Water Quality & Conservation Community Engagement Toolkit

Developed by Sustain Winona & the Jefferson Center

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Introduction

This toolkit equips groups and individuals with community engagement tools to address local water quality, water conservation, and other water-related issues. The outlines, guides, and case studies were written primarily for readers without extensive community project management experience and are intended especially for initiatives that are primarily run by volunteers.

Community engagement around local water may seem overwhelming at the beginning of a project. But you likely already have a great group of resources nearby: is there a sustainability task force led by your local government or college? A sustainability or natural resources committee within city or county government? Or, a group of community members who are passionate about local water issues? If you haven't already, reach out to these local networks to see how you can work together to create the biggest impact.

Good community engagement on water and broader environmental issues has the potential to go beyond preserving natural resources. Effective outreach can help people understand the incredible power their individual and combined actions can have to create a sustainable and resilient future. This toolkit provides readers with outlines, forms, examples, and case studies to help build knowledge around a community water topic and effectively communicate that knowledge to others, resulting in a stronger relationship between a community and its natural resources.

How to Use this Toolkit

Sections 1-3 provide general background information, Sections 4-8 provide helpful resources community members can use for successful outreach, Section 9 provides expense forms, Section 10 highlights water project case studies, and Section 11 (Appendix) provides more useful resources.

1 Key Elements of a Collaborative Project

What are the first steps to starting a successful and collaborative community engagement project?

Clearly Outline Your Goals

When creating community and volunteer-led initiatives, your group or organization should focus on 1-2 primary goals at a time. If you have a larger group, you may have the organizational capacity to work on 3+ issues simultaneously, but this guide is built for smaller collaborations. Each goal should include a point person that can report to the larger group. See the next page to begin identifying goals.

Gather And Manage A Core Team Of Volunteers

If your project will require volunteers, you should assign one person from your group to be the dedicated volunteer manager. That person can focus on volunteer recruitment as well as effectively communicating with people that sign up. See pages 8-9 for tips on successful volunteer recruitment and sign-up forms.

Identify Costs

Throughout the project, it may be convenient for volunteers to purchase items such as supplies, food, and advertisements. Unless they indicate that they're willing to donate their money, you should plan to reimburse volunteers for the expenses they incur (as long as they are approved). One person should manage expenses and reimbursement. If receiving grant money and your group is not a 501c3, your group may need to identify a fiscal sponsor to manage the funds. See page 11 for sample project expense sheets.

Along with the grant money, it's not a bad idea to reach out to community organizations and businesses that are interested in this work, as they might be able to cover some of the more significant costs.

Communicate Clear Expectations And Responsibilities

In a collaborative project where there are multiple partners, allow partners outside of the core organizing team to engage in the capacity that works for them. Multiple community partners often make this work possible, but it can be difficult to manage multiple initiatives and workplans. One way to remedy this is to outline responsibilities and deadlines of people who have volunteered at each meeting. Your volunteer manager should be responsible for checking in with this team of volunteers to identify if timelines and goals are being met. Consistent team meetings are helpful to regroup if goals aren't being met in the outlined timeframe. See page 13 for community water project case studies and example timelines.
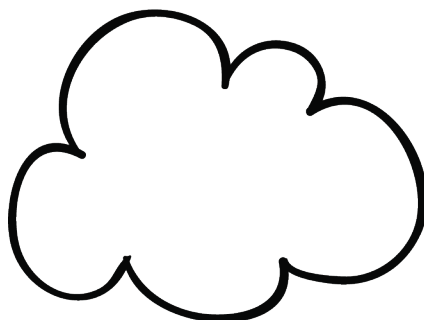
2 Creating Community-Oriented Goals

To identify your community water goals, begin with the basics:

Why is it important for your community to [project goal]?
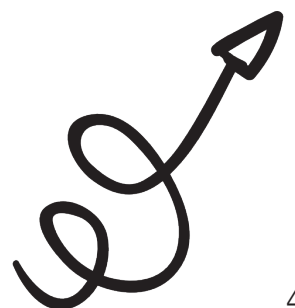
Why is community engagement needed?

What do community efforts look like now?

Where do you want to be in six months / one year / five years?

What steps do you need to take to make that happen?

How do community members already contribute?

What can you or your organization contribute to this project?

3 Project Roadmap

Once you've identified your community goals, you'll be able to take on projects that fit your objectives and capacity. For inspiration, see page 13 for a closer look at community rain garden installations, DIY rain barrel workshops, and a community-wide Water Day project in Winona County.

Initiative	Estimate Cost	Roles & Responsibilities	Scope	Timeline
Example: DIY Rain Barrel Workshops	*$500*	*-Event logistics* *-Promotion* *-Outreach to collaborators, hosts* *-Securing materials to construct rain barrels*	*Winona County, population: 51,000*	*5 months*
Example: Rain Garden Grants & Installation	*$1,900*	*-Rain garden installation (design, securing plants, planning, installation)* *-Volunteer management (recruitment, organizing)* *-Community outreach (identifying key locations for gardens, recruiting garden hosts)*	*City of St. Charles, population: 3,700*	*6 months*

4 Sample Press Release

FIRST ANNUAL COMMUNITY WATER DAY TO BE HELD

[Your Community, State] – Residents of [your community] will have a great opportunity to learn more about how they are connected to water and how they can help protect it. [Your organization or affiliation] has organized the first ever Community Water Day on [date] at [location]. All residents are invited to join.

Community Water Day will be held from [time] to [time] on [date]. At the [location], attendees can talk to local organizations including representatives from the Soil and Water Conservation District, the State Park, the Gardener's Club, and more. These organizations will host fun interactive activities at their booths and provide information about volunteer opportunities. Attendees can also hop in the [nearby creek] for stream monitoring demonstrations to get a first-hand look at how water quality is measured and understand why it's an important indicator for environmental health.

In addition to food [from local restaurant/food truck] and games, scavenger hunts, and more, there will also be chances to win giveaways.

[Impactful quote from a community leader about water and the excitement for this initiative.]

Community Water Day is a partnership between [list all organizations involved]

If your organization is interested in tabling at the event, please contact [name] at ###-###-####.

The project partners are also looking for volunteers to help direct people, provide assistance, and talk about general water initiatives in Winona County. If you'd like to get involved, contact [name] at ###-###-#### or visit [website] to fill out a contact form before [deadline].

For more information, visit www.your-website.org, email hello@your-website.org, or call ###-###-####

Tips for Publicizing

Send press release to local newspapers, local officials, and project partners to publish on their websites, send to their networks, and share on social media

Add event to community event calendars with a link to the press release

Create poster with key details and hang in public spaces such as grocery stores, community centers, and libraries

5 Reaching Out to Potential Partners

Use this chart to identify who should be part of the planning process, and how to identify different knowledge about the water challenges at hand.

Your Community Water Goal:

Who could you partner with in your community to work towards this goal?	Which representatives from those partners could you invite to help achieve this goal?
What could some positive outcomes be if you engaged these partners effectively? 1. 2. 3. 4.	**What would some possible first steps be to pursue outreach?** 1. 2. 3. 4.

6 Reaching Out to the Community

Outline who you're trying to reach from the broader community, and how you could not only invite them to participate in the project, but collaborate.

It's likely many residents have skills, experiences, and resources to offer that your organization can tap into to produce stronger results. Community members may already be working on water issues individually, or through a program such as the Master Water Stewards in the Twin Cities metro, and might be looking for an organization to support their efforts.

Also be sure to identify why community audiences would care about this new project, and how they would benefit from participating. Remember that participation doesn't just mean buying a ticket to the event or attending–individuals could become Community Water Ambassadors, for instance, and help share the project with their networks.

After this worksheet is complete, you can prioritize audience outreach based on their overlap with the project.

