

**Environment and Natural Resources Trust Fund
2020 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 183-E

Leveraging Carbon & Stormwater to Preserve Ash Trees

Category: E. Air Quality, Climate Change, and Renewable Energy

Sub-Category:

Total Project Budget: \$ 1,013,840

Proposed Project Time Period for the Funding Requested: June 30, 2024 (4 yrs)

Summary:

Community trees sequester enormous amounts of carbon and provide other valuable services. This project pioneers securing carbon credits and quantifying alternatives to costly stormwater infrastructure by preserving mature ash trees

Name: Kevin McDonald

Sponsoring Organization: Minnesota Pollution Control Agency

Job Title:

Department: Resource Management & Assistance

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Location:

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Visual illustrates value of ash trees, carbon credit process, carbon and stormwater revenue process, and long term vision

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



Environment and Natural Resources Trust Fund (ENRTF)
2020 Main Proposal

PROJECT TITLE: Leveraging Carbon and Stormwater to Preserve Community Forests

I. PROJECT STATEMENT

Community trees sequester enormous amounts of carbon, reduce stormwater, improve air quality, save energy, and improve human health. This project pioneers the preservation of at-risk mature ash trees by securing and selling carbon credits associated with 6,000 community ash trees. It incentivizes the long-term preservation of these trees and serves as a model climate mitigation strategy.

The US Forest Service's iTree benefits calculator estimates that an average-size ash tree in Minnesota provides \$218 in benefits annually. For each tree, this includes nearly 1,000 pounds of sequestered and avoided carbon dioxide, and annual rainwater interception of 2,600 gallons. Our grant work will generate credits for these benefits – specifically, carbon credits through carbon sequestration, and stormwater reduction credits through the quantification of rainfall interception. These funding sources will help local governments preserve community trees and contribute to both local and statewide climate mitigation strategies.

Participating LGUs will employ industry-standard preservation practices including scheduled EAB prevention injections on selected ash trees every three years for the first six years of the program and every five years thereafter to a total of twenty years. In addition, LGUs will be responsible for compliance with an EAB carbon protocol, and necessary recordkeeping. This grant work can then be deployed across Minnesota as a quantifiable climate mitigation strategy to assist in Minnesota's statewide climate and water quality goals.

II. PROJECT ACTIVITIES AND OUTCOMES

This project builds on several successful tree carbon credit mechanisms. Key project deliverables include:

- Developing a new carbon credit protocol specific to ash trees
- Creating a stormwater calculator that estimates costs avoided from ash tree preservation
- Applying a carbon protocol and investing credit revenue through participating six Minnesota cities
- Preserving 6,000 mature community ash trees up to 20 years, and
- Positioning carbon and stormwater credits as strategies for statewide community forestry management.

Activity 1: EAB Carbon Credit Protocol Development

City Forest Credits will develop a carbon protocol for EAB management. The protocol will establish rules for earning and quantifying carbon credits. Local and national forestry service providers, and universities engaged in EAB scientific research, will assist in drafting and peer review. Issuance and sale of carbon credits will fund a percentage of the ash tree treatment.

ENRTF BUDGET: \$25,000 (\$25,000 cash match from City Forest Credit's use of a Doris Duke Foundation grant)

Outcome	Completion Date
<i>EAB Protocol developed to establish eligibility, quantification of CO2, and credit issuance</i>	<i>12/2020</i>
<i>Third-party verified carbon credits issued and sold based on EAB Protocol</i>	<i>12/2020</i>

Activity 2: Preserve 6,000 Public Ash Trees using Carbon Credit Proceeds and Avoided Costs Data

Six participating cities will provide inventory data on 1,000 high quality ash trees in order to quantify the saleable carbon. LGUs will preserve each tree and the associated environmental benefits therein by utilizing emamectin benzoate, a non-neonicotinoid insecticide on a three year cycle. ENRTF funding, revenues from carbon credit issuance/sale, and LGU financial match will fund this preservation for a total of six years.



Environment and Natural Resources Trust Fund (ENRTF) 2020 Main Proposal

Monetization of avoided costs will support the additional 3 treatment cycles completed on a science-based recommendation of five year cycles.

ENRTF BUDGET: \$500,000 (\$500,000 cash match through carbon credit issuance *and* \$440k local cash match)

Outcome	Completion Date
<i>Finalize recruiting six participating LGUs. MOUs outline ENRTF \$ commitment, \$500k in carbon credit revenue and \$440k in local match (\$220k for each treatment cycle)</i>	<i>12/2020</i>
<i>Enter into contractual agreements with LGUs as per carbon credit protocol</i>	<i>3/2021</i>
<i>Inventory 6,000 trees for size, GPS and condition. Preserve trees at an average \$120/tree through two injection cycles</i>	<i>5/2021 and 5/2024</i>

Activity 3: Quantify Economic Value of Rainfall Interception/Stormwater Reduction

A competitive RFP will secure an expert contractor to develop a calculator that estimates stormwater cost-avoidance resulting from ash tree preservation. The contractor will:

- Conduct a literature review of increased pollutant loading and erosion associated with increased stormwater runoff due to ash tree loss;
- Estimate costs of managing increased pollutant and runoff loads, and
- Obtain input from public/private stakeholders resulting in user-friendly calculator.

