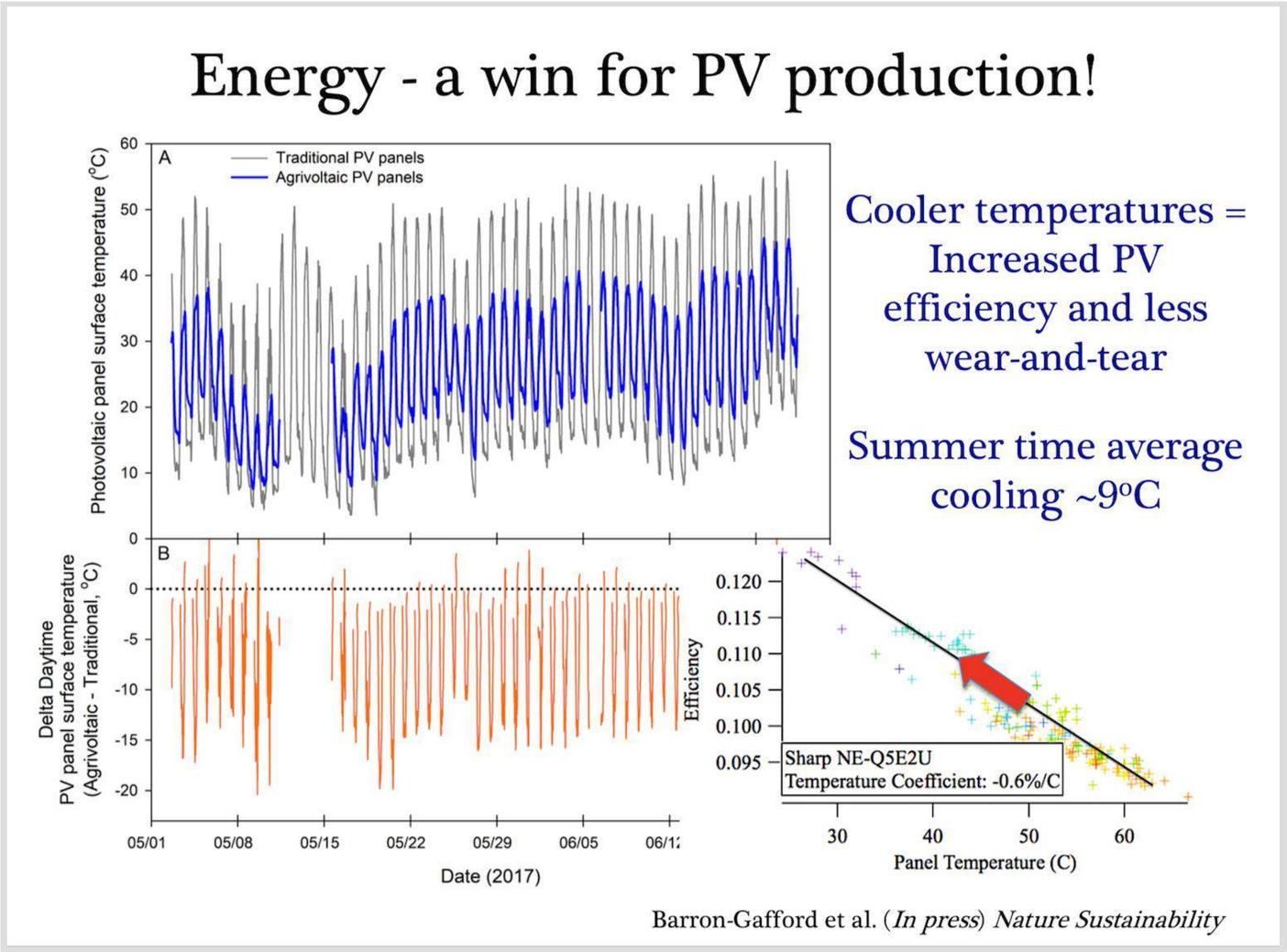
(1) Economic viability of solar-agriculture co-location configurations
(2) Increasing agricultural yields in arid environments
(3) Energy, water, and food security in remote, off-grid areas
(4) Pollinator habitat and ecological services

Analytical research topics:

(1) Satellite imagery analysis of current land groundcover practices
(2) Cost-benefit analysis of O&M ground cover practices
(3) Quantification of ecological services of groundcover options

Benefit: slow PV loss/degradation in a warming world

PV efficiency degrades by an average of 0.6% for every 1°C increase in temperature above 25°C (77 F).



CITATIONS

Kaldellis, J. K., Kapsali, M. & Kavadias, K. A. Temperature and wind speed impact on the efficiency of PV installations. Experience obtained from outdoor measurements in Greece. *Renewable Energy* **66**, 612-624, doi:10.1016/j.renene.2013.12.041 (2014).

Said, S. A. M., Hassan, G., Walwil, H. M. & Al-Aqeeli, N. The effect of environmental factors and dust accumulation on photovoltaic modules and dust-accumulation mitigation strategies. *Renewable & Sustainable Energy Reviews* **82**, 743-760, doi:10.1016/j.rser.2017.09.042 (2018).

Cronin, A. *et al.* Measuring degradation rates of PV systems without irradiance data. *Progress in Photovoltaics* **22**, 851-862, doi:10.1002/pip.2310 (2014)

Benefits / Questions / Issues

Benefits

- Community support
- Soil benefits
- Permit approval
- Reduced mower/solar contact
- Reduced grading/stormwater
- Resilient landscaping
- Brand / enhanced reputation
- Solar energy performance
- Reduced frost heave risk

Questions

- Burn/fire risk?
  - (No: solar sites are cooler. Corn field?)
- OSHA
  - (Solve w/ proper attire)
- Endangered species act
  - (CCAA or other FWS agreement)
- Seed supply
  - (Plenty of native species in stock, local-ecotype is scaling up supply)
- Unfamiliarity/ training
  - (Hire experienced partners)

Conservation Grazing

- Controlled rotational grazing using flexible electric fences
- Benefits plant diversity
- Increase soil carbon
- Actively managed grazers keep animals focused on vegetation
- Best when PV design is “sheep ready”
- Recommended by American Solar Grazing Association

Photo by Jake Janske
Minnesota Native Landscapes

Flowering solar farms & honey bee hives

FAST COMPANY

06.25.18 | WORLD CHANGING IDEAS

This new solar farm combines clean energy and beehives

Using the space around the solar panels as sites for 48 hives, the Eagle Point solar farm is using its land to save pollinators and help local agriculture.

John Jacob of Old Sol Apiaries
Pine Gate Renewables Solar
Medford, Oregon

Solar Grown™ honey: a specialty crop of honey harvested from hives on pollinator-friendly solar farms.

Cutting open the first frames of honey from the 2019 harvest.

Minnesota Department of Agriculture Commissioner Thom Petersen with Dustin Vanasse, CEO of Bare Honey

Forest City Solar

15 acre site in north west Iowa
Bee & Butterfly Habitat Fund Seed Mix throughout site
Power goes to Forest City Electrical Utility
Solar Renewable Energy Credits (S-RECs) go to Clif Bar & other partners
Bare Honey manages hives

Photos:
Forest City Mayor Barney Ruiter
Dustin & Grace Vanasse of Bare Honey

Clif Family Winery
Solar Grown Honey
www.ClifFamily.com

Hives managed by
Dustin Vanasse
Bare Honey

Solarama Crush
East Coast Style ”Hazy” IPA made with honey from a pollinator-friendly solar array

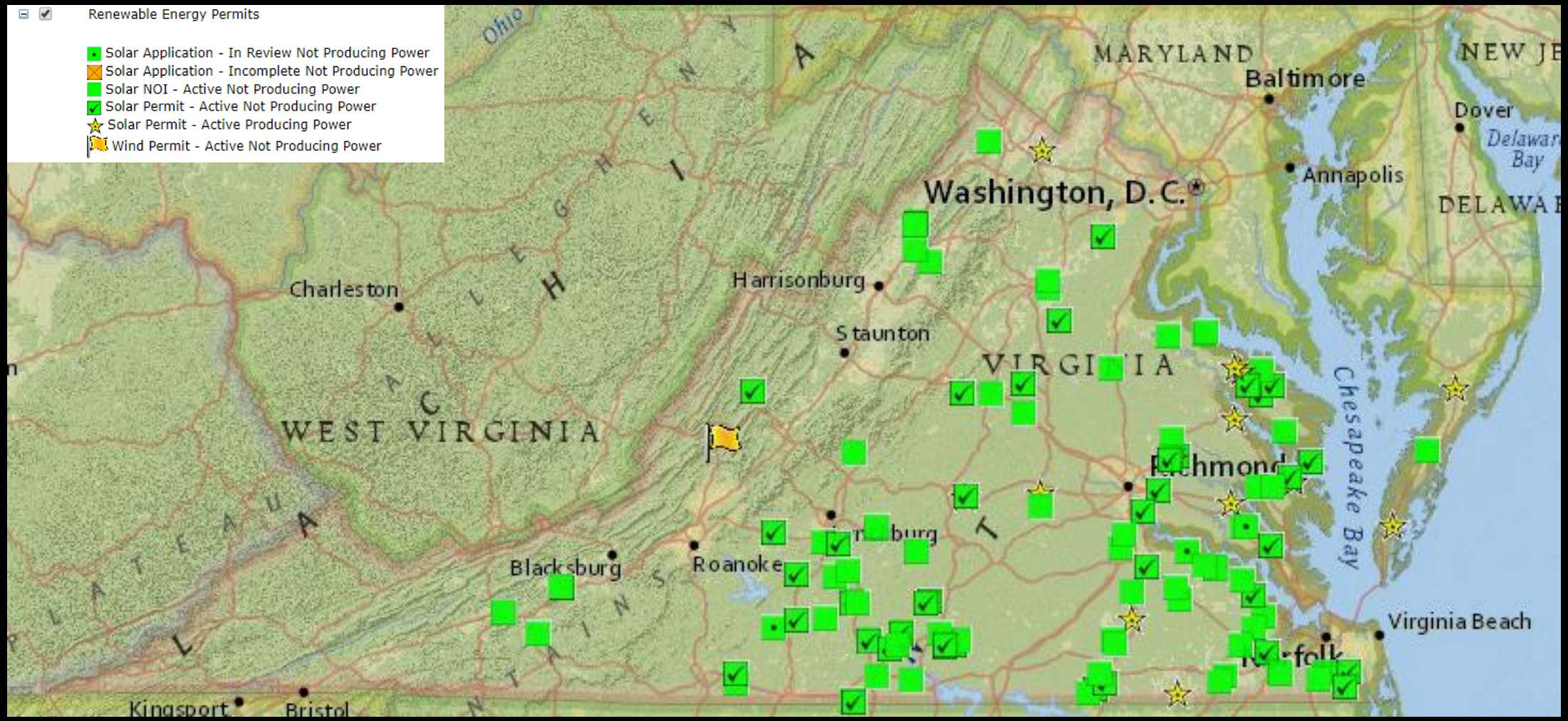
Chef Gavin Kaysen, Coach of Team USA for Bocuse d’Or, the world’s most rigorous culinary competition

Fresh Energy

Status of Solar in Virginia

- DEQ developed a “permit by rule” to facilitate the review of small solar projects in Virginia; it became effective on July 18, 2012
- Since 2015, DEQ has issued 45 permits for projects over 5MW, impacting a total of almost 25,000 acres.
- An additional 62 new projects have been proposed, totaling an additional 36,351 acres.

