



Stormwater Utility Vegetation Management Update to the Board of Public Works

RESJI & Public Engagement

City of Madison Engineering Division
March 6, 2024



Brief History

- 1970's - open drainage ways conveyed water directly to wetlands or waterways, seeded with turf and grass and mowed
- 1983 - first stormwater ordinance required detention
- 1995 – engineering required ponds and greenways planted with native prairie and wetland species and had varied success
- Mid 90's trees and shrubs were discouraged because they create bare groundlayer
- Prior to 2003 – vegetation maintenance limited to mowing by the Parks Division, and many areas became woody, urban woodlots with aggressive shrubs and trees
- 2003 – Engineering assumed routine maintenance and initiated program to improve overgrown ponds and greenways by removing invasive trees and shrubs with brush clearing and helped return land to mowable conditions
- 2011 – Selective Prairie Management Program to mow only targeted weed areas to preserve prairies and improve invasive control – proved to be cost effective and better option for species preservation
- 2017 – The design philosophy changed and considered including trees within greenway, as well as tree preservation
- 2018 – Greenway Vegetation Coordinator position created to manage all engineering stormwater utility lands
- 2019 – Seasonal trainee positions created for summer work
- 2022 – Conservation Technician position created to help coordinate specialized vegetation work
- 2023 – Mapped all vegetation in GIS maintained by Engineering Stormwater and developed a Tier System as part of a comprehensive analysis of all lands within the stormwater utility and their various levels of health and ecological integrity

Why are we doing this?

- Create a transparent framework regarding land management practices and the decision-making process.
- Develop a strategy that protects resources and responds to anticipated increases in storm frequency and intensity related to climate change.
- Evaluate fiscal resources, opportunities and limitations, as well as anticipated growth to better manage our land and develop community priorities while understanding short term and long-term fiscal impacts.
- Provide a resource for the public that includes input from outside expertise regarding community concerns.

Plan Development Components

- RESJI Toolkit on citywide vegetation maintenance
- Public Engagement
 - Wisconsin Science Festival/Night Market Collaborative
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey
- Advisory Group
- Outside Expertise
- Updates to Board of Public Works

- RESJI Toolkit
- Public Engagement
- Advisory Group
- Outside Expertise
- Updates to Board of Public Works

Racial Equity and Social Justice

To facilitate conscious consideration of equity and examines how communities of color and low-income populations will be affected by a proposed action/decision to the City.

RACIAL EQUITY AND SOCIAL JUSTICE TOOL COMPREHENSIVE VERSION



Racial Equity
& Social Justice Initiative





Racial Equity and Social Justice Tool

- What factors (including existing policies and structures) associated with this issue might be affecting communities of color and/or low-income populations differently?
- Unintended consequences, who benefits, and who is burdened?
- Disproportional impacts, root causes, factors creating social inequities.
- Recommendations



Racial Equity and Social Justice Tool

This RESJI Toolkit evaluates existing City of Madison vegetation maintenance practices and policies on public land in areas of communities of color and low-income populations. It evaluates how these city policies and plans can contribute to inequities.

Dane County and City of Madison Staff participating in the Analysis:

- Melanie Askey, Dane County Office Energy and Climate Change
- Ian Brown, City Forester
- Maddie Dumas, City Engineering
- Emily Jorgensen, City Engineering
- Sarah Lerner, City Engineering
- Paul Quinlan, Madison Parks
- Carissa Wegner, City Engineering

Racial Equity and Social Justice Tool

- **Known disparities within built environments in low-income communities and communities of color.**

Health disparities such as higher rates of obesity and diabetes correlated with the ability to safely and comfortably walk or exercise within the neighborhoods and access to nature.

- [People of Color 3 Times More likely to live in “nature deprived” US neighborhood](#) (Borunda, 2020)
- [Degraded landscapes and decreased environmental quality have human health implications](#) (Viniece Jennings, Cassandra Johnson Gaither, and Richard Schulerbrandt Gragg, 2012)

Respiratory Illnesses

Climate change may lead to more outdoor air pollutants, including [particulate matter](#) and [ground-level ozone](#). These pollutants can affect some socially vulnerable people, such as those living in cities with high air pollution levels or those with limited access to measures to reduce their exposure.^{[13](#), [14](#)}

Socially vulnerable groups are often more sensitive to air pollutants because they have more exposures and higher rates of underlying medical conditions.^{[15](#)} As a result, they are at a higher risk for developing severe illnesses, needing to go to a hospital, or prematurely dying.^{[16](#)}

In addition, climate change can increase allergens like pollen that can trigger or worsen asthma. Data show the [ragweed pollen season](#) is already becoming longer in some U.S. locations.^{[17](#)} Asthma is more common among some communities of color and low-income households than the general population.^{[18](#)}



In 2019, the asthma mortality rate was three times higher for Black and African American individuals than for white individuals.



Racial Equity and Social Justice Tool

Policies that relate to vegetation on public property affect only a small percentage of the total vegetation within Madison.

- Stormwater modeling data shows there are approximately 42,600 acres of landscaped areas and vegetation in the City of Madison.
- **The stormwater utility includes approximately 3.9% of vegetated land in the City of Madison.**
- **The Parks Division includes approximately 12.9% of vegetated land in the City of Madison.**
- **85% of the trees in Madison are on private property (M. Krempely, 2021).**



Racial Equity and Social Justice Tool

Communities with actively engaged neighborhood associations or homeowners' associations may have more ability to influence city priorities. Residents within neighborhoods with engaged groups are at an advantage.

- Long-term engaged residents are often absent in rental communities that have higher turnover, or otherwise might not have the time and resources to sustain these groups.
- When there is no formal neighborhood association or larger community representation, it is more difficult for nonprofits and staff to coordinate and educate regarding grants and other opportunities to increase tree canopy, install pollinator gardens, and educate on vegetation and land management.
- Operating on a complaint or request basis can unintentionally devote more resources to these communities, rather than providing a system-wide structure for priorities.



Racial Equity and Social Justice Tool

Residents of low income or communities of color may also face certain challenges to communicating with the city.

- Residents who are low-income often experience other barriers to contacting the city such as having access to internet, computers, time off work, have other priorities etc.
- Residents in low-income communities, or communities of color may not feel either that their voices would be heard or know what services the city can provide regarding tree or landscape issues.
- Language barriers may be a disadvantage to these communications.
- Residents with transitory housing may not wish to invest time and energy in landscaping due to the temporary nature of occupancy or other priorities.



Racial Equity and Social Justice Tool

Areas with consistent and numerous volunteers are more prevalent in highly connected neighborhoods, observationally with higher property values and predominately white neighborhoods. These neighborhoods may have more flower gardeners or master gardeners that actively maintain parks, more adopted medians with flowerbeds, etc.

- Volunteer-based maintenance activities require time and energy, good health, often a background in gardening, native restoration, or land management and the capacity to prioritize improving vegetation. **The disparity this creates is seemingly uncared-for vegetation or lack of flower gardens/managed green spaces in areas without volunteers – and often the need to revert landscaping to turf or other low-maintenance vegetation for lack of volunteer assistance.**



Racial Equity and Social Justice Tool

Research has also identified that socioeconomic status may be a barrier to native landscaping, along with structural barriers such as availability, cost, opportunities and marketing.

- Native plants are often not available at big box gardening stores that a person would access or go to for plants. They are often only available online at high prices.
- Those that rent often do not have the space available to install plantings unless they can come to an agreement with their landlord.