Community Group	Why do they care?	How would they benefit?	Barriers to participating?	How can they contribute?	How do you reach them?
Example: Church attendees	*Motivated to support the community*	*Save water and money*	*Haven't been shown an easy way to make a difference*	*Build and use a rain barrel, talk about water conservation*	*Ask for the church to host a workshop, promote it to congregation*

Community Outreach Tips

1. Be clear about the purpose of the project and consistently reach out to ensure new ideas and concerns are heard

2. Eliminate basic barriers to participation by being strategic about where community meetings are held, the meeting times, dietary restrictions, and public transportation options

3. Recognize the knowledge, expertise, and experiences of individuals, and treat these as key project resources

4. Identify who's missing from the table, and invite these groups or individuals to participate

5. Ensure events, meetings, and outreach materials are accessible and inclusive

6. Communicate the final results of the projects, including successes and areas for improvement

7 Volunteer Sign-Up Form
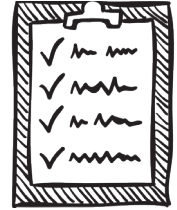
Use this outline to create printed forms or adapt to an online form builder.

Intro: Are you passionate about making our community a more sustainable and healthy place to live? What about telling people all the ways they can help conserve water and increase local water quality? Then this volunteer opportunity will be a great fit for you!

Our mission at [your organization] is to [insert mission]. We're looking for volunteers that will help spread this mission across the community.

Name:

Email Address:

Phone Number:

Emergency Contact Name:

Emergency Contact Phone Number:

Previous Relevant Volunteer or Work Experience:

Languages spoken:

Skill Checklist (include relevant skills, such as crafting, writing, carpentry, event tabling, and water monitoring):

Preferred meeting days and times:

Liability Waiver

1. I affirm that I am over the age of 18 (or, if under 18, have obtained parental permission to complete this application to volunteer with [your organization]).

2. I understand that I am not considered an employee of [your organization] while performing volunteer work for the organization. I further understand that as a volunteer, I am not covered by Workers' Compensation insurance (medical coverage or loss of wages) for injury that may occur while I am volunteering.

3. I further grant to [your organization], my consent to use my name, photograph, and voice in media publications (including social media), advertising, and publicity in connection with my participation.

4. Each volunteer is expected to safeguard all confidential and proprietary information, especially information related to donors and other volunteers. Such data may not be released to anyone without the express permission of [organizing lead]. Violation of this policy may result in immediate dismissal.

_____   _____
Signature   Date

8 Basic Community Meeting Agenda

When you launch your water quality and conservation project, holding a public meeting in a community space can help build awareness and support from residents, organizations, and local officials.

Here's a general outline to follow:

- Background about water quality and conservation in your community
- Overview of current responses and existing projects
- Your proposed approach
- Next steps and how community members can get involved
- Q&A

Community meetings don't have to be boring! Allowing some time for attendees to talk with their neighbors or in small groups can break up the evening, provide a community networking opportunity, and generate new ideas.

Include a sign up sheet similar to the one below to collect contact information for future volunteers and other interested individuals.

Name	Phone	Email	I'd like to receive updates
			Yes ☐
			Yes ☐
			Yes ☐
			Yes ☐
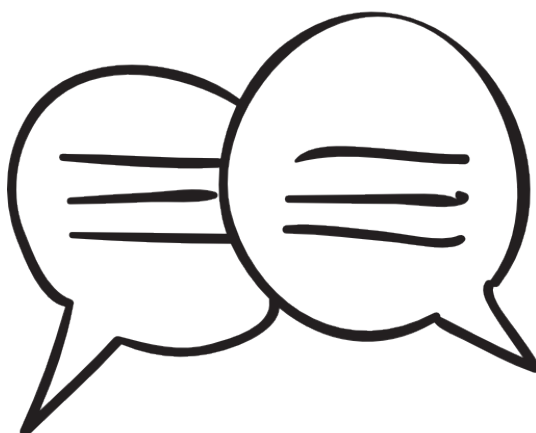
9 Project Expense Sheets

Expense Reimbursement Form

Instructions: Please complete this form and send [excel, pdf, or paper], with associated receipt(s) or invoice, to [Treasurer] at [email address] or [mailing address]

Submit a separate form for each entity to be paid (i.e. if you are submitting multiple receipts for to be reimbursed to one person/agency, submit one total and describe all expenses below).

Date submitted: _____

Name of person/entity to be paid: _____

If this is a reimbursement request, attach receipt.
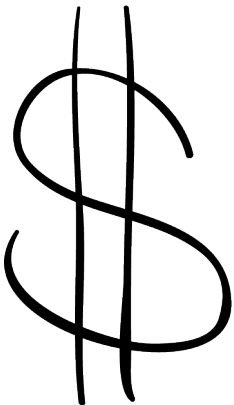*If this is a vendor to be paid, attach vendor invoice.*

Address to send payment: _____

Line 1	
Line 2	
City/State/Zip Code	
Name of person requesting payment	
Phone	
Email	
Description of purchase	
Amount requested	

Treasurer's Expense Report Form

Community Group:_____   Treasurer's Name:_____

Date	Expense #	Paid to	For	Amount
				Total:

10 Community Water Project Case Studies

While Winona County, Minnesota, is known for its unique natural beauty, drawing many to canoe, kayak, swim, and fish, an excess of water poses a very real threat: erosion and pollution, destruction of infrastructure, and injury to residents. Located in the Driftless Area of the Midwestern United States, which wasn't covered by the last glaciation, the landscape is classified as "karst". The porous rock that lies beneath the thin soil allows surface water to drain directly into the water table, making flooding and groundwater contamination two of the county's greatest water-related concerns.

These challenges have a greater impact on communities that are already affected by economic, social, and environmental inequities, and have fewer resources to create safe and affordable access to water for all residents. Many people in rural areas already spend a large share of their paychecks on things like transportation, healthcare, and energy, and the costs associated with severe storms and flooding only add to this burden. On average, rural households spend 40% more on their energy bills than their metropolitan counterparts. The factors that cause this disparity are multiple: inefficient housing and appliances, lower household incomes, and a lack of access to programs for bill assistance, weatherization, and energy efficiency.[1]

In 2016, the Jefferson Center and the Institute for Agriculture and Trade Policy hosted the Winona County Climate Dialogue in the area. At this 3 day long deliberative event, a demographically representative group of 18 randomly-selected Winona County residents explored how their community could adapt to the changing climate and extreme weather events, and created recommendations for local action.

After the dialogue, a community group called Sustain Winona decided to work with the Jefferson Center to bring these participant recommendations to life, including 3 that focused on water, through local outreach and education projects. Sustain Winona represents a collaboration of the County's main institutions, including the City of Winona, Winona County, Winona Area Public Schools, Winona State University, Minnesota State College-Southeast Technical, and Saint Mary's University of Minnesota. The Jefferson Center, a nonpartisan civic engagement nonprofit based in Saint Paul, Minnesota, provided technical assistance to Sustain Winona to help achieve their goals.

Sustain Winona and the Jefferson Center received an Environmental Assistance grant from the Minnesota Pollution Control Agency. Because funds are limited for these kinds of projects, the MPCA and project partners want to share what was learned during in order to help other communities implement similar water quality and conservation outreach projects on their own. The following pages provide a closer look at four community water projects in Winona, Minnesota, organized by Sustain Winona, with technical assistance from the Jefferson Center and funding provided by the Minnesota Pollution Control Agency Environmental Assistance Grant.

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1 American Council for an Energy Efficient Economy, Alleviating Rural Energy Burdens through Energy Efficiency (October 30, 2018)

DIY Rain Barrel Workshops
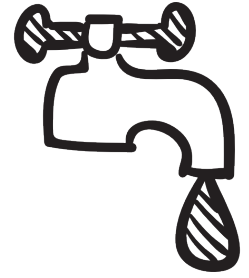
Background: Collecting rainwater allows individuals to maintain their own source of water between rains, while preventing runoff and reducing water bills.

To promote rainwater collection across the community, Sustain Winona offered 5 DIY rain barrel building sessions over 5 months. They partnered with area colleges/universities, two cities, a boy scout troop, and a local church to host the workshops.

