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**Category for submission:**

Innovative project

**Name of Project**

Mowing to Monarchs – Turf to Prairie Conversions for Urban Yards

**Project Start Date:**

01/01/2020

**County**

Dubuque

**Number of Master Gardeners involved in project**

12 different Master Gardeners (varying from one to three years engagement) serving as Coaches.

## Mowing to Monarchs – Turf to Prairie Conversions for Urban Yards

“Today, the most fertile and well-watered region of the United States, the tallgrass prairie, has been reduced to 1% of its original area. This makes it one of the rarest and most endangered ecosystems in the world”<sup>1</sup>. Records indicate that the tall grass prairie covered 70-80% of the landscape in Iowa. Current estimates place the prairie at less than 0.1 % remaining<sup>2</sup>. The dedicated focus in the United States should be teaching our children and adults about our own declining ecosystems instead of a focus on coral reefs and the Amazon.

Forward thinking Dubuque County Conservation Board (DCCB) staff proposed that the best way to teach and involve children, families, and landowners, was to engage them in the development of a native plant prairie in their own yard. In 2019, a budget proposal to the Dubuque County Board of Supervisors was formulated and funded in which landowners would learn about native prairies through a hands-on installation of prairie habitat in their home landscape. Funds to support a Mowing to Monarchs (M2M) program were released in July of 2020.

***Mowing to Monarchs Mission***  
*To provide land owners with the resources and tools to convert mowed turf grass to pollinator habitat.*

Marketing of the program was completed in the fall, along with the application process. In December 2020, 65 homeowners were notified of their acceptance, including a team of Master Gardeners working on a prairie installation at a local church. Native plant lists had already been drawn up by the Master Gardener team, but were submitted for review by the Conservation staff. Through conversations with the Master Gardener team, Ray Kruse, Master Gardener Coordinator, and Kaytlan Moeller, Conservation Naturalist, involvement of the Dubuque County Master Gardeners as coaches was recommended. As a result, the Conservation Board, in conjunction with Dubuque County Master Gardeners, are now supporting this joint program called Mowing to Monarchs (M2M). This three-year program helps landowners convert 130 square feet of turfgrass to a pollinator habitat.

The Dubuque County Conservation Board provides funding and administrative resources. The ISU Dubuque County Extension Master Gardeners provide horticultural content training, research-based information, and an experience base to guide urban, suburban, and rural homeowners in successfully adding native plants into their yards.

This Search for Excellence application celebrates the Dubuque County Master Gardeners who coach, teach workshops, prepare handouts, write newsletters, and cheerlead for landowners installing pocket prairies.

Video Overview (produced by Dubuque County Conservation):

<https://drive.google.com/drive/folders/1zA0Rrbhmi8XggbFI5YXzTVRZueJic2aA>

Master Gardeners are featured in the video and provided suggestions prior to release.

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<sup>1</sup> National Park Service: <https://www.nps.gov/tapr/learn/nature/a-complex-prairie-ecosystem.htm>

<sup>2</sup> Conservation Planner Guide, Iowa Native Prairie Planting Guide, NRSC, USDA, July 2022.

### 1. Who is the target audience for this project? How are they identified?

The audience, as defined by the Dubuque County Board of Supervisors, is private landowners owning property in Dubuque County. Potential participants are reached through social media, traditional media, word of mouth, and targeted conversations at town meetings. The M2M on-line application provides realistic expectations and outcomes for the three-year commitment. Higher priority is now given to applicants in rural settings and to those with high visibility or front yard gardens. Participants in growing year one (2021), two (2022), and three (2023), are a mix of landowners ranging from new Dubuque transplants, young families, established residents to retirees. Each homeowner receives a highly visible sign for their native plant prairie. Due to funding limitations, the program has a new participant limit each year.

### 2. What are the goals of this project? (Maximum of five goals)

- A. Increase pollinator habitat in Dubuque County
- B. Coach private landowners in converting turf grass to pollinator habitat
- C. Develop high value native plant lists compatible with our ecoregion
- D. Communicate research-based information through guides, newsletters, local media, and marketing materials
- E. Enhance the program to meet landowners expressed needs

### 3. Describe the project results (by goal)

#### A. Increase pollinator habit in Dubuque County:

In three years of the Mowing to Monarchs program, close to 180 Dubuque County Land owners have converted or will convert almost 20,000 square feet of turf grass to prairie. Landowners are coached by a Master Gardener, trained staff, or prior M2M participant.

