REWI Renewable Energy Wildlife Institute

Webinar: Biodiversity/Insect/Pollinator Research at PV Solar Facilities from a US and UK Perspective

JUNE 27, 2024

AUDIENCE QUESTIONS AND ANSWERS

Question: Did any of the solar sites have variable native seed plantings where certain low-growing species were seeded between panels and underneath to reduce the need for mowing and then taller species were grown on the outer edges closer to the fences?

Answer: Yes, some of the solar sites did vary their seed mixes around the site. Sometimes this was done experimentally to examine how well certain seed mixes established under and around PV panels, other times this was done intentionally to keep lower growing vegetation under the panels and taller, more diverse, vegetation around the perimeter.

Question: Are you also looking at costs of different seed mixes and management regimes?

Answer: Yes. One aspect of the research includes seed mix cost, amount of management (number & frequency of mowing, livestock grazing, and herbicide application).

Question: Is the Biodiversity Net Gain policy only for solar?

Answer: The BNG policy is not just for solar, it applies to all new developments.

Question: Has anyone tried to maximize the carbon sequestration as well as habitat value of the vegetation between panels?

Answer: While not solely selected for carbon sequestration potential, many of the seed mixes were chosen because they included deeper rooted species that could help increase soil carbon.

Question: Is seed mix selected based on the past ag use of the land? Or has it been more trial and error to see which plants take well?

Answer: Seed mix selection was not based on prior ag use of the land. Rather, seed mix selection has followed 2 general pathways: (1) selection of locally native grasses and forbs; or (2) naturalized low-growing flowering plants that are known to successfully establish in that area (e.g., clover). Some of these seed mixes were experimental - we didn't know how well they'd establish under unique soil prep, shading, and microhabitat conditions created by a PV facility.

Question: Has evaluations been conducted on species that consume insects at solar sites? Think birds/bats. What are affects on avians?

Answer: Evidence of response to solar by these groups is emerging (in the UK/Europe at least) - there seems to be mixed effects on bats based on the limited literature (suggests possible reduced bat activity in solar fields) and potential positive impacts on birds at the landscape scale. But, this is a big knowledge gap!

Question: Do I dare ask about the citing of solar fields in areas that are entirely forested? As a private consultant its a challenge managing expectations of clients but I also know there have been studies done assessing CO2 reduction of trees vs. solar panels etc.
Answer: Holly: I've not come across forested areas being replaced by solar (in the UK). But yes, I am also aware of work ongoing surrounding carbon and different land uses (incl. solar and woodlands) but have not seen results yet.

Lee: We don't see many forest-to-solar land use conversions in the Midwest, but this is something that has happened in parts of the eastern U.S. It's difficult to fully offset the ecosystem services of a forest. A couple of recent DOE-funded studies will be looking at the influence of solar development on soil carbon. Part of those studies will be to compare soil carbon on solar sites to pre-solar land uses (agriculture, pasture, grassland, forest, etc.). Check out https://solarsoil.evs.anl.gov/ for one example project.