Racial Equity and Social Justice Tool

- Develop stormwater vegetation management plan to address inequities on stormwater utility property.
- Ensure staff time is distributed equitably across all communities.
- Develop policy to ensure highly involved volunteers can be used efficiently leveraging their staff time and involvement.
- Obtain input and increase outreach related to vegetation from under-represented people.
- Work across agencies to improve requirements for new development and construction.
- Work across agencies to promote education and technical support on plants, landscaping, ecology and native plants.
- Encourage partnerships with non-profits and volunteers to connect private landowners, landlords, renters, and homeowners to increase tree canopy, native landscaping, raingardens, pollinator landscapes on private land.
- Continue to pursue avenues related to the possibility of incentivizing private properties to implement native landscaping through the stormwater credit and prioritize incentives to low-income communities or populations of color.
- Use Green Streets recommendations to increase canopy.
- Increase signage and access on stormwater utility land to increase awareness and access of public land and work with volunteer groups to help make areas more attractive for use.

- RESJI Toolkit
- **Public Engagement**
- Advisory Group
- Outside Expertise
- Updates to Board of Public Works

- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey

Public Engagement

- Wisconsin Science Festival/Madison Night Market Fusion
 - October 4, 2023
- Sustain Dane Annual Event
 - November 3, 2023
- Public Listening Sessions
 - November 1, 2023, Hawthorne Library
 - November 20, 2023, Sequoya Library
 - November 28, 2023, Online Zoom
- Online Survey
 - January 24, 2024, to February 23, 2024.



Wisconsin Science Festival

Science Night Out

- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey

- Top three landscapes selected included 1.) biodiverse wetland/prairie 2.) biodiverse oak savanna, 3.) urban primarily buckthorn monoculture



Sustain Dane Annual Event

- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey

- Top three landscape selected included 1.) biodiverse oak savanna, 2.) biodiverse wetland, 3.) invasive cattail monoculture



- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey

Public Listening Sessions

Presentation, Anonymous Polling, Image Preferences Survey, Break Out Sessions

- 99% were residents of the City of Madison
- 62% lived adjacent to a pond or greenway
- 50% of meeting attendees volunteer on ponds or greenways
- 20% had backgrounds in ecological restoration
- 58% (majority) think most vegetation in Madison is mostly non-native plants
- 50% think that vegetation on stormwater property is 50/50 native and non-native

Public Listening Session Notifications

- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
 - Public Listening Sessions
 - Online Survey

Websites:

- [Stormwater Vegetation Management Plan Project Page](#)
- [Sustainability Plan](#)
- [City of Madison News and Updates](#)

Flyer Posting/Distribution: (9 locations)

Email: (over 350 direct email recipients)

- All Alders: 8/1/2023, 10/2/2023, 10/23/2023 (Press Release)
- Subscribers to SVMP Plan Updates
- 96 Volunteers, residents who have reached out re: stormwater vegetation
- >200 neighborhood and community association contacts
- Notice Sent to Madison Sustainability Committee
- Board of Public Works
- Common Council Community Engagement Strategist

Press Release and Social Media (>2445 subscribers)

- Press Release 10/23/2023
- Facebook Posting on 10/27/2023, 11/20/2023

Signs (10 signs)

- 1005 N High Point Road - Wexford Pond
- 5348 Regent Street – Kenosha Greenway
- 6105 Hammersley Road – East Badger Mill Creek Greenway Hammersley Road Section
- 6329 Keelson Drive – Mendota Spring Harbor Quarterdeck Section
- 7106 Carnwood Road – East Badger Mill Creek Lancaster Lane Section
- 1908 Autumn Lake Parkway – Autumn Lake Aberg Avenue Section
- 702 McCormick Avenue – West Starkweather Aberg Avenue Section
- 3537 Hargrove Street – Starkweather – Ol Denet Drive Section
- 7035 Littlemore Drive - Door Creek Park
- 2977 Milwaukee Street – Starkweather Creek Street Section

We want your input!

Interested in stormwater and vegetation?
What about native ecosystems and vegetation on our public ponds and greenways?

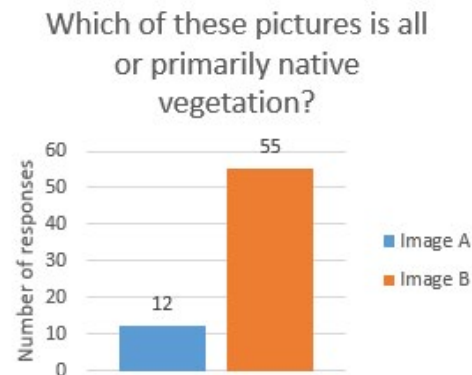
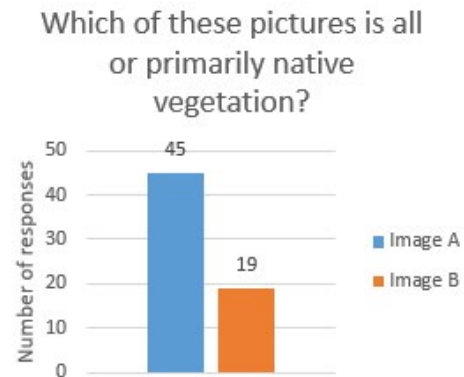
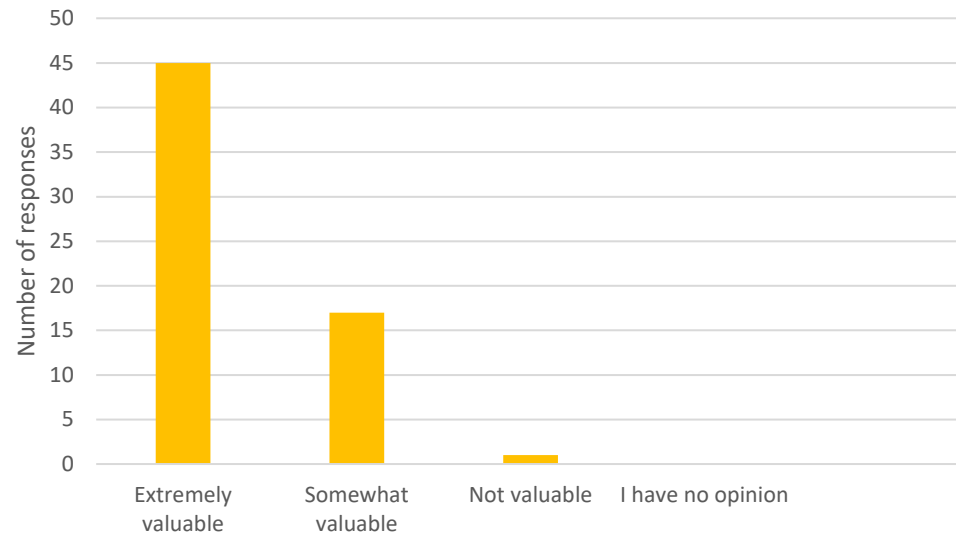
Please spread the word and join the Stormwater Utility for a **public listening session** as part of development of the Stormwater Vegetation Management Plan. There are three opportunities to attend these listening sessions, with two in-person listening sessions and one online listening session. For additional questions or comments, email ENLAND@cityofmadison.com.

- » **November 1, 2023 at 5:00 PM**
East Side: Hawthorne Library
2707 E. Washington Ave.
Madison, WI 53704
- » **November 20, 2023 at 6:00 PM**
West Side: Sequoyia Library
4340 Tokoy Blvd.
Madison, WI 53711
- » **November 28, 2023 at 5:30 PM on Zoom**
Online Option: Registration is required prior to the Zoom meeting, please register for the Zoom meeting using link: [Nov. 28, 2023 Public Information Virtual Meeting Registration](#)

If you need or want more information, contact the Stormwater Utility at 608.261.1000 or visit [www.cityofmadison.com/stormwater](#).
Sequoyia Library is a public library. All materials are for informational purposes only. No warranty is made for the use of any materials. The City of Madison is not responsible for any damage to property or personal injury resulting from the use of any materials.
This flyer is for informational purposes only. It is not intended to be used as a legal document. For more information, please contact the Stormwater Utility at 608.261.1000 or visit [www.cityofmadison.com/stormwater](#).

