



National Association of
Conservation Districts

**2019 URBAN AGRICULTURE CONSERVATION
GRANT INITIATIVE
FINAL REPORT**

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Overview

Background

In the spring of 2016, the National Association of Conservation Districts (NACD) partnered with the USDA Natural Resources Conservation Service (NRCS) to pilot a much-needed service across the country: conservation technical assistance (CTA) for the vastly growing industry of urban agriculture. This service was provided through an urban agriculture conservation (UAC) grant program for conservation districts.

In that first year, UAC grants were awarded to 42 conservation districts in 25 states. A summary report of those projects is available at www.nacdnet.org/about-nacd/what-we-do/urban-and-community/urban-agriculture-conservation-grant-recipients/.

Due to its success, the UAC grant program has continued. The NACD Urban and Community Resource Policy Group (RPG), composed of district officials and partners, embraced the continued opportunity to help districts enhance their services. The RPG is the oversight body, reviewing the Request for Proposals (RFP) and Frequently Asked Questions (FAQ) documents, evaluating the selection criteria, and organizing the selection team.

In 2017, the second program awarded 19 grants to conservation districts in 14 states. A summary report is available at www.nacdnet.org/about-nacd/what-we-do/urban-and-community/2017-urban-agriculture-conservation-grant-recipients/.

Then in February 2019, 20 conservation districts were announced at the NACD Annual Meeting as having been awarded an Urban Agriculture Conservation grant. This report describes those projects and will be available online at <https://www.nacdnet.org/about-nacd/what-we-do/urban-and-community/2019-urban-agriculture-conservation-grant-recipients/>.

Promotion

The 2019 UAC Initiative was launched through a direct email to conservation districts, as well as publication in NACD's weekly newsletter, eResource in November 2018 (<https://nacdn.z2systems.com/np/clients/nacdnet/viewOnlineEmail.jsp?emailId=43f3191fd64372e7374884ef68c901494m294909343f&secureIdCustomer=1&>) and NACD's quarterly magazine *The Resource* in the fall of 2018 (<https://indd.adobe.com/view/9d0a5029-11b4-4aed-86a6-60e19d14dd15>). Individual projects have been featured each month in NACD's weekly online newsletter, eResource, since December 2016. Those are available at www.nacdnet.org/news-and-events/publications/eresource/. Some of the projects were showcased on NACD's monthly Urban and Community Conservation Webinars, available at www.nacdnet.org/general-resources/webinars/.

Coordination

Throughout the year, NACD served as a facilitator and promoter of the 20 projects. Representatives of the conservation districts were added to the already-established UAC listserv

and given access to a members-only website for the grant recipients. These services allowed the new grant recipients to connect and share with each other as well as the previous awardees.

While the 2019 UAC Initiative is completed, the grant recipients have chosen to remain connected via the listserv and other sharing opportunities.

Outcome

The goal of the overall Urban Agriculture Conservation grant program is to grow conservation technical assistance in urban agriculture. The work completed in the third was as varied as the previous years, including assisting and creating gardens for food banks, homeless shelters, schools, senior living facilities; evaluating and enhancing soils for urban agriculture; and reaching out with education and resource tools through advisory committees, partner organizations and businesses.

As with the earlier grants, this group leveraged funds through in-kind services and donations. That information will be compiled and added to the records. And, as in 2016 and 2017, many of this year's recipients requested a project deadline extension in order to expend the grant funds due to the substantial contributions of time and resources by partners and participants.

Partners continued to make a huge impact on these projects. In addition to traditional partners NRCS and Extension, these projects opened doors within local governments, food and medical industries, schools and universities, churches and faith-based organizations and others.

Throughout the year, individual districts and their partners, including NRCS, were recognized through press, radio and television newscasts, and especially social media.

As noted in previous reports, the true results speak for themselves in the individual summaries on the following pages, which provide a description of each project's accomplishments and efforts toward sustainability. Still, these stories don't show the energy, enthusiasm and effort involved in every grant project. That comes from personal contact with the respective conservation districts; project contact information is provided at the end of this document for that purpose.

Crawford County Conservation District, Arkansas



Planting a pollinator and bird habitat at a major interstate cloverleaf in Alma, Arkansas.

The Crawford County Conservation District, with the support of its neighbor, Sebastian County Conservation District, has developed six pollinator installations across the county. These range from a small “pocket prairie” integrated into an urban landscaping design to a 10-acre field that will be a feature of a new city park.

In Mulberry, the pollinator mix has been incorporated into the city park and a new archery range, as well as a planting on the town’s water reservoir embankment. The local schools incorporated the native seed mix into the borders of their gardens and on open ground around campus.



New garden bed installation during Volunteer Day at Cedarville Elementary. In the background is an area (20’x100’) planted in the native pollinator mix.

In addition, the district has grown the community/school garden work, including adding raised beds, drip irrigation, no-till techniques, integrating cover crops and curriculum. This support continues as they have shifted from educational gardens to community gardens. While hoping to do a large program for the planting of the 10-acre site after a controlled burn, both weather and COVID-19 dictated otherwise. Those also affected spring field days at the schools and community gardens. That said, the district's Education and Outreach staff developed curriculum in partnership with the schools and AmeriCorps members serving in FoodCorps in order to offer conservation and agriculture topics online.

With luck, there may be some excellent field days in the fall. In the meantime, the district has created a YouTube page to demonstrate sustainable farming, gardening techniques and urban conservation projects.

Sustainability

Strong relationships with community leaders (mayors, county judges, principals, superintendents) and local groups (churches, Boys and Girl Scouts, schools) will ensure this project grows into the future. Each of these partners have been enthusiastic supporters and participants in the planning and implementation. They are excited to see the gardens and pollinator fields come to maturity.

Winkelman Natural Resource Conservation District, Arizona

The NRCDC taught conservation, promoted appreciation and understanding of the environment, and encouraged responsible stewardship of natural resources. Specifically, the project provided communities with technical assistance in rainwater management, vermicomposting and ecosystem restoration.

Two 40-foot hoop houses were installed for plant propagation at the Oracle Community Learning Garden (OCLG). Donated by Winkelman NRCDC, it was planned and constructed by volunteers. They also installed an irrigation system to monitor water use, directing water to the pollinator garden and the hoop house. Plant starts growing in the hoop house were sold on May 2, the startup of a plant business that will help sustain the garden.



First crop of veggies in the hoop house

A business plan was written for the hoop houses projecting income and expenses for the next six months as well as a market analysis. Initially, the focus will be on growing vegetable, herb and landscape starts in one hoop house, and native plants suitable for restoration projects.

The community garden site was evaluated and techniques to preserve the scant rainfall were recommended. Volunteers installed a 1,500-gallon tank for collecting water from the roof of the bathroom at the garden. An Earthworks Demonstration workshop demonstrated what can be done to direct and collect rainwater.



Installing the cistern

Arizona Worm Farm, a successful vermicomposting enterprise located outside Phoenix, facilitated a workshop in which participants learned about the principles of soil and compost microbiology. The owner developed a vermicomposting business plan, designing a system that provides worms, worm castings and worm casting tea. Sales will support the garden.

During a workshop on native plants, participants learned about the importance of pollinators in the ecosystem, restoration ecology and conservation. Native pollinator plants were installed to support bees, butterflies and other pollinators and to provide propagation material for growing and selling the plants locally. The pollinator garden planted at OCLG is now registered with Monarch Watch (www.monarchwatch.org/waystations/).

Sustainability

OCLG continues to find innovative ways to enhance and promote the community garden. The hoop houses will be a major resource for sustaining it. Over 600 vegetable and herb plant starts were produced, and more than half of those were pre-ordered within two days of the online sale. The plan is to hold two plant sales per year, generating at least \$2,400 annually. Native plants will also be grown for an NRCD restoration project along the Gila River in Kearny, generating approximately \$20,000 in revenue.

The community garden continues to be seen as a vital contributor to the area's sense of place, and community members' ownership of the garden is growing. To enhance the community's perception of value, the NRCD has:

- Coordinated with Pinal County Extension to host a Master Gardener class, a new cadre of knowledgeable volunteers to help maintain and expand the garden. Currently, they are caring for the food forest and pollinator garden.
- Acquired a grant from Sprouts to build schoolchildren's garden beds and develop a curriculum about growing, sensing and eating food. During the 2019-2020 school year, each Monday, a class (grades 1-6) came to the garden for one hour; topics varied according to grade level. In addition, new raised beds are being constructed specifically for education. They will be available for public schools and home schoolers.
- Applied for a grant from Pinal County to build an outdoor classroom, 'Pollinator Pavilion,' that can be used for teaching and community meetings.
- Collaborated with Borderlands Produce Rescue to distribute fresh vegetables destined for the landfill to our communities. While we receive no income from this, the value to our community and our image is immeasurable.

