Environment and Natural Resources Trust Fund

2023 Request for Proposal

General Information

Proposal ID: 2023-011

Proposal Title: Facilitating Community Conservation Via Urban Agriculture

Project Manager Information

Name: Kara Komoto

Organization: Twin Cities Community Agricultural Land Trust

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Project Basic Information

Project Summary: Scenarios of current and possible urban agriculture help connect conservation programs with community agricultural sites. Outreach and information tools enable growers' and landholders' conservation investments, benefiting ecosystem health.

Funds Requested: $199,000

Proposed Project Completion: June 30, 2025

LCCMR Funding Category: Small Projects (H)

Secondary Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Region(s): Metro

What is the best scale to describe the area impacted by your work?

Region(s): Metro

When will the work impact occur?

During the Project

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

Land management practices for urban food cultivation confer many conservation benefits and ecosystem services, including: (1) building soil organic matter, and hence (2) stormwater retention and flooding reductions, (3) carbon sequestration, and (4) soil remediation, as well as (5) habitat for pollinators and urban biodiversity conservation, and (6) mitigation of urban heat island effects. Our research team has documented these ecosystem services on urban farms and gardens comparing food cultivation to turfgrass.

Despite the accrual of conservation benefits from long-term urban agriculture and farmers' commitment to conservation, many urban growers in Minnesota are pushed into environmentally wasteful practices as a result of insecure land tenure. The bulk of farm production in the Twin Cities region occurs on land rented year to year, while urban agriculture policy is complex and often deems urban food cultivation an interim land use, disincentivizing economic investment in conservation. Compounding matters, federal conservation programs and organic certification that would financially support sustainable practices in metropolitan regions are premised on secure land tenure, making them inaccessible. Metropolitan use of federal assistance is further hampered by disparities in knowledge about these programs, and site scales usually considered too small to confer meaningful benefit when not considered in aggregate.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

Federal, state, county, and local conservation programs could better support urban growers' maximization of conservation practices -- and holders of city, county, state, and other public land (parks, school districts, real estate offices, MnDOT, housing and redevelopment, soil and water, and conservation authorities) could better encourage and support conservation practices in leasing their lands. Supported by research-based models of ecosystem services, both secure land tenure for food cultivation and conservation practices can be increased.

Information tools showing aggregate scenarios of urban agriculture will be built in collaboration with urban agriculturalists and conservation program staff, building on six years of prior funded research and projects modeling conservation-oriented community farming, and expanding on existing surveys of metro districts' practices that encourage and challenge environmental conservation in community agriculture.

Outreach to conservation support agencies to identify appropriate programs that could better support community conservation via urban agriculture (Activity 2) will be supported by the development and use of information tools designed to facilitate urban agricultural conservation funding and other support (Activity 1) and site-based demonstrations projects (Activities 3+4) that bolster urban agricultural conservation knowledge sharing, ultimately helping growers navigate urban farming conservation resources and recruiting more conservation-oriented urban growers.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

Best practices for urban agriculture result in numerous conservation and ecosystem benefits, including improving local soil and water quality, providing pollinator habitat, and ameliorating flooding and urban heat island effects. Project outcomes will encourage these conservation processes by facilitating implementation of conservation programs. Specific outcomes will be: 1) Resources for growers and policymakers describing how to navigate challenges associated with accessing land for secure urban agriculture, 2) Increased access for and participation by urban growers in available conservation programs, 3) A greater number of urban farms and gardens practicing urban agriculture in ways that enhance and steward Minnesota's natural resources.

Activities and Milestones

Activity 1: Build science-based scenario models comparing support levels and conservation outcomes for urban agriculture and showing aggregated conservation outputs for metro

Activity Budget: $97,935

Activity Description:
We will use the Urban InVEST software to illustrate the metro-wide contribution to conservation outcomes of land use scenarios, including turf grass and urban agriculture with varying levels of support. We have recruited scientists (listed in partners) whose research shows how better support leads to different conservation outcomes (particularly in terms of soil carbon building and nutrient retention), and also that urban agriculture provides additional conservation benefits when compared to lawns.