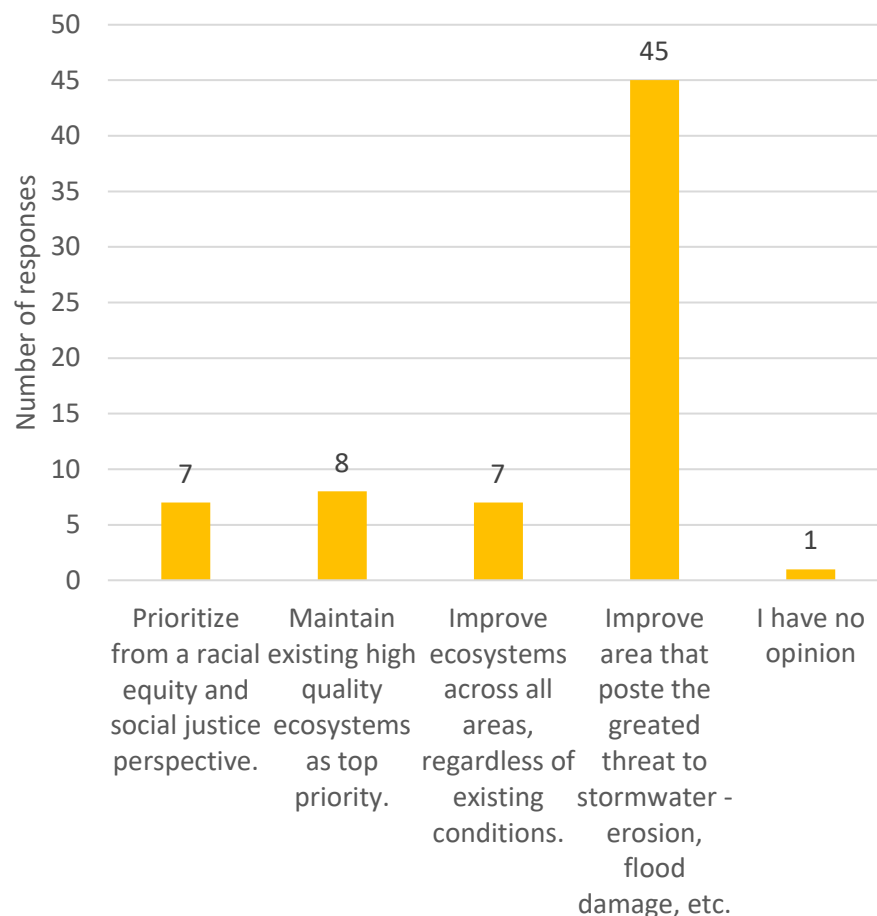
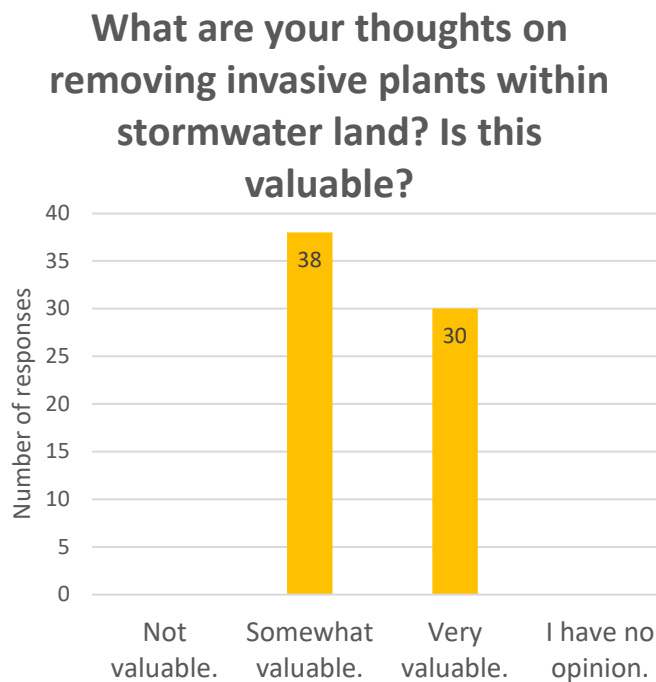
Public Listening Sessions Polling

What are your thoughts on restoring native ecosystems such as prairies, oak savanna/woods or wetland on stormwater utility owned land. Is this work valuable?

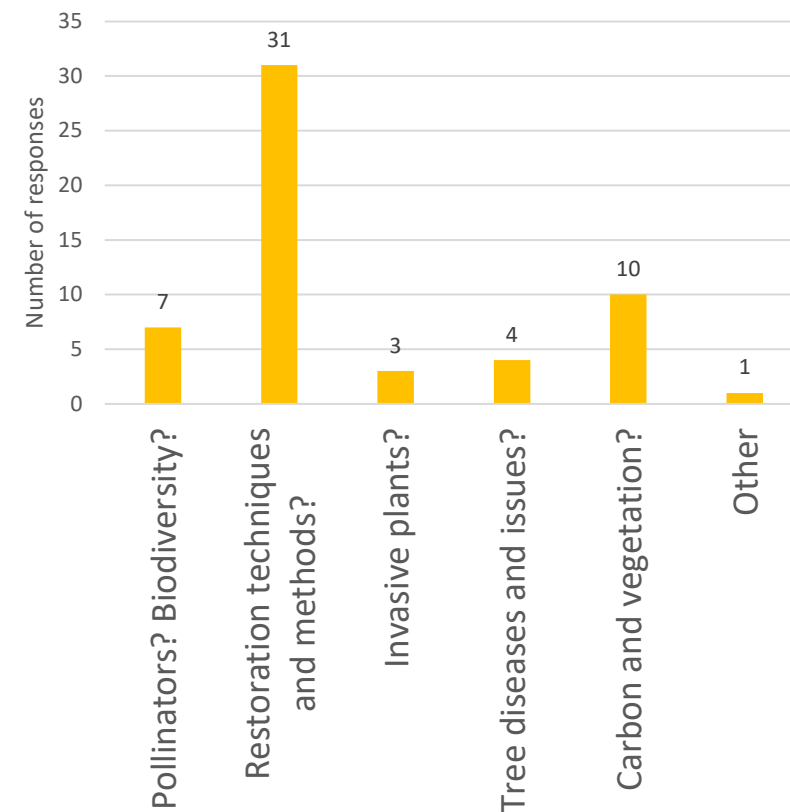


Public Listening Sessions Polling

How would you prioritize vegetation maintenance?

