FACT SHEET

Effective Establishment of Native Grasses on Roadsides in New England

RESEARCH PROJECT TITLE
Effective Establishment of Native Grasses on Roadsides in New England

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PRINCIPAL INVESTIGATOR
Y. Kuzovkina, PI
J. Campanelli
C. Schulthess
R. Ricard
G. Dreyer

NETC CONTACT
Julie Dowds, MPA
NETC Coordinator
University of Vermont
Transportation Research Center
210 Colchester Avenue
Burlington, VT 05405
802-656-7722
netc@uvm.edu

MORE INFORMATION
NETC Coordinator will add link to the final report on NETC website

The New England Transportation Consortium, a cooperative effort of the transportation agencies of the six New England States, funded this research. Through the Consortium, the states pool professional, academic and financial resources for transportation research leading to the development of improved methods for dealing with common problems associated with the administration, planning, design, construction, rehabilitation, reconstruction, operation and maintenance of the region's transportation system.

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What was the Problem?

Grass species selection plays a critical role in roadside plantings, providing safe clear zones and effective control of slope erosion. Cool-season introduced turf grasses have been used for decades as a quick cover along roads. However, recent policy requires the use of native plants as the first choice in roadside revegetation efforts. While a considerable amount of literature exists on the subject of native plant establishment for other regions of the U.S., research on roadside native plantings for the New England region remains sparse. The overall goal of this project was to build a comprehensive knowledge-base for a gradual transition toward well-planned, sustainable native roadside vegetation cover that will support transportation goals of safety and infrastructure reinforcement while providing economic, ecological and aesthetic advantages.

What was done?

Native plant selection and effective protocols for establishment and maintenance of natives along roadsides were developed for the local conditions of New England. Three demonstration sites with multiple trials were planted and evaluated along highways in Connecticut. At the conclusion of the project, a manual was produced to fill current information and technology gaps on the utilization of native grasses for roadside plantings in New England based on literature reviews, interviews with experts and practitioners, and field experiences obtained during the establishment of the regional demonstration trials. The manual provides guidelines for species selection and describes 39 species of grasses and grass-like plants and 96 species of forbs suitable for roadside plantings in New England. It outlines specific factors that are important for making decisions regarding plant selection and establishment methods and provides a checklist for site characteristics that should be considered during site assessment. The manual discusses various protocols for establishment of native species, including site preparation, seeding techniques, and post-establishment monitoring and maintenance. This document is designed for use by highway department employees and contractors to assist in selection of appropriate strategies for the transition and implementation of these new approaches to plantings.

What are the next steps?

The transition toward establishment of native plant communities along New England roadsides will change decades old policies. A gradual implementation of this transition over several years will insure a successful change in practices.

It should focus on:

- Establishing new native plantings following construction
- Augmenting existing roadside native plant communities
- Educating DOT personnel concerning the benefits of the policy change
- Creating native vegetation roadside management positions
- Most importantly, developing local seed sources, which currently are absent in the region

What are potential impacts?

The shift toward native species manifests proactive environmental stewardship and provisions for healthy ecosystems. The use of native species provides long-term defense against invasive and noxious weeds, while reducing maintenance costs associated with managing weedy vegetation. Many native grasses have deep, extensive root systems and longer lifespans than cool-season grasses; they can improve long-term slope stability and increase regional biodiversity. Native species have evolved with local climates and soils conditions, generally require less maintenance after establishment, and persist longer. The adoption of the protocols developed during this project and described in the manual will provide effective paths toward initiating the transition from current vegetation practices to those prescribed in this manual.