The barrels were made of old 55-gallon plastic drums that were sold to Sustain Winona at a reduced price of $5 from a local home products and food manufacturer. Craigslist and dock/marina establishments would also be great places to look for barrels to use. For the full supply list and graphic created by Sustain Winona on how to make the barrel, see "Do-It-Yourself Rain Barrel", Appendix A.

The first workshop was free for residents and funded by the MPCA Environmental Assistance Grant awarded to Sustain Winona combined with separate grant funding awarded to Healthy Lake Winona. The second workshop was offered for $6, with the remaining funding covered by the City of Winona and Healthy Lake Winona, and the third workshop was offered for $5 with the remaining funding covered by the City of St. Charles and Sustain Winona. One session, called "Burgers & Barrels" was $8 to attend and included a lunch voucher. Over 100 rain barrels were built and distributed as a result of these DIY workshops.

Meetings were held around the county and were open to all members of the community. While registration was typically capped at 30 participants, interested community members were put on a waiting list so they could be told about future workshops. The team found it helpful to set up barrels with the parts before participants arrived, which saved time.

DIY Rain Barrel Workshops (continued)

At the beginning of the workshop, volunteer leaders gave a brief overview of stormwater challenges in the community, and how rain barrels can help mitigate those challenges. Each participant left with their completed rain barrel and the attached handout with tips for using the rain barrel efficiently at home. Workshops usually lasted around 30 minutes or less, since the rain barrels are fairly easy for participants to piece together.

Location
Large spaces such as gyms, garages, and city parks worked best for assembling the rain barrels:
- Wesley United Methodist Church
- Minnesota State College Southeast
- St. Charles City Park
- City of Winona Central Garage
- East End Recreation Center

Length
30 minutes or less

Workshop Leaders
- Local Boy Scout Troop 6
- Winona County Minnesota GreenCorps staff

Campaign Materials
Eventbrite invitation for workshop registration and payment collection. Participants purchase an e-ticket through a customized web page created for your event. Eventbrite allows you to track how many have registered, set a registration cap if needed, and Eventbrite will disburse the funds to you after the event takes place (typically 5-10 business days).
- Social media
- Sustain Winona newsletter
- Community fairs
- Radio spots

Preparation
- It's likely barrels will have a residue of old products that were stored within, so barrels should be rinsed in a location where runoff drains to a treated wastewater system and not sent down a storm drain.
- In order to avoid liability concerns or the need for waivers, holes were drilled ahead of the workshops, and participants only needed to attach the parts.

DIY Rain Barrel Workshops (continued)

Event Checklist[1]

- ☐ 55 Gallon plastic (open top with lid) or wooden drum
- ☐ 1/2" Galvanized Mal. Lock Nut
- ☐ 7/8" x 1–3/8" 18 Gauge Machine Bushing
- ☐ 1/2" Brass Hose Bibb Valve
- ☐ 3/4" MHT x 1/2" MIP Nylon Garden Hose (Adapter)
- ☐ Downspout adapter (size determined by your home)
- ☐ 4 inch hole saw
- ☐ 1/2" Drill Bit & Battery-Powered Drill
- ☐ 100% Waterproof Silicone Caulk
- ☐ Caulk Gun
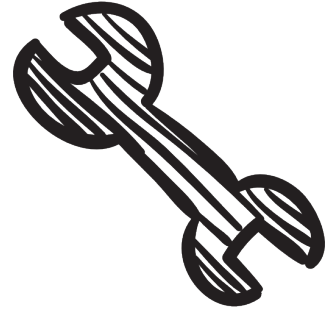
Planning Calendar

3-5 months before:

- Establish your community Rain Barrel Team: Reach out to local schools, Boy Scout & Girl Scout Troops, environmental groups, and more to get preliminary support
- Recruit event co-hosts from preliminary support group
- Schedule monthly, then weekly meetings to continue planning
- Secure materials needed to build rain barrels
- Learn how to build rain barrels, and designate a member of your team or a community volunteer to lead the workshops
- Secure funding for the materials if needed

1-2 months before:

- Begin advertising the workshop with help from supporting organizations:
  - Write a press release and submit to the local paper
  - Include details in community newsletters
  - Create a Facebook event and promote on social media
  - Print out posters to give to local organizations and hang in public spaces including grocery stores, community centers, and libraries
  - Advertise on local radio stations
  - Personally invite local officials
  - Distribute printed advertisement to target locations/neighborhoods
- Train Rain Barrel team on how to make barrels
- Secure venue
  - Book community space
  - Create plan for food and secure catering if needed

Less than 1 month before:

- Ramp up advertising and outreach as needed
- Drill holes in the barrels and acquire all other building materials

After workshops:

- Send out thank yous to participants
- Discuss with your team of volunteers what worked/what didn't
- Create blog that discusses results and share on social media
- Follow up with next DIY session

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1 There are also kits available that include all the parts needed to transform a container or drum into a rain barrel: https://www.amazon.com/EarthMinded-Rain-Barrel-Diverter-Parts/dp/B005CJFBJE

Community-Wide Water Contests

Background: To kick off community engagement in Winona County around sustainability issues, Sustain Winona hosted an Energy Contest. Individuals or teams of community members who took steps to conserve energy and make their homes and workplaces more energy efficient were awarded cash prizes. After the Energy Contest wrapped up, Sustain Winona launched a Winona County Water Contest to help get community members excited about local water conservation and quality.

In addition to the personal-action based Water and Energy contests, a Winona State University (WSU) project intern designed and ran two other competitions with the support of WSU and public school educators. The first, called "Water Wars," was styled off of the campus' annual "Energy Wars," which is a competition between students to reduce energy use across campus residence halls. The second competition encouraged local middle and high school students to create posters about the importance of protecting water.

Information about all three competitions is included below. Sustain Winona ran all three contests around the same time, but any of these initiatives would stand well on their own.

General Water Contest

Individual actions community members could take to conserve water were posted on the Sustain Winona website and each action was assigned a point value, with information about whether each action could be taken only once or multiple times (see "Winona County Water Contest Flyer", Appendix C). Since many local households use wells for their water supply, we relied on self-reporting and the honor system to make the contest more accessible across the county.

If the majority of your community is served by municipal water and sewer services, we would recommend observing recent water bills to determine the contest winners. After 3 months, at the end of the quarterly billing period, participants could submit their recent water bill, and your team could record their progress and award points based on the gallon or percentage reduced.

Participants signed up to participate in the Water Contest via a Google Form hosted on the Sustain Winona website, and about once a month, organizers sent participants an email reminding them to complete a secondary form reporting the water-conserving actions they had completed. At the end of the contest, participants were sent a final reminder and given a week to record all their water-conserving actions in their tracking form.

Winners received cash prizes: top savers won $750, $300, $250 and $200, along with $250 for two randomly-selected participants who earned more than 200 points.

Promotion
- Incentivized entering the Water Contest by offering a discounted price for rain barrels for those who signed up ($15 for rain barrel instead of the typical $50)
- Posted flyers around Winona in coffee shops
- Published press release in newspaper (see "Water Contest Press Release", Appendix D) and Winona State University updates
- Published information on the Sustain Winona blog
- Posted reminders and advertisements on Facebook and Instagram
  - Used Adobe Spark to create image with partial water conservation tip and published full conservation tip along with an invitation to participate in the contest in the message section

Length

3 months

Planning Calendar

2 months before:

- Announce contest
- Launch promotion

After contest:

- Award prizes and thank participants
- Discuss with your team of volunteers what worked/what didn't
- Create blog that discusses results and share on social media

Campus Water Wars

Modeled on Winona State University's "Energy Wars," we supported a competition between students to see which residence hall could conserve the most water over a 4 week period, and the winning residence hall received a pizza party. Weekly topics were used to educate students on various environmental and sustainable actions they could take, including phantom load, efficent lighting, water conservation, and recycling.