Demand for the program, even though capped due to funding limitations, remains high. It is especially encouraging to note that there is an increasing number of people purchasing the native plant collection at their own expense (buy-in). This program could be replicated by Master Gardeners bulk purchasing or conducting native plant sales for homeowners interested in establishing prairie habitats. Grants could easily be obtained.

Participant map: [https://docs.google.com/document/d/1krbO9-Pt5Kc7wyslWOZg9N\\_MVtqnrePdRLX9PWiyBc8/edit](https://docs.google.com/document/d/1krbO9-Pt5Kc7wyslWOZg9N_MVtqnrePdRLX9PWiyBc8/edit)

*“Trends in participation locations have appeared with the applicants selected and applying for the program. Word of mouth and neighbors talking to neighbors about the impact of their M2M planting seems to be spreading throughout their neighborhoods. This over time could start creating crucial corridors of habitat throughout our communities-one small pocket at a time.”*  
Kaytlan Moeller

M2M participation	Yr 1-2021	Yr-2022	Yr 3-2023	Total
Total number of applicants the previous fall	128	68 *	87	283
Total homeowners receiving spring plugs	65	61	65	191
Square feet of turf to prairie	6,500	6,100	6,500	19,100
Native plant plugs distributed	5,070	4,758	5,395	15,223
Number of Master Gardener Coaches*	7	12	9	12 (core)
Staff & M2M participants as Coaches	3	1	8	12 (core)
Master Gardener hours reported	134	258	-	392
Master Gardener hourly value	\$3,886	\$7,482	-	\$11,368
Teaching Contacts: Adult/youth	203 / 13	265 / 7	-	468 / 20
Drops outs during the year	7	7	3	17
Wait list after applications closed	63	30	41	134
Individuals purchasing plants to get the bulk rate on the plant collection (buy-in)	0	5	15	20
Number of fall surveys returned	32	21	-	52
City / government entity interest	1	1	1	3

(\*) Year two applications were capped when 68 applications were received. Some program coaches are not Master Gardeners. Data provided by Kaytlan Moeller, Dubuque County Conservation Board and Ray Kruse, Dubuque County Master Gardener Coordinator.

**B. Coach private Landowners in the converting turf grass to pollinator habitat**

Master Gardeners serve as coaches for up to five homeowners each. The Master Gardeners interact with their homeowners several times during the year including the initial contact upon successful acceptance to the program, a discussion to review the proposed site, and a fall visit. Questions are answered throughout the planting and growing season via email, phone, or additional one-on-one visits. A general homeowners meeting is scheduled prior to plant distribution to answer questions, provide site preparation information and help with pocket prairie design. A mandatory fall site visit and fall survey are conducted. Most coaches also take photographs and complete a report which is then uploaded to a Google Website devoted to shared documents

*“A significant lesson for our community has been that native plantings can be attractive in a suburban setting. We have heard so much feedback from participants that they have shared interest in native plantings.”* Ray Kruse, Dubuque Co. Master Gardener

**C. Develop high value native plant lists compatible with our ecoregion**

An updated ecoregion and Dubuque County appropriate plant list is researched each year by Master Gardener, Doug Cheever. Extensive editing and reviewing are conducted by other Master Gardeners and Ray Kruse. Doug spends many hours researching appropriate native plants through extensive contact with Iowa State University, Minnesota Lawns to Legumes program, the Olbrich Gardens (Madison, Wisconsin), Trees Forever, Midwest university faculty, and Midwest authors. These Dubuque County specific plant lists include site requirements, common name, genus, species, sun exposure, soil moisture requirements, bloom time, color,

and height. Plant list supporting materials include pocket prairie layout, mulching, immature plant identification, and planting / care instructions. Heather Holm, a highly regarded biologist, pollinator conservationist, and award-winning author of four books on wasps, bees, and pollinators, has responded directly to inquiries, contributing to the strength of the materials. This ecoregion approach could be adopted in many settings, appropriately utilizing local native plants and drawing pollinators.