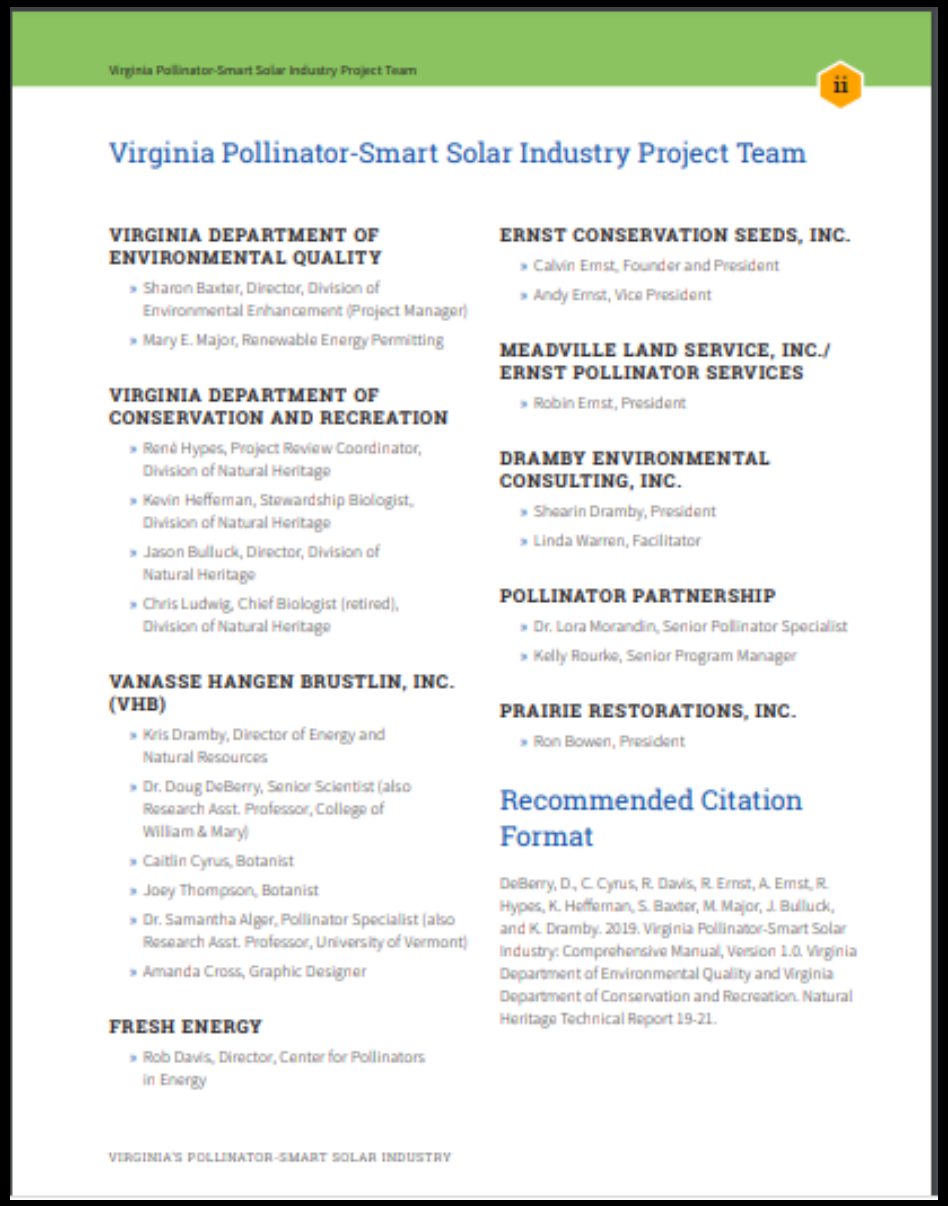
Virginia Renewable Energy Permits Map



Status of Solar in Virginia

- Last September, Governor Northam signed Executive Order 34 with statewide clean energy goals, including:
  - 30 percent of Virginia's electric system powered by renewable sources by 2030
  - 100 percent of electricity from carbon-free sources by 2050.

Virginia Pollinator-Smart Solar Industry Project Team



Virginia Pollinator-Smart Solar Industry Project Team

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

- Sharon Baxter, Director, Division of Environmental Enhancement (Project Manager)
- Mary E. Major, Renewable Energy Permitting

VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION

- René Hypes, Project Review Coordinator, Division of Natural Heritage
- Kevin Heffernan, Stewardship Biologist, Division of Natural Heritage
- Jason Bulluck, Director, Division of Natural Heritage
- Chris Ludwig, Chief Biologist (retired), Division of Natural Heritage

VANASSE HANGEN BRUSTLIN, INC. (VHB)

- Kris Dramby, Director of Energy and Natural Resources
- Dr. Doug DeBerry, Senior Scientist (also Research Asst. Professor, College of William & Mary)
- Caitlin Cyrus, Botanist
- Joey Thompson, Botanist
- Dr. Samantha Alger, Pollinator Specialist (also Research Asst. Professor, University of Vermont)
- Amanda Cross, Graphic Designer

FRESH ENERGY

- Rob Davis, Director, Center for Pollinators in Energy

ERNST CONSERVATION SEEDS, INC.

- Calvin Ernst, Founder and President
- Andy Ernst, Vice President

MEADVILLE LAND SERVICE, INC./ ERNST POLLINATOR SERVICES

- Robin Ernst, President

DRAMBY ENVIRONMENTAL CONSULTING, INC.

- Shearin Dramby, President
- Linda Warren, Facilitator

POLLINATOR PARTNERSHIP

- Dr. Lora Morandin, Senior Pollinator Specialist
- Kelly Rourke, Senior Program Manager

PRAIRIE RESTORATIONS, INC.

- Ron Bowen, President

Recommended Citation Format

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Virginia Pollinator Smart Webpage

Home » Natural Heritage » Solar Site Pollinator-Smart

Virginia Pollinator Smart

The emerging solar power industry holds in its hands an extraordinary opportunity as decision-makers, engineers and designers consider the impact of their facilities on the landscape. Expertly crafted mixes of native plants can transform a solar facility into a thriving ecosystem that supports pollinator species, birds, and other wildlife, while enhancing facility economic efficiencies.

Learn more about the benefits of native plants on solar sites...

© DCR-DNH, Gary P. Fleming.

Guidance for Establishing and Maintaining a Pollinator-Smart/Bird Habitat Solar Site

Virginia's Pollinator-Smart program is designed to provide incentives and tools for solar industry to adopt a native plant strategy to meet soil and water control regulations, community needs, and the needs of our biosphere. Below are links to supporting documents for creating pollinator-friendly habitat on a solar facility and meeting the criteria of the Pollinator-Smart certification program.

Developed with input from many stakeholders, natural resource scientists, and environmental policy experts, the materials presented here provide detailed guidance for planning, designing, installing, and maintaining a Pollinator-Smart habitat at a solar facility.

- Comprehensive Manual (Coming Soon!)
- **Vegetation Monitoring Manual** (PDF)
- **Native Plants Seed Business Plan** (PDF)
- Pollinator-Smart Scorecards
  - **New site** (PDF)
  - **Established site** (PDF)

Virginia Solar Site Native Plant Finder

The Virginia Solar Site Native Plant Finder assists users in identifying native plant species appropriate for the various vegetation requirements at a solar facility and match the needs of pollinators and birds. It also and includes information on commercial availability.

The Native Plant Finder can also help plant industry with finding native species with potential to be developed into new market commodities. Native seed suppliers are invited to share their information for inclusion in the Native Plant Finder database by emailing **pollinator.smart@dcr.virginia.gov.**

- **Solar Site Native Plant Finder**
- Plant Finder guidance is found here. [document coming soon]

Virginia Invasive Plant Species List

The DCR **Invasive Plant Species List** is the result of risk assessment conducted on hundreds of non-native plant species. The list currently identifies 90 species as invasive in Virginia. Invasive species are defined here as non-native species that cause harm to the ecosystem and native species, create economic damage and losses, or pose direct harm to humans. Invasive plant species threaten Pollinator-Smart goals if they are not properly managed at a site.

© DCR-DNH, Gary P. Fleming.

Establishing a Virginia Native Seed Industry

A goal of the Pollinator-Smart program is to kickstart a robust native seed industry that would be able to serve the coming demand for tens of thousands of acres of native plant materials. The **Native Plants Seed Business Plan** (PDF) builds on knowledge generously provided by established members of the native seed industry and outlines the steps toward a Virginia-based industry that could also serve other surrounding states.

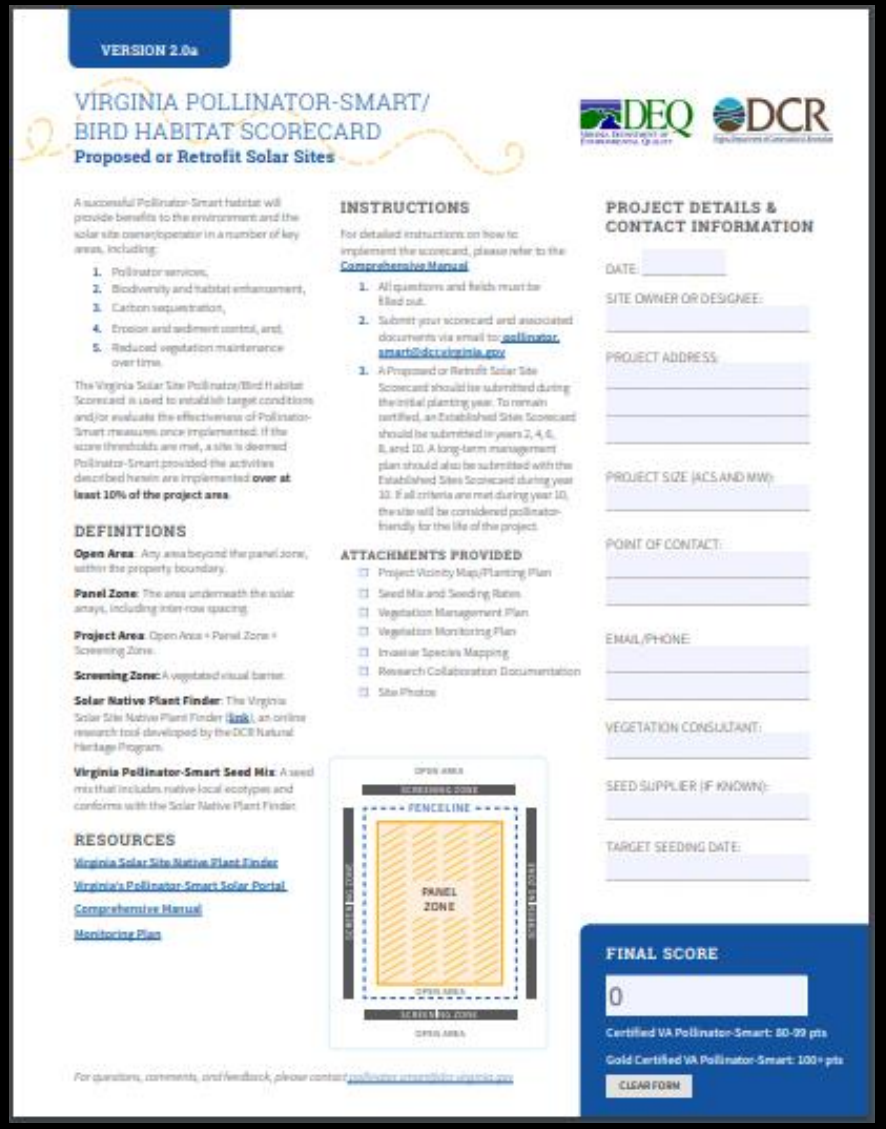
DEQ Solar Site web page

In Virginia, the Department of Environmental Quality has oversight of the establishment of solar facilities. To learn about the permit requirements and opportunities for the solar industry in Virginia, visit the **DEQ Solar Energy** page.

Questions/Comments

If you have questions or comments on the Pollinator-smart program, please contact us at **pollinator.smart@dcr.virginia.gov**

Virginia Solar Site Pollinator/Bird Habitat Scorecard



VERSION 2.0a

VIRGINIA POLLINATOR-SMART/
BIRD HABITAT SCORECARD
Proposed or Retrofit Solar Sites

DEQ DCR

A successful Pollinator-Smart habitat will provide benefits to the environment and the solar site owner/operator in a number of key areas, including:

1. Pollinator services,
2. Biodiversity and habitat enhancement,
3. Carbon sequestration,
4. Erosion and sediment control, and,
5. Reduced vegetation maintenance over time.

The Virginia Solar Site Pollinator/Bird Habitat Scorecard is used to establish target conditions and/or evaluate the effectiveness of Pollinator-Smart measures once implemented. If the score thresholds are met, a site is deemed Pollinator-Smart provided the activities described herein are implemented **over at least 10% of the project area**.

DEFINITIONS

Open Area: Any area beyond the panel zone, within the property boundary.

Panel Zone: The area underneath the solar arrays, including inter-row spacing.

Project Area: Open Area + Panel Zone + Screening Zone.

Screening Zone: A vegetated visual barrier.

Solar Native Plant Finder: The Virginia Solar Site Native Plant Finder (link), an online research tool developed by the DCR Natural Heritage Program.

Virginia Pollinator-Smart Seed Mix: A seed mix that includes native local ecotypes and conforms with the Solar Native Plant Finder.

RESOURCES

Virginia Solar Site Native Plant Finder
Virginia's Pollinator-Smart Solar Portal
Comprehensive Manual
Monitoring Plan

INSTRUCTIONS

For detailed instructions on how to implement the scorecard, please refer to the Comprehensive Manual.

1. All questions and fields must be filled out.
2. Submit your scorecard and associated documents via email to: pollinator.smart@dcr.virginia.gov
3. A Proposed or Retrofit Solar Site Scorecard should be submitted during the initial planting year. To remain certified, an Established Sites Scorecard should be submitted in years 2, 4, 6, 8, and 10. A long-term management plan should also be submitted with the Established Sites Scorecard during year 10. If all criteria are met during year 10, the site will be considered pollinator-friendly for the life of the project.