To obtain baseline data and observe progress, we collected water usage readings for about 3 to 4 weeks prior to the launch of the contest. We recommend not having the contest around a break, when fewer students will be in the staying in the residence halls.

Promotion
- Make an announcement at residence hall and floor meetings and work with resident advisors to communicate rankings and demonstrate ways to reduce water usage
- Hang posters in the residence halls and across campus
- Include contest details in campus newsletters or announcements
- Include details on TV monitors across campus that advertise upcoming events and programs
- Compare water usage among the residence halls using a bar graph or pie chart, and create big posters to show where each resident hall stands in the competition

Length

4 weeks

Community-Wide Water Contests (continued)

Planning Calendar

2 months before:

- Announce contest
- Launch promotion

Throughout contest:

- Announce the percentage of water reduced each week via social media and community message boards

After contest:

- After 4 weeks, assign date for pizza party for the winning residence hall(s)
- Discuss with your team of volunteers what worked/what didn't
- Create blog that discusses results and share on social media

Suggestions for Future Water Wars

- Increase student engagement by:
    - Holding in-person events around campus to promote contest and demonstrate opportunities for students to engage in more sustainable practices
    - Match events to the weekly topics, and include sustainability-related giveaways to encourage participation
    - Work with student groups, professors, and departments to integrate education about resource conservation into curriculum, meetings, and events
- Update the students on which residence halls are in the lead by posting on the resident hall and university Facebook pages
- Ask resident hall staff for ideas and possible floor events to promote the contest such as conservation bingo or trivia
- Use a personal kilowatt meter to measure who saves the most energy[1]

Winona County Art Contest

Leading up to Earth Day, middle and high school students were encouraged to submit hand drawn posters with an environmental message for the chance to receive a pair of Winona Tour Boat tickets. On this narrated tour of the Mississippi River, the randomly chosen winners could see more ways in which water plays a central role in the community. The Sustain Winona project intern also worked with four elementary school classes to host a water discussion while students colored a water-related worksheet (see "Save the Earth Coloring Page", Appendix E, and "Where Can You Save Water?", Appendix F) to promote the water conservation.

Posters had to be 8.5 inches x 11 inches, and needed to include an environmental message, such as "Save Our Planet", "Water is Life", "Every Drop Counts", "Heal the Earth" "Healthy Soils are Full of Life", "Keep the Earth Clean", "Go Green" Winning entries were posted in participating schools and around town.

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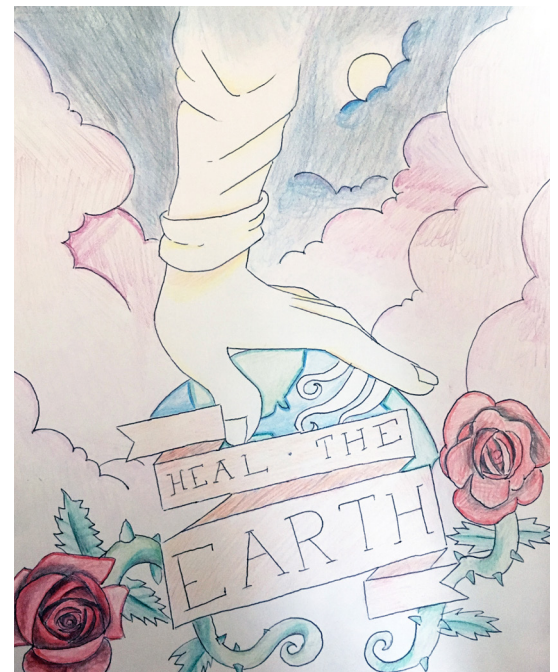
1 Personal electricity usage monitors are available: https://www.amazon.com/P3-P4400-Electricity-Usage-Monitor/dp/B00009MDBU

Community-Wide Water Contests (continued)

Promotion
- Informational poster was given out to all art teachers
- Guidelines were published on social media through Sustain Winona Facebook and Instagram accounts
- Project volunteer worked with specific teachers to promote participation around the schools

Suggestions for Future Water Wars
- Promote contest via school newsletter, school website, and school-wide announcements
- Focus environmental message on a specific environmental topic, such as water conservation (every drop counts)
- Provide teachers with grade-appropriate water-related curriculum to use in tandem with the coloring session
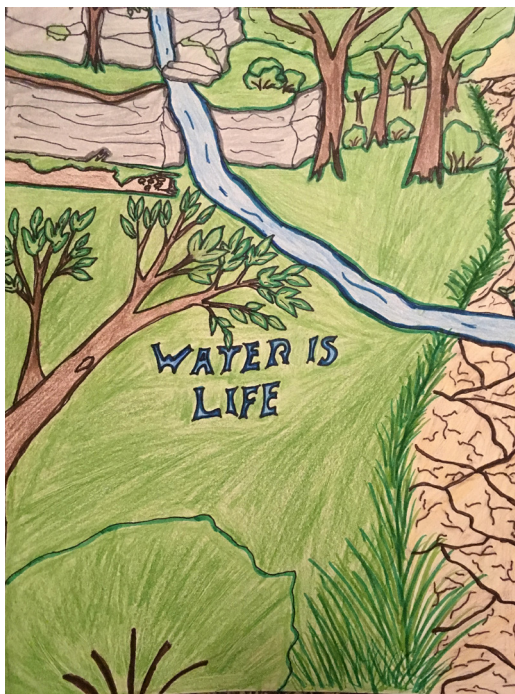
Community Rain Garden Installations

Background: Rain gardens can transform landscapes into habitats for native plants and pollinators, while also catching stormwater runoff. These gardens recycle rain 30% more effectively than a regular lawn by redirecting water runoff down into the soil of the garden and preventing the water from washing pollution down the street, into storm drains, and into our waters.

Rain gardens can also act as a great outdoor classroom and visible example of conservation in public spaces.

Cost-Sharing for Personal Rain Gardens: Sustain Winona had a two-fold approach to promoting community-wide rain gardens. First, Winona County and the City of Winona offered a cost-sharing grant to incentivize residents to install personal rain gardens.[1] Residents applied to use the grant, and a select group were awarded the funds with the following stipulations:
- The rain gardens must be visible to passerby and serve as a resource to promote rain gardens within the community
- Applicants had to work with officials to develop a garden plan and sign an agreement to complete the project
- The rain garden must be maintained for a minimum of 5 years with periodic review by staff

Grants were awarded based on the location of the proposed rain garden, amount of water runoff to be reduced, and public visibility of the garden.

Support Local Installations: Organizers found it difficult to persuade residents of nearby communities to build a rain garden, even when all the expenses were covered by a grant. This was due in large part to a lack of familiarity with rain gardens, most of which were located in the city of Winona. Ultimately, a more successful second approach for other communities was to identify institutions, like schools, that were interested in using rain gardens to manage drainage issues and for their educational and aesthetic benefits. As a result, three rain gardens were installed in the community of St. Charles: one was a residential installation and two were at local schools.

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1 City of Winona Rain Garden Application: https://www.cityofwinona.com/wp-content/uploads/2017/03/Rain-Gardens-Winona-2017-application.pdf

Community Rain Garden Installations (continued)

For the three St. Charles installations, the rain garden organizer toured the space with the property owner and school principals and used the online Soil Survey tool provided by the USDA to guide the garden's design.[1] After getting design approval from the resident/principal, the organizer identified the soil type, desired size of the garden, and garden layout. Using this information, they ordered the best plants for the area and managed plant pick-up. In the case of the schools, the organizer worked with teachers and students to excavate the land and plant the garden.

In tandem with the direct rain garden installation, Sustain Winona offered a rain garden maintenance workshop to the broader community. The workshop gave a brief overview of key tips to create and maintain a rain garden, followed by an opportunity to apply these practices at the nearby Bluff Country Co-op's newly installed rain garden in Winona. Attendees weeded, raked out leaves, cleared debris and sediment, planted new plants, and added rocks to prevent erosion.