Alameda County Resource Conservation District, California

The Alameda County RCD addressed three primary needs: the provision of expanded, site-specific technical assistance, natural resource related training by way of workshops, and RCD staff training and capacity building. These services were targeted toward urban farms and gardens, with a focus on high risk, low-income communities living in food deserts within Alameda County. The RCD urban agriculture work was greatly expanded and enhanced through inter-organizational collaboration with University of California Cooperative Extension (UCCE) and the Natural Resources Conservation Service (NRCS). Project efforts were based on UCCE's Urban Ag Needs Assessment¹ (Bennaton and Contreras, 2019).

Provision of in-person, context-based technical assistance to 18 urban growers is one of the greatest impacts. NRCS, UCCE and RCD staff provided technical assistance along with two urban agriculture technical service providers (TSPs). Technical assistance advised for production enhancement on water and soil conservation methods such as no-till cultivation, carbon sequestration, irrigation system repair/design and much more. Resources such as seeds and compost were also distributed. Project highlights included work with farms such as Alameda Point Collaborative (APC), a supportive housing organization that hires formerly houseless folks to grow food for their own housing communities. APC received eight hours of technical assistance, a \$3,000 mini-grant award, and hosted our irrigation workshop, benefitting tremendously from radical farm improvements. The Campbell Street Farm (formerly People's Breakfast Farm) received technical assistance and resources from UCCE, dramatically transforming their soil's quality and lands into a beautiful garden.



No-till beds being created at Alameda Point Collaborative Farm with the help of ACRCDD's technical service provider.

Through the workshops' outreach and implementation, over 4,000 growers were reached in Alameda county. A total of 125 farmers attended three workshops: Vertebrate Pest Management, Drip Irrigation Systems for Urban Farms and Gardens, and a Carbon Farming and Polyculture webinar offered during the COVID-19 pandemic. Despite shelter-in-place challenges, the final workshop was held as a webinar, resulting in over 100 registered and 56 attendees.

The highlight of staff trainings that foster cultural change was the racial equity training. In addition, staff were able to attend multiple technical trainings on irrigation systems for urban farms, weed management, integrated pest management and the annual EcoFarm conference.

¹Bennaton, Rob; Contreras, Julio (2019). Growing City Farming Together: A Preliminary East Bay Area Needs Assessment. U.C. Cooperative Extension

Long-term collaborative partnerships with UCCE's Urban Ag Program and NRCS were essential to success. UCCE advisors and NRCS specialists provided project guidance and evaluation impacts throughout implementation. UCCE/ACRCD co-coordinated and organized three workshops, outreach, and delivered compost and seeds to at least nine sites. Irrigation workshop outreach resulted in over 25 participants on a morning with heavy morning rains, but skies cleared just in time for the afternoon hands-on field learning component.

Sustainability

The hiring of the Sustainable Agriculture Specialist has insured the future sustainability of the RCD's urban agriculture efforts.

Successful Urban Ag Partnerships between ACRCD, UCCE's Urban Ag Program (c. 2015) and NRCS generated long-term buy-in from local, state and federal agencies for uplifting small scale and urban farm natural resource conservation nationally.

To extend the impacts, ACRCD/UCCE jointly applied for the USDA Urban Agriculture and Innovation Production grant submitted July 6th, 2020. If awarded, this grant will expand the RCD's current scope, reaching more diverse urban farmers with resources and technical assistance for three more years.

Continued annual funding from Alameda's Flood Control District bolsters programmatic and administrative support for urban farms' conservation efforts. The RCD's Healthy Soils Initiative funding adds outreach for soil conservation and carbon sequestration, bridging connectivity with local urban farmers.

A large aspect of the project sustainability is dependent on evaluating program impacts and receiving stakeholders' feedback. To meet this goal, a two-hour evaluation meeting was conducted. It was attended by 12 people from UCCE and NRCS, community food policy council members, urban agriculture and food justice experts, TSPs and urban farmers assisted through RCD programs. Feedback from this meeting is being used to make programs more accessible and relevant to the communities served through additional resource and technical assistance provision.

San Mateo Resource Conservation District, California

San Mateo County is unique in that it has a rural, coastal agricultural community, as well as a densely populated urban area on the bayside of the county. While the majority of the agricultural work of the San Mateo RCD has been with commercial farmers and ranchers in the rural, coastal side of the county, more requests have been received for assistance from urban agricultural projects in the last few years. This project afforded the opportunity to develop a program for building urban farming staff expertise, growing relationships with urban farmers and urban agriculture organizations, developing tools, and offering financial and technical assistance for urban farming projects.



The RCD launched a mini-grant program, where urban agriculture projects throughout the county were invited to propose conservation projects and apply for financial and technical assistance. This assistance was provided to five urban farms, which implemented a variety of conservation projects, including incorporating cover crops, native plantings, pollinator habitat development, soil testing and soil amendments, building composting systems, and irrigation improvements.

Cover crop growing in the instructional garden at Collective Roots

A county-wide open gardens tour was planned to highlight urban agriculture, educate county residents about their local food system, and encourage participation in and support of neighborhood urban agriculture. A few weeks before the tour, San Mateo County implemented a shelter-in-place order due to the pandemic, and so SMRCD developed a virtual tour, which allowed for increased accessibility. It is available at www.sanmateorcd.org/open-edible-gardens-virtualtour/.

The pandemic also impacted workshops the RCD planned to host in coordination with the local University of California Cooperative Extension (UCCE) Master Gardeners and Master Food Preservers programs. While the food preservation workshop was able to take place before the shelter-in-place order (and was a huge success), the Master Gardener workshop had to be cancelled. Instead, all registered participants received handouts electronically.

This project provided not only immediate assistance to urban farms, but also enabled the RCD to create resources to support urban agriculture projects of the future. SMRCD and partners created the “Urban Agriculture Guide for San Mateo County,” which provides locally specific resources for those interested in starting an urban farm, such as regulations, resource conservation considerations, and potential landowners and partners. Additionally, an urban agriculture webpage was set up with the guide and resources (www.sanmateorcd.org/project/urban-agriculture/).

Through these efforts, the San Mateo RCD worked with a new population to help them better understand conservation practices in an urban agriculture setting and how to work with the RCD as a partner to help them achieve their conservation goals.

Sustainability

The RCD has taken a variety of steps to ensure the work and the conversations started will continue.

Partnerships with two other organizations working with urban farms in San Mateo County have been strengthened. San Mateo County Office of Sustainability (OOS) has provided financial support for community and school gardens working on composting projects, including this project. OOS matched support of conservation practices by funding the composting and vermiculture projects at three of the urban agriculture sites, and the district connected two additional farms to OOS for support with composting systems.



Butterfly garden signage at the Hillsborough Harvest Garden

The other partner organization is the local UCCE office, which hosts the Master Food Preserver and Master Gardener volunteer programs. UCCE is a well-respected resource for science-based gardening knowledge, and the Master Gardeners often offer educational programming. In addition to working with UCCE to offer the two workshops, the RCD provided technical and financial assistance to one of 4-H's youth farms and worked with Extension Advisors on recommendations from the soil testing results. SMRCD, OOS and UCCE have discussed how to leverage each other's programs to provide more comprehensive assistance to urban farms in San Mateo County.

Ada Soil and Water Conservation District, Idaho

With rapid growth in the community, agriculture in the Treasure Valley is changing. Urban agriculture and crop diversification are important to keep farming viable as farmland in Idaho shrinks. The Ada SWCD provided numerous educational resources through this project, which featured farm tours, workshops and hands-on educational activities.

Farm tours spanned throughout the Treasure Valley and featured everything from small one-acre farms raising produce to more traditional Idaho farms with hundreds of acres rotating chickens, cattle, corn and cover crops. The workshops were diverse as well. Some were single-topic demonstrations exploring various value-added products that could be incorporated into a small business. Others were day-long events with topics such as marketing your farm, livestock raising and crop production.



The tours featured 14 local farms over six day-long events. Attendees learned about a wide variety of local agricultural enterprises in the Treasure Valley and the importance of farmland and local food. Here, participants are learning about Kelley Orchards in Weiser, Idaho.