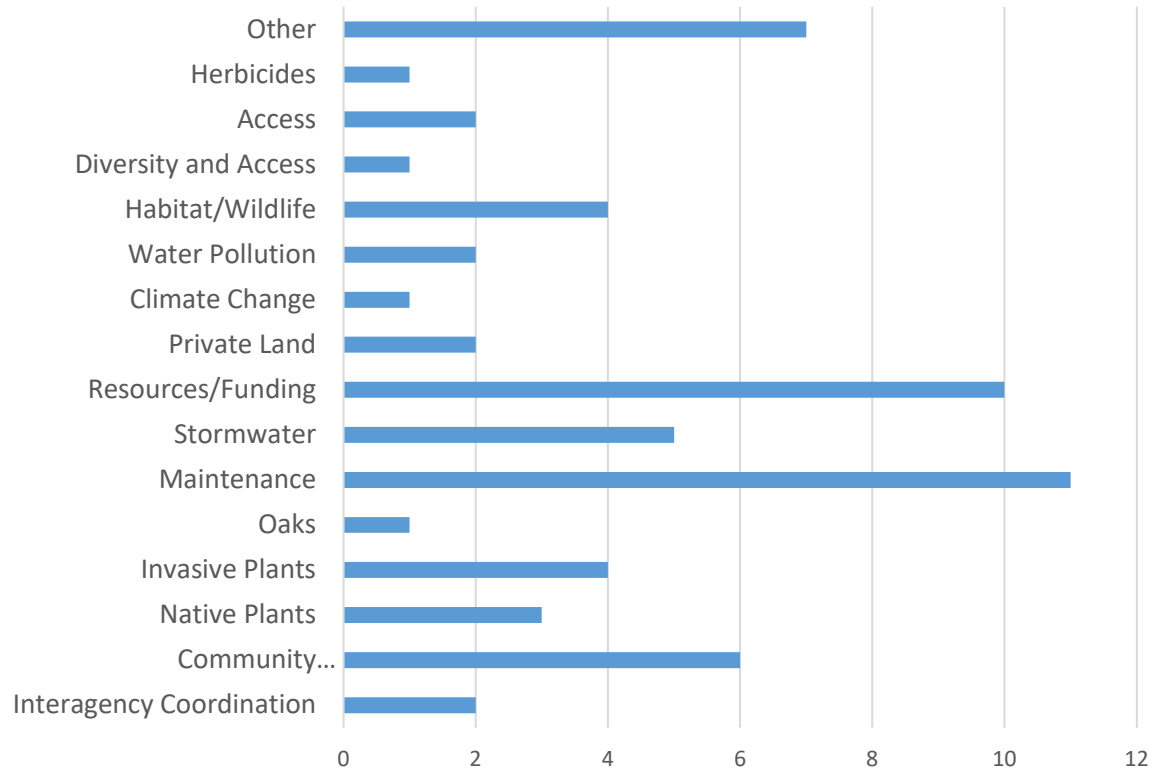


What would you like to learn more about?

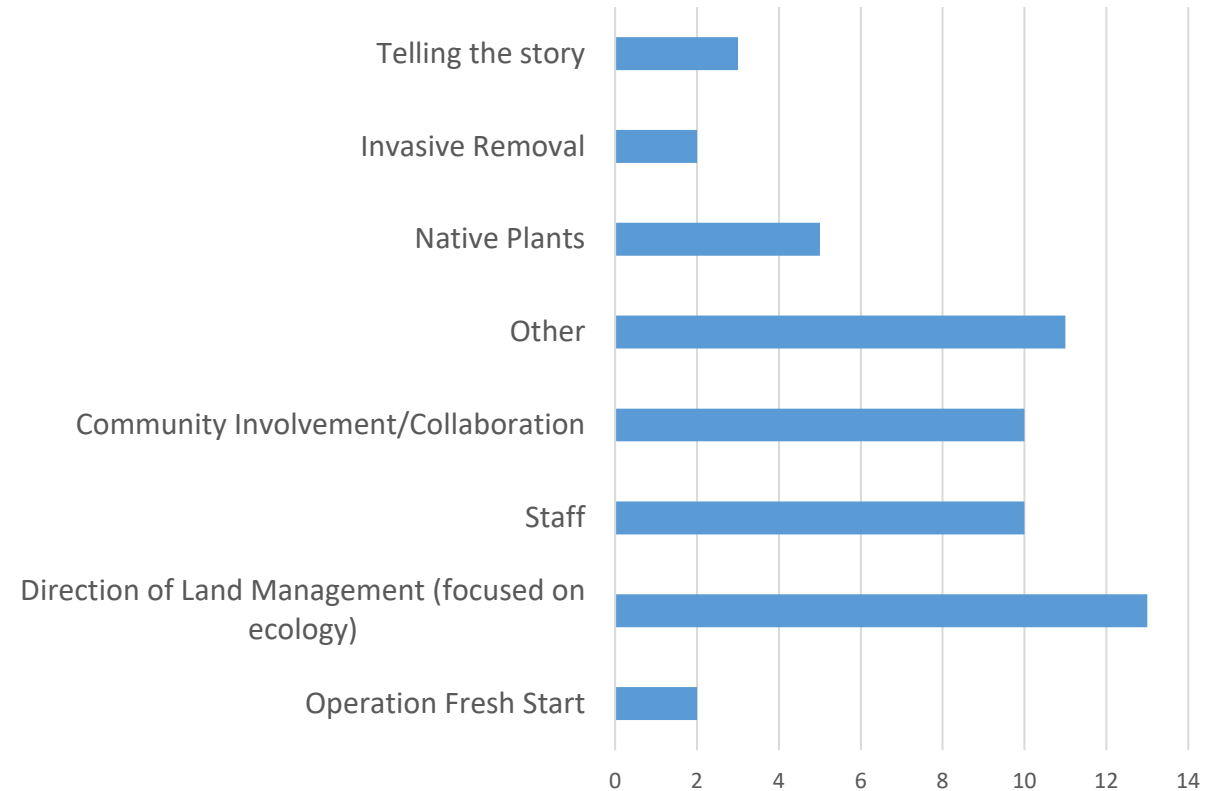


Public Listening Sessions Break Out Sessions

What concerns you the most?



What is working well?