ATTACHMENTS PROVIDED

- ☐ Project Vicinity Map/Planting Plan
- ☐ Seed Mix and Seeding Rates
- ☐ Vegetation Management Plan
- ☐ Vegetation Monitoring Plan
- ☐ Invasive Species Mapping
- ☐ Research Collaboration Documentation
- ☐ Site Photos

PROJECT DETAILS & CONTACT INFORMATION

DATE:
SITE OWNER OR DESIGNEE:
PROJECT ADDRESS:
PROJECT SIZE (ACS AND MW):
POINT OF CONTACT:
EMAIL/PHONE:
VEGETATION CONSULTANT:
SEED SUPPLIER (IF KNOWN):
TARGET SEEDING DATE:

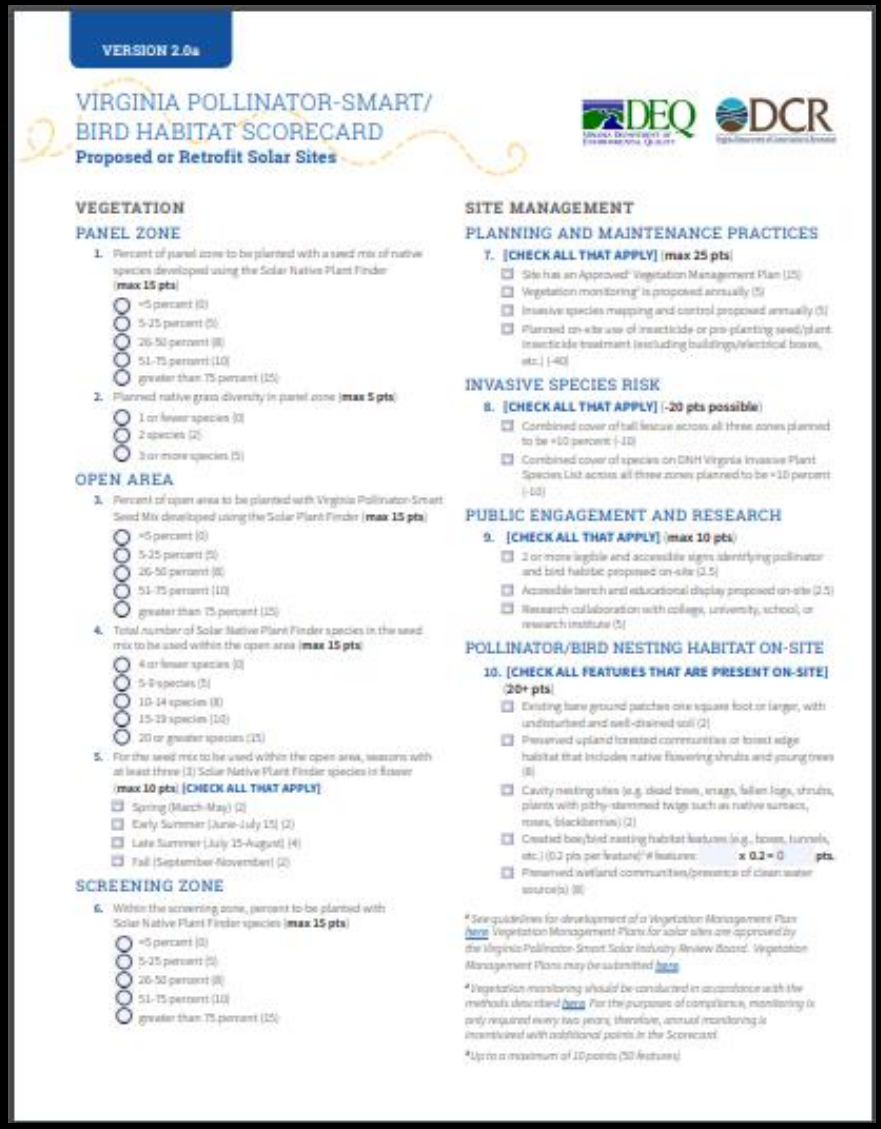
FINAL SCORE

0

Certified VA Pollinator-Smart: 80-99 pts
Gold Certified VA Pollinator-Smart: 100+ pts

CLEAR FORM

For questions, comments, and feedback, please contact pollinator.smart@dcr.virginia.gov



VERSION 2.0a

VIRGINIA POLLINATOR-SMART/
BIRD HABITAT SCORECARD
Proposed or Retrofit Solar Sites

DEQ DCR

VEGETATION

PANEL ZONE

1. Percent of panel zone to be planted with a seed mix of native species developed using the Solar Native Plant Finder (**max 15 pts**)
   - ○ <5 percent (0)
   - ○ 5-25 percent (5)
   - ○ 26-50 percent (8)
   - ○ 51-75 percent (10)
   - ○ greater than 75 percent (15)
2. Planned native grass diversity in panel zone (**max 5 pts**)
   - ○ 1 or fewer species (0)
   - ○ 2 species (2)
   - ○ 3 or more species (5)

OPEN AREA

3. Percent of open area to be planted with Virginia Pollinator-Smart Seed Mix developed using the Solar Plant Finder (**max 15 pts**)
   - ○ <5 percent (0)
   - ○ 5-25 percent (5)
   - ○ 26-50 percent (8)
   - ○ 51-75 percent (10)
   - ○ greater than 75 percent (15)
4. Total number of Solar Native Plant Finder species in the seed mix to be used within the open area (**max 15 pts**)
   - ○ 4 or fewer species (0)
   - ○ 5-9 species (5)
   - ○ 10-14 species (8)
   - ○ 15-19 species (10)
   - ○ 20 or greater species (15)
5. For the seed mix to be used within the open area, seasons with at least three (3) Solar Native Plant Finder species in flower (**max 10 pts**) **[CHECK ALL THAT APPLY]**
   - ☐ Spring (March-May) (2)
   - ☐ Early Summer (June-July 15) (2)
   - ☐ Late Summer (July 15-August) (4)
   - ☐ Fall (September-November) (2)

SCREENING ZONE

6. Within the screening zone, percent to be planted with Solar Native Plant Finder species (**max 15 pts**)
   - ○ <5 percent (0)
   - ○ 5-25 percent (5)
   - ○ 26-50 percent (8)
   - ○ 51-75 percent (10)
   - ○ greater than 75 percent (15)

SITE MANAGEMENT

PLANNING AND MAINTENANCE PRACTICES

7. **[CHECK ALL THAT APPLY]** (**max 25 pts**)
   - ☐ Site has an Approved* Vegetation Management Plan (15)
   - ☐ Vegetation monitoring† is proposed annually (5)
   - ☐ Invasive species mapping and control proposed annually (5)
   - ☐ Planned on-site use of insecticide or pre-planting seed/plant insecticide treatment (excluding buildings/electrical boxes, etc.) (-40)

INVASIVE SPECIES RISK

8. **[CHECK ALL THAT APPLY]** (**-20 pts possible**)
   - ☐ Combined cover of tall fescue across all three zones planned to be <10 percent (-10)
   - ☐ Combined cover of species on DNH Virginia Invasive Plant Species List across all three zones planned to be <10 percent (-10)

PUBLIC ENGAGEMENT AND RESEARCH

9. **[CHECK ALL THAT APPLY]** (**max 10 pts**)
   - ☐ 2 or more legible and accessible signs identifying pollinator and bird habitat proposed on-site (2.5)
   - ☐ Accessible bench and educational display proposed on-site (2.5)
   - ☐ Research collaboration with college, university, school, or research institute (5)

POLLINATOR/BIRD NESTING HABITAT ON-SITE

10. **[CHECK ALL FEATURES THAT ARE PRESENT ON-SITE]** (**20+ pts**)
    - ☐ Existing bare ground patches one square foot or larger, with undisturbed and well-drained soil (2)
    - ☐ Preserved upland forested communities or forest edge habitat that includes native flowering shrubs and young trees (8)
    - ☐ Cavity nesting sites (e.g. dead trees, snags, fallen logs, shrubs, plants with pithy-stemmed twigs such as native sumacs, roses, blackberries) (2)
    - ☐ Created bee/bird nesting habitat features (e.g., boxes, tunnels, etc.) (0.2 pts per feature)‡ # features: x 0.2 = 0 pts.
    - ☐ Preserved wetland communities/presence of clean water source(s) (8)

** See guidelines for development of a Vegetation Management Plan here. Vegetation Management Plans for solar sites are approved by the Virginia Pollinator-Smart Solar Industry Review Board. Vegetation Management Plans may be submitted here.*

† Vegetation monitoring should be conducted in accordance with the methods described here. For the purposes of compliance, monitoring is only required every two years; therefore, annual monitoring is incentivized with additional points in the Scorecard.

‡ Up to a maximum of 10 points (50 features)

Virginia Solar Site Pollinator/Bird Habitat Scorecard

VERSION 2.0b

VIRGINIA POLLINATOR-SMART/ BIRD HABITAT SCORECARD

Established Solar Sites

A successful Pollinator-Smart habitat will provide benefits to the environment and the solar site owner/operator in a number of key areas, including:

1. Pollinator services,
2. Biodiversity and habitat enhancement,
3. Carbon sequestration,
4. Erosion and sediment control, and;
5. Reduced vegetation maintenance over time.

The Virginia Solar Site Pollinator/Bird Habitat Scorecard is used to establish target conditions and/or evaluate the effectiveness of Pollinator-Smart measures once implemented. If the score thresholds are met, a site is deemed Pollinator-Smart.

DEFINITIONS

Open Area: Any area beyond the panel zone, within the property boundary.

Panel Zone: The area underneath the solar arrays, including inter-row spacing.

Screening Zone: A vegetated visual barrier.

Solar Native Plant Finder: The Virginia Solar Site Native Plant Finder (link), an online research tool developed by the DCR Natural Heritage Program.

Used by Pollinators: Plant species with a "pollinator" designation on the Virginia Solar Site Native Plant Finder.

RESOURCES

Virginia Solar Site Native Plant Finder

Virginia's Pollinator-Smart Solar Portal

Comprehensive Manual

Monitoring Plan

INSTRUCTIONS

For detailed instructions on how to implement the scorecard, please refer to the Comprehensive Manual.

1. All questions and fields must be filled out.
2. Submit your scorecard and associated documents via email to: pollinator.smart@dcr.virginia.gov
3. A Proposed or Retrofit Solar Site Scorecard should be submitted during the initial planting year. To remain certified, an Established Sites Scorecard should be submitted in years 2, 4, 6, 8, and 10. A long-term management plan should also be submitted with the Established Sites Scorecard during year 10. If all criteria are met during year 10, the site will be considered pollinator-friendly for the life of the project.

ATTACHMENTS PROVIDED

- Project Vicinity Map
- Vegetation Management Plan
- Vegetation Monitoring Report
- Invasive Species Mapping
- Research Collaboration Documentation
- Site Photos
- Long-term management plan (Year 10 only)

PROJECT DETAILS & CONTACT INFORMATION

DATE:

SITE OWNER OR DESIGNEE:

PROJECT ADDRESS:

PROJECT SIZE (ACS AND MW):

POINT OF CONTACT:

EMAIL/PHONE:

VEGETATION CONSULTANT:

FINAL SCORE

0

Certified VA Pollinator-Smart: 80-99 pts

Gold Certified VA Pollinator-Smart: 100+ pts

CLEAR FORM

For questions, comments, and feedback, please contact pollinator.smart@dcr.virginia.gov

VERSION 2.0b

VIRGINIA POLLINATOR-SMART/ BIRD HABITAT SCORECARD

Established Solar Sites

VEGETATION

PANEL ZONE

1. Percent of overall existing cover in the panel zone vegetated with Solar Native Plant Finder species (**max 15 pts**)
   - ◯ <5 percent (0)
   - ◯ 5-25 percent (5)
   - ◯ 26-50 percent (8)
   - ◯ 51-75 percent (10)
   - ◯ greater than 75 percent (15)
2. Native grass diversity in panel zone (**max 5 pts**)
   - ◯ 1 or fewer species (0)
   - ◯ 2 species (2)
   - ◯ 3 or more species (5)

OPEN AREA

3. Percent of overall existing cover within the open area vegetated with Solar Native Plant Finder species used by pollinators (**max 15 pts**)
   - ◯ <5 percent (0)
   - ◯ 5-25 percent (5)
   - ◯ 26-50 percent (8)
   - ◯ 51-75 percent (10)
   - ◯ greater than 75 percent (15)
4. Total number of Solar Native Plant Finder species found within the open area (**max 15 pts**)
   - ◯ 9 or fewer species (0)
   - ◯ 10-19 species (5)
   - ◯ 20-29 species (8)
   - ◯ 30-39 species (10)
   - ◯ 40 or greater species (15)
5. Within the open area, seasons with at least three (3) Solar Native Plant Finder species in flower (**max 10 pts**) **[CHECK ALL THAT APPLY]**
   - ☐ Spring (March-May) (2)
   - ☐ Early Summer (June-July 15) (2)
   - ☐ Late Summer (July 15-August) (4)
   - ☐ Fall (September-November) (2)

SCREENING ZONE

6. Percent of overall existing cover in the screening area vegetated with Solar Native Plant Finder species (**max 15 pts**)
   - ◯ <5 percent (0)
   - ◯ 5-25 percent (5)
   - ◯ 26-50 percent (8)
   - ◯ 51-75 percent (10)
   - ◯ greater than 75 percent (15)

SITE MANAGEMENT

PLANNING AND MAINTENANCE PRACTICES

7. **[CHECK ALL THAT APPLY]** (**max 25 pts**)
   - ☐ Site has an Approved[1] Vegetation Management Plan (15)
   - ☐ Vegetation monitoring[2] conducted annually (5)
   - ☐ Invasive species mapping and control conducted annually (5)
   - ☐ On-site use of insecticide (excluding safety/hazard spot treatment around buildings/electrical boxes, etc.) (-40)