The district also hosted five field trips for local schools. Those involved educational stations to teach students about soil health, water, agriculture and natural habitats. Including all of these topics together shows how interconnected their health is to each other. Each station featured hands-on demonstrations to engage students and were related to their science curriculum.

Through this program, the district was able to expand its outreach efforts substantially. Over 1,600 people were reached by these events, including experienced and future farmers, local community and government partners, students and the general public. Reaching a large cross section of people was important to the district, as they need to have buy-in for healthy soils and local food. It is important to the long-term sustainability of agriculture and future projects like this.



Kelley Orchards brought in large branches for a class on pruning at Harvest and Hearth, a day-long workshop.

Sustainability

The Ada SWCD entered into a three-year agreement with the Natural Resources Conservation Service to continue this education program and research efforts, specifically related to the areas of soil health and pollinators.

District representatives meet with the county commissioners annually to request funding for ongoing projects. They have shown great interest in education and conservation work and find the district's contributions valuable to the community.

Finally, the district receives an incredible amount of support from the community through numerous in-kind partnerships and volunteers.

Gooding Soil Conservation District, Idaho

The Gooding SCD and University of Idaho Extension teamed up on a successful outcome of the Urban Community Garden Project.

Staff talked to local businesses, groups and other organizations in the community to get ideas for vegetable plantings for best produce utilization. A brochure was developed to promote the community garden, and a 10-page document with rules and a contract was created for individuals who requested a plot.



The SCD developed 11 individual plots; the rest of the garden area was a community area for underserved, in-need individuals. Over 200 tomato plants and 100 pepper plants were planted along with radishes, squash, beans, corn and more. Everything was weighed and harvested with roughly 4,200 pounds of vegetables distributed to those in need. This fresh produce was delivered to organizations (two food banks, two senior citizen centers, soup kitchen, local jail kitchen and churches) in Gooding County.

The Envirothon Team laying out garden plots.

A children's garden was planted and established so kids would have a place to pick vegetables, smell herbs, pick flowers and have fun. This will encourage their love of gardening and its importance to the environment. The district also planted cucumbers, beets, zinnias, zucchini squash, spaghetti squash, butternut squash, carrots, radishes and cantaloupe. All these vegetables were picked, weighed (documented), and given to established groups (food banks, senior citizen centers, churches and a remote fire department) in Gooding County.

In August, vegetables were entered into the Gooding County Fair and did extremely well. The 4-H students entered vegetables also and took home many blue, red and white ribbons. The SCD put up a great display at the fair and handed out brochures and flyers.

September and October consisted of continued harvesting, networking, community dinners and hosting educational workshops, activities that were well attended. Families participated, and their children made good use of the children's garden.

Established demonstration plots included summer cover crops, low watering grasses, pollinator habitat, an herb garden, composting demo, fruit trees, community vegetable production, and a pumpkin patch. North Valley Charter and Gooding Elementary fifth grade students planted

pumpkins from seeds. Those students came back in October to pick the pumpkins that grew from their own seeds. They were also given presentations about pollinator habitat and life in the soil.



Fifth grade students from North Valley Academy pick pumpkins from the patch.

Sustainability

This project enabled the SCD to make contacts with local entities and other businesses like Wells Fargo, Columbia Bank and Idaho Power to help continue the garden and maintain what was initiated. The City of Gooding and County Commissioners are all on board and will support in any way possible. Local groups who have helped by volunteering their time and equipment will continue to do so.

The Gooding SCD will continue their support. Both the manager and assistant manager are in the process of becoming Master Gardeners through the University of Idaho program.

Infrastructure has already been put in place, including walkways, garden plots, fencing, and gate and irrigation systems. Relationships are established with two local nurseries, both of which have committed to provide seedlings and plants at no cost.

And, by having educational classes and community dinners, a routine has been set for the community to continue using the community garden.

Kootenai-Shoshone Soil and Water Conservation District, Idaho

The Kootenai-Shoshone SWCD, in partnership with the Kootenai Environmental Alliances Gathering Garden, implemented the Gathering Garden 2019 Enhancement and Expansion Project to improve the capacity to support the growing, harvesting and distribution of garden goods to low income families in North Idaho and surrounding communities.

A program manager took on all the Gathering Garden programs and projects this year, actively producing harvested vegetables to share with local food facilities and implementing examples of modern conservation techniques, such as efficient irrigation and compost making.

The first part of the project produced examples of conservation techniques by installing water efficient drip irrigation lines and building and installing new composting bins. After installation, the new irrigation system was successful, as it dramatically decreased water output and physical labor and increased food production. The garden was able to add an additional 500 square feet of garden space and produce more food that was given to local food facilities. The new composting bins and chipper shredder improved compost making at the garden, as the organic materials were broken down better, and the bins provided more airflow, which enables quicker decomposition. By this coming spring, the materials will be ready to return to the soil and provide more available nutrients for growing more produce the coming season.



The advantage of drip irrigation over sprinklers is little water loss due to evaporation or runoff. An efficient, long lasting urban irrigation system was installed that saved about half the water use from prior years and reduced the energy and time from local volunteers.



Community members learned about using compostable organic materials correctly to produce nutrient rich matter. Composting and building up the soil's water holding capacity is one of the most effective ways to conserve irrigation water used for growing plants.

The second part of the project facilitated three free community workshops performed at the Gathering Garden. These focused on proper urban garden irrigation techniques, urban composting, and urban garden seed harvest and storage techniques. Informed speakers shared their expertise on each subject. There was an average of 12-15 attendees at each workshop, which allowed for interactive discussions and hands-on participation. Gathering Garden facilitators received positive feedback, and interest in future workshops was expressed.

Project promotion for the Gathering Garden 2019 Enhancement and Expansion Project was posted on the Gathering Garden, KEA and SWCD websites and Facebook pages as well during each workshop and community event. Workshop flyers were distributed in the area by the conservation district. This project increased overall growth and support from local connections and volunteers.

Sustainability

The Gathering Garden has taken many steps to ensure project sustainability and to continue to develop service to the community through outreach, conservation education, and local food bank donations. The Gathering Garden is actively building a corresponding multi-disciplined, service-learning curriculum and activities program. With expanding interest and support from neighboring higher education institutions, regional school districts and the community at large, the Gathering Garden enhances its project capacity.

Funding has been consistent from entities such as the NIC Foundation, Clif Bar Foundation, Innovia Foundation, the Idaho Botanical Foundation and local clubs and organizations such as the Coeur d'Alene Garden Club. The Gathering Garden has also been successful in securing many in-kind donations of volunteer support and labor as well as materials for garden operations and facilities. This year, the garden has more than doubled its volunteer participation and community collaboration and support from previous years. The Gathering Garden is an example of effective and informed participation in public life as well as demonstrating civic and social responsibility of our future leaders.

To measure the Gathering Garden's success, a post-evaluation will be requested from each group of students, instructors and individuals who participate at the Gathering Garden for service-learning events. KEA and the Gathering Garden both will continue to measure the success of this project through increased participation in the organization and programs offered.

Worcester County Conservation District, Massachusetts

Worcester County CD has expanded its Healthy Soils Initiative into urban areas by having staff and resources deliver on-the-ground technical assistance and educational information specifically intended for urban farmers, community gardens and backyard gardeners.

Through soil sampling services, the CD assisted dozens of residents in Worcester County to improve soil fertility and responsible fertilizer application. Several sampling customers indicated they would have continued to apply compost and fertilizer unnecessarily if they didn't have their soil tested. This service has been utilized by Worcester County residents who own parcels of land ranging from a fraction of an acre to many hundreds of acres.

The CD achieved its goal of increasing audiences by developing strong partnerships, reaching more landowners than possible as a stand-alone organization. Through various new partnerships, presentations were given at ten workshops during the year, and one documentary viewing was held. Each of these resulted in increased visibility and new clients for technical assistance and soil samples.

Ongoing work continues with Growing Places, including providing their Community Gardeners technical advice, soil sampling, and workshop presentations. The CD held two successful workshops with the Greater Quabbin Food Alliance to promote food waste reduction and commercial composting. These were attended by a wide variety of businesses, event venues, caterers and restaurants. These partnerships will be furthered through continued outreach and educational events, resulting in requests for one-on-one technical assistance or follow-up workshops.



Presentation at “Cover Crops in the Community Garden” workshop in partnership with Growing Places, held at their Pierce Meadow Community Garden in Leominster, MA.

