It can be difficult to see human development of an area as a positive event. Companies building over natural landscapes degrades the natural habitats, decreasing biodiversity and leading to population declines. Efforts are currently underway, however, to utilize the rights-of-way (ROWs) of the utility companies to improve the habitats of pollinators in the areas power lines are built through.

Population declines in pollinators are a concerning issue, and human progress can seem antithetical to the cause of conservation. However, ecologist Clare Aslan of Northern Arizona University is working to discover how we can make necessary developments while improving habitats. The research project, “The Contribution of Electric Utility Transmission Line Right-of-Way to Pollinator Biodiversity in Arizona,” is funded by the Electric Power Research Institute. Aslan believes her findings will “help power companies develop strategies to increase native plant and pollinator abundance and diversity, reverse habitat degradation and promote ecosystem health across multiple plant communities.”

The project involves 15 miles of right-of-way spanning different ecosystems at different elevations, and includes plots from the Coconino, Apache-Sitgreaves and Tonto National Forests. Aslan explains that, “Pollinators [...] respond to environmental changes caused by pollution, excess pesticide, a loss of habitat, invasive species, climate change—all the drivers.” The condition of pollinators is sensitive to environmental disturbance, and their importance is summarized by Aslan, “Reduced numbers of pollinators impact plant populations. They transfer genes from one plant to another. If we lose that, we can have isolated plant populations, secondary extinctions or extinction cascades—ripples from reductions to losses of other species.”

Integrated Vegetation Management (IVM) treatments will be applied to the study plots, which includes herbicide use, mechanical removal of vegetation through mowing or cutting, and a combination of both mechanical removal of plants and herbicide use. These techniques will be paired with pollinator collection from the site and monitoring of the plants that attract them. The goal of these methods is to evaluate how each IVM treatment affects pollinator abundance and composition within the ROW, as well as compare it to the abundance of pollinators outside of the ROW. Aslan states, “Using IVM, ROWs are capable of supporting pollinator populations because harmful non-native invasive plants can be suppressed while low-growing native grasses, forbs and flowering plants attractive to pollinators can be encouraged. ROWs may provide the only habitat in intensively managed regions and can serve as corridors to connect patches of habitat.”

The project is set to begin in the lower elevations in the spring and include the higher elevations in the summer. This study hopes to bring development to natural habitats along with human development instead of having the absence of one in place of the other. As Aslan puts it, “We are going to need electric power delivery and we do have human-made structures cutting across our landscape, but I believe there are ways to manage this that can be multi-beneficial.”

Citation

NAU Disease Ecologist Receives $2.25 Million Grant to Study Potential Biological Warfare Agent. (2018). Targeted News Service (TNS), pp. Targeted News Service (TNS), 2018-09-11.