

NEW ENGLAND TRANSPORTATION CONSORTIUM

QUARTERLY PROJECT PROGRESS REPORT

- A. PROJECT NUMBER AND TITLE:** NETC 21-3: Seed Production for NE Roadsides
- B. PRINCIPAL INVESTIGATOR(s) & UNIVERSITY(s):** J. Kuzovkina, University of Connecticut
- C. WEB SITE ADDRESS (If one exists):** NA
- D. START DATE (Per NETC Agreement):** May 18, 2022
- E. END DATE (Per NETC Agreement):** June 30, 2024

F. ANTICIPATED COMPLETION DATE: June 30, 2024

*If different from the END DATE in paragraph E., the reason must be given. It is the responsibility of the Principal Investigator to insure that the project, including review of the draft report by the Project Technical Committee and the printing of the Final Report, is completed prior to the Agreement End Date. Costs incurred after the Agreement End Date cannot be reimbursed. **Requests for extensions of the Agreement End Date must contain the reasons for the request and be submitted so as to arrive in the Coordinator's office at least 90 days prior to the Agreement End Date.***

G. PROJECT OBJECTIVES: The objective of this project is to increase native plantings and pollinator habitats with seed from local ecotypes along roadsides throughout New England. The proposed work is designed: 1) to promote ecotypic seed production for effective establishment of native plants on roadsides in New England and 2) to expand management practices that result in the proliferation of existing native plant communities along the roadsides in New England.

H. REPORT PERIOD: October 1, 2022 - December 31, 2022

I. ACCOMPLISHMENTS THIS PERIOD:

Task 1: Current knowledge and practices (seed zones, seed mixes, BMP etc.)

- Compiled a draft of the Master Plant List – it will be used to select mixes for dry, mesic, wet sites in different regions/states
- Started discussions with the Northeast Species List Development Sub-Working Group to identify the lists of workhorse species suitable for the production of the ecotypic seed in the region. There were two meetings on December 2 and December 16. The group is developing a framework or sets of guidelines for developing target and priority species lists for commercial seed production in the NE. In parallel we are developing the roadside mixes which will be submitted to the Directory to the Cooperative growers.

Task 2: Investigate local seed production opportunities

- Completed the interview process with the last focus group CT DOT (October 7) and compiled a written report: analyzed the focus group interviews, prepare a written report with recommendations for the future direction of the project, summarized the needs and problems identified during interviews.
- Discussion of the ecotypic seed production at the Native Plant Trust Conference “Need for Seed: A strategy for the Northeast” Oct. 1-2

Task 3: Establish and monitor roadside demonstration plots for training and research purposes.

Planning the establishment of the demonstration sites: the following consultations were conducted:

- Sue Barton, University of Delaware Oct. 7
- Rebeca Brown University of Rhode Island Nov. 14
- CT Audubon Society Nov. 11
- Mark Fiele, Ernst Conservation Nov. 28
- Evan Abramson, Landscape Interactions. MA, January 4

Consulted with the Monarch and Pollinator specialists to help us with the development of the concept (October-November):

- Chip Taylor, Director, Monarch Watch, University of Kansas; multiple contacts Nov. – Dec. 2022
- Alice Ely from Monarch Watch Nov. 2
- David Wagner UConn Nov. 6
- Daniel Potter and Adam Baker, University of Kentucky Nov. 11
- Pollinator Partnership Mary Ellen Lemay Nov. 16

Search for Truax drill:

- Peter Picone, CT DEEP January 4 – have agreement to assist in CT end of May-early June
- Monarch Vegetation Services, PA
- [Tool Rentals - Coos County Conservation District](#) NH

Monitoring of the herbicide treatments at the demonstration sites along Rt. 6, CT (Oct. 15 and 29)

Initial letter CT, MA, VT DOT with request to help with site selection and maintenance January 4

Other activities

- Meeting with the NETC TC (December 6).
- Collaborating with a group of stakeholders who are working on ecotypic native seed production in New England, which is tentatively called the Northeast Eco-Seed Network. It's led by Eve Allen, Program Director for the Ecological Health Network. The group consists of several committees working on issues related to production, such as Species Selection, Seed Zones, Data Management, Marketing, and End-User Research. As a result, the work of this group supplants the work we proposed in Task 2: Investigate local seed production opportunities.