This project enabled increased support for the MA Envirothon program. In-person training and support was given to the Doherty, Burncoat, and Quabbin High School Envirothon teams related

to the Soils Ecostation. Nine teams from Worcester County were registered for the 2020 Envirothon event; more than half were from environmental justice communities. These students were particularly passionate to learn about the environment around them.

Sustainability

The new conservation planner is eager to advance WCCD's programs. He is a passionate conservationist who grew up in Michigan as an avid outdoorsman and gardener. In addition to his advanced education, he has multiple years working with communities to implement conservation practices. His experience in agricultural research, watershed science, ecological restoration, environmental education and urban gardening allowed him to hit the ground running in support of the CD programs.

Interest in soil sampling and technical assistance continues to build, ranging from urban gardeners to homesteaders to farmers.

The WCCD can continue building on previous efforts with support from a fourth year of grant funding through the Massachusetts Executive Office of Energy and Environmental Affairs.



WCCD and NRCS staff explain the various types of cover demonstrated as part of the rainfall simulator (simulator use courtesy of NRCS CT).

Marquette County Conservation District, Michigan

In February 2019, newly established land use ordinances in Marquette County provided residents with the opportunity to implement urban agriculture practices at home. These practices included raising small livestock, building season extension structures, and backyard composting. Based on the new ordinances and feedback received from resource concern surveys, the Marquette County Conservation District (MCCD) organized urban agriculture workshops on four Saturdays throughout the 2019 growing season. MCCD worked with several partners to plan and present the workshop series. Following is a summary of the workshops.

- Backyard Mushroom Growing was held in May outside the local university and was the first workshop offered in the series. Participants inoculated logs with shiitake mushroom spawn and were able to take these logs home and start growing mushrooms in their own backyards.
- Gardening with Season Extension was held outside a local elementary school in July. Participants learned about season extension and toured a hoop house run by a local nonprofit organization. They were also given the opportunity to bend their own metal hoops and cut fabric to then construct low tunnels in their gardens at home.
- Rabbits, Chickens, and Composting in the City was held at a resident's home in August. Participants learned about raising rabbits and chickens and proper composting techniques. A local farmer demonstrated the building of a straw bale compost, and participants brought home countertop compost pails for kitchen food scraps.
- Native and Invasive Plants and Pollinators was held in September at the local library and outside. A local gardening expert instructed participants about native plants and gardening for pollinators, bee houses and native seeds. The MCCD invasive species specialist talked about identifying and eradicating invasive plants. The group then walked to the MCCD native plant garden and monarch waystation in downtown Marquette to observe native plants and pollinators. Participants took home soil test kits and native seed packets.



Participants prepare their logs for mushroom inoculation at the Mushroom Growing Workshop.



Participants bend their own low tunnel hoops to take home at the Season Extension Workshop.



Participants learn about raising rabbits at the Rabbits, Chickens, and Composting Workshop.



Participants learn about Native and Invasive Plants and Pollinators at the Marquette County Conservation District Native Plant Garden, Trestle Park.

Approximately 60 people attended the four workshops. Along with the materials listed above, each workshop offered educational handouts containing more information on the workshop topic. Rain barrels made by a local artisan were raffled off to one participant of each workshop.

Advertising was done through local television and radio stations, calendar listings on websites and newsletters, posters in local businesses, and articles in the local newspaper. The MCCD Facebook page as well as word-of-mouth were the most successful forms.

Post-workshop surveys were developed and distributed to participants. These surveys provided valuable information on the workshops about appropriateness of length and location of workshops, effective forms of advertising, feedback on the educational materials provided, and topic ideas for future workshops. The MCCD website was updated to offer visitors a view of the workshops through a slideshow and the opportunity to purchase gardening supplies.

The MCCD Urban Agriculture Assistant Coordinator also created an Urban Agriculture Resources binder. This binder is a compilation of community food systems resources, zoning administrator contact information, local Land Development Code (ordinance) language, and a copy of the educational materials available at each workshop. This binder is available at the MCCD office. Visitors to the MCCD website are encouraged to visit the office and peruse the binder for more information.

Sustainability

The district manager and urban agriculture assistant coordinator planned to conduct monthly Urban Agriculture Workshop Series for the 2020 growing season. The proposed workshops included Maple Syruping; Apple Tree Pruning; Growing Mushrooms in Your Backyard; Building Bat Houses; Native Plant and Pollinator Gardens; Composting and Soil Health; Water Conservation (Rain Gardens, Rain Barrels, and Irrigation Techniques); Seed Saving; and Winter Gardening in the Upper Peninsula.

North St. Louis Soil and Water Conservation District, Minnesota

The North St. Louis SWCD expanded its ability to provide urban agriculture technical assistance to communities on the Iron Range by increasing its outreach, developing new skills, and partnering with local organizations. The SWCD and its partners established and enhanced urban garden beds, planted two food forests, facilitated rainwater harvesting, created pollinator gardens, and developed composting areas while engaging citizens and building partnerships to protect water quality.

Conservation measures that were accomplished include rainwater harvesting, pollinator garden and food forest established at the Olcott Park; garden beds and composting areas created at the Olcott Greenhouse; rainwater harvesting and pollinator garden established at the North St. Louis SWCD office on a popular paved city walking trail; raised garden beds built at the Northside Jefferson Park Community Garden; and food forest and composting area developed at the Minnesota Discovery Center, a museum about Minnesota's Iron Range.

Through these projects, partnerships were developed and strengthened with the North St. Louis County 4-H, the major contractor of the grant, along with the Rutabaga Project, the Minnesota Discovery Center, the City of Virginia, the Friends of the Olcott Greenhouse, Growing Together Community Gardens, St. Louis County, SNAP-Education (Supplemental Nutrition Assistance Program), University of Minnesota Extension, the Friends of the Bess Metsa Garden, Viking Coca-Cola, and the Iron Range Partnership for Sustainability.

SWCD staff gained skills and knowledge by attending trainings, workshops and local food and urban spaces committee meetings. They used this to present workshops, surveyed people about pollinator knowledge, and added native plants as part of their annual tree sale.

Outreach activities included community workshops for the general public with a total of 54 participants on various topics: composting; rain barrel construction; integrated pest management; and honey tasting and pollinators.

Youth outreach included presentations on urban agriculture topics to 240 students at area schools, along with the development of the Virginia Grows 4-H after-school and Healthy Sprouts summer gardening programs. The 4-H programs were developed in partnership with the North St. Louis County 4-H, SNAP-Ed Program, Friends of the Olcott Greenhouse, and Minnesota Discovery Center. Partners provided hands-on opportunities for youth to learn



Youth participate in 4-H Healthy Sprouts afterschool program (left) and SWCD staff present on soil health (including creating an edible soil profile) for 5th graders (right).

more about gardening, STEM (Science, Technology, Engineering & Math), healthy living and conservation.

The 4-H programs targeted under-represented youth in grades K-5. The STEM Ambassador Program also recruited three students in grades 6-12 to apply STEM concepts in urban agriculture conservation. In summer 2020, the programs adapted to an online format due to COVID-19.

The 4-H programs were a success with 92 participants. Over 50 percent of the youth were new to 4-H. Survey results showed that all reported enjoying the programs and 66 percent reported their favorite activity was taking care of their garden.

Sustainability

The skills, knowledge and partnerships developed ensure this project will continue. The SWCD Community Conservationist regularly performs outreach and education. Due to expressed public interest, the SWCD is planning additional workshops related to rainwater harvesting and pollinators.



The enhancement of the 4-H educational gardening spaces at both the Minnesota Discovery Center in Chisholm and the Olcott Park in Virginia has created the infrastructure to support in-person educational programming. The newly established food forests, compost bins, raised bed gardens, and pollinator garden will be great educational resources for the SWCD, 4-H and their partners.

Participants making rain barrels at rainwater harvesting workshop at the Minnesota Discovery Center in July 2019.

The current 4-H Healthy Sprouts online program will continue into the next school year. Beginning in September, the program will meet once a month to keep the youth participants connected and provide education. COVID-19 has created uncertainty for all of us for face-to-face programming. However, for the summer of 2021, in-person Healthy Sprouts programming is currently planned but subject to change.

The North St. Louis SWCD continues to look for additional funding opportunities to expand, continue and enhance its urban agriculture efforts. Potential future partnerships include the Minnesota Pollution Control Agency Green Corps program and the Minnesota Department of Natural Resources No Child Left Inside Grants.