ENRTF BUDGET: \$50,000

Outcome	Completion Date
<i>Calculator completed that quantifies cost-avoidance from ash tree preservation versus alternative stormwater management practices (e.g., pipe and pond)</i>	<i>12/2021</i>
<i>Regulatory consideration allowing LGUs to use calculated credits to meet permit requirements via MPCA stormwater manual and wiki</i>	<i>12/2022</i>

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Six Minnesota LGUs will receive funding for ash preservation. MPCA will use ENRTF \$ for staffing to manage project and develop stormwater components. City Forest Credits will receive funding for development of the carbon credit protocol. A consultant with Minnesota Retiree Technical Assistance Program (RETAP) will provide field assistance to LGUs. ENRTF funds will support an expert consultant to develop the stormwater calculator.

B. Partners NOT receiving ENRTF funding

Minnesota Shade Tree Advisory Committee (MNSTAC) and LMC's Minnesota Cities Stormwater Coalition will both serve in an active advisory capacities.

IV. LONG-TERM IMPLEMENTATION AND FUNDING: A consensus-driven plan laying out the statewide use by Minnesota LGUs of carbon and stormwater credits for community trees will be developed. A key long-term implementation mechanism will be integrating the stormwater calculator into MPCA's regulatory stormwater program. Detailed case studies of the inaugural six cities will also be developed. Additionally, the Minnesota Cities Stormwater Coalition will be integral to training, educating and supporting application statewide.

V. TIME LINE REQUIREMENTS: A four-year project beginning in July 2020 and ending in June 2024.

Attachment A: Project Budget Spreadsheet
Environment and Natural Resources Trust Fund
M.L. 2020 Budget Spreadsheet

Legal Citation:

Project Manager: Kevin McDonald

Project Title: Leveraging Carbon and Stormwater to Preserve Community Forests

Organization: MPCA

Project Budget: \$1,013,840

Project Length and Completion Date: 4 years, 06/30/2024

Today's Date: 04/15/2019



ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET		Budget	Amount Spent	Balance
BUDGET ITEM				
Personnel (Wages and Benefits) - 1 FTE for 4 years; MPCA Princ Planner to serve as Project Coordinator (Responsible for management and coordination, reporting, budgeting, long-term implementation and statewide scale up, and regulatory stormwater integration)		\$ 378,840		\$ 378,840
(Wages = \$287,000 and Benefits = \$91,840); Fringe calculated at 32% of wages as per State guidelines				
Professional/Technical/Service Contracts - Competitive RFP for P/T Contract developing stormwater calculator		\$ 50,000		\$ 50,000
MN Retiree Technical Assistance Program (RETAP) consultant to provide LGU field support over 4 yr duration (\$17/hour, no benefits/fringe, averaging 13 hours weekly over 4 years)		\$ 45,000		\$ 45,000
ENRTF \$ for matching single source agreement with City Forest Credits -- Responsible for managing credits		\$ 40,000		\$ 40,000
Other - Six LGU grant agreements for ash treatment over two treatment cycles (\$250k in ENRTF \$ each cycle for two treatment cycles; approx. \$41/tree/cycle for 6,000 trees)		\$ 500,000		\$ 500,000
COLUMN TOTAL		\$ 1,013,840		\$ 1,013,840
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT	Status (secured or pending)	Budget	Spent	Balance
Non-State: Doris Duke Foundation support to City Forest Credit for EAB Protocol development	secured	\$ 25,000		\$ 25,000
Cash match resulting from carbon credit sale and issuance; calculated as 6,000 trees x 3 tons of carbon, 18,000 carbon credits x \$30/credit). Funds to be used for treatment and calculated at approx. \$41/tree/cycle for 6,000 trees over 2 treatment cycles; Carbon protocol administered by City Forest Credits	pending	\$ 500,000		\$ 500,000
Non-ENRTF \$ from carbon credit issuance used by City Forest Credits for admin	pending	\$ 40,000		\$ 40,000
Minnesota LGU cash match for mature ash treatment (approx. \$36/tree/cycle for 6,000 trees over 2 treatment cycles)	pending	\$ 440,000		\$ 440,000
In kind: Staff time from 6 Minnesota LGUs (\$12,500 annually in-kind from each participating LGU over 4 years; ensures strong city involvement, ash treatment coordination, stormwater cost avoidance review, contractual/legal)	pending	\$ 200,000		\$ 200,000
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS	Amount legally obligated but not yet spent	Budget	Spent	Balance
		\$ -	\$ -	\$ -

Leveraging carbon and stormwater to preserve municipal forests

The trees in our communities sequester enormous amounts of carbon and provide other valuable services. To preserve mature ash trees, this project pioneers securing carbon credits and quantifying alternatives to costly stormwater infrastructure.

Why it matters

Ash trees make up a significant portion (20-40%) of trees in Minnesota communities – an estimated 2.6 million municipal ash trees statewide.