Using grower feedback and the "positive environmental impact" section of the MDA urban agriculture grant rubric as a starting place, we will compile a checklist of urban conservation practices for urban growers (e.g. "promotion of clean water, healthy soils, carbon sequestration, and pollinator habitat; reduction of waste or more efficient use of energy, water, nutrients, or other inputs; promotion of organic and sustainable agriculture"). This checklist will highlight the benefits of various practices demonstrated through the Urban InVEST model, along with resources growers can access in their areas to support conservation initiatives. The "benefits checklist," with associated visualizations of metro-level ecosystem benefits enabled by improved support for these practices, can also show the importance and feasibility of participating in community conservation in Activity 3.

Activity Milestones:

Description	Completion Date
Prepare benefits checklist and scenario comparisons using existing models, project team research, and grower feedback	September 30, 2023
Feedback and further research requested from workshop 1 incorporated into scenario models	April 30, 2024
Refined scenario models used to support call for awards and demonstration site benefits checklist signs	April 30, 2024
Demonstrations and consultations with conservation programs used to further refine scenario model functions and outputs	November 30, 2024
Instructions for ongoing use and updating of open-source Urban InVEST tools developed, shared, and refined	June 30, 2025

Activity 2: Develop scenario tools to show resource holders how supporting urban agriculture can lead to community conservation activities and outcomes

Activity Budget: $42,810

Activity Description:
In our recent policy review, TCALT has identified many sources of technical support and resources for urban conservation and green infrastructure that could, but do not currently, support urban agriculture, which has historically been considered too small to meaningfully impact conservation. Activity 2 recruits these sources (including Met Council HRA, Natural Resources Conservation Service, MN Horticultural Society, Xerces, MN Land Trust, MnDOT, conservation authorities, and watershed districts) to participate in workshops at the beginning and middle of the project. In workshop 1 (September 2023), we will share an analysis of scenarios studied in the policy review and InVEST task to establish the value of urban agriculture's aggregate conservation outputs. Workshop 2 (November 2024) will be the primary step in iteratively improving the scenarios and checklist to effectively connect urban growers with appropriate conservation programs.

Expanding on the list of positive environmental impacts in MDA's urban agriculture rubric to show how outputs meet various agency goals will prompt support sources to recognize opportunities for encouraging community conservation. Advising Activities 1 and 3 on the benefits checklist for showing conservation outputs will help resource holders better support (partly via awards in Activity 4) urban agriculturalists' regional conservation contributions without overstretching organizers.

Activity Milestones:

Description	Completion Date
Workshop 1 with resource holders and scenario model team	September 30, 2023
Benefits checklist outputs / alignment with resourcing programs are refined; Activity 1 advised on scenario tie-ins	November 30, 2023
Workshop 2 - respond to refined scenarios and pilot award years; set ongoing award process	November 30, 2024

Activity 3: Conduct outreach and education about urban conservation opportunities via demonstration sites at urban farms and community gardens

Activity Budget: $25,980

Activity Description:
First we will consult with urban growers to select easily measured ecosystem impacts that they contribute (or could contribute with greater support) to regional conservation goals to help develop the conservation outcomes section of the benefits checklist. After refinement based on workshop 1 feedback, the benefits checklist and model scenario outcomes will be adapted to create signs at demonstration sites. The signs will show urban growers and visitors how small-scale conservation practices, which are crucial in more densely-populated urban areas that lack large, continuous tracts of land, combine to create significant differences for the equitable livability of the metro area. This will further encourage conservation programs to recognize the value of supporting urban agriculture conservation efforts on noncontiguous land. Following the first summer, we will discuss scenario and checklist refinement with urban growers and incorporate new insights.

Educational activities will be repeated the second summer to hone the process of connecting food cultivators and conservation programs, and to raise awareness about the importance of community conservation through urban agriculture. In collaboration with five Activity 2 agency partners and Activity 4 award sites, through field days and educational events, we anticipate reaching at least 200 urban growers.