Cheshire County Conservation District, New Hampshire



The Cheshire County CD provided urban agriculture resources to the community through a program titled “Monadnock Grows Together.”

Monadnock Grows Together (MGT) is a multi-faceted program built on strong and vibrant community relationships. In partnership with Antioch University New England’s Community Garden Connections (CGC), the National Center for Appropriate Technology (NCAT), and the Keene Public Library (KPL), the CCCD provided technical assistance, education and gardening equipment to small-scale urban farmers and gardeners for growing their production capacity while conserving natural resources such as soil health, water quality and pollinator habitat.

High Tunnel and Season Extension Workshop

Community members now have access to free seeds and gardening tools through KPL’s new seed and tool libraries, which are fully integrated into the library’s continuing programs and budget. During the 2019 season, the CCCD provided community education through a series of 15 different workshops to 178 attendees, featuring expert guest speakers. CD staff provided continued support through one-on-one coaching and education sessions at the library and in-person visits to individual garden sites. At the County Farm, the CCCD now has a new outdoor classroom space, which will host educational workshops and events for years to come.



Workshop at the new outdoor classroom at the County Farm

The seed library now has more than 100 members; during the 2019 season, 331 packets of seeds were taken. Survey results indicate 40 percent of respondents are specifically interested in vegetable seeds, 40 percent reported the seed library improved their access to healthy food “a lot” or “a little,” and 25 percent shared they returned saved seed to the library. The tool library is also in regular use, with 11 different tools checked out 25 times. The most popular tools are the broad fork, shovel, rake, pitchfork, hand fork, hand rake, pruning saw, pruner, telescoping lopper, push seeder and hand seeder.

In evaluation for the educational workshops, the CCCD focused primarily on knowledge gain and behavioral change intent. Participants were given an evaluative survey after every workshop in both hard copy and digital format. Data collected across all 15 programs indicates 97.4 percent of survey respondents reported an increase in knowledge, 85.1 percent reported a desire to learn more, and 92.4 percent reported their intention to use what they learned in the future

Sustainability

All components of the project were designed with a focus on long-term sustainability.

The Keene Public Library is the host of the Seed Library and Tool Library and has committed to incorporating these into their regular programming. They have budgeted for this, and staff has been trained to continue to offer educational support. All other partners are committed to providing support through technical assistance and financial assistance as available.

The Outdoor Classroom created at the Cheshire County Farm was constructed of durable materials (e.g. stone benches) with very low maintenance needs. Both the district and Antioch Community Garden Connections program have committed to maintaining the classroom infrastructure in good working order.

Education and technical assistance has been provided to the public through the collaboration of all partnering organizations. This education and technical assistance will continue to be provided through both independent programming and collaborative programming.

Merrimack County Conservation District, New Hampshire

The Merrimack County CD worked on building sustainable agricultural techniques and reducing food insecurity within the urban corridor of the Merrimack River in New Hampshire.

Technical assistance was provided to numerous schools and youth groups with their gardening programs, including programs for the new community college sustainable agriculture degree program. Relationships were built and strengthened with local agricultural producers. Education was offered on sustainable lawn techniques and rain barrel programs.

The MCCD gleaning program provided over 50,000 pounds of fresh produce to food insecure individuals in Merrimack County.



Harvest Box at the Bessie Rowel Community Center from the community center's garden and the gleaning program

Overall, the MCCD built sustainable programs within the watershed, attracted funders for further work, and assisted schools in building the next generation of conservationists.

Sustainability

Due to the success of this project, the Merrimack County Conservation District received funds from the New Hampshire Children's Health Foundation to expand the school and community garden projects, while increasing gleaning for child food insecurity. MCCD completed its first ever annual campaign in late 2019, which brought in funds to start seedlings and supplies for

raised beds. New farmers have donated more food, time and, in one case, an entire high tunnel to grow food for local food-insecure children.

MCCD is committed to continuing these projects by building its volunteer program, increasing communities' support and fundraising.



Seedling donations from Brookford Farm, Canterbury

Doña Ana Soil and Water Conservation District, New Mexico

The Doña Ana SWCD set up a section of the Community Garden for the Urban Demo Farm and upcoming workshops. Volunteers were recruited to help with weeding, installing a drip system, and making different growing options (“lasagna” garden, raised beds, lowered beds, etc). The SWCD’s urban ag working group continued to meet regularly.

Five urban agriculture workshops were held at the site during the months of October and November. These were aimed at all skill levels and included both presentations and hands-on learning opportunities.



The topics covered were:

- New Mexico Garden Designs: Garden mapping, assessing space, picking your garden type, plants and seasonality
- Regenerative Agriculture: Carbon farming, soil health, water conservation and irrigation, composting
- Garden Management: Food safety, seed saving, pollinator habitat, organic pest management
- Southwest Desert Farming: Food forest and desert foods, lessons learned from the past, adapting to a changing climate
- A specialized strawberry growing workshop

Two workshops were planned but cancelled due to COVID-19. Those were Spring Planting: Peas, Potatoes, and Garbanzos, which would have focused on cold-hardy early spring crops using regenerative agriculture practices; and Spring Planting: Spring Salad and Root Vegetables,

which would have covered cabbage, Swiss chard, kale, lettuce, collards, beets, carrots, turnips, and tomatoes for this region.

In addition to the workshops, the La Semilla Food Center provided data and advocacy in support of a comprehensive, city-wide Integrated Pest Management (IPM) policy, including reaching out to regional and national experts on best practices and bringing their advice forward to city staff and during public comment at city council meetings and work sessions.

Sustainability

The newly established partnership of the SWCD, La Semilla and Backyard Farms shows great potential and enthusiasm to continue seeking grants that will allow education opportunities to be held at the Urban Community Farm. Backyard Farms and SWCD staff are talking frequently to develop potential projects that will be “shovel ready” for upcoming grant opportunities.

Development of the site has continued and is a functional and attractive space ideal for outreach, education and production of fruits and vegetables. Underground irrigation lines reach all beds and trees on the site, and there are a wide variety of garden beds for demonstration and education purposes. In addition to in-ground rows, the site boasts terraced beds, raised beds, desert food forest areas, fruit trees, vertical gardening, and sunken beds.



Watering strawberry seedlings during workshop

This variety allows for plethora future education opportunities in the city at this urban agriculture site. Upcoming workshops are in the works, including business development workshops and curbside consulting.

Cortland County Soil and Water Conservation District, New York


The Cortland County SWCD created and implemented a program called “Fresh Connections: Promoting Urban Agriculture and Natural Resource Conservation.” The focus was on developing areas of Cortland County, including the City of Cortland.

Through “Fresh Connections,” the SWCD presented a workshop series in conjunction with local partners such as Main Street Farms, Youth Bureau, Town and Country Garden Club and Cortland Child Development Council. These focused on growing food and gardening, raised beds, soil health and composting, harvesting and preserving food, container gardening, and growing herbs. Several were held on preparing food in collaboration with other initiatives and partners. Information sheets were developed on key topics. The workshops promoted conservation and urban agriculture while cultivating partnerships for future activities.



“Fresh Connections” also enabled the SWCD to foster partnerships through the coordination of a food harvesting initiative. Gleaning at a local farm from July through October provided food to two local kitchens - Loaves & Fishes of Cortland, a local nonprofit providing meals to the needy; and Cortland Youth Bureau, which provides meals to local youth. The Youth Bureau operates a community garden and teaches food preparation to local teens. The SWCD provided continuing technical assistance for their garden, building and helping plant two new raised beds. Partner organizations assisted with promotion of workshops.

The Town and Country Garden Club manages the Colonial Herb Garden at Dwyer Park, where two sections of edible plants, culinary and teas, were restored. The SWCD provided a planting plan to include native pollinator plants and incorporate stormwater management components to the project. The garden served as an educational site for a workshop.




Soil & Water Stewardship Week

April 26th–May 3rd, 2020

During Stewardship Week, conservation districts educate the public on the importance of soil health, water quality, wildlife habitat, urban agriculture and other conservation topics.

This year’s theme is “Where would we ‘bee’ without pollinators?” Pollinators form the foundations of a healthy and sustainable future for food & the environment, but in recent years, they have shown concerning signs of decline. It is important that we work to help them prosper by enhancing native pollinator habitats as well as help in protecting against pollinator declines.