INVASIVE SPECIES RISK

8. **[CHECK ALL THAT APPLY]** (**-20 pts possible**)
   - ☐ Combined cover of tall fescue across all three zones >10 percent (-10)
   - ☐ Combined cover of species on DNH Virginia Invasive Plant Species List across all three zones >10 percent (-10)

PUBLIC ENGAGEMENT AND RESEARCH

9. **[CHECK ALL THAT APPLY]** (**max 10 pts**)
   - ☐ 2 or more legible and accessible signs identifying pollinator and bird habitat present on-site (2.5)
   - ☐ Accessible bench and educational display present on-site (2.5)
   - ☐ Research collaboration with college, university, school, or research institute (5)

POLLINATOR/BIRD NESTING HABITAT ON-SITE

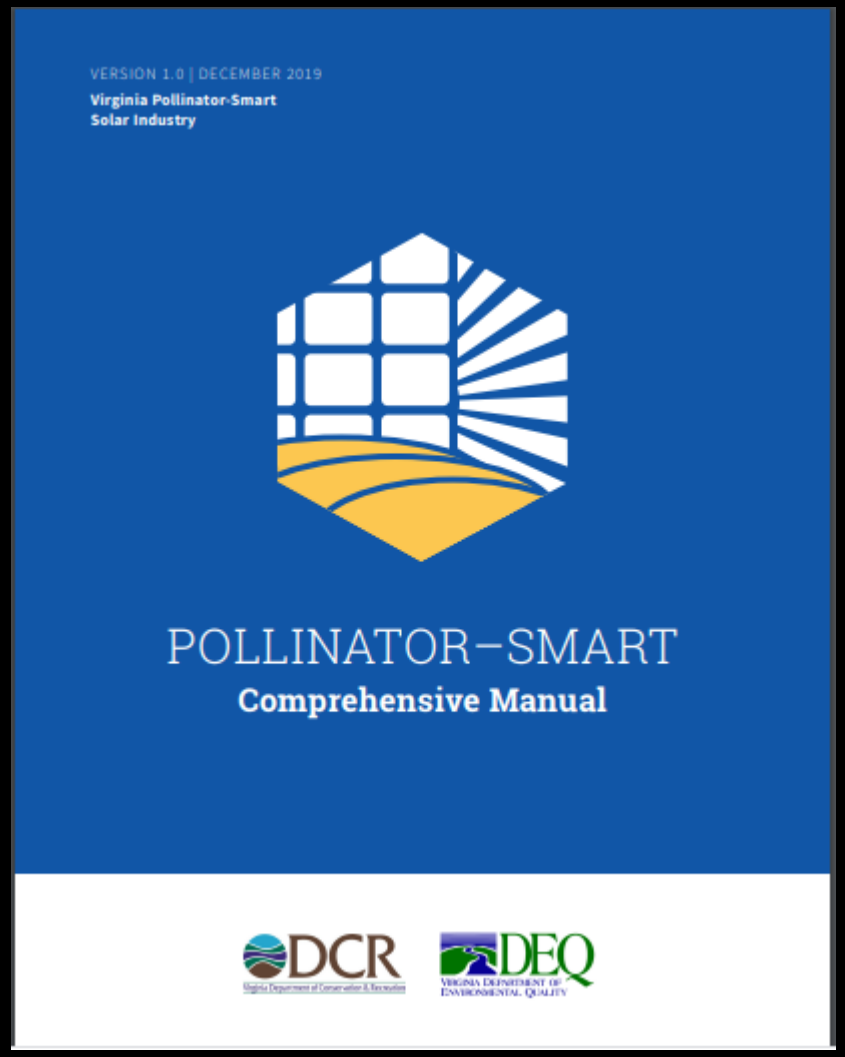
10. **[CHECK ALL FEATURES THAT ARE PRESENT ON-SITE]** (**20+ pts**)
    - ☐ Existing bare ground patches one square foot or larger, with undisturbed and well-drained soil (2)
    - ☐ Preserved upland forested communities or forest edge habitat that includes native flowering shrubs and young trees (8)
    - ☐ Cavity nesting sites (e.g. dead trees, snags, fallen logs, shrubs, plants with pithy-stemmed twigs such as native sumacs, roses, or blackberries) (2)
    - ☐ Created bee/bird nesting habitat features (e.g., boxes, tunnels, etc.) (0.2 pts per feature)[3] # feature: x 0.2 = 0 pts.
    - ☐ Preserved wetlands communities/presence of clean water source(s) (8)

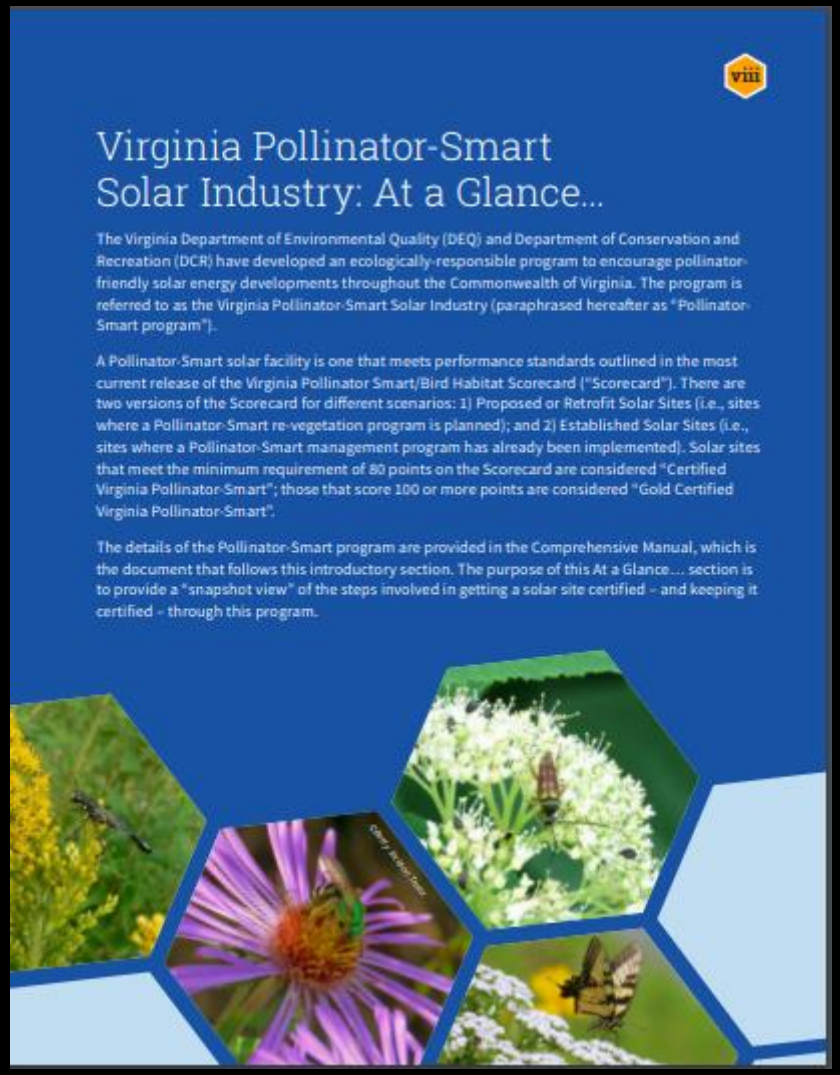
[1] *See guidelines for development of a Vegetation Management Plan here. Vegetation Management Plans for solar sites are approved by the Virginia Pollinator-Smart Solar Industry Review Board. Vegetation Management Plans may be submitted here.*

[2] *Vegetation monitoring should be conducted in accordance with the methods described here. For the purposes of compliance, monitoring is only required every two years; therefore, annual monitoring is incentivized with additional points in the Scorecard.*