Activity Milestones:

Description	Completion Date
Before workshop, growers "benefits checklist" consultation showing existing benefits / benefits achievable with better support / tenure	September 30, 2023
Demonstration sites that explore additional benefits and display signs established at collaborative and award gardens	June 30, 2024
Consultation with urban gardens and farms about scenario refinement across 2024	November 30, 2024
Milestones 2 & 3 repeated for summer 2025	June 30, 2025

Activity 4: Create award process to facilitate urban farm and garden participation as demonstration sites

Activity Budget: $32,275

Activity Description:
We will facilitate project participation by supporting the creation of demonstration sites with two years of awards,

seeded through this grant and hopefully matched, expanded, and made sustainable by ongoing agency funds as determined to be appropriate through the scenario process.

In fall of year 1, we will shape and document an award process. In January 2024, we will put out a call for interested urban growers, evaluate responses, and provide awards to three sites. These locations will become the first set of demonstration sites and we will collaborate with growers to test and evaluate alignment between urban agriculture site outputs and resource programs. After improving the benefits checklist, the award process will be repeated in year 2 with six demonstration sites. During the two years, we will hold five field days (two in year 1, three in year 2) at demonstration sites in collaboration with UMN Extension to engage local growers and policymakers.

We hope that this pilot project will assure resource holders, for example the participants in Activity 2, that supporting urban agriculture sites in implementing conservation practices is an excellent investment worth continuing for the long-term.

Activity Milestones:

Description	Completion Date
Award process planned and advertised for summer 2024	January 31, 2024
Three pilot awards provided to demonstration sites	April 30, 2024
Award process planned and advertised for summer 2025	January 31, 2025
Six pilot awards provided to demonstration sites	April 30, 2025
Award process documented, fine-tuned, and shared with resource holders to continue support	June 30, 2025

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Ben Janke	University of Minnesota	As a Research Hydrologist at UMN and the Natural Capital Project, Dr. Janke will be responsible for the use of InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) to generate local maps of ecosystem services of urban agriculture to support and illustrate the environmental education signage, programs, and workshops.	Yes
Pamela Rice	Agricultural Research Service, USDA	As a Research Chemist focusing on Environmental Toxicology, Dr. Rice is contributing to the soil health section of our scenario program, drawing on her research on management practices that reduce bioavailability in produce of environmental contaminants, and hence make urban agriculture better for conservation.	No
Mary Rogers	University of Minnesota	As a Professor of Horticultural Science and mentor to high school and college students engaging in urban agriculture, Dr. Rogers will contribute to the section of our scenario program focused on invertebrate biodiversity in urban agroecosystems.	No
Gaston Small	University of St. Thomas	As a Professor of Biology studying biogeochemistry and nutrient transport in urban water and soil systems, and a mentor to high school and college students, Dr. Small will contribute to the segment of our scenario program focused on Phosphorus.	No
Chris Nootenboom	University of Minnesota	As a Research Scientist at the Natural Capital Project, Chris will help support our use of the Urban InVEST model for developing scenarios showing the ecosystem services of urban agriculture that we have demonstrated in our prior research, under likely and desirable future scenarios.	Yes
Nicolas Jelinski	University of Minnesota	As Professor in Soil, Water, Climate, and PI of the research project upon which this project will be built (SARE-funded Collaborative Evaluation of Ecosystem Services Provided by Urban Agricultural Best Management Practices in the Twin Cities Metropolitan Area), Dr. Jelinski will contribute to the soil section of our scenario work.	No
Jan Joannides, Melvin Giles	Renewing the Countryside and the Storymobile Project	Renewing the Countryside has brought dozens of organizations together around gaining farmland access and intensifying conservation connections. With the Storymobile Project, RTC will help document stages of our project to frame, present, and evaluate our scenario models so they are usable by both conservation organizations and farmers and gardeners.	Yes
Valentine Cadieux	Hamline University and TCALT	As a Professor and TCALT learning coordinator, Dr. Cadieux provides 25 years of experience in urban agroecology and community education. She will contribute to all four activities, mentoring project manager Kara Komoto (Activity 1) and working on the scenario tools process with resource program staff and gardeners (Activities 2+3).	Yes
Natalie Hoidal	University of Minnesota Extension	As a UMN Extension Educator, Natalie will help coordinate field days at demonstration sites (contributions as part of Extension position); Activity 4.	No
Jenean Gilmer	Augsburg University	As Urban Farm and Garden Alliance member of the Green Justice Team, and Program Manager for Community-Engaged Learning at the Sabo Center for Democracy & Citizenship at Augsburg University (a source of significant student engagement with the project through internships), Jenean Gilmer will contribute mentorship and organizing, especially to Activity 2.	Yes
Tonya Draughn	Uplift MN/L.I.F.T. to End Poverty	As Urban Farm and Garden Alliance backyard gardening member, Executive Director at Uplift MN/L.I.F.T. to End Poverty, and developer of a Food Justice mentoring program in the Twin Cities, Tonya Draughn will contribute mentorship and organizing especially to Activity 3, garden and farm demonstration sites.	Yes