Problem: Minnesota communities are poised to lose 2.6 million ash trees because of Emerald Ash Borer.



Carbon and stormwater

Mature ash trees hold a lot of carbon and reduce lots of stormwater.



In Minnesota, 2.3 million municipal ash trees that are 25 years old store an estimated 7.7 million tons of CO₂.

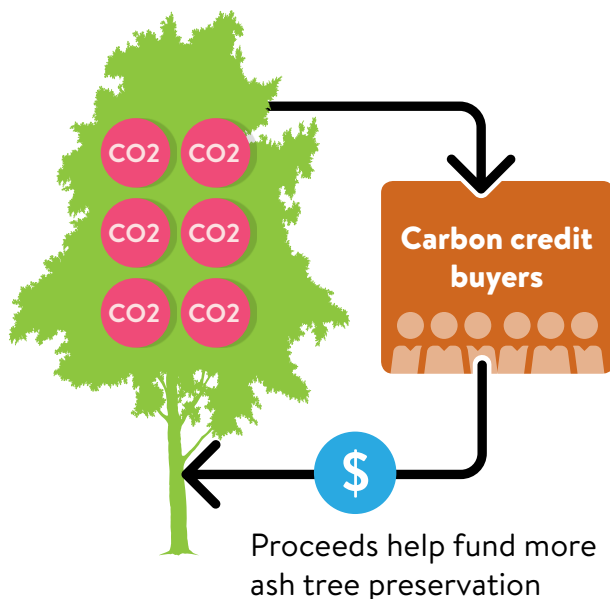


If all ash are removed it will result in 1.7 billion more gallons of stormwater needing to be managed annually, at an estimated annual cost of \$144 million.



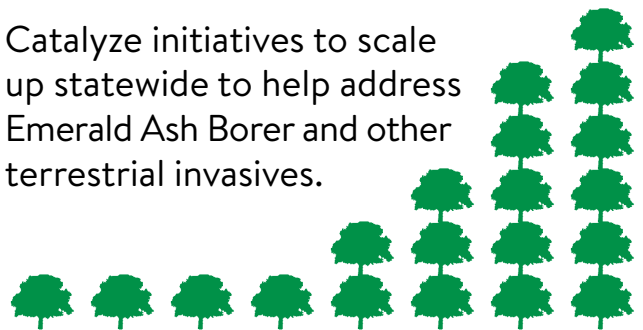
Carbon credits

Saving ash trees has cash value in the carbon credit market.



Long-term vision

Catalyze initiatives to scale up statewide to help address Emerald Ash Borer and other terrestrial invasives.



Partners

- Minnesota Pollution Control Agency
- City Forest Credits
- MN Shade Tree Advisory Committee
- LMC's Minnesota Cities Stormwater Coalition
- Individual cities and towns
- Retired Engineer Technical Assistance Program



Kevin McDonald

Project manager qualifications

Kevin McDonald, a 32-year veteran and leader at the Minnesota Pollution Control Agency, will oversee this project. Having begun his state service in 1987, Kevin has championed numerous innovations and initiatives to protect and improve our environment and enhance human health, and develop new pollution prevention programs. Noteworthy are Minnesota GreenCorps, the Minnesota Toxic Pollution Prevention Act of 1990, Minnesota Retiree Environmental Technical Assistance Program (RETAP), and the nationally recognized Get the Lead Out fishing tackle program. Kevin is MPCA's representative on the Minnesota Shade Tree Advisory Committee. He currently supervises a team of seven MPCA professionals.

Organization descriptions



Working to protect and improve our environment and enhance human health.



Minnesota Cities
Stormwater Coalition



Minnesota Pollution Control Agency monitors environmental quality, offers technical and financial assistance and enforces environmental regulations. The MPCA finds and cleans up spills or leaks that can affect our health and environment. Staff develop statewide policy, and support environmental education. The MPCA works with many partners — citizens, communities, businesses, all levels of government, environmental groups and educators — to prevent pollution and conserve resources.

City Forest Credits is a non-profit 501(c)(3) organization based in Seattle. Its mission is to bring the wide range of environmental benefits of trees to our cities and towns in America. It seeks to make American cities greener and healthier by enabling urban tree-planting and preservation projects to earn carbon credits to generate much-needed funding for our declining urban forests.

Minnesota Cities Stormwater Coalition The League of Minnesota Cities sponsors the Minnesota Cities Stormwater Coalition, an active network of over 120 cities that provides help to local governments in implementing various federal and state stormwater requirements.

The Minnesota Retiree Environmental Technical Assistance Program (RETAP) employs skilled, retired professionals to provide facility assessments and community sustainability assistance to small businesses, institutions, and communities in Minnesota. Funding and oversight is provided by MPCA.

Minnesota Shade Tree Advisory Committee Since 1974, MNSTAC has been advising Minnesota's Governor, Legislature, other legislative and administrative branches of the state, the University of Minnesota, and the counties, communities, and people of the state of Minnesota on the best ways to preserve, protect, expand and improve Minnesota's urban and community forests.