Location
The public Rain Garden Workshop was hosted at a local middle school in Winona, where participants learned about plant selection, design and installation tactics, and maintenance tips for rain gardens. Then participants traveled to Bluff Country Co-op rain to get some hands-on planting experience.

Length
- Rain Garden Workshop: 2 hours
- Excavating 300 sq. ft. garden (4 volunteers): 1.5 hours
- Planting and mulching (4 volunteers): 1.5 hours
- Removing excess soil (1 volunteer): 3 hours

Participants
- Master Gardener and representative from Winona Nursery led the workshops
- Community Rain Garden Organizer, property owners, and students and teachers at the schools

Campaign Materials
- Social media
- Sustain Winona newsletter
- Community fairs
- Radio spots

Garden Checklist
- ☐ Shredded hardwood mulch
- ☐ Tiller
- ☐ Flagstone (if desired)
- ☐ Plants (as design calls for)
- ☐ Digging shovels for excavation (5)
- ☐ Tarp (15'x20')
- ☐ Gardening gloves
- ☐ Outdoor marking spray or spray paint
- ☐ Tape measure

More Rain Garden Resources

Visit the Winona County YouTube Channel for educational rain garden videos!

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1 Soil survey tool available at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Community Rain Garden Installations (continued)

Planning Calendar: Volunteer Rain Garden Installations

5-6 months before:

- Identify targeted locations/neighborhoods for rain garden installations
- Reach out to site owners/managers to discuss rain garden installation
- Build your Rain Garden Team:
    - Identify local experts to lead rain garden design -- begin outreach with Master Gardeners, university extension offices, and plant nurseries
- Schedule monthly, then weekly check-in meetings to continue planning
- Secure funding for the materials if needed

2-4 months before:

- Finalize rain garden locations
- Identify which organizers will attend and oversee excavation/installation
- Select date(s) for excavation and installation
- Grow your community Rain Garden Team:
    - Reach out to local schools, Boy Scout & Girl Scout Troops, environmental groups, and others to get preliminary support and installation volunteers
    - Recruit volunteers for excavation and installation
- Identify sources for supplies (plants, mulch, stone) and submit donation requests
- Rain garden designers to draft & finalize the rain garden designs
- Contact plant nursery to ensure plant availability
- Pre-order plants
- Find printer to create weather-resistant rain garden signage (see Appendix E for larger size)[1]
- Send design to printer for signage

1 month or less before:

- Ramp up advertising and outreach as needed for volunteers
- Arrange plant and mulch pickup/delivery and payment
- Secure any remaining supplies (i.e. tiller, gloves) for excavation and installation
- Pick up and pay for rain garden signage
- Identify site to bring any excess soil/sod from excavation
- Send volunteers reminder information
- Take 'before' photos for social media

After installation:

- Send out thank yous to participants
- Discuss with your team of volunteers what worked/what didn't
- Social media/blog that discusses results
    - Include 'after' photos
- Manage any receipts or reimbursements to be made

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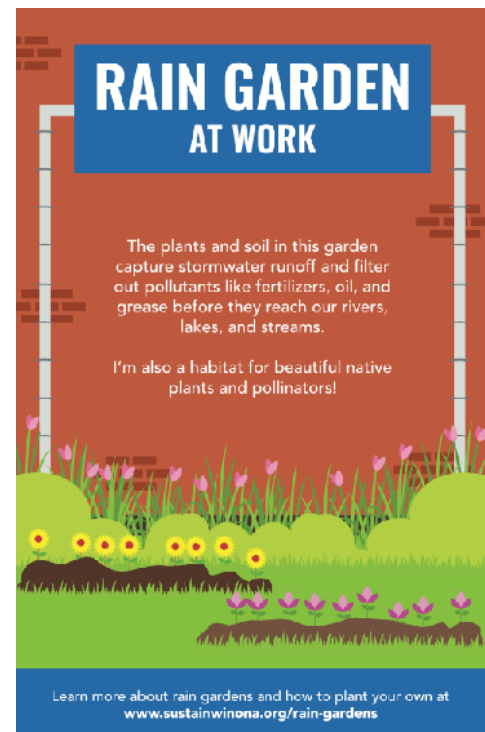
1 To receive this design file at no cost, contact hello@jefferson-center.org

Community Rain Garden Installations (continued)

Planning Calendar: Rain Garden Workshop

4-5 months before:

- Identify targeted locations/neighborhoods for rain gardens
- Draft and distribute outreach materials for targeted households advertising the workshop
- Identify local educator to lead/organize workshop; some resources can be university extension, Master Gardeners, plant nurseries
- Schedule monthly, then weekly meetings to continue planning

1-3 months before:

- Finalize date for workshop
- Finalize venue for workshop
- Begin advertising the workshop:
  - Write a press release and submit to the local paper
  - Include details in community newsletters
  - Create a Facebook event and promote on social media
  - Print out posters to give to local organizations and hang in public spaces including grocery stores, community centers, and libraries
  - Personally invite local officials
  - Distribute printed advertisement to target locations/neighborhoods

Less than 1 month before:

- Purchase any supplies as determined by the workshop leader
- Final recruitment push for attendees
- Purchase light refreshments for attendees
- Prepare email sign-in sheet for attendees

After workshop:

- Discuss with your team of volunteers what worked/what didn't
- Press release/social media/blog that discusses results
- Send out thank yous to participants
- Send follow up information for attendees to take next steps for rain garden installation
- Manage any receipts or reimbursements to be made
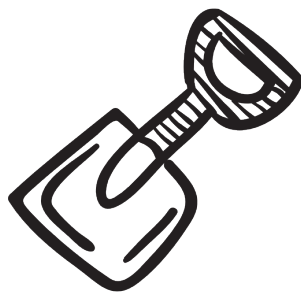
Winona Water Day

Background

Sustain Winona and the Izaak Walton League of America partnered to host the first "Winona Water Day" at Levee Park, a central community gathering space. The event was held from 11:00 a.m. to 3:00 p.m., which overlapped with the local Farmers Market.

Attendees had the chance to learn about water quality issues from groups including the Winona County Soil & Water Conservation District, Whitewater State Park, Healthy Lake Winona, National Trout Center, Water Bar & Public Studio, and members of Sustain Winona.

Vans circled between Levee Park and nearby Saint Mary's University and Gilmore Creek where attendees learned about water quality and Winona's conservation history during short, educational presentations. At Gilmore Greek the Izaak Walton League conducted stream monitoring demonstrations with participants, where people learned more about how water quality is an important indicator for environmental health.

Location
- Levee Park, a central outdoor community space in Downtown Winona hosted the main event with food and participating organizations
- Saint Mary's University hosted educational presentations on the conservation history of the Winona area
- At Gilmore Creek, near the University, the Izaak Walton League conducted stream monitoring demonstrations

Length
- Set up: 1.5 hours
- Event: 11:00 AM – 3:00 PM (4 hours)

Participants
- Local environmental groups
- Soil & water conservation district
- Local universities
- State parks

Campaign Materials
- Posters
- Save the date postcard
- Table tents
- Snapchat filter
- T-shirts
- Stickers
- Activity passport for event

Winona Water Day (continued)

Event Checklist
- ☐ Tables
- ☐ Chairs
- ☐ Posters/printed advertising materials
- ☐ T-shirts for volunteers
- ☐ Water bottles for volunteers
- ☐ Prizes for attendees
- ☐ Cooler for water
- ☐ Any rented table exhibits or activities

Planning Calendar

5-8 months before:

- Form a Water Day planning committee: reach out to local schools, garden clubs, Rotary, Masons, Lions, faith leaders, arts organizations, local officials, nearby park boards and Soil and Water Conservation Districts
- Schedule monthly meetings
- Secure funding if needed
- Begin recruiting community participants
- Secure venue for the event date/time
- Secure food if providing
- Recruit local musicians to play at the festival
- Secure necessary licensing for selling food, playing music, and closing streets as needed

2-4 months before:

- Once participants are confirmed, create map of booths, bathrooms, water, power sources, etc
- Confirm key contact for each participating organization and confirm what they will feature Recruit volunteers and organize volunteers into teams based on strengths
- Rent portable toilets, water fountains as needed
- Advertise to the public:
  - Press release and op-ed in local paper
  - Community newsletters
  - Create a Facebook event and promote on social media
  - Design and print out posters to give to local organizations and hang in public spaces including grocery stores, community centers, and libraries
  - Personally invite local officials
  - Design and distribute printed advertisement to target locations/neighborhoods

1 month or less before:

- Confirm with participants on any extra volunteer or logistics needs
- Ramp up advertising as needed
- Create day-of schedule and fill in any volunteer gaps

After event:

- Send out thank yous to participants
- Discuss with your team of volunteers what worked/what didn't
- Press release/social media/blog that discusses results
- Follow up with plans for next year

WINONA
MINNESOTA

Winona County

DO-IT-YOURSELF
RAIN BARREL

- Lawn & garden watering typically makes up 40% of a household's total summer water usage – by collecting rain water & storing it for when needed you can help lower your bill!