Public Listening Sessions Image Preference



1



2



3



4



5



6



7



8



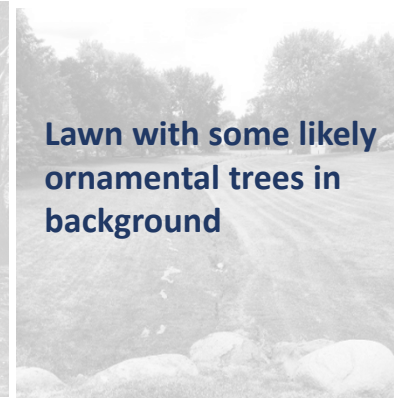
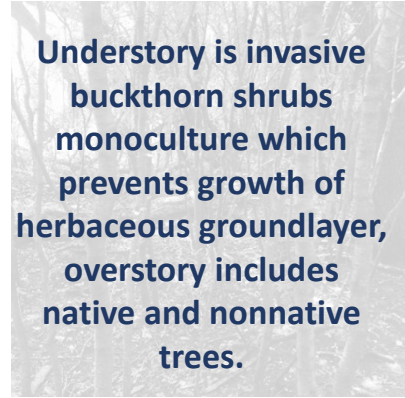
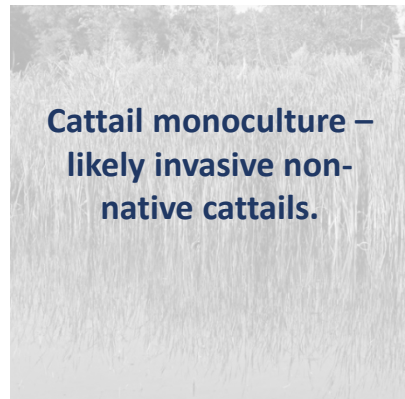
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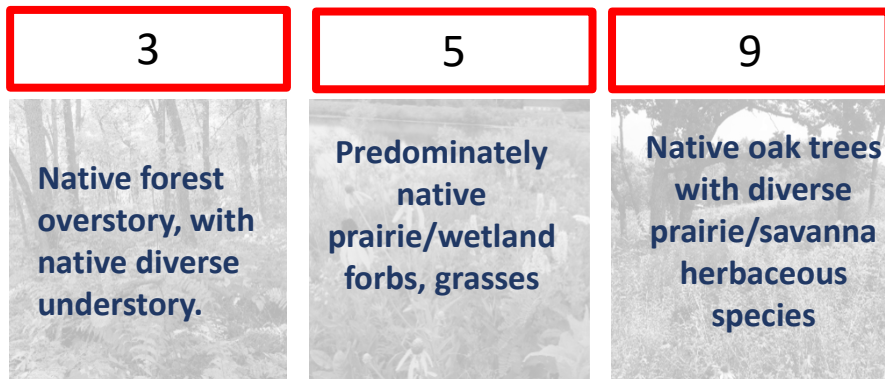
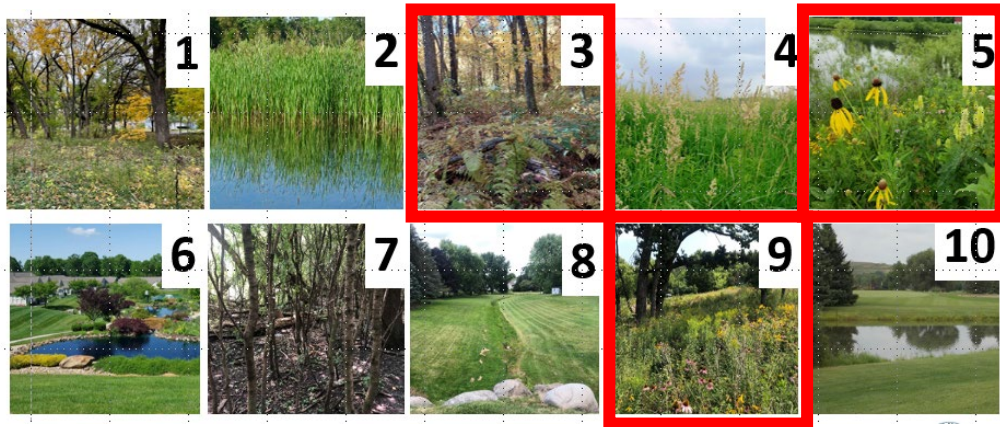
Public Listening Sessions

Image Preference

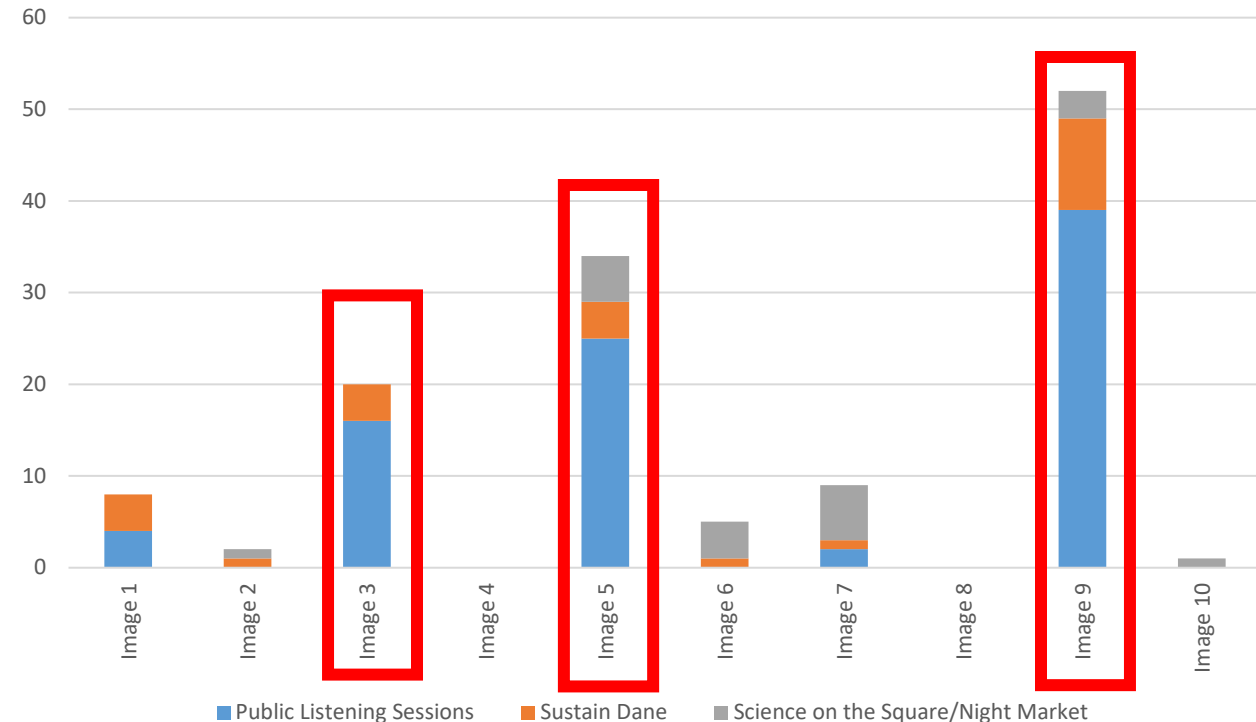


Public Listening Sessions

Image Preference - Aesthetics

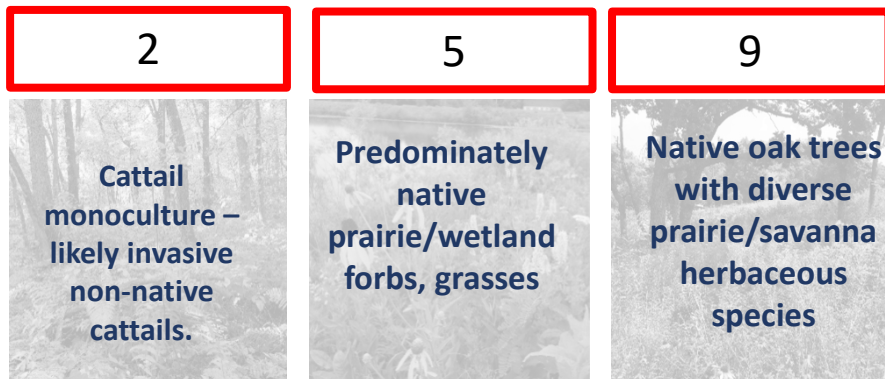
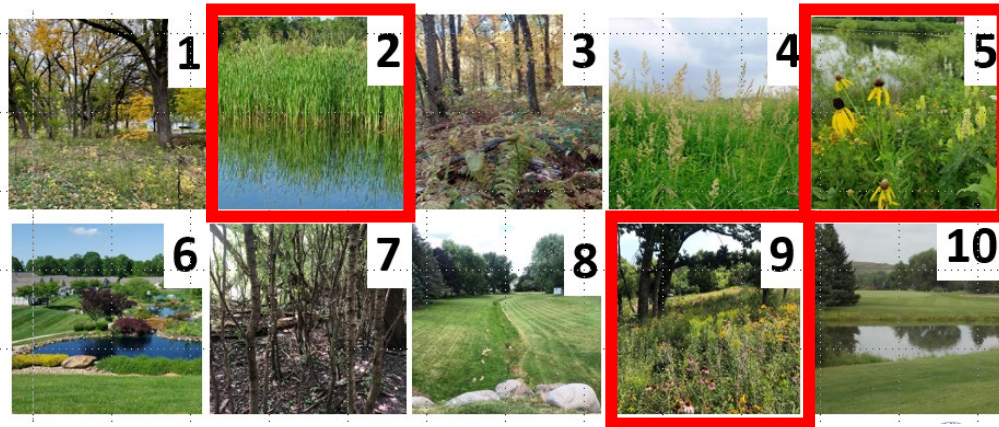


The image I prefer from an aesthetic viewpoint (would be happy to see).