[3] *Up to a maximum of 10 points (50 features)*

Virginia Pollinator-Smart Comprehensive Manual

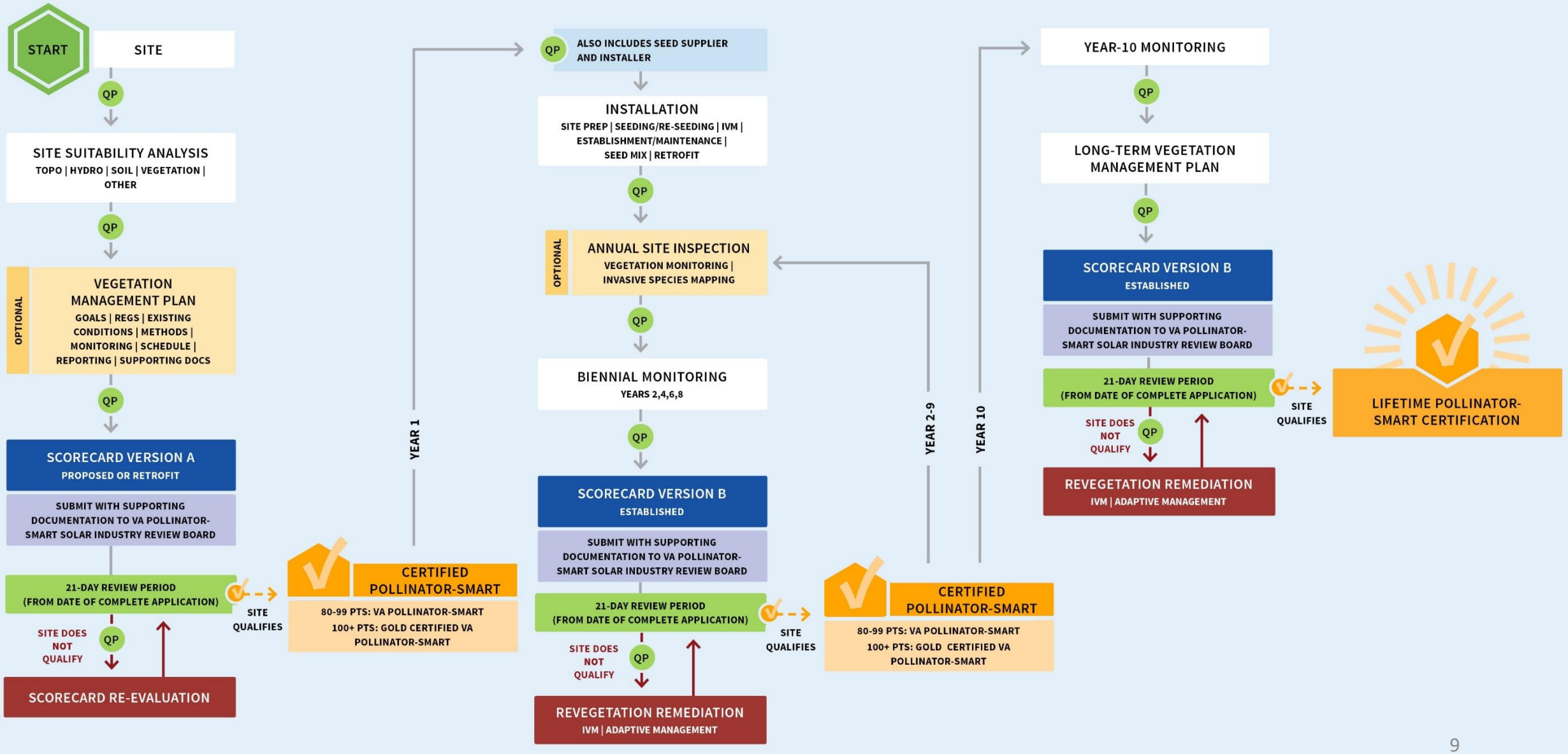




FLOWCHART

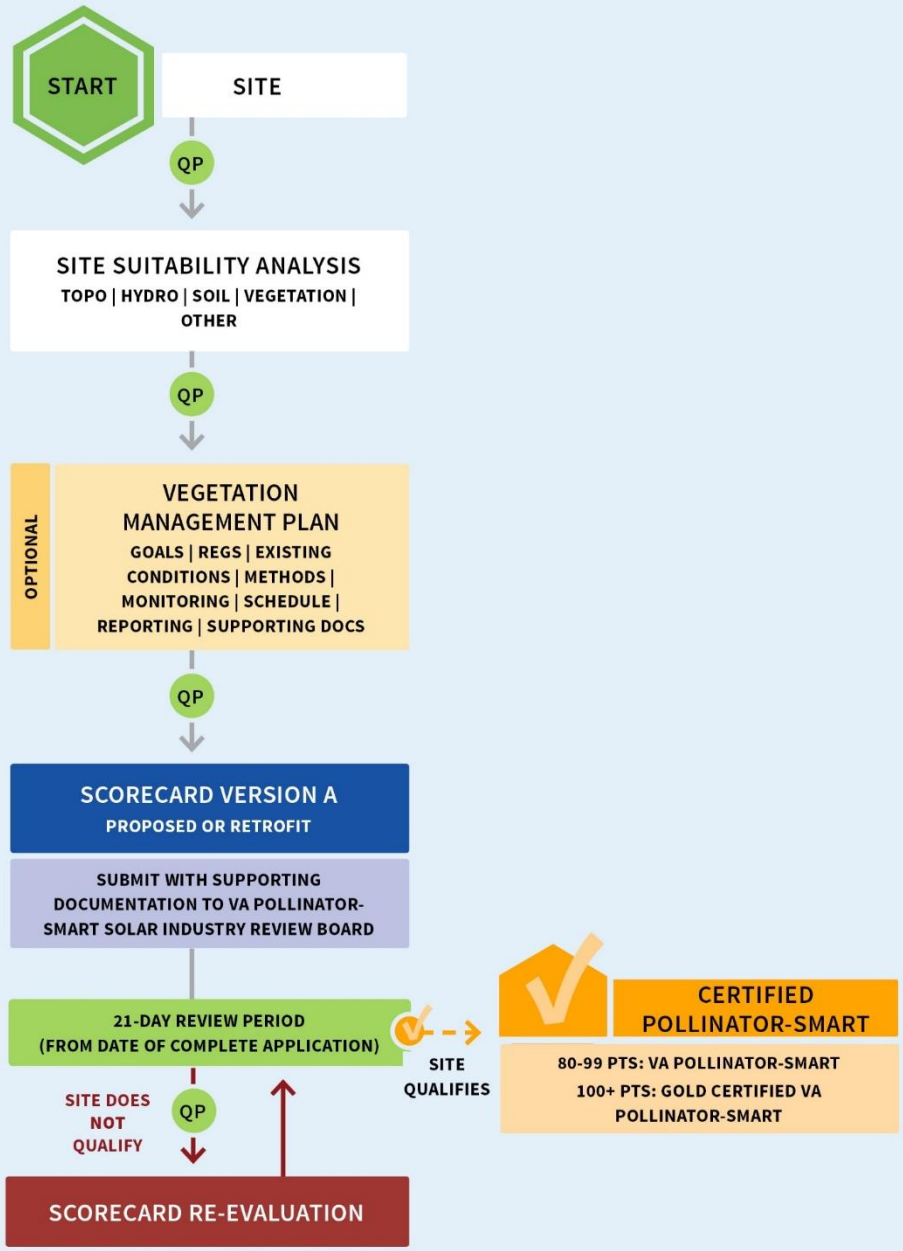
LEGEND: QP QUALIFIED PROFESSIONAL

Virginia Pollinator-Smart Solar Industry ***At a Glance...***



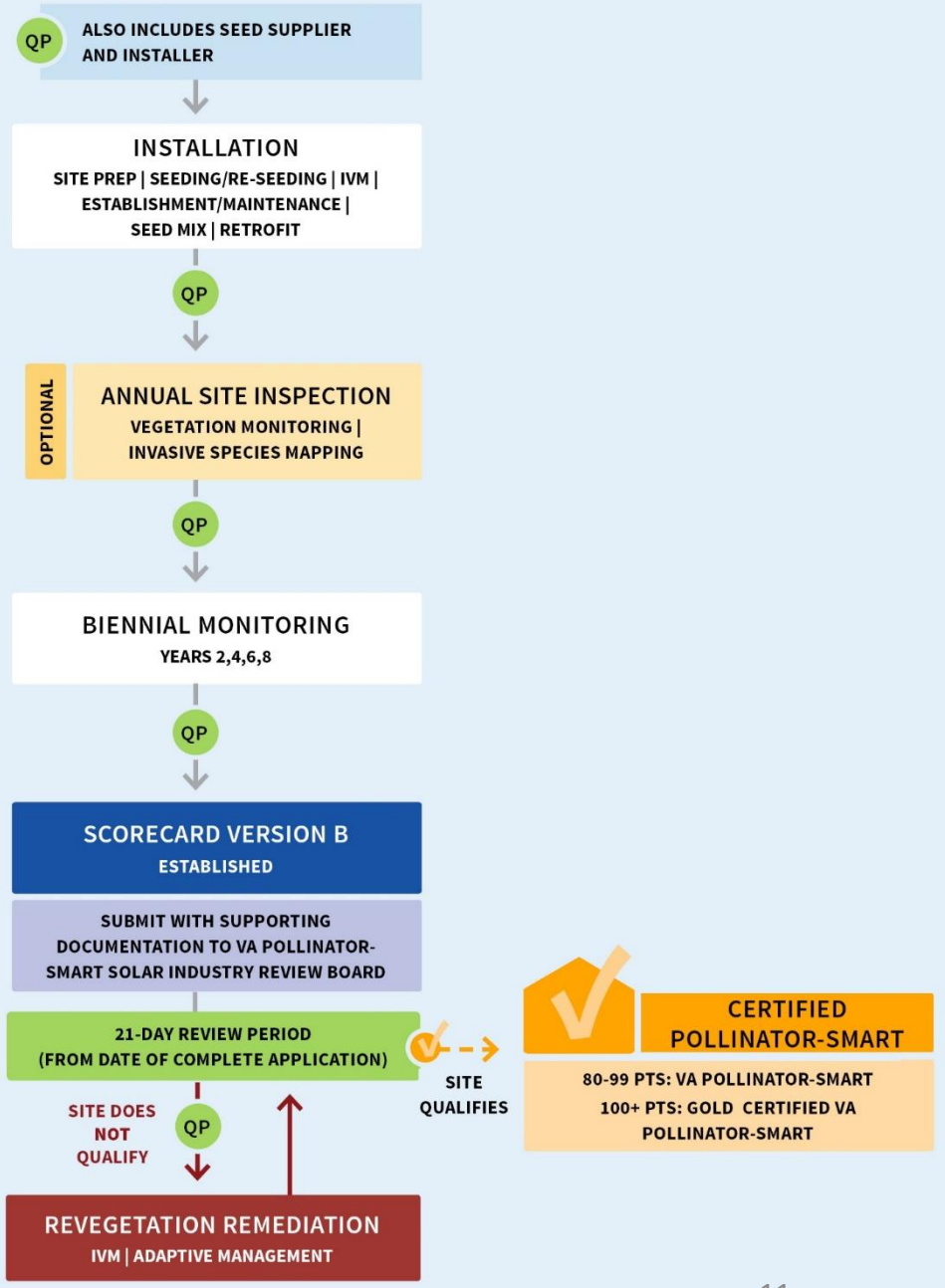
Year 1

- Site Suitability Analysis
- Designing the Pollinator-Smart Planting
  - Vegetation Management Plan
- Scorecard Version A
  - 21-Day Review Period
    - Introducing the Review Board
- Certification!
- Installation

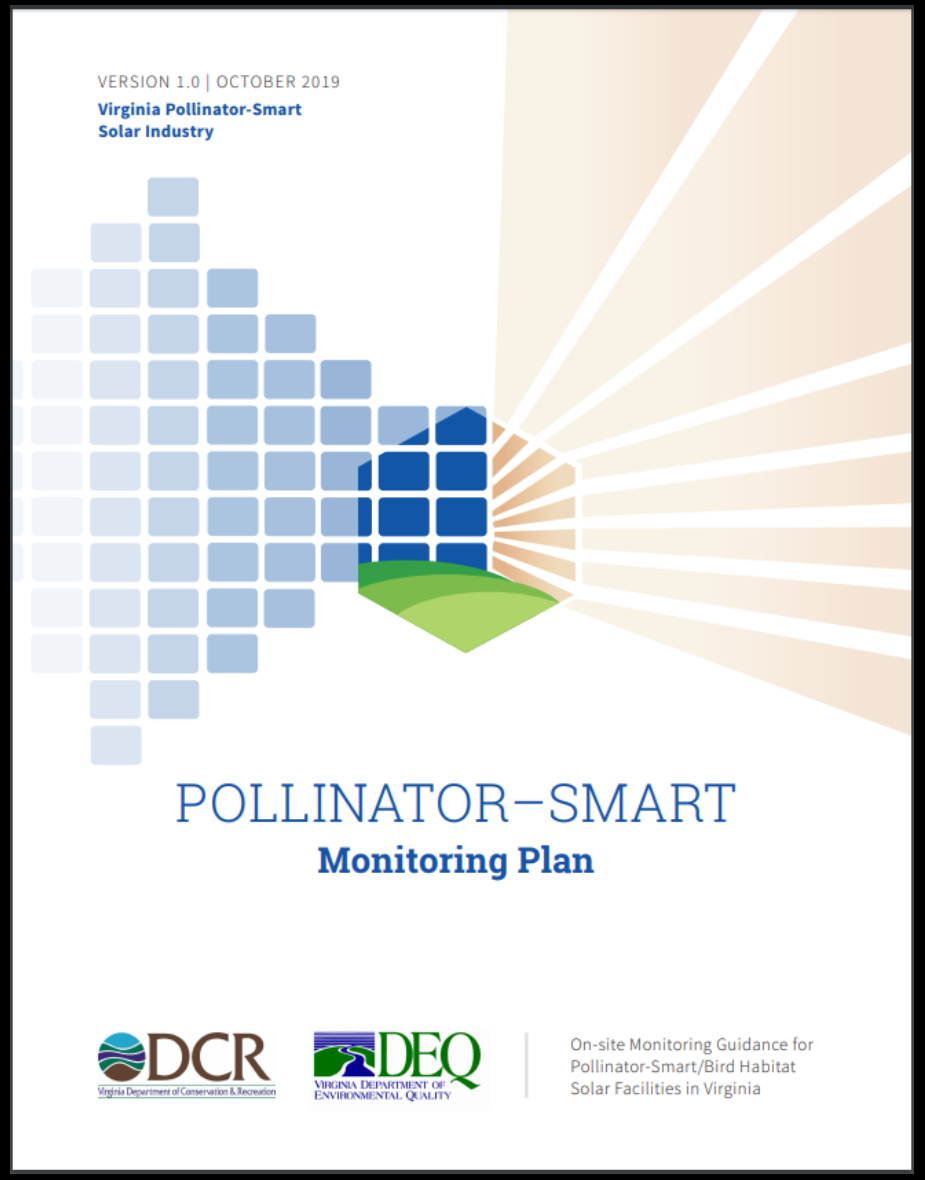


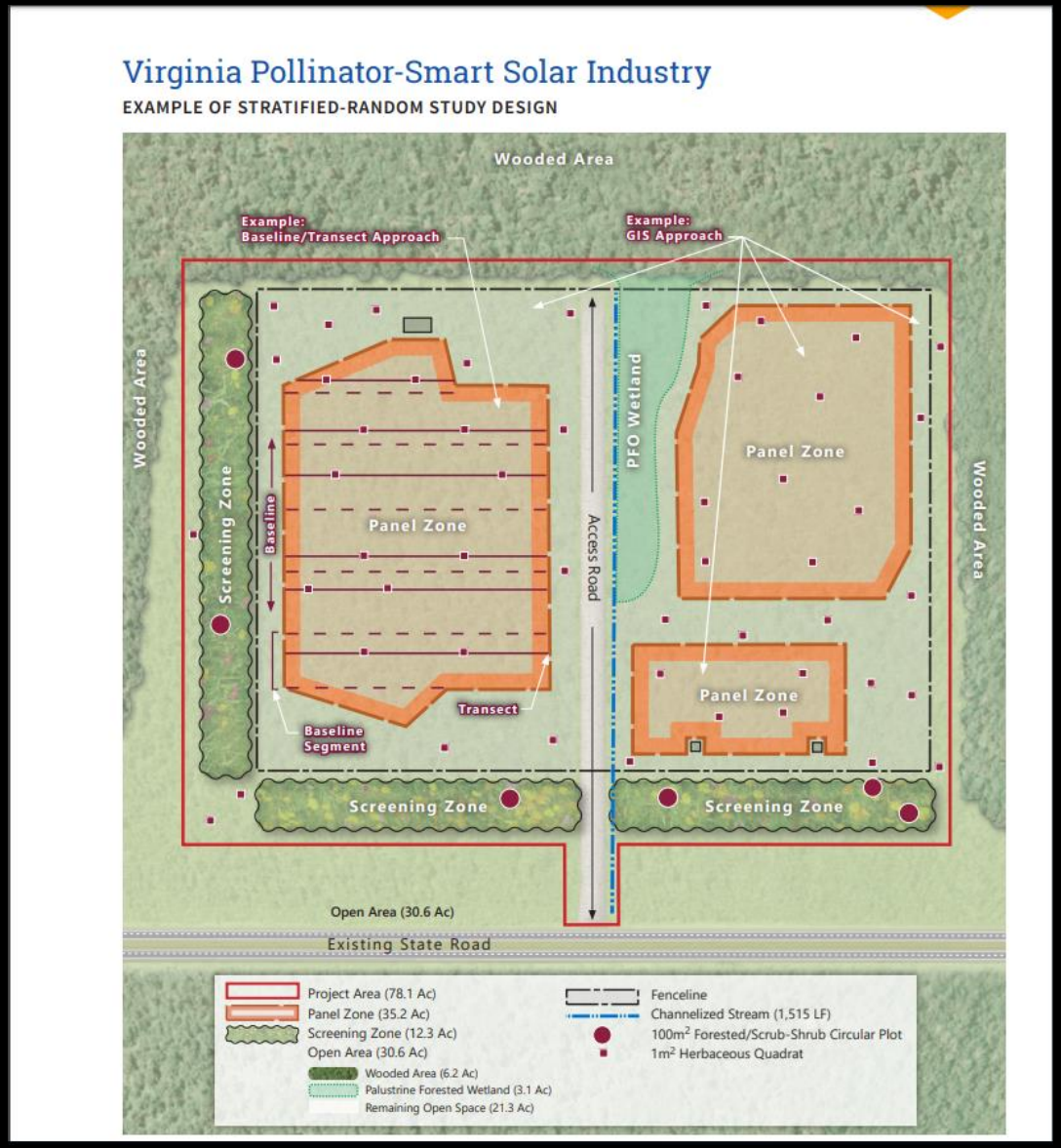
Years 2-9

- Annual Site Inspection
- Biennial Monitoring
- Scorecard Version B
  - 21-Day Review Period
- Remediation
- Certification!