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

We will share urban agriculture conservation scenarios, related resources, and funding opportunities developed with all Metro districts and applicable agencies, and at potential community meetings open to stakeholders interested in learning about and supporting existing and possible mechanisms of conservation-supporting community agriculture across the Twin Cities. Scenario models and technical assistance resources will be shared on TCALT's website, via the MN Horticultural Society, and embedded in the Urban InVEST tool used by the Natural Capital project (locally housed at the University of Minnesota, see research team). At project completion, all knowledge tools will be made permanently accessible to the community.

Project Manager and Organization Qualifications

Project Manager Name: Kara Komoto

Job Title: Organizer

Provide description of the project manager's qualifications to manage the proposed project.

Project manager Kara Komoto will be moving into this position after two years as a City of Saint Paul VISTA with TCALT, during which she managed the initial stages of this project, working with planners across Ramsey County and building pilot technical assistance programs with the cities of Brooklyn Center, Burnsville, Maplewood, and Minneapolis. Kara has a B.A. and M.S. in geography from Macalester College and Michigan State University respectively. Her academic background has required performing spatial analysis, utilizing quantitative and qualitative methods, and communicating information to a range of audiences. Current climatology research that assesses projected heat stress on crops has strengthened her proficiency in coordinating multidisciplinary teams. Kara values environmental education and has enjoyed helping people understand new concepts as an online course developer, teaching assistant, and instructor. Furthermore, from work with the Washington Conservation District, she has built rapport with landowners to discuss the importance of water conservation and to ensure maintenance of best management practices on their land.

Kara will be working with the research team described, and with researcher and TCALT Learning Coordinator Dr. Valentine Cadieux (Professor of Environmental Studies and Director of the Center for Justice and Law at Hamline University, with over twenty years experience in urban agriculture and land conservation research and planning education).

This project will build on four successful related projects the involved team has engaged, and in which Komoto and Cadieux have served coordinating roles in bringing findings into useful domains for urban-food-cultivation related conservation: (1) SARE-funded "Collaborative Evaluation of Ecosystem Services Provided by Urban Agricultural Best Management Practices in the Twin Cities Metropolitan Area," 2) USDA-funded "Farmland Access Hub" Beginning Farmer and Ranching Developing Project, (3) the Kresge-funded "Art of Food in Frogtown and Rondo," and (4) TCALT's urban agriculture policy review for Ramsey County.

Organization: Twin Cities Community Agricultural Land Trust

Organization Description:

The Twin Cities Community Agricultural Land Trust (TCALT) is a consortium of several nonprofits and government entities supporting long-term access to agricultural land in the seven county Metro Minneapolis-St. Paul region. TCALT provides urban connections to state-wide initiatives (via the Department of Agriculture, other land trusts, and farm service organizations) to preserve lasting community land stewardship and environmental integrity. TCALT facilitates agricultural practices that benefit the public and support food producers who experience challenges accessing land. This

project will enable expansion of TCALT's promotion of research-based conservation best practices across the service area.