Products developed in support of Goal C:

- *Pocket Prairie Plant Guides: 2021, 2022, 2023*
- *Worksheet: M2M Site Preparation 2002, 2023*
- *Plant Cut-Outs and Grid, 2021, 2022*
- *Photo Reference Guide 2022*
- *Pick-up Check List 2022*
- *Fall Site Viewing Survey 2021*
- *Plant list for Shady Boulevards 2024 (we're excited about the years ahead)*
- *Plant list for Sunny Street-sides 2024 (more opportunities for landowner involvement)*

#### D. Communicate research-based information through guides, newsletters, local media, and marketing materials

Materials developed in support of the program, led by Doug Cheever are researched, reviewed, and edited by Master Gardeners prior to release to homeowners.

- In 2021, 12 simple email newsletters were distributed. These have been refined and condensed into seasonal materials currently available on the Dubuque Extension Mowing to Monarchs page. <https://www.extension.iastate.edu/dubuque/mowing-monarchs>
- A popular private Facebook group was created and is led by millennial ecologist and Master Gardener Jackie Kehr. Currently there are 116 members with approximately 85-90 views for each post. Media files are kept current; no followers have left; several weeks have promoted specific educational topics. The Facebook group has been especially effective in quickly resolving issues, providing education, and celebrating successes.
- The Conservation Board established a Google drive shared document site which houses materials utilized by Master Gardener coaches: internal communications, marketing materials, and created documents by year. The Google Drive site also is a place where homeowner site visit summaries and photos are housed after being posted by Master Gardener coaches.
- Each Spring an informational homeowner meeting is held to allow landowners to learn more about program goals, site preparation and native plants. Master Gardeners serve as teachers and table hosts, assisting homeowners with plans and questions.
- In late summer of 2022, a M2M garden tour of six homesites was sponsored with 250 attendees. Master Gardener coaches were on hand to answer questions and describe the difference in plant growth over time. A 2023 Tour is planned as a recruitment and educational opportunity.
- Two videos were produced on Planting Native Plugs (views over 300) and Low Growing Native Plants based on knowledge that half of the participants inexperienced gardeners.

- One Master Gardener Fall Seminar at the Dubuque Arboretum and Botanical Gardens focused on the major concepts of M2M- healthy yards, bringing pollinators back, using less pesticides, lawn care alternatives, and Monarch butterflies.
- Two evening training sessions in 2021 and 2022 for Master Gardener trainees have been conducted, again with the M2M themes and recommendations.
- When a 2022 Spring Seminar on Healthy Yards and M2M fell through, information was presented via a series of educational articles in the Telegraph Herald, a local newspaper reaching 34,000 households. Nine articles were researched, edited, and submitted biweekly for publication by Master Gardeners.  
<https://www.extension.iastate.edu/dubuque/mowing-monarchs>
- A M2M advisory group made up of two professionals and three Master Gardeners guides the direction of the program.

E. Enhance the program to meet landowners expressed needs.

In addition to responding to comments from landowners, surveys and site visits were conducted in the fall of the Years 1 and 2. The survey results and feedback to Master Gardener coaches are resulting in updates to meet needs:

- Initiate the 2022 M2M Garden Tour
- Expand prairie pocket options to meadows, shaded areas, and curbside plantings in 2024.
- Add short-term volunteer opportunities such as plant distribution, garden tour host, etc.
- Incorporate iNaturalist as citizen science cellphone/PC application for participants, including a project page for M2M