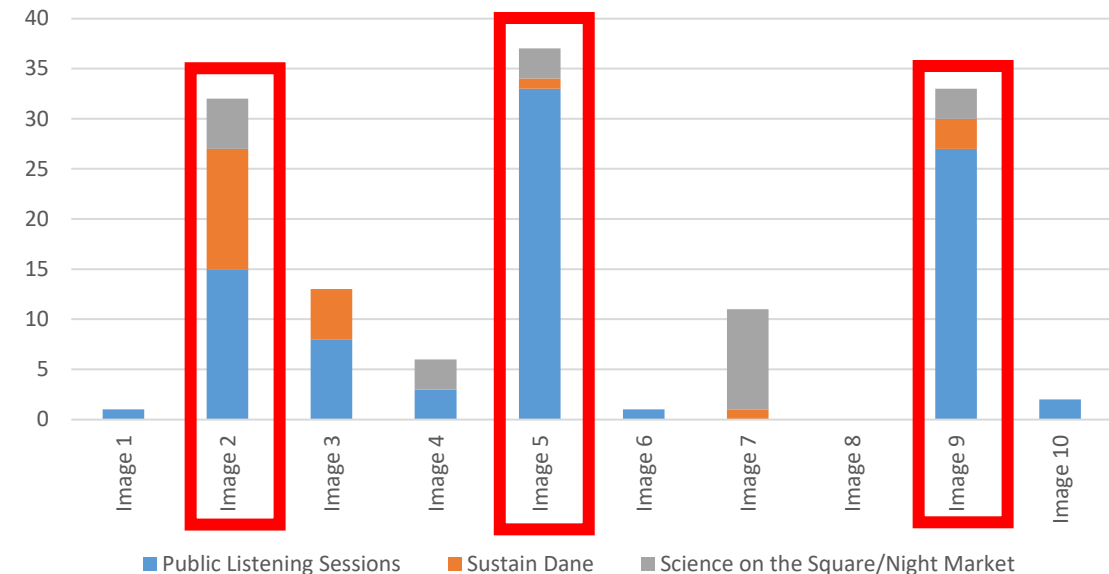


Public Listening Sessions

Image Preference -Flood and Erosion Resilience

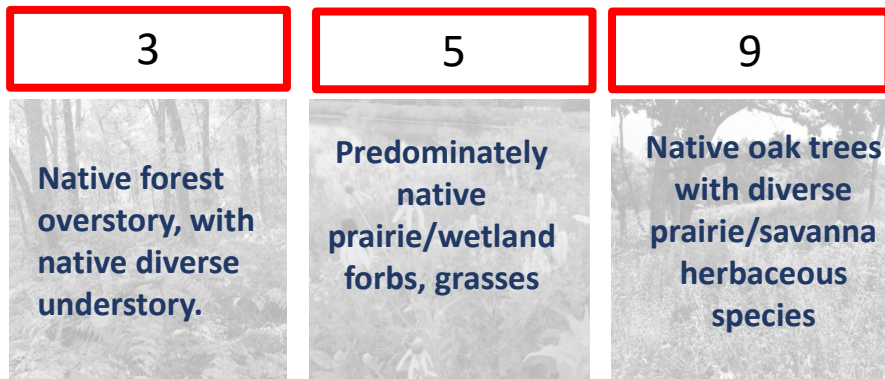
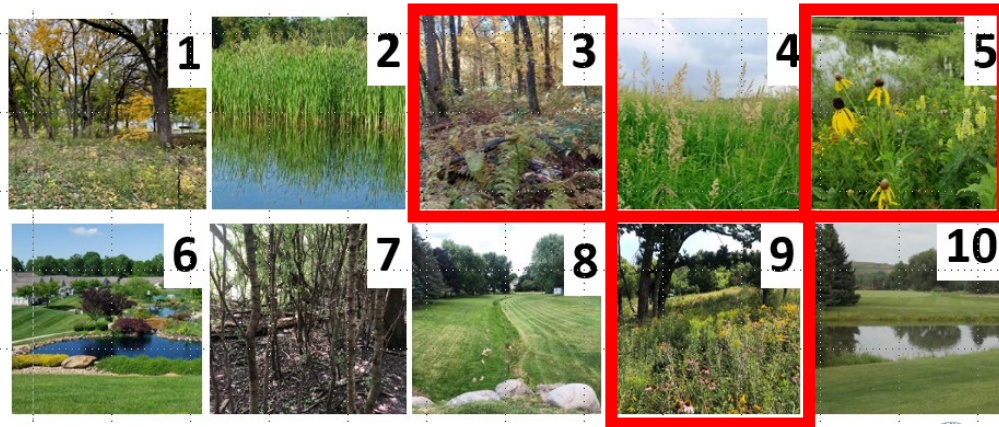


The image I think is most resilient to flooding and erosion.

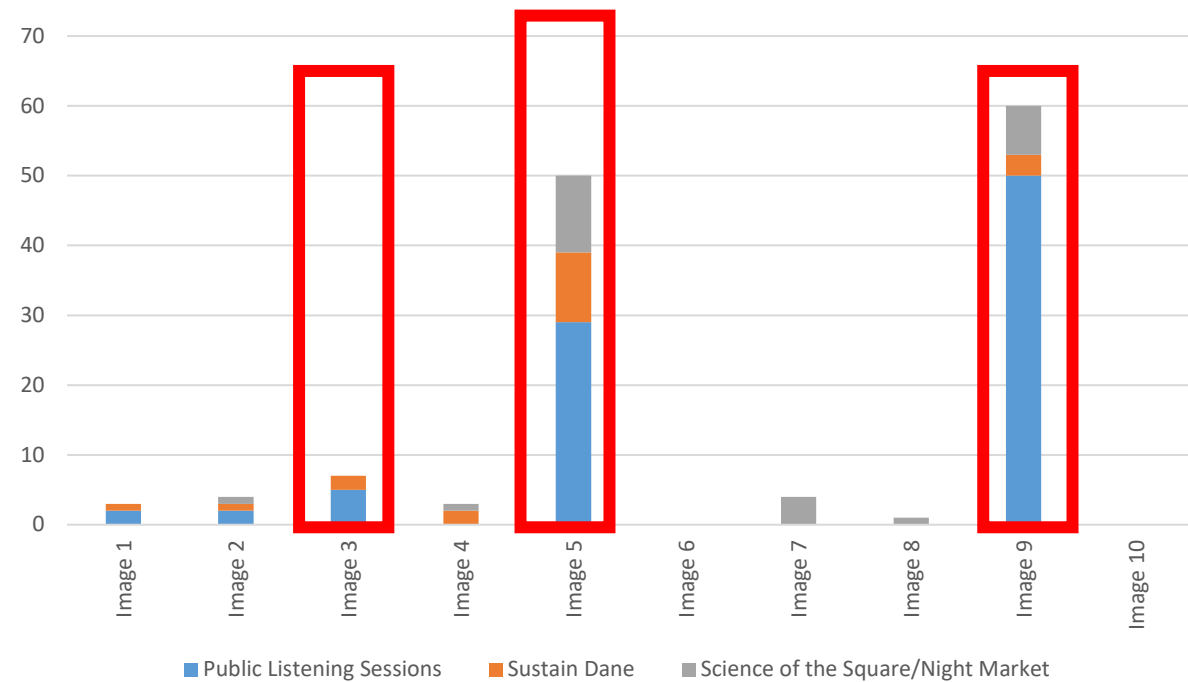


Public Listening Sessions

Image Preference – Multiple Ecosystems Benefits



The image I think that is most beneficial to other ecosystem services (pollination, endangered species, etc.)



