EPRI

2024

AT A GLANCE



Vegetation Management and Remote Sensing

Program P51A

Research Value

- Reduces vegetation management costs through new technologies and approaches
- Decreases the frequency of vegetation-caused T&D outages
- Develops a more ecologically diverse plant community capable of outcompeting undesirable plant species along T&D ROWs
- Evaluates the usefulness of new vegetation monitoring technologies in optimizing trimming cycles
- Provides data to inform compliance with the North American Electric Reliability Corporation's (NERC's) mandatory vegetation management standards
- Facilitates the achievement of corporate environmental stewardship and ROW goals and help change public perception of the value of T&D ROWs

Utilities manage rights-of-way (ROWs) with the goal of providing safe and reliable delivery of electricity. ROW managers actively control vegetation in ROWs through tree trimming activities and integrated vegetation management (IVM) practices that promote low-growing vegetation, which, in turn, inhibits growth of tall trees.

The objective of this research is to identify and evaluate opportunities to reduce vegetation management (VM) costs while maintaining high reliability and enhancing environmental compatibility. These outcomes are achieved by evaluating different technologies for monitoring and assessing vegetation management needs and IVM practices, including remote sensing technologies. Technologies are often tested in small plots or demonstrations within utility ROWs so members can make informed decisions prior to large scale deployments.

Supplemental and Applications Projects

Opportunities beyond the annual research portfolio include:

- *Pollinator Responses to Vegetation Management Practices in ROW* – 3002011786
- *Multi-vendor Satellite Technology Evaluation for Vegetation Management Applications* – 3002025732
- *Minimum Clearance Distances for Vegetation Management Equipment* – 3002027648

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Research Highlights



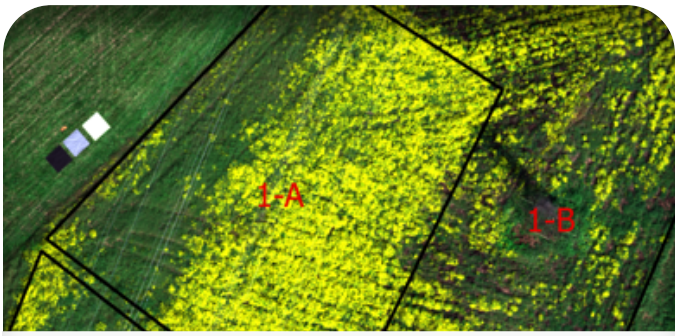
Integrated Vegetation Management (IVM) Practices

IVM practices promote the use of low-growing, native vegetation in ROWs. These native plants reduce costs and help restore habitats for indigenous species and pollinators, helping utilities to accomplish good environmental stewardship and meet corporate goals. This task examines different IVM methods, field-tests new vegetation management products, and investigates the use of ROWs to promote native plant and animal species.



Optimized Vegetation Management Techniques

New technologies can help optimize trimming cycles by identifying canopy height, encroachment, hazard trees, etc. They may also help with species identification, estimation of growth rates, and tree health assessment. New technologies may also help utilities with the execution and workflow of their vegetation management activities. This task examines the performance of current and emergent technologies aimed at optimizing vegetation management activities.



Remote Sensing

Remote sensing technologies can have alternative uses in vegetation management, particularly in monitoring the biodiversity of ROWs. This task studies applications and benefits of remote sensing technologies to achieve corporate goals.



Knowledge Sharing for Improved Vegetation Management Practices

This task surveys utilities to document current VM practices, tree data collection and databases, data analysis methods, and data driven VM tools to provide industry context and identify research gaps.

For more information, contact:

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