**4. What are the impacts and significant lessons for the target audience?**

- 85% of the homeowners have successfully planned, planted, and maintained a pocket prairie in accordance with best practices. Fall *Survey Monkey* evaluations and site visits by Master Gardener coaches have verified that even though some have experienced plant failure, almost all want to expand their habitats. Virtually all have observed increased number of pollinators.
- Based on survey results in 2021 and 2022, homeowners were very satisfied with M2M program at 87.5% and 80.95% levels, respectively.
- When asked how quickly were participants able to plant the plugs in the ground, 96.88% were able to plant within 48 hours as recommended.
- 53% of participants were very new native plant gardeners. Ray Kruse, Dubuque County Master Gardener Coordinator, *“Major lesson-- not everyone knows how to care for plants! The number of people who signed up for this program with no experience ever digging a hole to plant something was astounding to me, and they signed up to plant dozens of plugs in their yards! The learning curve for some caused us to make a very basic “How to plant a plant” video that was incredibly well received. With Master Gardeners and M2M volunteers working as coaches, understanding the background experiences of our participants is key. “*
- Two verified sightings of the endangered native rusty patch bumblebee, (U.S. Fish and Wildlife Service federally endangered list in 2017), were seen in M2M gardens and efforts have been made for additional recognition of this significant event. Master Gardener Doug

Cheever stated *“After two participants had repeated verified sightings of rusty patched bumble bees in 2021, I became more aware of the value of providing not just native bloom but consistent sources of nectar and pollen throughout the growing season. ... I am seeing things I have overlooked during the 50 years I have been planting and maintaining our yard. Until last August, I had never gone out at night to see the many moths attracted to plants that were also popular with daytime pollinators.”*

**5. What was the total budget for the project and how was it funded? (If applicable, list funding sources.)**

- M2M is supported by the Dubuque County Conservation Board, funded by the County Board of Supervisors and ultimately comes from funds generated by local Dubuque County tax payers.
  - Year 1: \$32,500
  - Year 2: \$32,500
  - Year 3: \$30,000 (pending official approval in April)

**6. List any partnerships associated with the project and partner’s roles.**

- Dubuque County Conservation Board - funding for plants, signs, and administration.
- National Mississippi River Museum and Aquarium: (assisted by Master Gardeners and others): grow M2M plant species, distribute plants to participants who had plant failures, plant the remaining plants throughout their campus, provide M2M publicity, provide education on native plants, and maintain a demonstration garden. In Year 3 they have pledged to again grow the M2M plants, allow M2M participants access to plugs, and will hold a community wide native plant sale.
- Five local colleges involved in a higher education sustainability group have received a grant to fund and participate in M2M.

**Summary:**

The Dubuque County Mowing to Monarchs program benefits from the personal and professional skills of engineers, ecologists, teachers, administrators, lawyers, academics, and artists. These volunteer Master Gardeners support the program through their time and expertise, not only in horticultural knowledge, but in mentoring and management support for the program. Participating landowners benefit from the individual and group education provided by these Master Gardeners. We look forward to supporting homeowners in this journey for many years to come.

Mowing to Monarchs is an innovative experiential program bringing together the resources of two governmental service agencies. Our shared goal is to increase native habitat and pollinators in our county both now and in the future. Great care is taken to source university research and publications to assist with this goal and its delivery through Master Gardener efforts. This program may be replicated with county specific content, funding, and built relationships. It serves as a model educational program to move land owners to action in converting turf grass to pollinator habitats.

7. **Active Master Gardener Coaches involved in the project.**

<b><u>Year 1 – 2021</u></b>	<b><u>Year 2 - 2022</u></b>	<b><u>Year 3 – 2023</u></b>
Doug Cheever Rhonda Hudgins Jackie Kehr Thomas Martin Marilyn Norman Rhonda Pope Mike Wright	Doug Cheever Kathleen Hoepfer Rhonda Hudgins Jackie Kehr Tim Loeffelholz Lisa MacNaughton Thomas Martin Laura Miller Marilyn Norman Rhonda Pope Erika Raber Mike Wright	Doug Cheever Rhonda Hudgins Jackie Kehr Tim Loeffelholz Marilyn Norman Rhonda Pope Erika Raber Mike Wright
<b>Additional Coaches / Assistants from Partner Organizations or Prior M2M Participants</b>		
Kaytlan Moeller Megan Willenbring Grace Milanowski	Erica Haugen	Abbey Krava Erica Haugen Jared McGovern Kate Pineda Jessica Riedl Addy Schober Amy Crow Sunleaf Deb Vize

In 2022, 43 Dubuque County Master Gardeners (including Coaches) reported 258 hours in support of the M2M program. The names above in the first row reflect those who served in coach roles, but do not include those who assisted the National River Museum and Aquarium, at public displays, on garden tours, or assisted in numerous other ways.