- Rain barrels help "slow the flow" & reduce stormwater runoff that would normally pollute local waterways.

- Rain water has a neutral pH & is absorbed quicker than tap water making it a better alternative for watering your lawn & garden plants!

PARTS

1/2" Galvanized Mal.
Lock Nut
First Supply
Price: $2.15, need two

7/8" x 1–3/8" 18 Gauge
Machine Bushing
Menards, SKU #2011754
Price: $0.59, need two

1/2" Brass
Hose Bibb Valve
Menards, SKU #6851785
Price: $4.69

3/4" MHT x 1/2" MIP
Nylon Garden Hose (Adapter)
Menards, SKU #6806709
Price: $1.36

55 Gallon Drum (open top WITH lid)
The Watkins Company (or Craigslist)
Contact: Randy, 507-457-3300
Price: $5.00

Size determined by your home's downspout
FLEX-Drain Downspout Adapter
Menards, SKU #6893766

What You'll Need

- 4 inch hole saw
- 1/2" Drill Bit & Battery-Powered Drill
- 100% Waterproof Silicone Caulk
- Caulk Gun
- Barrel & Parts!!

Steps to Creating Your DIY Rain Barrel

1. If your barrel was used for product be sure to rinse it out thoroughly and allow it to dry.
2. Using the 4 inch hole saw, drill a hole in the barrel lid about 2-3 inches from the edge. This side of the lid with the hole will be the side that rests against your house.
3. Rotate the barrel 90 degrees and using the battery-powered hand drill with the 1/2 inch drill bit, drill a hole 2 inches down from the top of the barrel. This will be for your nylon hose adapter. It will serve as an overflow or as a connection to another rain barrel.
4. Turn the barrel 90 degrees again, you should now be on the barrel side opposite to where you drilled the hole on the lid. Using the battery-powered hand drill and the 1/2 inch drill bit again, drill a hole 2-3 inches from the barrels bottom. This will be for the hose bibb valve.
5. Before fitting your parts together and securing them to the barrel with caulk, ensure everything will fit on the barrel properly.
6. For the hole at the barrel's bottom –
   a. Place a small amount of caulk on one machine bushings on the side that will rest against the barrel.
   b. Fit the machine bushing onto the hose bibb valve, ensuring the side with caulk is facing away from the valve's spout and towards the barrel.
   c. Put the hose bibb valve into the hole, pressing the machine bushing firmly against the barrel.
   d. Place a small amount of caulk on the lock nut and secure the lock nut to the hose bibb valve from inside the barrel.
7. For the overflow hole at the barrel's top –
   a. Repeat steps as you did for the hose bibb valve. Make sure the smaller end of the nylon adapter is the end inside the barrel and is secured with the lock nut.
8. Insert your downspout adapter into the hole drilled on the barrel's lid.
9. Connect your barrel to your home's downspout using the downspout adaptor. You may need to cut your downspout to the proper length/height for it to connect to your barrel.
10. Ensure the ground surface is flat below the barrel and use concrete blocks or bricks to hold your barrel about 1 foot up from the ground to be able to access your hose bibb valve and retrieve your collected rainwater.
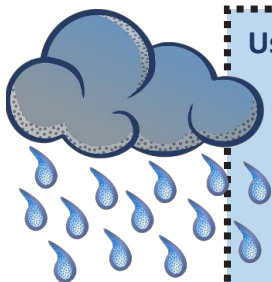
Using Your Rain Barrel
- *Don't drink the collected rainwater.*
- *Direct overflow from the barrel away from your home or garage.*
- *Drain your barrel 1-2 times per month to discourage mosquitoes & collect the next rainfall.*
- *Keep the barrel lid on. This will prevent mosquitoes, keep debris from falling in, & ensure safety.*
- *Can also dd 1 teaspoon of olive oil to your barrel's collected water to deter mosquitoes.*
- *Drain & disconnect your rain barrel for winter and store it in a dry place. Be sure your downspout will still divert runoff away from your house once the barrel has been removed.*

Appendix B

DIY Rain Barrel Workshop Ad

WINONA COUNTY WATER CONTEST

Sign up today for the Winona County Water Contest!

The county-wide contest supports Winona County residents in saving water and reducing their water costs. The contest is open to all Winona County residents.

Contest participants will work to complete water saving actions to earn points, like installing efficient showerheads or cutting back on watering lawns. The list of actions can be found on the reverse.

WHEN

April 1–August 31, 2018

PRIZES

1st place = $750 cash prize
2nd place = $300 cash prize
3rd place = $250 cash prize
4th place = $200

Anyone who earns at least 200 points will be entered into a raffle to win $250!

WHO

Residents can compete individually or as part of a team. Teams and individuals compete directly. Prizes will be awarded to the individuals with the highest scores or the teams with the highest average scores.

HOW

First, sign up for the contest by completing the form on our website at **www.sustainwinona. org/water-contest**, emailing us at **water@sustainwinona.org,** or calling (507) 457-6468 for a printed form to be mailed to you.

SUSTAIN WINONA

Flip to see the easy steps!

SUSTAINWINONA.ORG/WATER-CONTEST

KITCHEN

- Tell a friend about this contest. Points each time a friend signs up based on your recommendation.
- Use excess water (dropped ice cubes, water used to rinse fruits and vegetables, etc.) for other uses, like watering plants.
- Load your dishwasher full every time.
- If washing dishes by hand, don't let the water run.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Use a water bottle whenever possible, rather than bottled water or a glass, to cut back on waste and extra dishes.
- Replace your old dishwasher with a water- and energy-efficient dishwasher

OFFICE/SCHOOL

- Include a water-saving tip (like those in this contest) in your employee or school newsletter.
- Encourage your school system and local government to develop and promote water conservation among children and adults.
- Post a number in bathrooms and kitchens to report leaks or water waste to facility managers or maintenance personnel.
- Create a suggestion and incentives system at your organization to recognize water-saving ideas.
- Consider and compare water use when purchasing ice makers, dishwashers, reverse osmosis units, coolers, and cleaning equipment.

OFFICE/SCHOOL cont.

- Become or appoint a water ambassador within your organization who creates, implements and maintains your water conservation program.
- Create a goal of how much water your company can save and plan a celebration once that goal is met.
- Saving water on your landscape adds up quickly. Send the person in charge of your landscape to an irrigation workshop.
- Be sure your irrigation system is watering only the areas intended.
- Publish your organization's monthly water use to show progress toward water-saving goals.
- Water audit your facility to find out your recommended water use, then monitor your utility bills to gauge your monthly consumption.

BATHROOM/GENERAL INDOORS

- Turn off the water while you brush your teeth and save up to 4 gallons a minute. That's up to 200 gallons a week for a family of four.
- Turn off the water while shampooing your hair and save up to 150 gallons a month. Points every time you take this action
- Test to see how much water your shower fills in 20 seconds.
- Measure how long you shower in one week and determine the length of your average shower.
- Time your shower to keep it under 5 minutes.