Sponsored by Cortland County Soil and Water Conservation District



Stewardship Week kicked off by providing marigolds to each county legislator. Marigolds are a great garden companion and pollinator. A Stewardship Week publicity campaign was held, including conducting a radio giveaway with large container garden kits as prizes; releasing five different public service announcements, which were broadcast on local radio over 30 times during the week on topics such as soil health, water

quality, pollinators and gardening; and doing a weekend interview for the station. Over 70 individuals participated in the contest.

In lieu of public outreach events cancelled this spring due to COVID-19, the SWCD created and distributed small garden kits to the Cortland County Childcare providers. The SWCD website was updated with an Urban Agriculture specific section, providing information sheet series and other helpful links.

The Cortland County SWCD serves a vital role in local production agriculture, providing technical assistance and financial support for farmers to implement conservation and water quality improvement practices that protect the community's natural resources. This project allowed the SWCD to develop tools to be a technical advisor for small urban agriculture and to integrate conservation and food production in urban areas.

Sustainability

The partnerships developed through the "Fresh Connections" initiative are perhaps the most important factor that will help to sustain the SWCD's urban agriculture and conservation efforts. Numerous step-by-step guides, workshop references, website references and other resources are now available to help the competent staff. The workshop presentations, newspaper articles and other resources developed internally are available for use again, as are the partners in the community who are willing to help.

Now that community members realize the technical support available to them, they have continued to reach out for assistance. Creating resources and maintaining a section on the SWCD website for this topic has provided staff an easy way to communicate and provide information. With COVID-19 limiting social contact, these resources are readily available to a public eager to both help themselves by growing their own food, but are also eager to get outside and have something productive to do.

Gleaning will continue through the efforts of local volunteers. The SWCD is now participating in two other local food efforts, the Cortland Food Project and the Hunger Coalition, to strengthen connections to those needing food and assistance in growing it themselves. These same people and partners are also urban residents who can be engaged in conversation about other urban conservation topics.

Hamilton County Soil and Water Conservation District, Ohio

The Hamilton County SWCD's Bloom to Grow Garden Program was designed to help the local Head Start program develop and implement garden curriculum aligned with their instructional goals.

Families enrolled in Head Start are mostly low-income, which is often associated with limited access to healthy foods and affordable ways to prepare healthy foods. In addition, preschool children are at a valuable age for developing tastes for healthy food and curiosity and comfort with the natural world. These factors make Head Start programs excellent candidates for garden programming. Past partnerships between Hamilton County Head Start and the Hamilton County SWCD made it a common-sense match for partnership with this project.

The SWCD hired a garden coach to develop a garden guide, build and maintain gardens at two Head Start locations, and test garden lessons with the students. The resulting guide contains 35 lessons reviewed by Head Start's curriculum staff, 20 classroom-friendly recipes, and information on how to harvest 17 common garden crops and to guide sensory experiences with those crops. The guide contains lists and charts to help teachers select lessons based on time of year, curriculum unit, development objectives and other useful variables. It also contains a section on garden maintenance and administration and a section on other local and online resources to supplement the guide. The SWCD made three videos to accompany the lessons and show teachers how to use some on their own. This guide and the lesson videos are available online for all Hamilton County Head Start staff and others at <https://education.hcswcd.org/nacd-garden-grant.html>.

Two gardens were built to serve 200+ students. They were excited to participate in the test lessons and activities. Teachers reported children were able to recall some specific things they learned. Some teachers reported seeing children improve in other skills as well, including taking turns, sharing and following directions.



Children learn about soil and worms during the garden construction process.



The SWCD also connected with the students' families through a short-term program called Farm to Family. For five weeks, 30+ families attended an evening event with education on affordable and healthy cooking, shopping for fresh produce, some options for home gardening (even in apartments), and strong family meal habits. Families received free produce, food samples and bucket gardens with seeds. The district partnered with Ohio State University Extension on this part of the project. The event was open-ended with optional stations and no requirement or expectation on how long families would stay, but by the end of the program, more and more families were staying for hours to interact with staff and each other.

Sustainability

The SWCD has taken two strategies to ensure continuation of the Bloom to Grow project. The garden guide will make it easy for interested teachers to bring garden, nature and conservation concepts into the existing framework of their classrooms, which increases the likelihood children will continue to use the gardens. The guide significantly reduces the amount of research and preparation teachers and staff would need to do to keep the garden running, and it provides enough connections to outside resources that even staff with minimal garden knowledge will have access to the help they need. The guide will also make it easier for new locations to add garden programming to their curriculum.

For the two existing garden locations, SWCD staff have talked with the teachers and others to identify which people would like to be actively involved in the planning and work required to keep the gardens running. Each location has a few people willing to take on this task, and at one location, there is a grounds team eager to provide any support and labor needed.

Lehigh County Conservation District, Pennsylvania

The Conservation 101: Urban Agriculture Field Experiences curriculum has been a community-wide collaboration and Lehigh County CD's effort to bring urban agriculture to local students in Allentown and the surrounding county. The curriculum was created to provide resources to formal and informal K-12 educators who wish to take foundational steps with students regarding their right to healthy food and a healthy, sustainable environment. Through engaging activities, students gain exposure to the science of soil and seeds, composting, growing microgreens, growing vertically, pollinators and pests, best management practices, aquaponics and hydroponics, while **LEARNING** how to grow food no matter where we live; **EXPLORING** traditional and innovative careers in the agriculture industry; and **DISCOVERING** how growing sustainably can enhance our environment and our life.

Initial funding from the Rider-Pool Foundation, the Harry C. Trexler Trust, and more recently, this project, has made the program and all its elements possible.

The three-year pilot of this program has resulted in the education of five classes of students (grades 9 through 12) attending the high school in Allentown. That has included:

- Annual field trip excursions to agriculture-related industries, including Crystal Springs Dairy Farm, Jandl Turkey Farm, Heidel Hollow Hay and Produce Farm, Queens City Acres Peri-urban Farm, Pappy's Apple Orchard, Grimm's Agri-tainment Farm, Y-Knot Alpaca Farm, Montgomery County Community College and Steelton High School Aquaponics Laboratories, Vine and Ladder Catering Companies, Schuylkill River Greenways Watershed Organization, the Lehigh County Conservation District, the Philadelphia Flower Show, skyscraper green roofs and the living wall in City Center Buildings, Museum of Indian Culture, a fish hatchery, and the experimental gardening facilities at Rodale Institute;
- Guest speaking events from conservation specialists (including an apiarist, a district manager, an IPM specialist, a watershed specialist, a field technician, and an aquaponics lab coordinator);
- Monthly food preparation classes (using produce grown by students) led by nutritionists from Penn State Extension;
- Two student-led heat island native tree plantings;
- One courtyard garden featuring pollination stations, raised beds, a composting area, a rain barrel, various container gardens, and a hydroponics growing station;
- Indoor growing projects, which included vertical microgreens gardens, portable square-foot gardens, aquaponics grow stations, and propagation experimentations;
- Four business pitches for urban agriculture projects;
- Curriculum comprised of eight thematic lessons and related PowerPoint presentations;
- Nine teacher training videos designed to help formal and informal educators implement growing programming in their given education settings; and
- Creation of a lending library outfitted with growing supplies to help interested educators begin growing projects with their students.

Sustainability

This project and objectives in the past year have resulted in deliverables that can be used repeatedly. Thumb drives contain the curriculum and teacher-training videos and are being

dispersed within the broader Allentown School District to middle school and high school teachers who attend our Annual Envirothon, as well as upon request. A live teacher training to be recorded and made available on the LCCD website was planned for July of 2020 at Jacobsburg Environmental Education Center. This facility offers a green roof, traditional composting and soil mixing facility, a pollinator field, and several rain barrel watering and handwashing stations. A downloadable curriculum and associated training videos were planned to “go live” during the summer of 2020 on the LCCD website. A lending library of supplies is available, from which area teachers may borrow to begin implementation of growing projects. Some materials available include grow lights, grow tents, a hydroponics system, aquaponics aquariums, composting stations and rain barrels.



Inspiring field experiences with industry experts that led one student to declare an agri-business major at Penn State University



Microgreens that translate into green smoothies: a beautiful, healthy and yummy outcome!



Northern Rhode Island Conservation District, Rhode Island

The Northern Rhode Island CD project was initiated after working with local partners to identify needs in the urban agriculture community in Providence County. It was learned that emerging leaders in the active community, who are largely self-taught, could benefit from increased knowledge and resources that could be used to train their volunteers and others. Many barriers exist to gaining this knowledge, from difficulty affording time away from farming and other work commitments, to transportation and childcare.