*"This is brilliant! It is one of the clearest, well presented program descriptions I've encountered. You've given me new language, like normalizing pollinator gardens and lawns. YES, that's exactly what we want to do but it's the first time I've seen the word normalize used. The heart of this approach addresses several typical failure points and reasons for elected officials to push back. The standardization in the pocket prairie, group purchasing, coaching and study period strengthen the value of the initiative. Dubuque County is rolling out a model meriting widespread adoption. With this exceptionally well written guide in hand, I've grown more confident that DuPage County will follow suit. If I'm successful in DuPage, next step will be the surrounding counties."* Lonnie in DuPage County, Illinois

*"This program could not have occurred without the support of the amazing Dubuque County Master Gardener's. Master Gardeners stepped up and filled many roles from program creation, content generation, participant support through coaching, experimentation and data gathering for plant selection and much more. Partnering with Master Gardener's brought this program from a dream to a reality through boots on the ground or hands in the dirt digging in. This partnership between a county conservation board and a Master Gardener team is unique and to my knowledge not done on this level anywhere across the state."* Kaytlan Moeller, Outreach Coordinator, DCCB

*"M2M has me re-evaluating how I give back to the earth and the creatures that provide so much for us. It also helps me be a positive role model for neighbors, friends, and family. I love how supported I am by everyone involved. This type program will impact future generations. Grateful I am a part of it!"* Mary Pat Ament, 2022 participant

*"I planted this prairie so I can see my son. My son loved butterflies and all things nature. I planted this M2M garden to bring nature to my yard and the shape of the garden will remind me of him and his passion every day I look out the window."* M2M participant

*"Let's keep recruiting more and more gardens! We (and of course, the Monarchs), NEED them!"* Michael & Sue Yilek, 2022 participants

*"I have struggled with my garden, unfortunately finding out that I am not a gardener. However, bringing native plants back into our lands is very important to me. I had friends pitch in to help me plant my garden. I borrowed an auger from a past participant, and I've enjoyed taking photos of the butterflies and bees that have visited my yard. The stress and effort were worth the results. And I'm happy to replace boring, high-maintenance turf grass with beautiful, low maintenance natives."* Kristina Nesteby, M2M participant

*"...sharing information through our Facebook page has been a wonderful resource. Thanks to the pandemic, many of our Master Gardeners have been tied into the midwestern web of extension service zoom seminar series related to native plants. These seminar series from Iowa, Ohio, Minnesota, Illinois, and Wisconsin have been a wealth of knowledge. Additionally, groups such as Wild Ones, Good Neighbor Iowa, and the Tall Grass Prairie Center have pushed so much quality material online for us to draw from. Having a large group of Master Gardeners and some other M2M participants tied into these online groups has helped us all access great material. We regularly share conferences, webinars, and quality materials from universities through our Facebook page."* Jackie Kehr

**Quotes from landowners attending the orientation meeting – Spring 2022:**

--“I really love to garden. I grow lots of fruits and vegetables. I want a stronger garden and I know one way to help make that happen is to have strong and healthy pollinators. Thus, I wanted to do this program (M2M) in order to help this happen.”

--“I really wanted to increase awareness of this program (M2M) because I live in such a high traction area. I live right off the Bee Branch and talk to Heritage Trail users all the time. I now have more to talk about.” ~Kate Pineda.

--“I have a large yard with lots of unused space. We wanted to add this for our kids. We want to show them the importance of caring for the land. It all started with a Monarch Tagging event!” Abigail Degenhardt (This family is working with an entire girl scout troop to install their pocket prairie plants)

--“It’s the year of being bold. I just mow my wife gardens. Can I tell you how excited I am to not have to mow? Mowing to Monarchs yeah!!”

--“ Conservation is conversations. We needed to start talking about and taking action this like yesterday.”

--I want my yard to be so wild all there is to follow is meandering paths through patches off all the different types of habitats. Sprinkle a bit of pocket prairie here, meadow there, and then some trees and shrubs.”

--“ Turfgrass has one season. Its either green or brown. I want to look out my window and admire all the seasons and colors that a prairie has.”

--“I want this to be contagious in my neighborhood. I want to see these M2M signs up everywhere.”