J. PROBLEMS ENCOUNTERED (If any): We invited Maine DOT to participate in the focus group interviews a few times but have not heard back. Therefore, we will prepare the summary of the interviews without its input.

Need to clarify the roles and responsibilities between DOT's and UConn for establishment of the demonstration plots under Task 3 of the proposal. Arin Mills is scheduling a meeting in January.

K. TECHNOLOGY TRANSFER ACTIVITIES: *List any reports, papers, presentations published/presented during the report period or anticipated for the next quarter.* NA

A report “Current Impediments for New England DOT to Transition to Sustainable Roadside Practices for Strengthening Pollinator Habitats and Health” is anticipated for the next quarter.

L. STATUS BY TASK: *Show Work Task Number, description and % complete for each task including those completed, those underway, and those not started.*

Task1: Current knowledge and practices 25%

Task 2: Investigate local seed production opportunities 30%

Task 3: Establish and monitor roadside demonstration plots for training and research purposes 20%

Task 4: Draft Final Report and Technology Transfer Strategy and Toolbox 15%

Task 5: Deliverables: Final Report 0%

M. PERCENT COMPLETION OF TOTAL PROJECT: 25 %

N. ACTIVITIES PLANNED FOR NEXT QUARTER:

- Main focus will be on the preparation of the seed mixes for the roadsides in NE; cost comparison of the ecotypic vs. non-ecotypic seed
- Planning of the demonstration sites for spring 2023.

O. FINANCIAL STATUS:

As of: January 10, 2023

Total Project Budget: \$ 200,000

Total Expenditures: \$ 40,000

Note: This report should not require more than 2-3 pages & should be e-mailed to the NETC Coordinator so as to arrive no later than ten (10) working days after the end of each calendar quarter.

Appendix 1. Task 3: Establish and monitor roadside demonstration plots for training and research purposes.

We propose to focus on the seed mixes to promote pollinator/Monarch butterfly habitats (about 50% grasses, 50% forbs (15-20 species) including *Asclepias*)

Concept (as presented to the TC on December 2022)

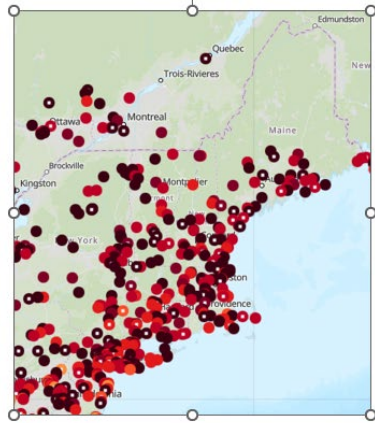
Site location: Pollinator/Monarch Highway

- Rather than scatter the demonstration sites throughout New England states, our goal is to strategically incorporate them into a larger concept or holistic plan which the DOTs can use in the long-term, making it a lasting project beyond this grant.
- The following example is based on the ecological/biological justification:

The demonstration sites can be installed along I-91, which runs through CT, MA and VT (and adjacent roads in NH can also be added). The I-91 is a N-S road, which coincides with the direction of the Monarch butterflies migration and would provide the best habitat corridor for this species (and simultaneously for other insects, including pollinators). Because of this N-S direction I-91 would be an optimal road for enhancing the native habitats, which could possibly be configured into a Monarch Highway in the future. Notably, Vermont has adopted the Monarch Butterfly as an official symbol and became a part of the CCAA, and may have special interest to install such habitats.