- Public Engagement
 - Science Night Out
 - Sustain Dane Annual Event
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 - Online Survey

Online Survey

217 number of participants

Online Survey

- Public Engagement
 - Science Night Out
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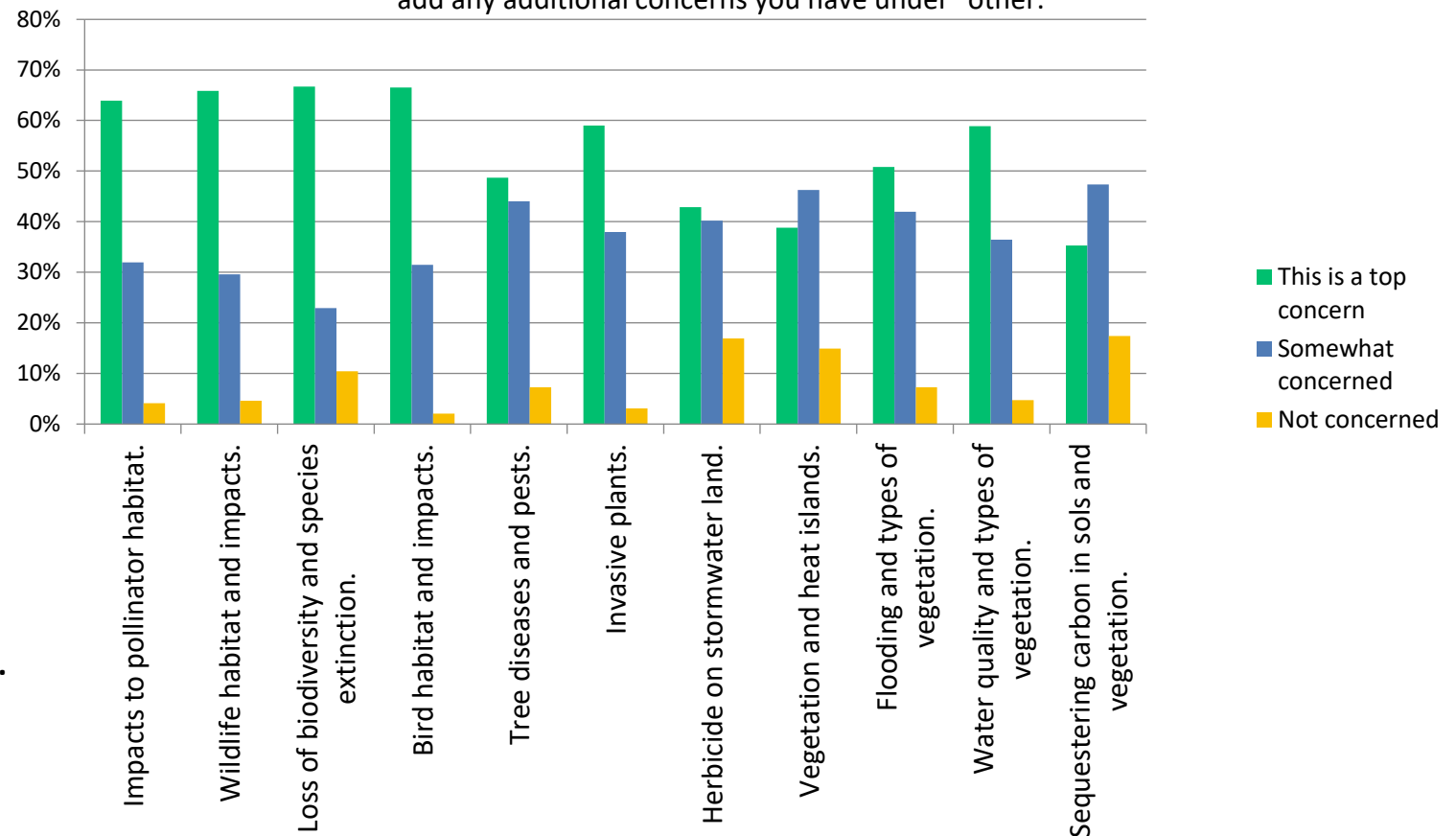
The majority of respondents top concerns on this plan include:

- Loss of biodiversity and species extinction (66.67%).
- Bird habitat impacts (66.50%).
- Wildlife habitat and impacts (65.82%).
- Impacts to pollinator habitat (63.92%).

The topics that had the highest “not concerned” rankings included:

- Carbon sequestration in soils and vegetation (17.37%).
- Herbicide on stormwater land (16.93%).
- Vegetation and heat islands (14.89%).

We have heard past concerns in the below topics. As part of this plan we will be reaching out to experts in these areas of study for additional input. Please rank your top concerns, and add any additional concerns you have under "other."