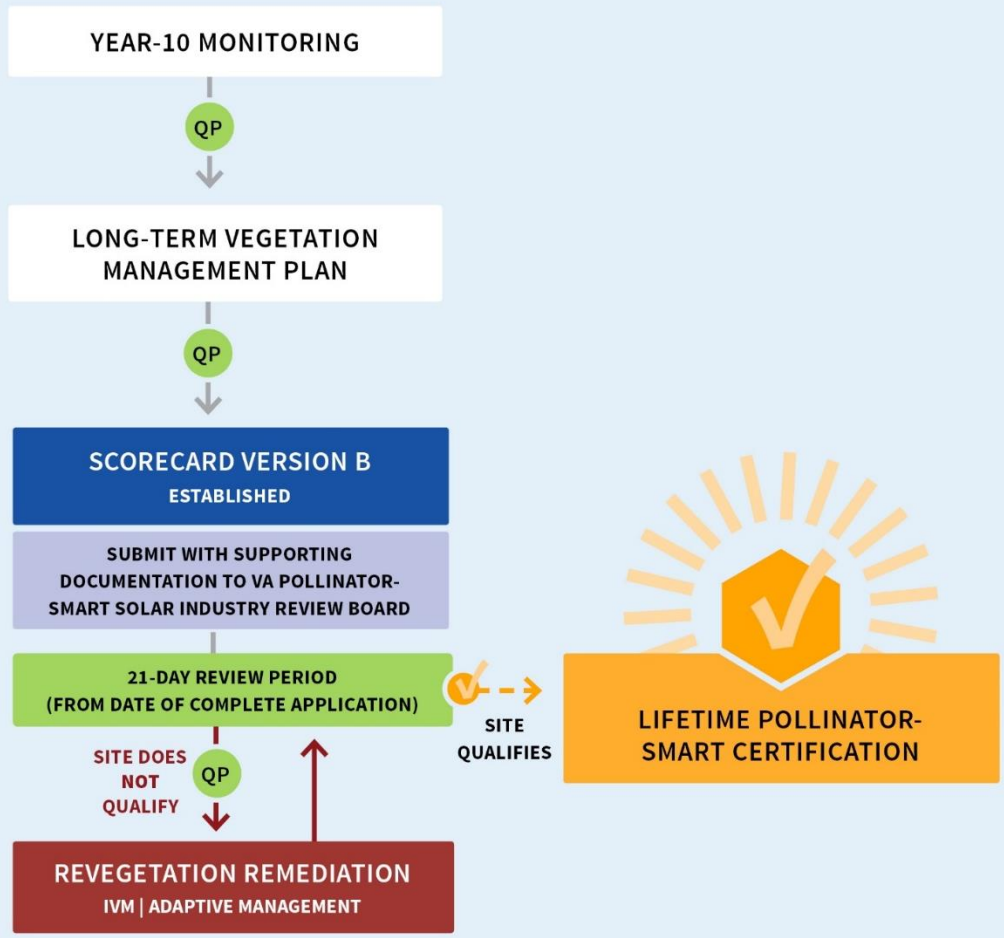
Virginia Pollinator-Smart Montoring Plan
www.pollinatorsmartva.org





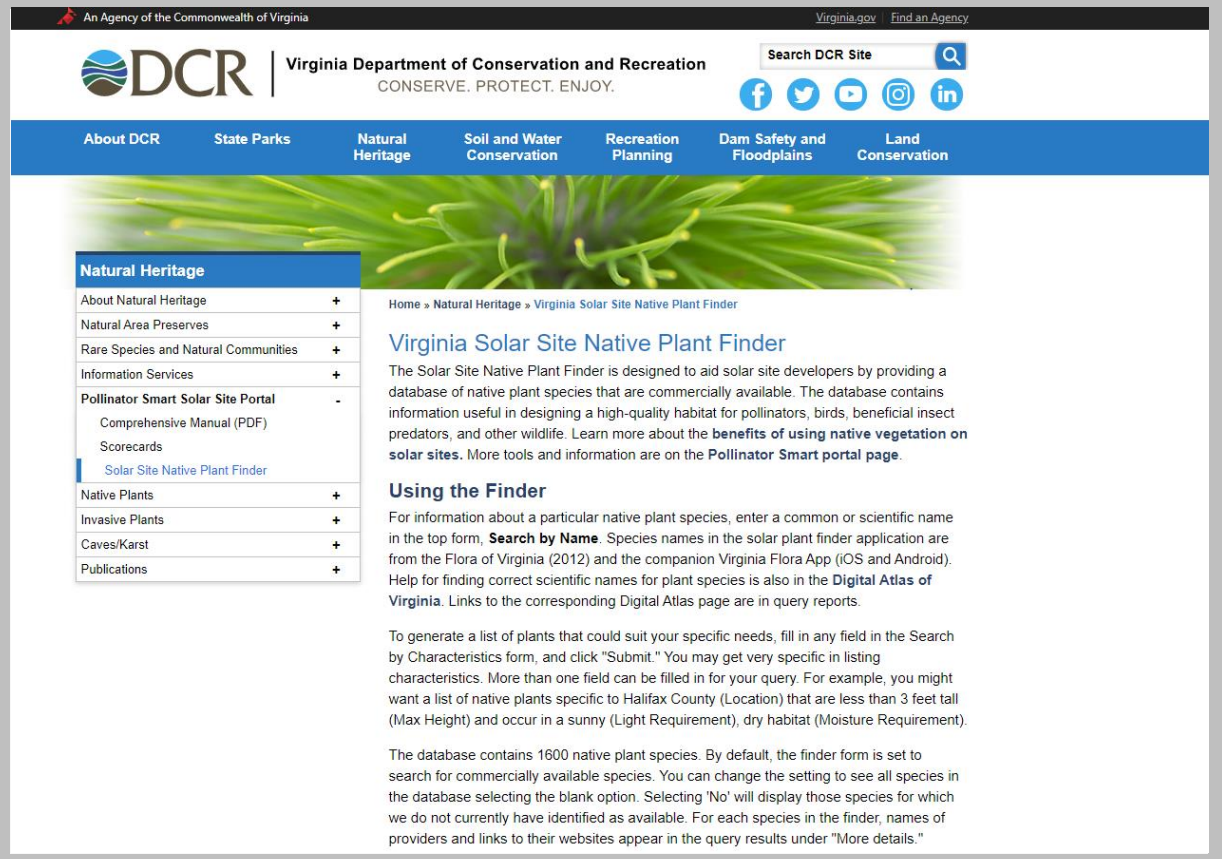
Year 10

- Monitoring
- Long-Term Vegetation Management Plan
- Scorecard Version B
  - 21-Day Review Period
- Remediation
- LIFETIME CERTIFICATION!



Current Supply

- Virginia Solar Site Native Plant Finder



Virginia Solar Site Native Plant Finder

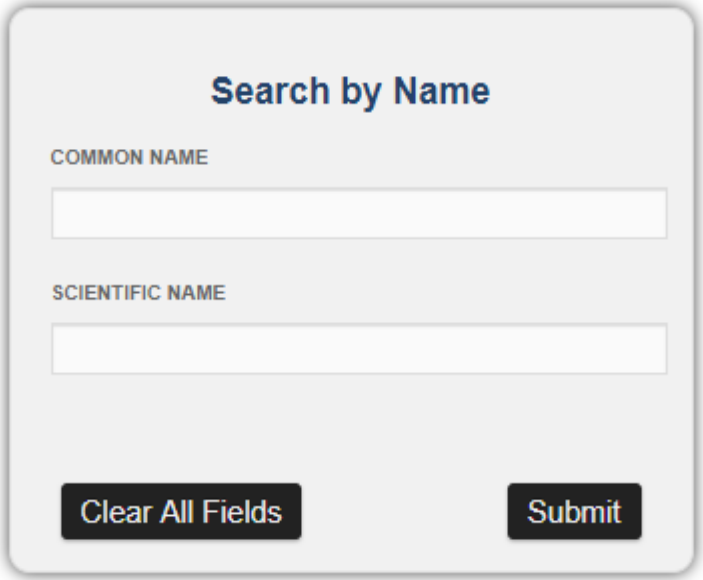
- Solar Plant Finder currently has **278** native species commercially available including pollinator species
- Queries conducted by counties/cities using various species characteristics including water and light requirements, flowering seasons and maximum height requirement
- Results returned give details of plant species including habitat, locality, VA digital atlas link with photos and hyperlinks to commercial vendors

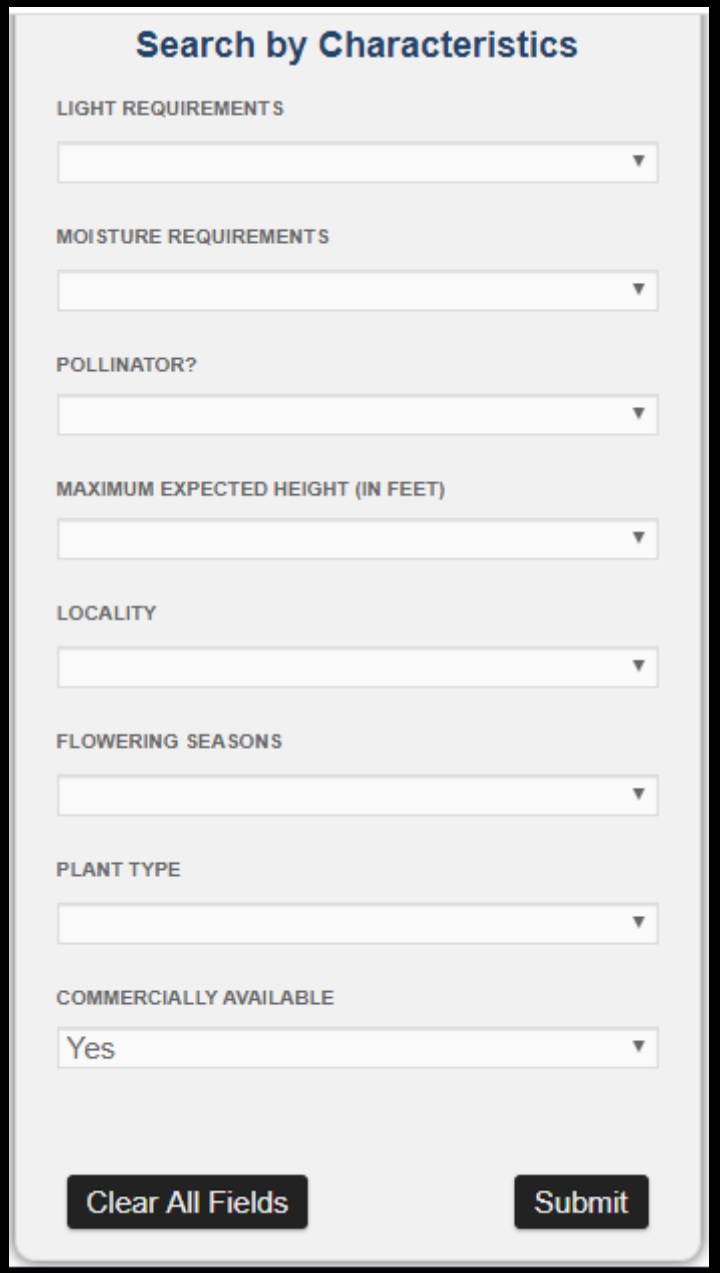
The database contains 1600 native plant species. By default, the finder form is set to search for commercially available species. You can change the setting to see all species in the database selecting the blank option. Selecting 'No' will display those species for which we do not currently have identified as available. For each species in the finder, names of providers and links to their websites appear in the query results under "More details."

Query results are printable from your browser's Print menu. To create a spreadsheet of the results, copy and paste the results table into a spreadsheet program, such as Excel or Sheets.

For questions or issues related to the finder, email **pollinator.smart@dcr.virginia.gov.**

How to Use the Solar Site Native Plant Finder (PDF).