BATHROOM/GENERAL INDOORS cont.

- Toilet leaks can be silent! Test your toilet(s) for leaks. Put food coloring in your toilet tank. If it seeps into the bowl without flushing, there's a leak.
- Fix any existing toilet leaks to reduce unnecessary water use.
- "Hack" older toilets by placing a brick or jar in the tank to reduce the water used on each flush.
- Install water-saving aerators on your faucets. Points for each faucet.
- If your shower fills a one-gallon bucket in less than 20 seconds, replace the showerhead with a WaterSense® labeled model. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Shorten your average shower time by two minutes to save up to 150 gallons per month.
- Upgrade older toilets with water-saving WaterSense® labeled models.
- Upgrade your existing toilet with a dual-flush toilet. It has two flush options: a half-flush for liquid waste and a full-flush for solid waste.
- Monitor your water bill for unusually high use. Your bill and water meter are tools that can help you discover leaks.
- Fix that leaky faucet. It's simple, inexpensive, and you can save 140 gallons a week.
- Let us know how much water you've saved by the end of the contest!

VISIT SUSTAINWINONA.ORG/WATER-CONTEST for the full list, outdoor actions, point scores for each action, and to sign up!

Appendix D

Water Contest Press Release

Save water and win prizes with Water Conservation Contest

(3/9/2018)

From: Chloë Bieda
Sustain Winona

I am a student at WSU, and when I first came to Winona, I instantly fell in love with this place. In comparison to the large Chicago suburb which I call home, the bluffs, lakes, and rivers I'm surrounded by here create an environment that feels both unfamiliar and special. As I spent more time in this community, I came to understand that what makes the area so special also makes it vulnerable, specifically related to our water.

Water quality tests on Lake Winona, the only lake in the Mississippi River-Winona Watershed, show high levels of phosphorus that threaten the lake's health and our ability to play and fish in the lake. Phosphorus in lakes naturally forms through rocks, soil, living and dead plant organisms and other mineral deposits. Human activities, such as fertilizing lawns, agricultural fields and urban activities, also increase phosphorus concentrations in waterways. And, while phosphorus assists with the growth of plants and animals, too much of it is a serious problem. High phosphorus levels lead to nutrient imbalances and the creation of algae blooms, which create toxins that are harmful to food resources, habitats, animal health and even human health. There are plenty of actions we can take as a community to help address this problem, including joining Healthy Lake Winona. Healthy Lake Winona (healthylakewinona@gmail.com) is a group of area citizens who work to engage community members in helping to improve our beautiful lake.

Just as important as preventing water contamination is conserving water. Though 71 percent of the Earth is covered with water, only three percent of that water is freshwater, and less than one percent is available for drinking. The benefits of conserving water include savings on water bills, reducing the need for expensive upgrades to wastewater treatment facilities, protection of drinking water resources, and maintaining the health of aquatic environments. Here in Winona we are lucky to be surrounded by plenty of fresh water, so there is less of a sense of urgency than elsewhere — but we should be conserving water nonetheless, reminding ourselves that every drop counts.

With this in mind, Sustain Winona, a partnership of the city, county and our educational institutions, has created a Water Conservation Contest that is open to all residents and businesses in the county. The contest runs from April to August, and awards winners (and randomly-drawn participants) will win cash prizes for their efforts! All you have to do to participate is to reduce your water use individually or as part of a team by completing a series of water-conserving actions. The first place winner wins $750, second place wins $300, third place wins $250, fourth place wins $200, and participants who accumulate 200 points will be automatically entered in a raffle to win $250! If you're interested in entering or learning more, please visit www.bit.ly/WinonaWater. I hope you'll join us by signing up today!
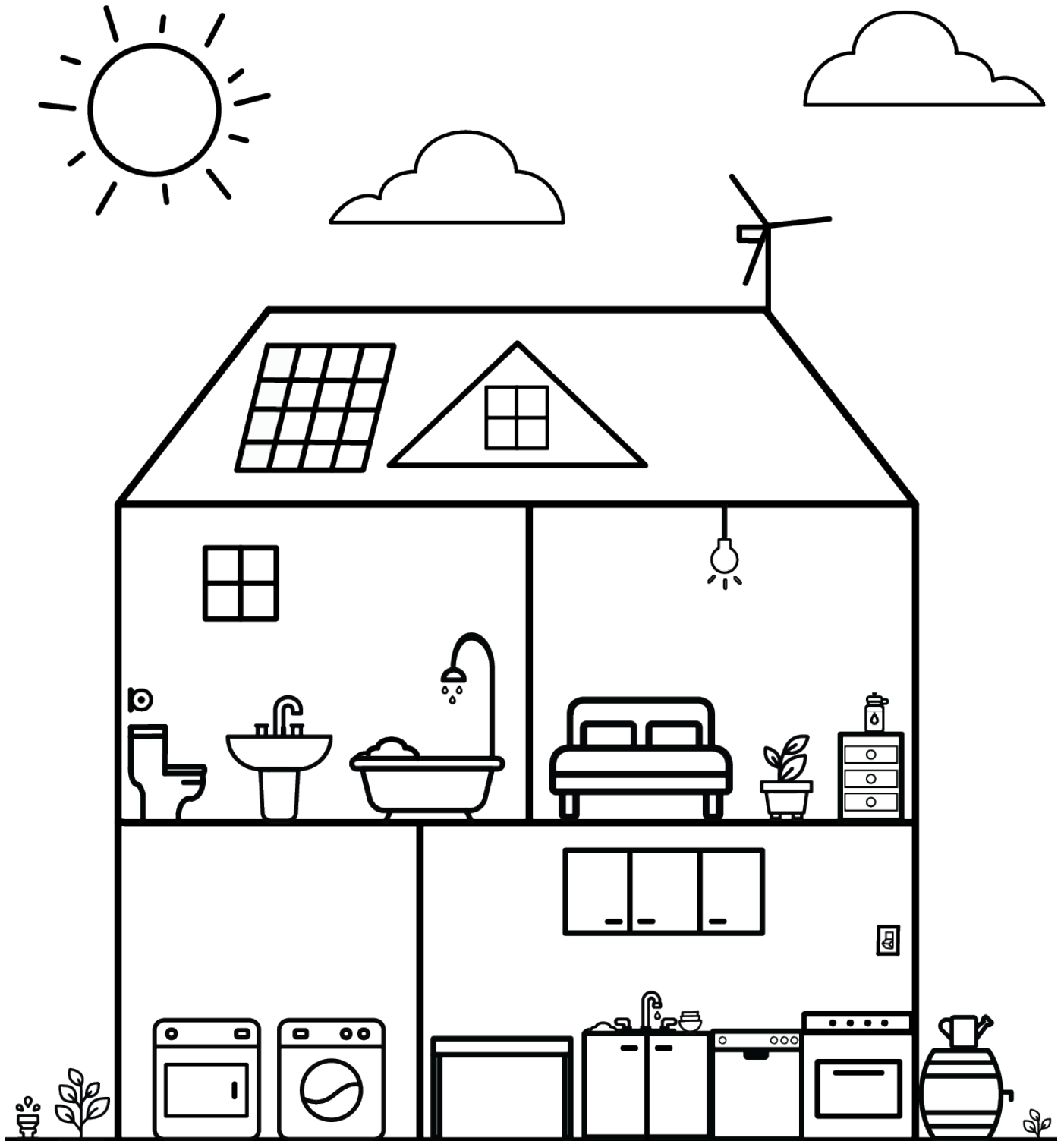
SAVE WATER

SAVE THE EARTH

SUSTAINWINONA.ORG/WATER-CONTEST

Where Can You Save Water? Coloring Page

where can you save water?

WATER CONSERVATION TIPS

LAUNDRY ROOM

- Wash clothes in cold water when you can.
- Wash only full loads of laundry.