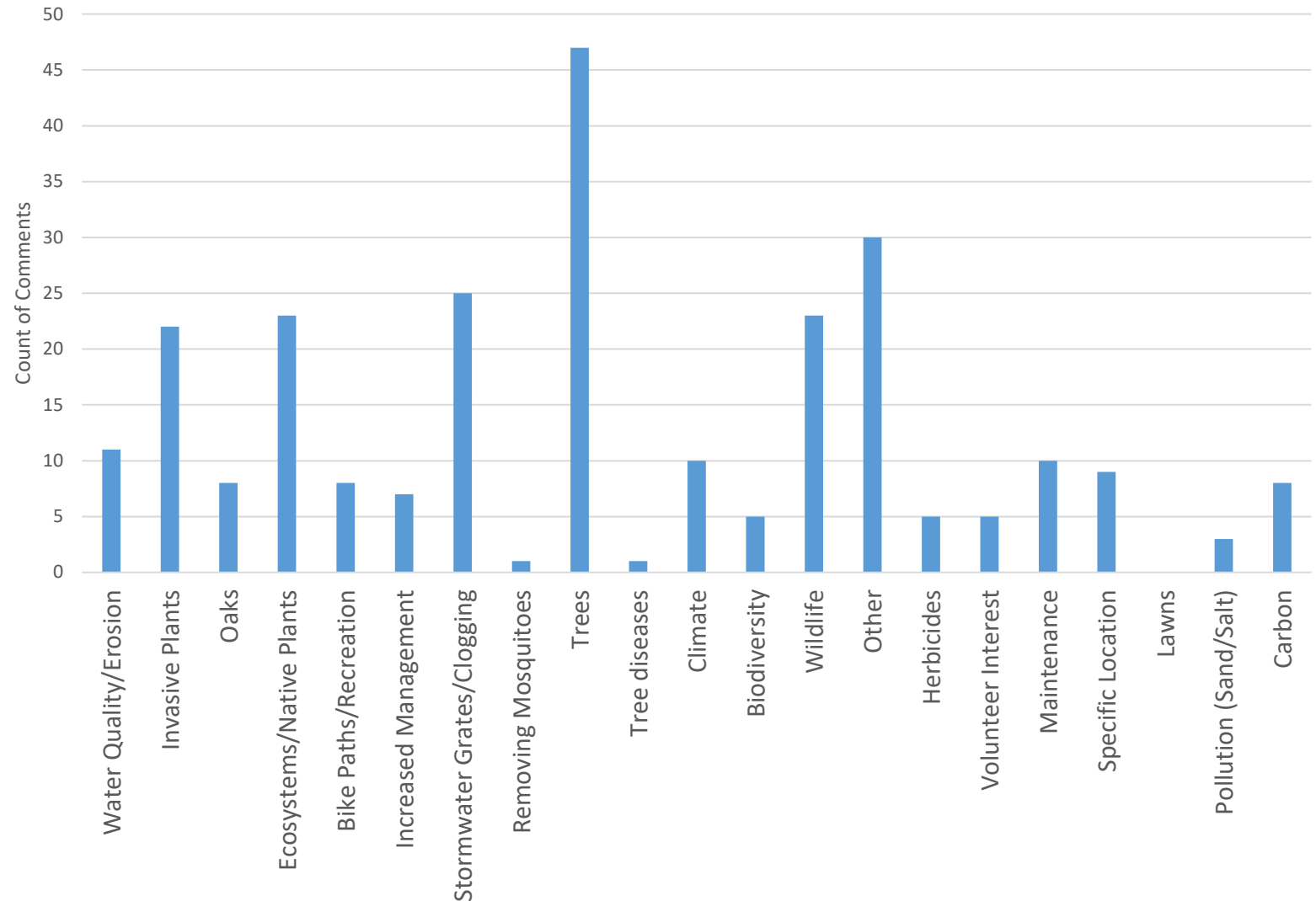


Online Survey

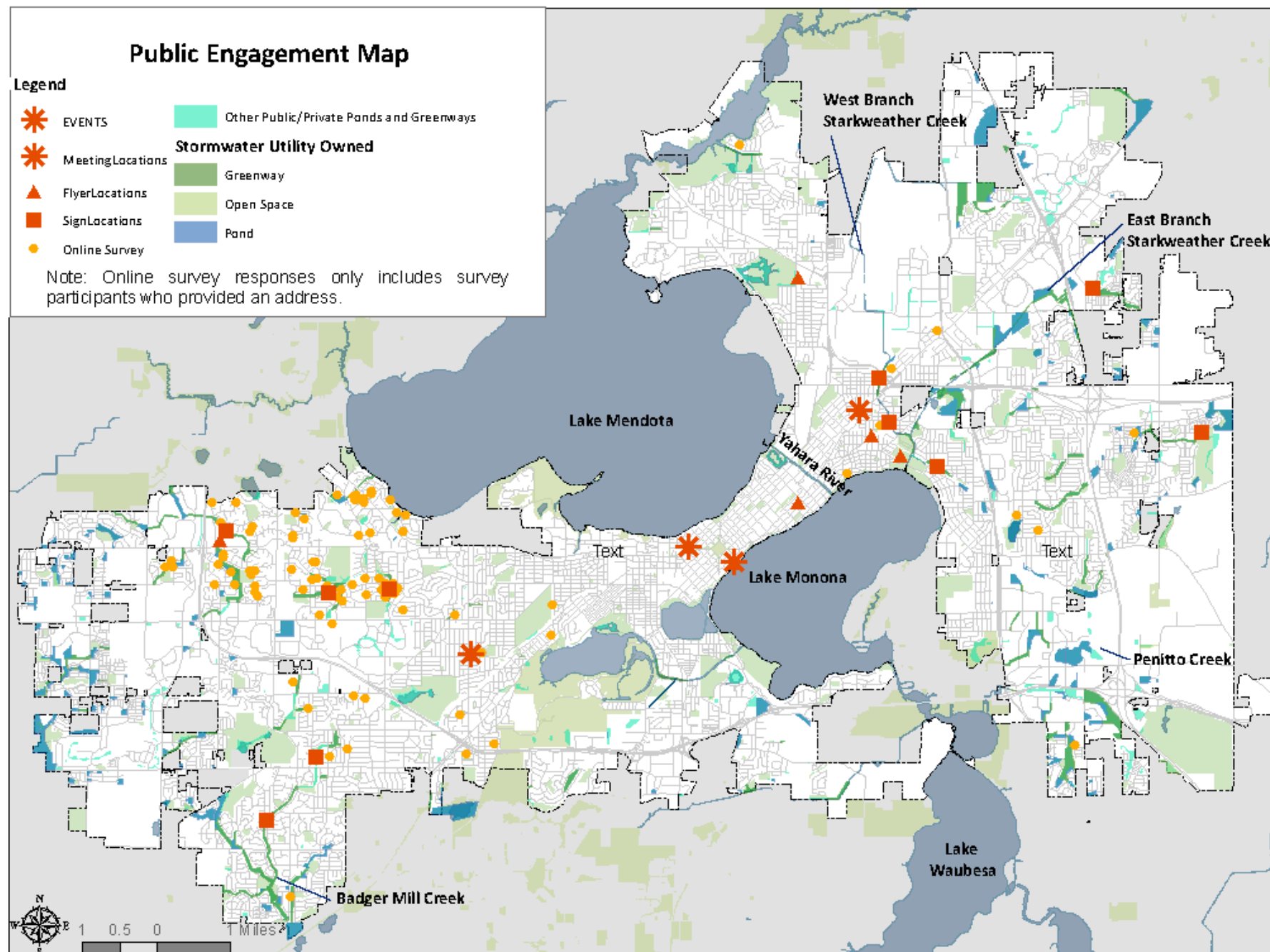
- Trees (18%)
- Specific stormwater issues (9.58%)
- Other (11.49%) related to complaints of not classifiable for vegetation management
- Wildlife/Birds (8.81%)
- Ecosystems/Native Plants (8.81%)
- Invasive Plants (8.43%)

- Public Engagement
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Comments by Category from Online Survey



Public Engagement Map



Big Picture Takaways

- **Environmental values, but differing opinions on best solutions.**
- **Vegetation and ecosystem benefits and understanding is complex. There is general recognition that native plants are beneficial but less understanding of native ecological communities and their relationships to plants in that community, biodiversity, wildlife, and pollinators.**

Public Listening Sessions, Wisconsin Science Festival and Sustain Dane Event takeaways include:

- **Preferred images of a biodiverse oak savanna and biodiverse wetland for “preferred vegetation” category.**
- **Were attended by people who strongly supported ecological restoration, whereas online input identified mixed feelings about these benefits.**

Online Survey

- **The majority of open-ended comments related to trees.**
- **Top concerns were impacts to loss of biodiversity (66.67%), wildlife habitat and impacts (65.82%), bird habitat and impacts (66.5%), pollinators (63.92%).**
- **Top topics with highest “not concerned” rating include sequestering carbon in soils and vegetation (17.37%), herbicide on stormwater land (16.93%), and vegetation and heat islands (14.89%).**

- RESJI Toolkit
- Public Engagement
- Advisory Group
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- Updates to Board of Public Works

Advisory Working Group

- Serve as a sounding board.
- Connect resources.
- Review technical questions to align to public feedback.
 - Reviewed public feedback and online survey questions.
 - Reviewed online survey feedback and technical questions.

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Next Steps – Outside Expertise

- Technical Questionnaire
- Focus Group Workshop

Next Steps - Technical Questionnaire

- Solicit volunteer expertise from ~ 160 people with professional or academic backgrounds in stormwater engineering, wildlife biology, ecology, land management, urban heat islands, pollinators, carbon, climate and agronomy.
- Developed list from UW Sustainability Staff Search, Dane County and DNR professionals in these fields, recommendations from Advisory Working Group, and people who self identified as experts in the local community.
- Identify points of shared agreement and consensus, identify conflicting points and conservation trade-offs and incorporate this into strategies based on existing resources.



Next Steps - Focus Workshop

- In person workshop with experts to discuss options for management goals, conservation trade-offs, and have a deeper in-depth discussion on specific issues related to stormwater management and land management.



BPW Updates

- RESJI Toolkit
- Public Engagement
- Advisory Group
- Outside Expertise
- Updates to Board of Public Works

- BPW on August 23, 2023
- BPW today on March 6, 2023
- Another Update after Technical Expertise ~ May/June



Questions?