Search by Characteristics
LIGHT REQUIREMENTS
MOISTURE REQUIREMENTS
POLLINATOR?
MAXIMUM EXPECTED HEIGHT (IN FEET)
LOCALITY
FLOWERING SEASONS
PLANT TYPE
COMMERCIALLY AVAILABLE
Yes
Clear All Fields
Submit

Scientific Name	Common Name	Light Regime	Moisture Regime	Plant_Type	Maximum expected height (in feet)	Pollinator?	Flowering Seasons	Grassland Species	Riparian Buffer	Riparian Zone
Achillea millefolium	Common Yarrow	Sun, Part	Moist, Dry	Herb	4	Yes	Spring, Early Summer, Late Summer, Fall	No	No	

Less Detail

Digital Atlas of the Virginia Flora: http://vaplantatlas.org/index.php?do=plant&plant=510

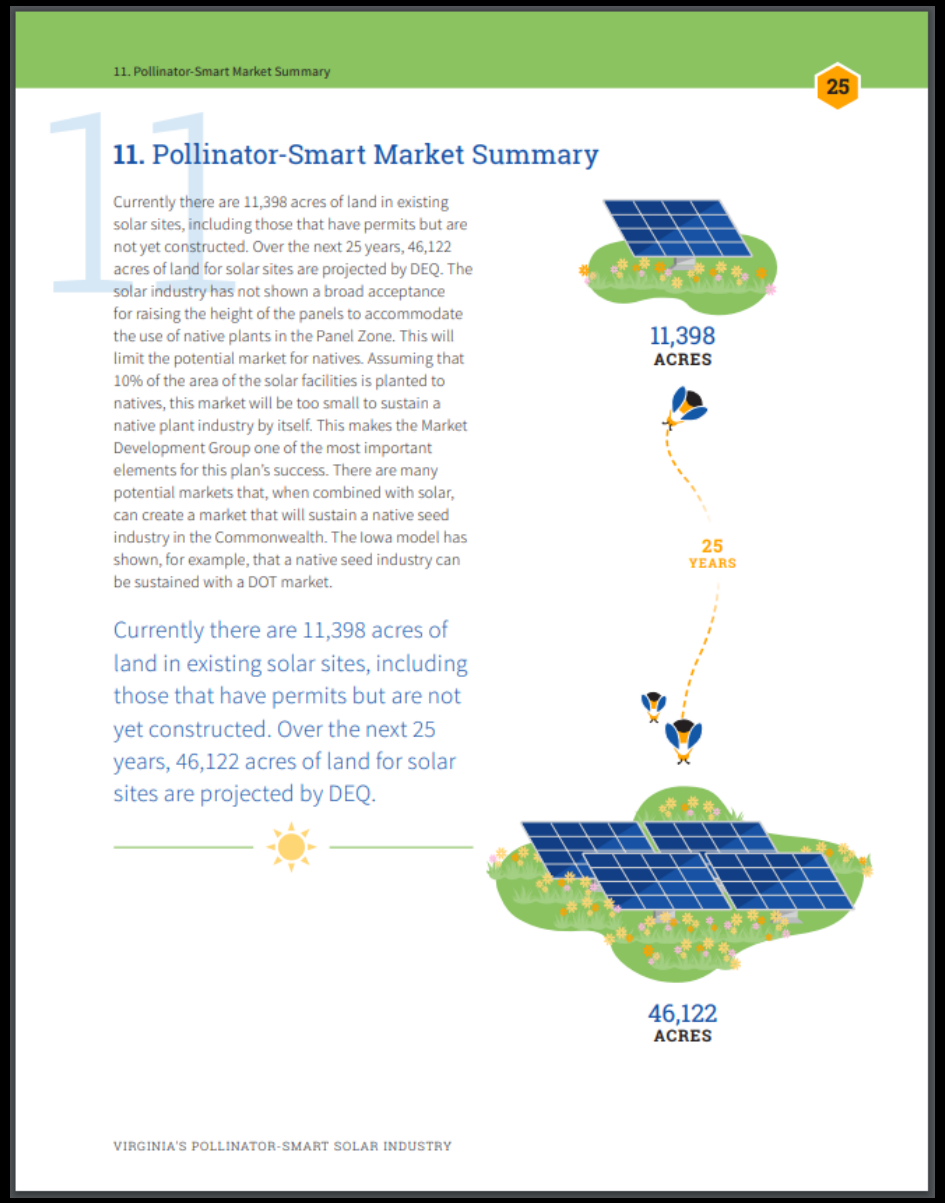
Commercially Available: Agrecol Native Seed and Plant Nursery, Applewood Seed Co., Buffalo Brand Sharps Bros Seed Co., Ernst Conservation Seed Co., Ohio Prairie Nursery, Prairie Restorations Inc., Roundstone Native Seed, Toadshade Wildflower Farm

Habitat from Flora: Ubiquitous in fields, meadows, roadsides, clearings, mesic to dry upland forests, and other habitats.

Synonyms: [= A. millefolium – FNA, Pa., R, SE, W.Va.; = A. millefolium ssp. millefolium – C, G; = A. millefolium – F, Y, Z; = A. millefolium var. millefolium – K]

Locality: Accomack, Albemarle, Alexandria, Alleghany, Amelia, Amherst, Appomattox, Arlington, Augusta, Bath, Bedford, Bland,

Virginia Pollinator-Smart Business Plan



- **Overall Business Model for VA- “Build out the minimum infrastructure needed to deliver a rough conditioned product to a facility capable of conditioning the seed to a marketable state.”**

  - Virginia Native Seed Growers’ Business Advisory Committee
  - Development of a Growers/Producers Network
  - Ernst Conservation Seeds for processing and distribution of the seed
  - Development of a regional ecotype seed supply (currently only 7 VA Ecotypes commercially available)
    - Collection Group
    - Nursery Group
    - Foundation Seed Increase Group
    - Certified Seed Producer

Arkansas Native Seed Program

- Arkansas Natural Heritage Commission
- AR Game and Fish Commission
- US Fish & Wildlife Service
- AR DOT
- Audubon Arkansas NATIVE Project
- USDA NRCS
- The Nature Conservancy
- Ozark Ecological Restoration, Inc.
- Illinois River Watershed Partnership
- Beaver Watershed Alliance

ARKANSAS NATURAL HERITAGE COMMISSION

Arkansas Native Seed Program

- Full-time seed coordinator hired
- Building on a six-year old Audubon program
- Small farmers growing 2 or 3 species each on 2 to 9 acres
- Roundstone Native Seed LLC conducts cleaning and distribution

Iowa Ecotype Project

- Produce and increase regionally adapted Iowa Source Identified Foundation seed for commercial producers
- Promote commercial availability and affordability of Source Identified seed
- Increasing seed of 50 species from 3,000 populations from three provenance zones in Iowa
- 81 ecotypes of 33 species released for commercial production
- 60,000 of Source Identified seed produced annually

Potential Markets for a Virginia Native Seed Program

- Solar Energy Sites
- Pipeline ROWs
- Transmission ROWs
- Roadside ROWs
- Farms
- Parks
- Schools
- Landowners

Cople Elementary School in Westmoreland County designed by Sun Tribe is the first facility in Virginia to be gold certified under a new program that encourages pollinator-friendly solar development. Gold certification is the highest pollinator-smart designation available through the voluntary program.

VA Pollinator-Smart Resources located at

www.pollinatorsmartva.org

If you have questions, comments, or feedback, please reach out to us!

pollinator.smart@dcr.virginia.gov

Pollinator-Friendly Solar in Indiana

Ben Inskeep
Principal Analyst | EQ Research
binskeep@eq-research.com

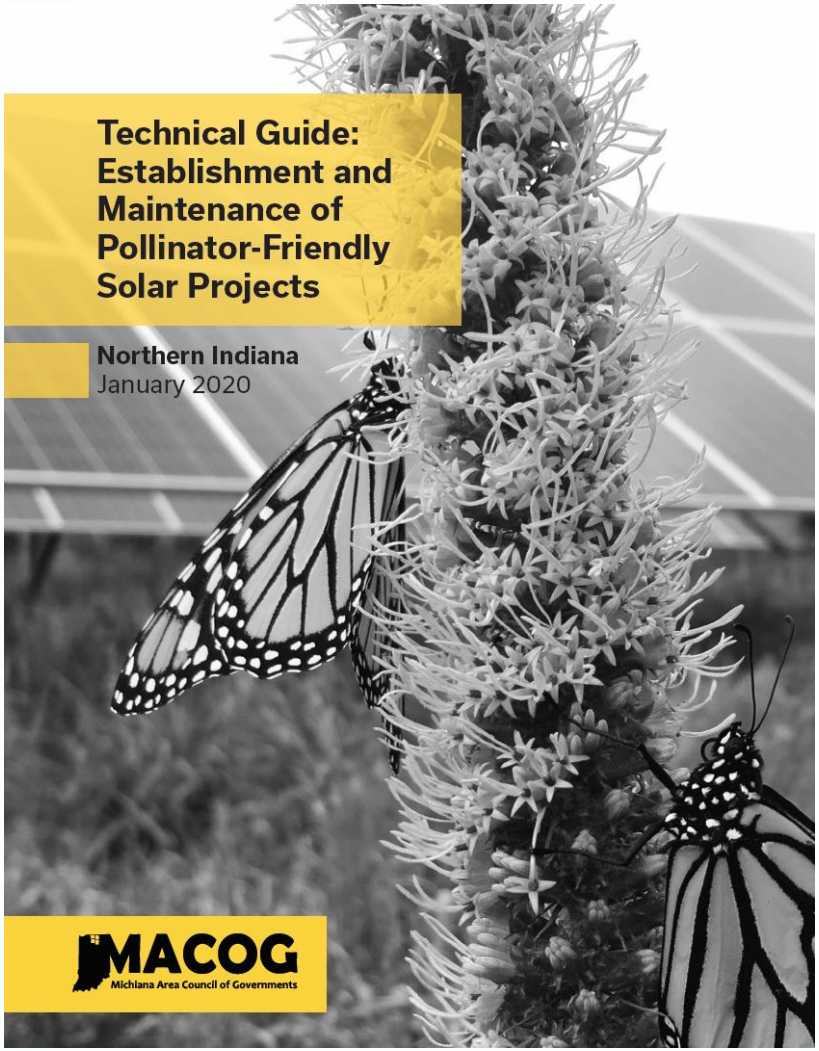
May 5, 2020

EQ Research

New Report Published Today!

- EQ Research collaboration with Center for Pollinators in Energy at Fresh Energy
- Report is Indiana-focused, but includes information on other state and local policies
- Provides model and example ordinances, state scorecards, and RFP provision
- Available at: https://eq-research.com/publications/

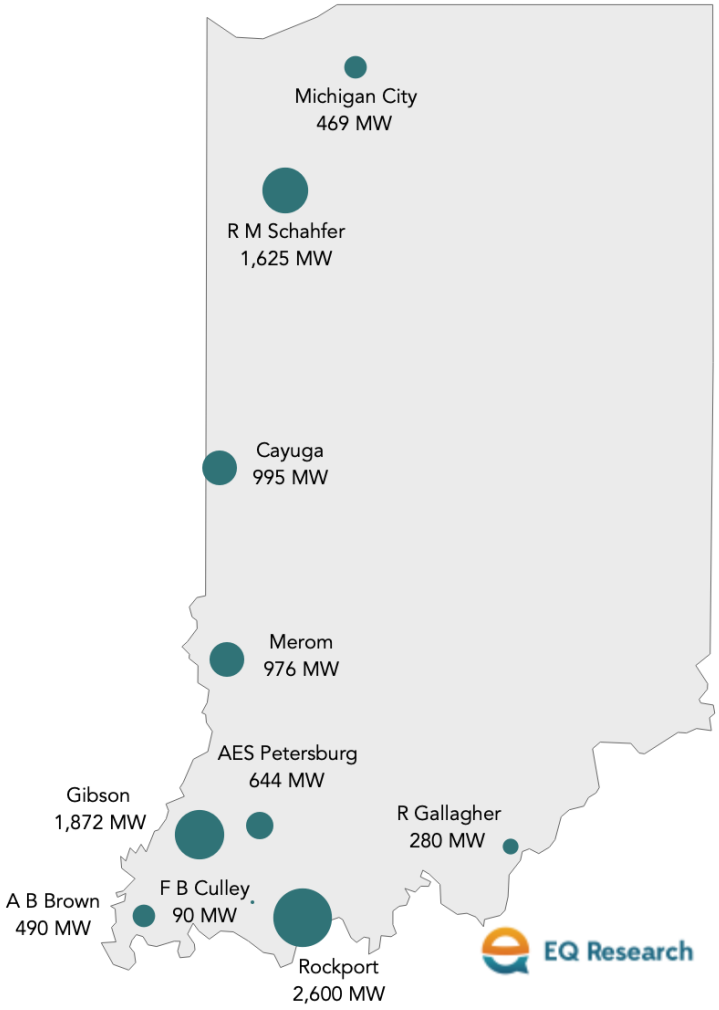
Additional Indiana Resources



- Michiana Area Council of Governments technical guide: http://macog.com/solar_energy.html
  - Adapted from the Minnesota Department of Natural Resources' technical guidance
- Purdue University Extension is creating a solar pollinator scorecard for Indiana

The Coming Solar Boom in Indiana

Planned Coal Retirements in Indiana by 2034



IOUs Planning to Replace Coal with Solar (In Part)