GENERAL

- Use extra water, like when you rinse fruits and veggies, to water house plants.
- Use a reusable water bottle.
- Check out your monthly water bill with your parents. If it's unusually high one month, you may have a leak.

KITCHEN

- Load the dishwasher full every time.
- Don't run the water when you're not using it.
- Soak pots and pans first before cleaning.

OUTDOORS

- Install a rain barrel to capture rainwater for re-use to water your lawn and plants.
- Help plant a rain garden! These gardens don't require any extra watering–they just use rain.
- When you want to cool off with the sprinklers, try using a sprinkler in the part of your lawn that needs water the most.
- Wash your pets outdoors, in areas that could use the extra water.

BATHROOM

- Turn off the water while you brush your teeth.
- Turn off the water while shampooing your hair.
- Time your showers to see if you can keep them under 5 minutes.
- Test your toilet for a leak! Put food coloring in your toilet tank. If it seeps into the toilet bowl without flushing, there's a leak.

To participate in the Winona County Water Conservation Contest and see more water savings tips, visit sustainwinona.org/water-contest

Appendix G

Educational Rain Garden Videos by Winona County

[Intro to Rain Gardens](#)

[Rain Garden Maintenance](#)

[Types of Rain Gardens](#)

Appendix H

Elementary School Rain Garden Site Plan

St. Charles Elementary School, Site Plan for Rain Garden

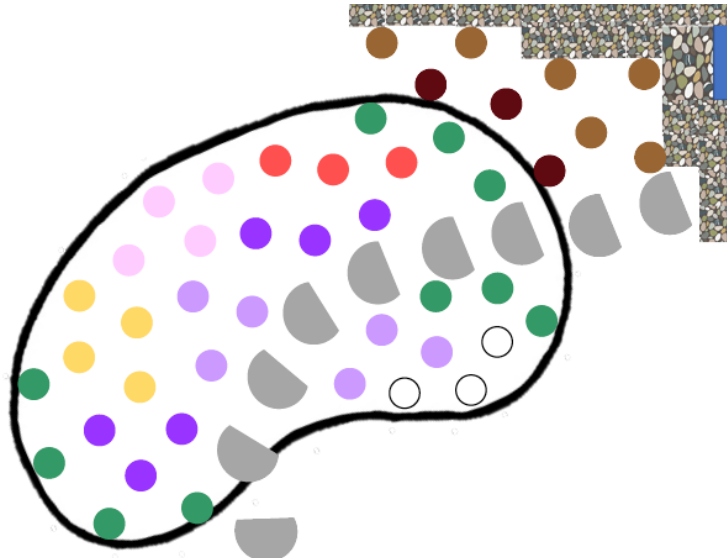Plan: Marsh/wetland plants at beginning of runoff point with a swale leading runoff to rain garden.
Soil Type: 1955A, Waukee loam, bedrock, substratum
- Loamy alluvium over sandy outwash (0-12 and 12-24 inch depths = loam)
- Natural drainage class: Well drained

Rain garden must be at least 10 feet from building foundation, base of garden will be 6 inches deep for maximum infiltration.
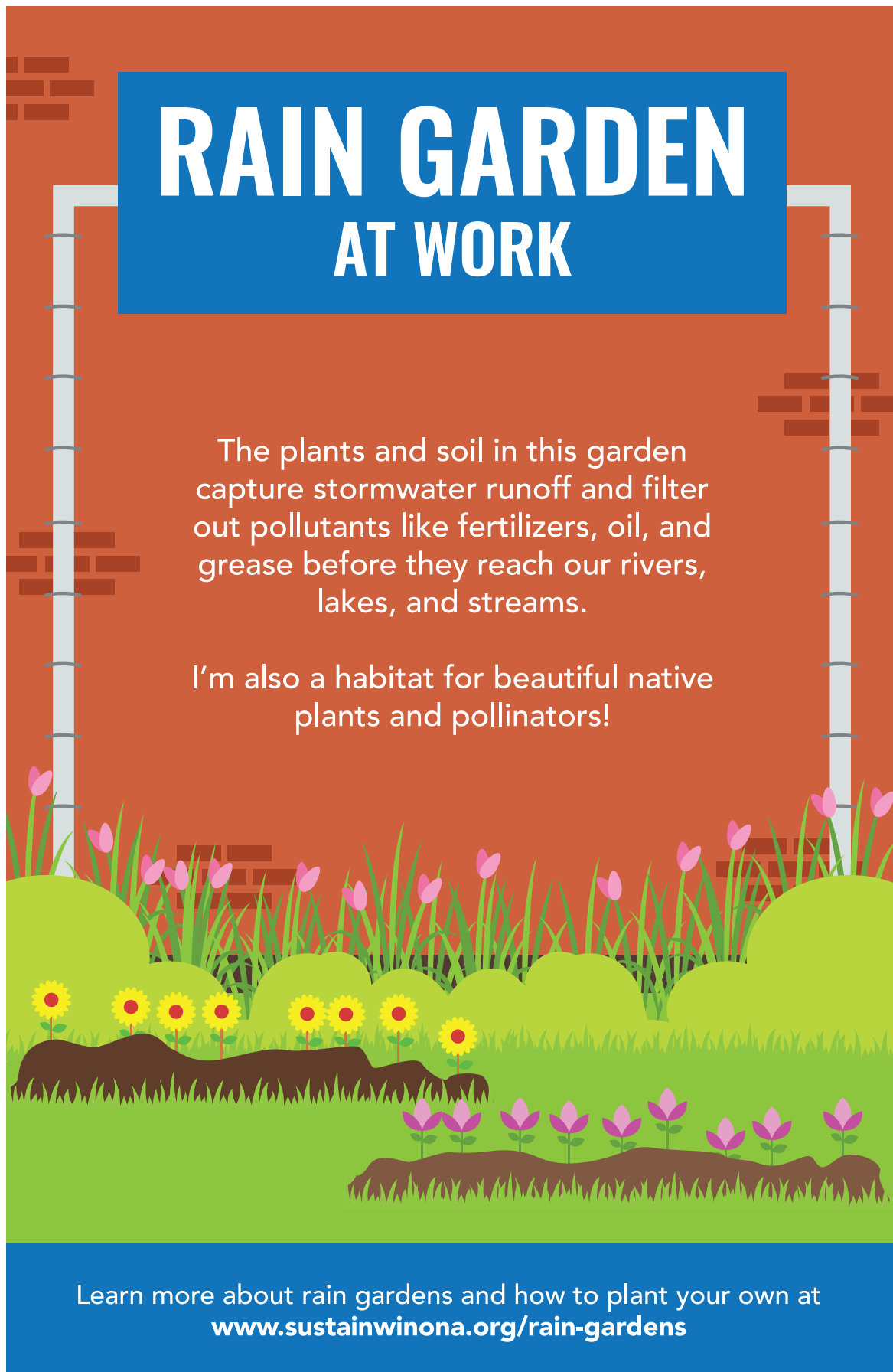- Small rocks extending 3-5 feet out from building wall transitioning into marsh/wetland plants
- Marsh/wetland plants will form swale leading to rain garden
- Rain garden will be approximately 200 square feet in size, 10 feet wide and 20 feet long

Brown Fox Sedge
Height: 3 feet
Bloom Time: June, July

Deflexed Bottle-Brush Sedge
Height: 2 feet
Bloom Time: June-August

Sweet Joe Pye Weed
Height: 7 feet
Bloom Time: July-September

Wild Bergamot
Height: 4 feet
Bloom Time: July-September

Sweet Black-Eyed Susan
Height: 5 feet
Bloom Time: August-October

Little Bluestem
Height: 3 feet
Bloom Time: July-October

White Prairie Clover
Height: 2 feet
Bloom Time: June-September

Columbine
Height: 2 feet
Bloom Time: April-June

Forked Aster
Height: 2 feet
Bloom Time: July-October

Flagstone stepping stones

Appendix I

Winona County Educational Rain Garden Sign

Image attribution: Icons made by Freepik from www.flaticon.com