TCALT’s collaborative mission is to create transparent pathways to permanent access to land for urban agricultural purposes, such as market gardening and urban farms and community gardens, with the goal of fostering stewardship of soil and water resources as well as agroecological stewardship practices, helping community agriculture contribute to conservation for public benefit. The long-term land and infrastructure improvements enabled by documentation of these benefits will enhance productivity through season extension and preservation of healthy land for future food production. Together, TCALT’s varied projects steward land for community gardens and farms, manage conservation easements, and provide educational, legal, and structural guidance.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Project Manager		Activity 1: 45% Coordinator time x 39 non-summer weeks: coordinating contributions from the other team members, leading the development of scenario materials from their research on the six project topics, and the support of the InVEST team on modeling these topics, and the demonstration sites using the benefits checklist and public education materials (18 hours / week @ $35/hour, which will connect with Activities 2 and 3 during this time x 39 weeks = $24,570) + 25% fringe (x two years)			25%	0.66		$61,425
Project Manager		Activity 1 summer reduced workload on these same activities (because Activities 3 and 4 need the time), 20% time: (8 hours/ week @ $35/hour x 13 weeks = $3,640) + 25% fringe (x two years)			25%	0.1		$9,100
Project Manager		Activity 2: 15% time (6 hours / week @ $35/hour) x 52 weeks (=$21,840) + 25% fringe (for two years) coordinating workshops, outreach, follow up, awards process, building benefits checklist connection process with gardens			25%	0.3		$27,300
Project Manager		Activity 3: Related summer environmental education activities in urban farms and gardens, demonstrations, and translation of model and actionable conservation research finding areas into demonstrations and signage 25% time: (8 hours / week @ $35/hour x 13 weeks of summer = $4,550) + 25% fringe (for two years)			25%	0.1		$9,100
Project Manager		Activity 4: Creating and facilitating awards process to facilitate urban farm and garden participation as demonstration sites 25% time: (2 hours / week @ $35/hour x 13 weeks of summer = $4,550) + 25% fringe (for two years)			25%	0.02		$2,275
Two Part-Time Community Research		Activity 1 (30%): supporting integration of science in scenarios; Activity 2 (30%): Community Research Assistants help with outreach to connect with policy makers and implementer contacts (providing basic			7.65%	0.24		$11,200

Assistants during summer		education on the relevance of this survey to their mandates), and carrying out of research (particularly following up on contacts); and Activity 3 (40%): supporting gardeners evaluation of ease of use of benefits checklist, as well as logistics and planning of demonstration sites: 2 x (5200 [~13 summer weeks x ~20 hours x $20hour] + 7.65% tax) = $11,200						
Senior Researcher, InVEST Model coordination (Dr. Ben Janke)		Activity 1: Assessing baseline ecosystem services and change (improvement) in services for implementation of potential conservation practices; developing model outputs from the literature and results of current work by project team members: 3 months at .25 time per year x 2 years			36%	0.12		$12,600
InVEST Urban Cooling Model Assistance (Chris Nootenboom)		Activity 1: 1 week, yearly (x 2), to consult and help with use of Urban InVEST Model			36%	0.04		$4,200
							Sub Total	**$137,200**
Contracts and Services								
Renewing the Countryside and Storymobile	Professional or Technical Service Contract	Activity 2 and 3 (split evenly): Together with the Storymobile Project, RTC, will help us document the stages of our project to frame, present, and evaluate our scenario models so that they are usable by both conservation organizations and farmers and gardeners. $50x hour x 80 hours				0.04		$4,000
Community Peer Educators	Professional or Technical Service Contract	Activities 1, 2, & 3 (one organizer for each : $4000 stipend to three expert organizers (Gilmer, Draughn, Cadieux)) for 80 hours each at $50/hour supporting project manager in connecting scenario outreach, research and model refinement, and garden demonstration sites				0.12		$12,000
TBD Website, mapping, and model integration services	Professional or Technical Service Contract	Activities 1-3: Across the two years, $7,750 for web services (including integration of the Urban InVEST models and map outputs) to share supportive modules for technical assistance online, along with documentation of on-site educational programming / virtual tours from urban farms and gardens (web fees below in publishing)				0		$7,750