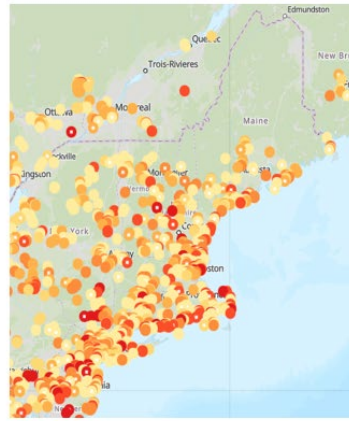


Monarch migration in New England



- Before March 1
- Mar 1 - Mar 14
- Mar 15 - Mar 28
- Mar 29 - Apr 11
- Apr 12 - Apr 25
- Apr 26 - May 9
- May 10 - May 23
- May 24 - Jun 6
- Jun 7 - Jun 20
- After Jun 20

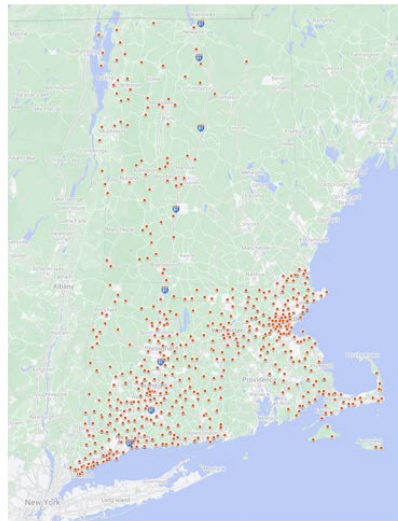
First sightings represent arrival in late Spring and the early Summer of 2022



- Before Aug 16
- Aug 16 - Aug 29
- Aug 30 - Sep 12
- Sep 13 - Sep 26
- Sep 27 - Oct 10
- Oct 11 - Oct 24
- Oct 25 - Nov 7
- Nov 8 - Nov 21
- After Nov 21

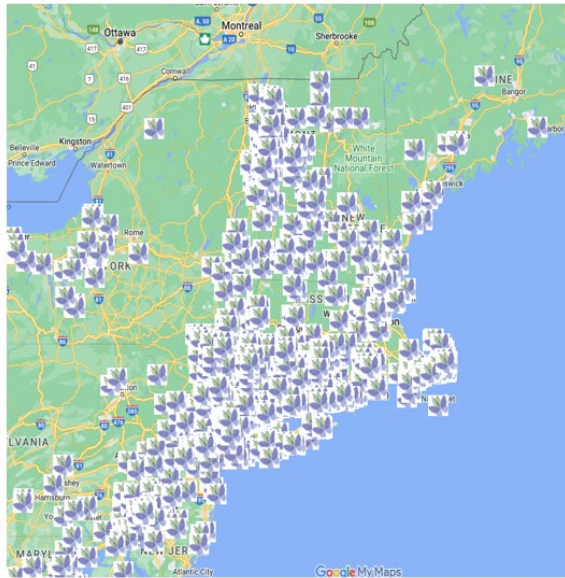
Monarch adult sighted in the Fall of 2022

Monarch Waystations Gardens along i-91 (data from Monarch Waystation registry as of Nov. 29, 2022)



1,164 habitats in the tri-state area:
CT: 519
MA: 554
VT: 93

Public & Private Pollinator Pathway Gardens



town-based organizations encourage both citizens and municipalities to plant native pollinator-friendly plants

Demonstration sites

- Present a series of flagship projects
- Rather than diffuse the sites, the goal is to strategically incorporate them into a larger concept or holistic plan
- Can be designated as New England Pollinator-Monarch Highway to unify efforts of many groups/partnerships
- Identifying a highway for intense conservation efforts creates a driver for participating of other groups.
- Promote relationships between the DOTs, conservation agencies, public and private entities
 - organizations committed to conservation efforts for monarchs: The Monarch Joint Venture, The Pollinator Pathway, etc.
- Prepare plans for future development: I-91 acts as a major axis
 - create more gardens in the areas withing 10-20 miles adjacent to I-91 to increase abundance and connectivity of the habitats