The Providence County Urban Growers Leadership Program sought to address this by removing as many barriers as possible through arranging scheduling around participants' needs, providing childcare, and supplying a stipend to compensate time away from family, work and growing commitments. Ultimately eight out of nine participants chosen by a competitive application



One of the workshop's table of resources; each workshop provided multiple resources in addition to the information given out during the presentation.

process completed the full program, which consisted of participation in a minimum of six out of seven educational workshops hosted by partners. A ninth completed 50 percent of the program due to family commitments. Additionally, five participants completed an optional mentorship experience, working with mentors from the community on how to share knowledge with the people their organization serves. All are continuing to work with their mentors after the completion.

Through the Leadership Program, the participants received monetary compensation for the time they spent learning about topics including composting, starting and growing a business, selling at farmers' markets, managing volunteers and employees, growing in greenhouses and high tunnels, participating in state and federal programs for farmers, and soil health improvement. They all received a comprehensive resource binder containing notes from each workshop and additional resources provided by presenters, which they can use to share the material with the communities they serve. The participants represented a wide variety of organizations, including privately owned farm businesses, public and charter schools, nonprofit organizations, and community gardens, each of which will benefit from the Leadership Program participants' new knowledge and experiences.

Overwhelmingly, though Leadership Program participants enjoyed the workshop series, they found the networking and connections made to be the most beneficial aspect of the program. These connections give participants contacts for technical expertise and assistance within the urban agriculture community throughout their growing careers.

Sustainability

The sustainability of the program lies within the participants themselves. Each left with a plan to share what they learned within their own home business or organization, as well as with the written guide. The NRICD ensured as many participants as possible would be able to follow through by scheduling workshops and learning experiences around participant availability; providing childcare upon request; and conducting polls at the beginning so the topics provided best met their needs.

Seven out of nine participants emphasized the most important take-aways from the program were the networking and educational opportunities. One individual explained, "We did not know each other at the start of this program, but now, we have not just developed professional relationships but life-long friendships." Another participant stated she "absolutely loved this program," as it provided new learning and collaborative partnerships opportunities on current and future projects. All participants said they would recommend this program to peers.



A participant invited the others to her home, where she has a small-scale urban farm in her backyard within the city. She gave participants a presentation in her home and took them on a tour of her backyard farm. She gave tips and pointers based on individual participants' interest in advancing their own small-scale farm.

Southern Rhode Island Conservation District, Rhode Island

The Southern Rhode Island CD sponsored the Westerly Community Gardens and Green Streets project. The goal was to provide conservation technical assistance in three ways: 1) helping the Westerly Land Trust (WLT) and others expand or establish community gardens and pollinator habitat; 2) offering urban producers and backyard gardeners a series of 16 free workshops, as well as outreach at a weekly farmers market; and 3) partnering with the Town of Westerly to support urban agriculture and provide decision-makers with professional development about stormwater management.

The district helped the land trust create a new community garden on a former brownfield adjacent to the Pawcatuck River. Removing the impervious pavement and creating green spaces in downtown are part of the town's various plans, and they willingly committed to partnering on the garden. The district arranged for the town to provide an in-kind contribution to the garden in the form of 75 yards of compost from the state's central facility. SRICD also provided assistance to WLT for creating a pollinator garden, tree wells to catch stormwater, and a semi-pervious parking area. Interpretive signs and videos were created to promote conservation practices and highlight the partnerships that created the urban community green space.

SRICD worked with the Westerly High School construction class to build three 36" high raised beds community gardens and a pollinator garden at two senior housing complexes. Assistance was given to Operation Stand Down's veterans' housing complex and a town recreation facility for the installation of edible community gardens and pollinator habitat.



Raised bed at senior housing complex

In cooperation with Westerly Agway, the district developed and offered a series of workshops for backyard gardeners and urban growers. The workshops focused on topics such as soil health, planting for pollinators and other wildlife, managing stormwater, and integrated pest management.

Additionally, SRICD continued its support of a farmers market for small farmers at Agway and added a staff member to provide conservation technical assistance and free soil samples to shoppers.

SRICD helped Westerly participate in the first round of the Rhode Island Infrastructure Bank's Community Resiliency Building program (CRB). The goal of the program is to encourage and assist municipalities in planning for the impacts of climate change by implementing conservation best practices and green infrastructure solutions. Once a town completes the planning process,

they become prequalified to compete for implementation grants. SRICD engaged the town in a community-wide resiliency building discussion to identify strengths and weaknesses. The result was a list of priority projects in the face of climate change and natural disasters. SRICD and the town partnered on three project implementation grants and were awarded two in the total amount of \$406,000.

Sustainability



Staff from the Town of Westerly, federal and state agencies, community members and conservation groups participate in the Rhode Island Infrastructure Bank's Community Resiliency Building Workshop at the Westerly Education Center.

The most significant step taken to ensure the project will continue was SRICD's participation in the CRB program. Municipal connections are critical to ensuring long-term viability of the district. The project enabled SRICD to re-establish relationships with several towns and the Wood Pawcatuck Watershed Association and turn those connections into new opportunities and funding sources. SRICD partnered with Westerly and others to apply for six different funding opportunities to protect or improve water quality and wildlife habitat in the Wood Pawcatuck Watershed. The district can now offer technical support to all the towns within its area to participate in the CRB program and implement nature-based solutions to conservation and natural resource concerns.

The community and pollinator gardens included as part of this project are operated by other organizations and volunteers. The Westerly Land Trust leased all the beds available when the garden opened in May 2019. The farmers market is recognized by the community as a location to take classes or receive conservation technical assistance while shopping. SRICD and Agway will continue to host a market and offer classes designed to support urban farmers and backyard gardeners. District outreach materials, program offerings and contact information are regularly displayed in Agway. SRICD will use the materials developed and lessons learned to expand its recognition as a source for conservation assistance by a diverse group of urban farmers and municipalities.

Okanogan Conservation District, Washington

The Okanogan Conservation District (CD) provided leadership and technical assistance to schools interested in developing garden education programs for their students. Broadly, Okanogan CD accomplished two outcomes: 1) created sustainable garden program plans at East Omak, Tonasket and Virginia Grainger (VG) Elementary Schools and 2) initiated a work group of community partners that guided project tasks and garden programs throughout the county. Partners included the Confederated Tribes of the Colville Reservation (CCT), CCT Environmental Trust and Air Quality Programs, Okanogan River Airshed Partnership, Washington Department of Natural Resources, Okanogan Slow Food, Okanogan Grange, Washington State University Extension and school districts.

To create sustainable garden program plans for schools in Okanogan County, the district assisted with garden layouts, determined annual maintenance and materials, identified financial opportunities, and installed garden updates and structures. Each garden received technical and financial assistance specific to their needs. For instance, East Omak Elementary School had a garden, but it had been neglected for several years. Okanogan CD worked with the principal and a paraprofessional to create a garden layout to follow over the next five years. Then, Okanogan CD partnered with the PTO and Washington DNR seasonal firefighters to organize two community work parties to install garden updates and structures like new raised beds, an efficient drip irrigation system, and nutrient rich compost.



In comparison, the gardens at VG Elementary and Tonasket Elementary School already had functional layouts. However, they lacked teacher, maintenance and administrative involvement. The Garden Council at VG Elementary School created a PBIS matrix and behavior guidelines that were distributed to other Okanogan County elementary schools. Okanogan CD presented these at the beginning of the year to all VG Elementary School staff. The Garden Council also organized and led a Compost Workshop in the spring to teach community members about the ecological benefits of vermiculture and composting.

VG Elementary School's summer school program visited the garden

At Tonasket Elementary School, the district created a survey to assess roadblocks for teachers' use of the garden. The results indicated lack of access to standards-based curriculum. Consequently, Okanogan CD partnered with a local organization, Classroom in Bloom, that brings all students out of the classroom and into the garden to inspire children to grow healthy food and connect with nature. Classroom in Bloom developed two Next Generation Science Standards lessons per grade (2nd-5th). Then, Okanogan CD organized a Teacher Training Workshop for educators to learn and practice using the lessons. The 22 teachers who participated received STEM and clock hours.



Twenty-two teachers and educators attended the free Garden and Science Teacher Training Workshop to learn standards-based STEM lessons that can be used in a garden.