							Sub Total	**$23,750**
Equipment, Tools, and Supplies								
	Tools and Supplies	Coffee, snacks, post it notes, facilitator fees, space rental ($1200 x 2 meetings)	Activity 2: Two workshop convenings with policy makers and resource stewarding agency staff (and model team) enable us to reach the wide range of important actors with conservation decision power to refine and offer resources and technical assistance					$2,400
	Tools and Supplies	Coffee, snacks, handouts, and registration support for field days at two sites in year 1 and three in year 2 (5 field days x $400)	Activity 4: Five field days (2 in year 1, 3 in year 2) at demonstration sites to engage local growers and policymakers					$2,000
	Tools and Supplies	Community research materials	Flowmeters (4 per garden at $25 each) and temperature sensors ($70 each) for 6 sites (with one set for replacement)					$1,200
							Sub Total	**$5,600**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**
Travel In Minnesota								
	Miles/ Meals/ Lodging	Activities 2 and 3: Participating in workshops and demonstration sites will involve team members regularly traveling throughout the metro	Mileage and travel expenses (public transportation, parking for mobility impaired) for project team and participants for workshops and demonstration sites					$1,000
							Sub Total	**$1,000**

Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
	Printing	Signs for 3 sites x $50 / sign in year 1 ($150), plus 6 sites x $50 ($300) in year 2	Activity 3: Signs will be shared explaining our project at garden sites and recruiting participants to contribute to and support the resource and technical assistance sharing development process, as well as to celebrate and educate about urban ag conservation practices and publicize resources and technical assistance					$450
	Publication	Web fees for online hosting and website ($800), along with one open access publication ($1200)	Activities 1, 2, 3 will be documented online					$2,000
							Sub Total	**$2,450**
Other Expenses								
		Activity 3: $50 stipends to 5 target audience members to user test the sign designs ($250) + user testing / refinement with target community audiences for scenario development and resource lists (policy participants and program stewards are doing this as part of their job): $50 stipends for 3 test workshops x 5 people ($750)	Stipends for user testing of the scenario materials and programming in years 1 and 2					$1,000
		Activity 4: $200 x 5 sites	Host site stipends for 5 field days					$1,000
		Activity 4: $3000 average awards x 3 in year 1 and x 6 in year 2	Seed resource awards					$27,000
							Sub Total	**$29,000**
							Grand Total	**$199,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	The University of Minnesota Center for Urban and Regional Affairs has supported a full term graduate research assistant to the Twin Cities Community Agricultural Land Trust	The work of this research assistant in 2020 has created the list of policy makers, agencies, and farmers interested in the educational convenings we are proposing, including in Ramsey and Hennepin Counties and at the Met Council	Secured	$6,000
In-Kind	University of Minnesota In Kind overhead	54% of the salary + equipment for anyone involved from UMN (totaling $10,752 before fringe)	Pending	$5,806
In-Kind	We are applying for an additional University of Minnesota Center for Urban and Regional Affairs full term graduate research assistant to the Twin Cities Community Agricultural Land Trust	The research assistant will lay the groundwork for this project in 2022-2023 so we can start promptly	Pending	$6,000
			State Sub Total	**$17,806**
Non-State				
Cash	Research on nutrient retention and biogeochemistry was supported by a National Science Foundation CAREER award (award number 1651361) to GE Small	Dr. Small's research, particularly on phosphorus, will be one of the core foundations for educational demonstrations, based on nutrient budgeting research informing best practices for aligning compost application to reduce excess phosphorus and enable urban agriculture to become a better nutrient sink, rather than source. Dr. Small's research expenses and data provided have been covered, although the CAREER will conclude by the start of the LCCMR, and he will provide mentorship of any St. Thomas students involved via his usual work there	Secured	$100,000
In-Kind	Urban Farm and Garden Alliance, and Pillsbury United Communities: rent to use spaces to gather, do summer gardener consultations and technical assistance development	Land use (2 Urban Farm and Garden Alliance parcels + 2 Pillsbury United parcels = 4 parcels x 4 months x 2 years, $50 rent per month to use space)	Secured	$1,600
In-Kind	Twin Cities Community Agricultural Land Trust volunteer time	$3647 TCALT Volunteer time: (@MN Volunteer time rate of $24.31/hr) Committee working on relationship building for technical assistance project 75 hours per year x 2 years = 150 hours	Secured	$3,647
Cash	National Science Foundation Human-Environment and Geographical Sciences program	Proposal under review (involving the same team) to continue research that would expand the detail of the research possible, and expand the modeling capacity. NOTE: the success of this LCCMR proposal is not contingent on this further research; the prior USDA SARE project has provided the needed basic research on ecosystem services. Proposal: "Urban agriculture as a coupled socio-ecological system: Assessing ecosystem services, and re-internalizing impacts in interactive greenspace"	Potential	$399,099