Utility	Anticipated Solar Additions by 2030 (MW)	Anticipated Coal Plant Retirements by 2030 (MW)
Duke Energy Indiana	900	1,897
Indiana Michigan Power	1,100	2,600
Indianapolis Power and Light	825	644
NIPSCO	2,900	2,094
Vectren*	700*	580
Total	**6,425 MW**	**7,815 MW**

** Vectren solar additions are estimated, as updated IRP results have not been finalized*

Potential Benefits to Indiana

Category	Benefits
Economic	Long-Term Cost Savings Through Reduced Maintenance
	Potential Increased Efficiency of Solar Panels
	Increased Crop Yield
	Maintaining Future Agricultural Viability
	Honey Production
Environmental	Improved Water Quality
	Reduced Erosion
	Habitat for Native Species
Social	Improved Aesthetics
	Greater Community Support

Policy Examples and Models

- State Scorecards
  - Pollinator habitat assessment "scorecards" to earn **voluntary designation** that the solar site is pollinator friendly.
  - Contain a list of **best practices** that can be implemented to establish and maintain pollinator habitat
- Model and Example Ordinances
  - Describe local government **permitting and siting** provisions that encourage pollinator-friendly solar
- Model RFP Provision
  - Utility competitive solicitations can request information from developers on **solar site planning and management practices** or explicitly favor sites adhering to a Scorecard
- Other Policies

Recommendations

1. Indiana Can Develop a Pollinator Habitat Assessment Scorecard
2. Local Governments Can Adopt Solar Siting Guidelines that Encourage Pollinator-Friendly Practices
3. Utilities and Procuring Entities Can Require Information from Prospective Solar Developers on Pollinator Practices
4. Solar Developers Can Design and Manage Solar Sites to Be Pollinator Friendly

Photo Credit: Adam Thada, Ancilla College

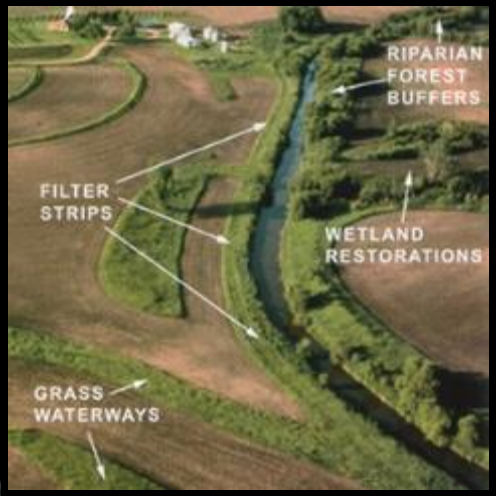

BOARD OF WATER
AND SOIL RESOURCES
HABITAT FRIENDLY
SOLAR
2020

PRESENTATION TOPICS

I. Origins of the Program
II. Goals
III. How it Works
IV. Next Steps

Origins of the Program

Agencies are finding ways to incorporate pollinator habitat into as many project types



Origins of the Program

Habitat Friendly Solar Initiated from 2016 Legislation Stating:

- "an owner of a solar site implementing solar site
- management practices may claim that the site provides
- benefits to gamebirds, songbirds and pollinators only if
- the site adheres to guidance set forth by the pollinator
- plan provided by the Board of Water and Soil
- Resources".

Habitat Friendly Solar Goals

Program Goals:

-Meet legislative requirement
-Assist local governments
-Provide flexibility in design (species, layout, etc)
-Maximize the benefits of projects
-Create consistency across the state
-Ensure the success of projects

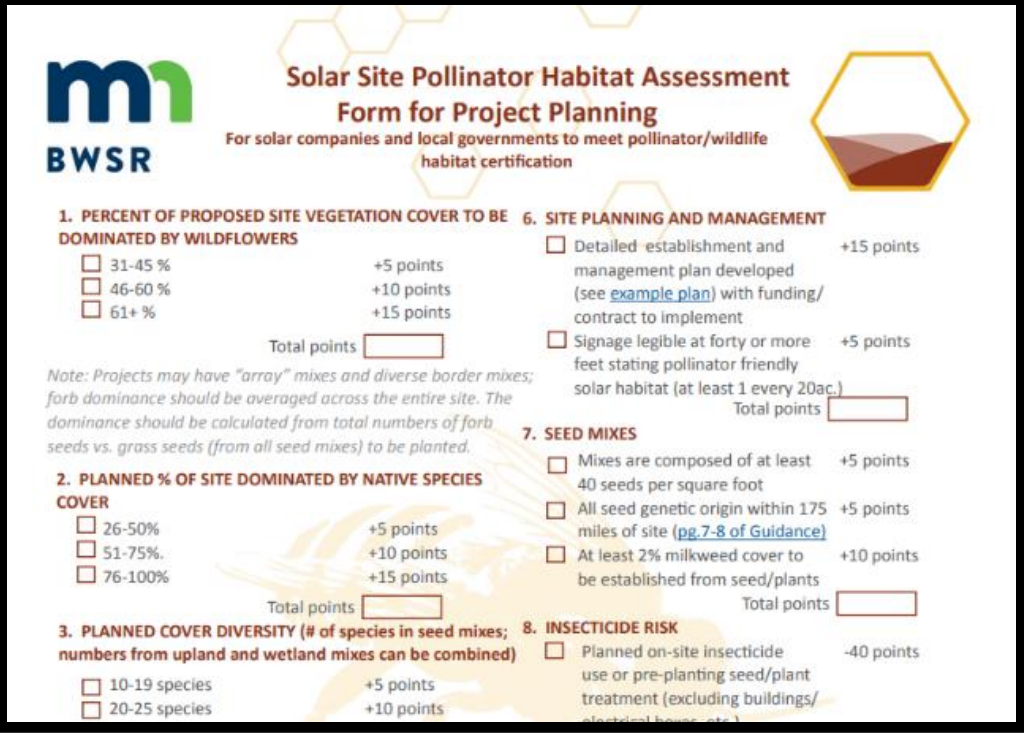
How it Works

Key Steps for Meeting Standards:

How it Works

Key Steps:

1) Filling out the Project Planning Assessment Form



BWSR

Solar Site Pollinator Habitat Assessment Form for Project Planning

For solar companies and local governments to meet pollinator/wildlife habitat certification

1. PERCENT OF PROPOSED SITE VEGETATION COVER TO BE DOMINATED BY WILDFLOWERS

- ☐ 31-45 % +5 points
- ☐ 46-60 % +10 points
- ☐ 61+ % +15 points

Total points ☐

Note: Projects may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. The dominance should be calculated from total numbers of forb seeds vs. grass seeds (from all seed mixes) to be planted.

2. PLANNED % OF SITE DOMINATED BY NATIVE SPECIES COVER

- ☐ 26-50% +5 points
- ☐ 51-75%. +10 points
- ☐ 76-100% +15 points

Total points ☐

3. PLANNED COVER DIVERSITY (# of species in seed mixes; numbers from upland and wetland mixes can be combined)

- ☐ 10-19 species +5 points
- ☐ 20-25 species +10 points

6. SITE PLANNING AND MANAGEMENT

- ☐ Detailed establishment and management plan developed (see example plan) with funding/ contract to implement +15 points
- ☐ Signage legible at forty or more feet stating pollinator friendly solar habitat (at least 1 every 20ac.) +5 points

Total points ☐

7. SEED MIXES

- ☐ Mixes are composed of at least 40 seeds per square foot +5 points
- ☐ All seed genetic origin within 175 miles of site (pg.7-8 of Guidance) +5 points
- ☐ At least 2% milkweed cover to be established from seed/plants +10 points

Total points ☐

8. INSECTICIDE RISK

- ☐ Planned on-site insecticide use or pre-planting seed/plant treatment (excluding buildings/ -40 points

- % Dominance of Native Vegetation
- % Dominance of Wildflowers
-Plant Diversity
- 3 Season with Blooming Plants
- Habitat components
- Site Planning
- Seed Mixes
- Insecticide Risk

How it Works

Key Steps:

2) Review by local government or BWSR

-Review includes ensuring that plans will lead to successful establishment and management of vegetation

How it Works

New Sample Specifications

Sample Specifications for the Establishment of Native Vegetation as Part of Habitat Friendly Solar Projects

5-9-19
Developed by the Minnesota Board of Water and Soil Resources and the Minnesota Department of Natural Resources

Note: these specifications are suggestions for projects and should be adapted to meet specific site conditions and project goals.

CONTRACTOR QUALIFICATIONS

1. Seeding contractors must have at least three years of experience installing native seed and installing or maintaining prairie restoration projects or other similar types of projects.

PROPOSED CHANGES TO PROJECT SPECIFICATIONS

Also DNR Guidance Developed

How it Works

Key Steps:

3) Adding to state list of projects to be posted on BWSR website

How it Works

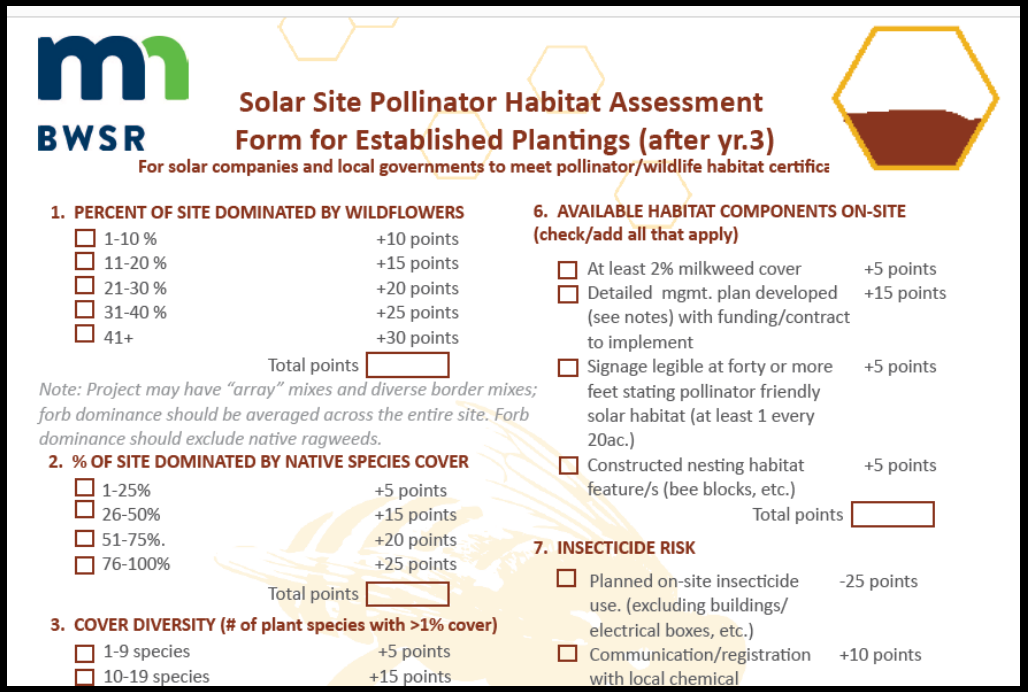
Key Steps:

4) Inspections each year to ensure that projects stay on track

How it Works

Key Steps:

5) Submitting established Project Form for review at year 3 and every three years



BWSR

Solar Site Pollinator Habitat Assessment Form for Established Plantings (after yr.3)

For solar companies and local governments to meet pollinator/wildlife habitat certifica

1. PERCENT OF SITE DOMINATED BY WILDFLOWERS

- ☐ 1-10 % +10 points
- ☐ 11-20 % +15 points
- ☐ 21-30 % +20 points
- ☐ 31-40 % +25 points
- ☐ 41+ +30 points

Total points ☐

Note: Project may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. Forb dominance should exclude native ragweeds.

2. % OF SITE DOMINATED BY NATIVE SPECIES COVER

- ☐ 1-25% +5 points
- ☐ 26-50% +15 points
- ☐ 51-75%. +20 points
- ☐ 76-100% +25 points

Total points ☐

3. COVER DIVERSITY (# of plant species with >1% cover)

- ☐ 1-9 species +5 points
- ☐ 10-19 species +15 points

6. AVAILABLE HABITAT COMPONENTS ON-SITE (check/add all that apply)

- ☐ At least 2% milkweed cover +5 points
- ☐ Detailed mgmt. plan developed (see notes) with funding/contract to implement +15 points
- ☐ Signage legible at forty or more feet stating pollinator friendly solar habitat (at least 1 every 20ac.) +5 points
- ☐ Constructed nesting habitat feature/s (bee blocks, etc.) +5 points

Total points ☐

7. INSECTICIDE RISK

- ☐ Planned on-site insecticide use. (excluding buildings/ electrical boxes, etc.) -25 points
- ☐ Communication/registration with local chemical +10 points

Next Steps

-Partners are experimenting with site design, seed mixes and management methods

Image by Minnesota Native Landscapes
Enel Green Power (EGP) Site

Image by Natural Resource Services

Image by Prairie Restorations Inc.

Next Steps

Next Steps

-Encourage counties to use the standard and ordinances to help increase consistency

-Conduct outreach on updated forms

-Increase site inspections and SWCD involvement

-Update list of projects

THANK YOU!