Beautifying Tennessee's Roadways and Enhancing Its Ecology By Strategizing Pollinator Habitat Potential

Problem Description

As of January 2022, TDOT manages 3,670 miles of roadway which suggests that the rights-of-way along these segments offer a great advantage to supporting Tennessee's vast native plants and pollinators species. Likewise, the cost to maintain these rights-of-way is minimized. TDOT has a few publications that addresses native species planting along its roadways, but a statewide guidance document that offers identifying species for planting based on site conditions, targeted maintenance specifications, an evaluation process to measure success, and a public outreach program about these areas is missing. To address this, a less academic route has been chosen that instead includes expertise from botanic gardens, native plant groups, and pollinator specialists within Tennessee to work with university faculty to develop these guidance protocols.

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PROJECT SCHEDULE:
August 2022 to July 2024

Research Objectives

- Provide a list of common Tennessee native plants that would readily establish themselves along rights-of-way to TDOT managed roads.
- Construct three pollinator habitat test plots whose site conditions are most common across Tennessee.
- Develop a maintenance program that promotes success of a pollinator habitat program.
- Produce a GIS database of environmental conditions for every right-of-way segment to include proximity to other sensitive environments and the location of TDOT pollinator habitats (now and future) for planning purposes and decision support.
- Create a set of procedures to evaluate changes to and substantiation of pollinator habitats.
- Provide various alternatives on ways TDOT can support pollinator habitat program activities that pertain to site preparation, planting, maintenance, and evaluation.
- Develop public outreach material to help Tennesseans and its visitors recognize and appreciate pollinator habitat.

Potential Implementation and Expected Benefits

TDOT already recognizes certain direct benefits in establishing pollinator habitat, such as maintenance cost reduction, soil stabilization, support to Tennessee's pollinator ecosystem, and enhancing roadside aesthetics. Other direct benefits will include guidance on planting native species, rights-of-way maintenance alternatives, conducting pollinator evaluations, and a geodatabase of environmental conditions along TDOT managed roadways. Indirect benefits include strengthening areas that have remnant native species, creating pollinator corridors that support Tennessee agriculture, and supporting/enhancing other Tennessee environmental assets like rare and endangered species and conservation areas (or Environmentally Sensitive Areas).

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