In-Kind	The current ecosystem service project is funded by a University of Minnesota Impact Grant from the Institute on the Environment; and data collection was supported by USDA North Central Region Sustainable Agriculture Research and Education Grant (award number 00067679) and supported in part by UMN-MAES funding to N.A. Jelinski	These prior projects will be concluded by the LCCMR, but have provided the data we are building on and will leave an approximate $10,000 of equipment, capacity, and research site infrastructure	Secured	$10,000
Cash	Kresge Fresh, Local, and Equitable project Art of Food in Frogtown and Rondo	The Twin Cities Community Agricultural Land Trust will use these funds to support community organizing as part of its collaboration with this project, getting people engaged in the educational program and helping to secure further agricultural redevelopment sites	Secured	$10,000
			Non State Sub Total	**$524,346**
			Funds Total	**$542,152**

Attachments

Required Attachments

Visual Component

File: fac5138a-dfc.pdf

Alternate Text for Visual Component

The graphic shows focal points of a five-year, collaborative, multidisciplinary program developed at ecosystem service research sites across the Twin Cities. Research outputs will be the basis for support models, and a program involving land use scenario modeling, workshops, and demonstration at these and 9+ other locations in the region....

Financial Capacity

File: 1e732c79-277.pdf

Board Resolution or Letter

Title	File
TCALT Board Letter of Authorization	a1a63255-620.pdf

Optional Attachments

Support Letter or Other

Title	File
TCALT Project Timeline	2ccdf5d0-dbe.pdf
Support letter from Minnesota Land Trust	f5af274f-ece.pdf
Support Letter for TCALT from Minnesota State Horticultural Society	930b074c-6b3.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