Throughout the project, the Okanogan County School Garden Network met monthly to discuss programs, outreach methods and lessons learned. Okanogan CD compiled all this information and the experience gathered into an Okanogan County School Garden Starter Packet. The packet contains information on starting and maintaining a school garden.

Sustainability

Okanogan CD built strong relationships within the community that creatively address resource concerns through intentional group planning. Multiple garden programs now exist that can support one another and embolden garden education in Okanogan County. Creating garden program plans provides direction for teachers and the schools. They can act as succession plans for outgoing and incoming teachers and leaders. These are essential for sustainable implementation of garden education programs.

The Okanogan County School Garden Network will meet quarterly to further ensure sustainability of the current school gardens and support new school gardens. This active work group improves community participation in the programs, connects teachers to each other and a supportive community network, promotes partnerships for funding opportunities, and disseminates information about the garden programs.

Okanogan CD staff will use basic funds through other grants to continue providing technical expertise to the teachers, community members, and school districts working on garden programs. These funds will also cover the expenses to host an annual Teacher Training Workshop like the one organized using these grant funds. The workshop will offer STEM and clock hours and teach educators the standards-based garden curriculum created by Classroom in Bloom.

Palouse-Rock Lake Conservation District, Washington

The townsfolk of Endicott, WA had long spoken of installing a community garden. With the help of the Palouse-Rock Lake CD, they finally had an opportunity to make the idea a reality. The vision was to grow healthy produce for the community, feed inquisitive minds through learning opportunities, and broaden the service of PRLCD to include a largely underserved demographic - urban patrons.

A lot was selected - a decades-old junkpile on an otherwise vacant and undeveloped patch of dryland grasses. Public forums were held, input was gained, a plan was devised and a design made. In spring of 2019, with the aid of many community volunteers, the junk was dispatched and the ground was broken.

*Endicott Community
Garden Approaching
Cleanliness*



When groundwork began, it was anticipated the space would be usable by the end of spring 2019, and outreach opportunities would commence with the growing season as planned. As with so many projects, this one had unforeseen obstacles to overcome; chief among them was defeating a bureaucratic struggle to install a new water connection.

During these efforts, it was discovered by town leaders that the Department of Health had reduced the allowable number of freshwater connections 10 years prior with the installation of a new freshwater pump system. In fact, the number of water connections had already exceeded the quantity allowed. Without water to the lot, it was not possible to conduct most of the planned outreach events. The only path to a new water connection for the lot was to increase the total allowable connections in the town of Endicott.

In the meantime, other portions of the plan were implemented. The lot was developed; staff learned how to podcast using prominent platforms and recorded the episodes. Connections were made with local Master Gardeners, and a remote training course was developed to accommodate more participation in their certification. Two community members enrolled in the certification training, who in turn volunteer at the community garden. During this time, the CD also sponsored 11 individuals to attend a two-day sustainable agriculture conference in Spokane.

After nearly a year of consultations with hydrological and civil engineers, city officials and Department of Health officials, water was finally connected in early March of 2020, just in time

for the growing season. With the water connected, planning started immediately for the season. By popular request, workshops were hosted on fruit tree pruning, organic agriculture, tree grafting, strategic garden planting, garden irrigation, native trees/shrubs, composting, and even fence building. Staff visited neighbor towns' community gardens and a university organic farm. With help from a neighbor conservation district, the PRLCD even laid the beginnings of a "food forest" at the lot.

The townsfolk, having less interest in the rent-to-grow model, opted for a more charitable approach, and the garden is now producing healthy food for the shelves of the small, local food bank.

Sustainability

A group of community garden volunteers have been recruited to aid with operations of the garden, though the design itself plans for as little maintenance as possible. This has proved



largely effective through the first growing season. Features include 1) dryland grasses that need infrequent mowing and no watering; 2) automated irrigation/drip line to each raised bed, requiring next to no oversight and zero hand watering; 3) mulched landscape with native, drought-resistant trees and shrubs, requiring very little beyond spot herbicide treatments every few weeks; 4) the gravel, padded growing space, requiring no mowing, watering or weed-eating between the raised beds; 5) fencing to keep would-be grazers out of the space; and 6) *the raised beds themselves,*

constructed of landscape stones so as to likely never requiring to be rebuilt. The combination of these features creates low-maintenance and highly resilient growing space.

Beyond the features of the garden itself, PRLCD has a lease for the property equaling only the cost of utilities and the property taxes. Financial struggles that could otherwise require significant private or public subsidizing are largely mitigated by this arrangement. In addition is the prospect of marketing produce to the local Community Action Center (CAC). Through separate grant funding, the CAC is able to help support small producers in the area by purchasing produce and redistributing it to food banks and pantries.

Lastly, the space will continue to function as a venue for outreach and education.

Key Lessons Learned

Kasey Butler, San Mateo RCD, CA

Establishing new relationships with urban agriculture projects can take time – allow enough time to do thorough outreach.

Urban agriculture projects, just like farmers, are often juggling a lot at once. Any extra support you can provide to help see a project through is often welcome, such as selecting possible native plants that do well in their climate or doing any extra background research they might not have time to do.

Andrew Wolfe, Palouse-Rock Lake CD, WA

Always expect obstacles, even when they can't be conceivably anticipated, let alone prepared for. Expect them; your timeline will almost certainly not be the one you wrote down, but that doesn't need to discourage you.

When obstacles come, embrace creativity to overcome them; don't be so married to the plan that it disallows sometimes necessary improvisation.

Lisa Trotto, Worcester County CD, MA

Collectively, Worcester County Conservation District was able to more effectively raise awareness about soil health and conservation through strong partnerships, increasing the level of interest in soil sampling and technical assistance requests ranging from urban gardeners to homesteaders to farmers, than we could as a stand-alone organization. Realize it is better to work with partners to support each other's messages and lighten the collective load.

Becca Reiss, North St Louis SWCD, MN

Working with partners can come with challenges, as every organization and individual has different priorities, deadlines, knowledge and skills. Clearly define roles and responsibilities early to avoid confusion but be flexible when needs and opportunities arise to complete the work. Don't be afraid to be persistent to ensure tasks are completed.

Whether it's a short growing season and you realize you missed your planting window or there is a global pandemic, things don't always go as planned! Adapting to new conditions is hard but also creates unique opportunities. Online programming can be engaging with adults and youth alike, even when it comes to topics that are typically outdoors.

Jessica Harold, Ada SWCD, ID

People love hands-on agricultural experiences! Whether it's touring a farm or an interactive lesson, they get excited about learning and connecting with their food.

Amanda Barber, Cortland SWCD, NY

Identify your audience(s)/clientele and develop specific and targeted communication and outreach strategies for each. Be sure to check those strategies through evaluations and revisit and modify as needed.

Gennifer Keller, Northern Rhode Island CD, RI

Decreasing participation barriers increases program participation, including providing participation stipends, child-care, developing the program around the majority's availability, providing workshop notes, and earning a certificate of completion.

Increasing program accessibility by having workshops and meeting close to where participants live and work is essential.

There are many non-English speaking individuals that can benefit from your program(s). Providing translation and interpretation services can increase program participation and diversity. Translation and interpretation is to be implemented in NRICD's 2020 Urban Growers Leadership Program.

Anandi Gandhi, Alameda County RCD, CA

Urban agriculture needs more support of all kinds – physical, fiscal and human resources. Urban farms struggle with access to land, water, healthy soils, staff salaries, technical assistance, grants, education, local governmental support - the list goes on. UAC programs should address multiple physical and non-physical needs, such as land tenure, post-harvest handling, securing capital, fundraising, marketing, distribution, risk management, leadership skills, conflict resolution, advocacy and organizing, and much more.

The concept of conservation in urban agriculture needs to go beyond how food is produced to include food access, food sovereignty and environmental justice. It is not just about growing food; it's about growing communities, livelihoods and health together. It is important to view the entire food system through an equity lens, including our grant funding systems. We need to facilitate horizontal, community-led, farmer-to-farmer models of support.

Kimberly Kogler, Okanogan CD, WA

River rock is not wheelchair accessible! I would use gravel (machine crushed, not round), bricks or bare ground. If a garden wants the river rock aesthetic, I would create paths within the river rock that someone in a wheelchair could use.

Get timers on all of your irrigation at the start. You will save yourself so much time. If possible, get the high school students out with the elementary students. Talk to the maintenance team, principals, superintendents and board. Even if just one of these partners is fully on board, the school garden will function much smoother.

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