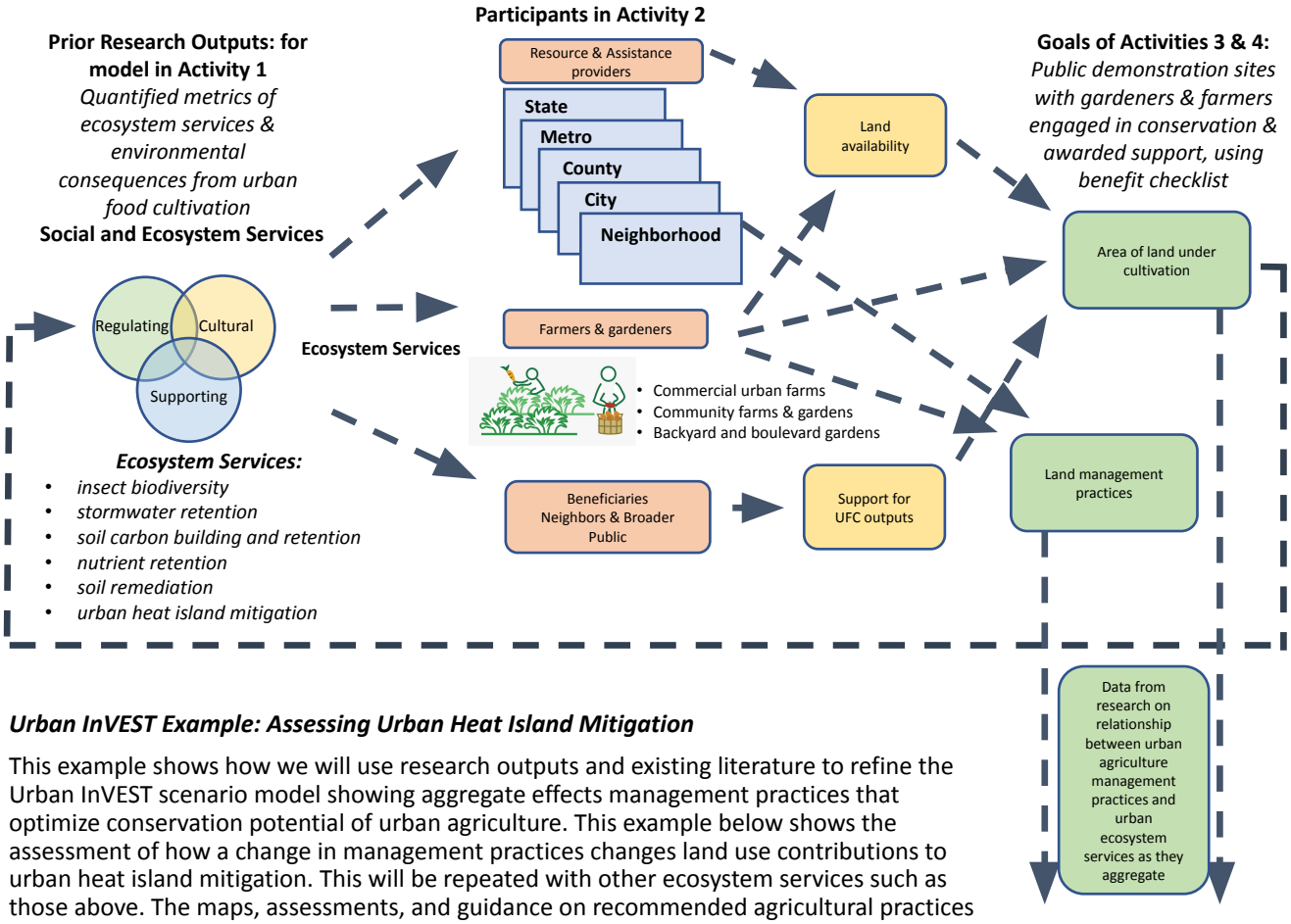
No

Facilitating Community Conservation via Urban Agriculture
Scenario tools to connect conservation programs to urban gardening and farming

LCCMR Methods to Protect or Restore Land, Water, and Habitat Proposal, 2023–2025

Kara Komoto and Valentine Cadieux, Twin Cities Community Agricultural Land Trust,
Nic Jelinski, Mary Rogers, Ben Janke, Chris Nootenboom, Natalie Hoidal, University of Minnesota,
Gaston Small, University of St. Thomas

This graphic shows the focal points of a collaborative, multidisciplinary program, developed over the past five years at research sites across the Metro Twin Cities. The research outputs will be used in the proposed project as the basis for a scenario modeling, workshop, & demonstration program at these & other farm & garden sites, expanding to 9+ sites in the Metro area and ongoing support models.

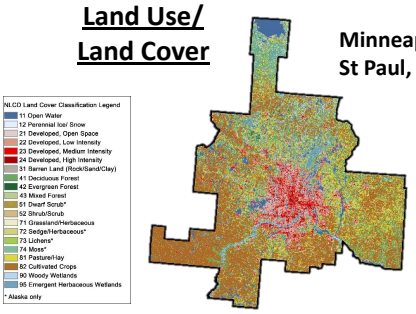


Urban InVEST Example: Assessing Urban Heat Island Mitigation

This example shows how we will use research outputs and existing literature to refine the Urban InVEST scenario model showing aggregate effects management practices that optimize conservation potential of urban agriculture. This example below shows the assessment of how a change in management practices changes land use contributions to urban heat island mitigation. This will be repeated with other ecosystem services such as those above. The maps, assessments, and guidance on recommended agricultural practices will form the basis of the model (activity 1), supporting the workshop of resource providers (activity 2), demonstration awards (activity 4), projects and field days (activity 3).

Land Use/ Land Cover

Minneapolis-St Paul, MN



Urban Cooling Model