

Project Name | Enhanced Stakeholder Engagement**Date** | 02/07/2024**To / Contact info** | BCWD Board of Managers**Cc / Contact info** | Karen Kill, District Administrator**From / Contact info** | Camilla Correll, PE; Evan Murdock, PhD, CFM; Karli McCawley**Regarding** | Baseline Survey Scope of Work

Background

In August of 2023, the BCWD Board of Managers approved a scope of services to develop Enhanced Stakeholder Engagement Recommendations. The scope of work for the Enhanced Stakeholder Engagement Recommendations was split into two phases, the first of which was approved in 2023. This first phase of the project included the identification of community partners, stakeholder mapping, developing relationships and initial survey planning.

This memorandum summarizes the initial survey planning and presents a scope of services for Phase 2 of the Enhanced Stakeholder Engagement, namely Measuring Baseline Awareness.

Initial Survey Planning (Phase 1) - Completed

Under the existing Scope of Work, we indicated that we would leverage existing relationships with the developers of the Social Indicator Planning & Evaluation System (SIPES) and the Social Indicators Data Management and Analysis (SIDMA) tool to assess their usefulness for measuring baseline awareness of water quality issues among residents of and visitors to the Brown's Creek Watershed. As part of Phase 1, we would develop a rigorous survey protocol (sampling methodology, target sample size, etc.) to inform the development of a survey tool in Phase 2. Following a December 2023 conversation with UW Madison Professor Ken Genskow, one of the developers of the SIPES/SIDMA system and a past academic advisor to one of the EOR team, we have determined that this system is well suited to meeting the needs of the watershed district and will provide significant cost and time savings relative to development of a new survey tool from scratch. In addition, the use of this protocol will place these data in the context of an existing body of research based on the same framework. Finally, selection of this tool will provide us with access to the analytic tools that undergird the SIDMA tool.

The Social Indicator Planning & Evaluation System (SIPES) was developed by the Great Lakes Regional Social Indicators Team with collaboration from US EPA Region 5. SIPES provides a systemized framework for collecting and analyzing Social Indicator data. To quote from the SIPES users guide (*The Social Indicator Planning and Evaluation System (SIPES) for Nonpoint Source Management: A Handbook for Projects*),

Broadly, social indicators are measures that describe the capacity, skills, awareness, knowledge, values, beliefs, and behaviors of individuals, households, organizations, and communities. For the purposes of this Handbook, social indicators for NPS management provide information about awareness, attitudes, constraints, capacity, and behaviors that are expected to lead to water quality improvement and protection. By measuring these indicators over time, water quality managers can target their project activities and assess whether their projects are accomplishing changes expected to improve and protect water quality.

SIDMA is the data management and analysis system built to support SIPES and provides an online survey tool as well as rigorous analytics designed specifically for the Social Indicators work.

SIPES/SIDMA has been used to support hundreds of watershed projects across the United States and is supported by a large body of academic literature.

Professor Genskow is interested in partnering with us on the project to help to continue to develop the system, including providing ongoing consultation and potential access to graduate student labor to increase the scope or decrease the costs of the project.

A draft version of the proposed survey instrument is provided at the end of this memo, and we welcome feedback from the District on the questions included.

Measure Baseline Awareness (Phase 2) – Proposed

We will use the SIDMA tool to measure the knowledge and attitudes of residents of and visitors to the Brown's Creek Watershed. The data received from this survey will allow us to set a baseline against which to measure the impacts of BCWD efforts, as well as identifying challenges and opportunities to increase understanding of the watershed and its importance within the community.

Survey Purpose

The primary objective of this survey is to establish a quantifiable baseline measure pertaining to the attitudes and understanding of diverse stakeholders within the Brown's Creek watershed. This research endeavor aims to systematically assess the perspectives and insights of individuals and entities with a vested interest in Brown's Creek, encompassing local residents, environmental groups, businesses, governmental bodies, and other pertinent stakeholders.

By employing a structured approach, involving standardized survey instruments and rigorous statistical analysis, the survey seeks to generate data that can be subjected to systematic scrutiny and subsequent quantitative comparative analysis over time.

The stakeholders in the watershed are a diverse, heterogeneous group whose interests intersect with the environmental and cultural needs of the Brown's Creek Watershed, its residents, and the surrounding community. We define the stakeholders with an emphasis on the importance of cultural and economic inclusivity in capturing a comprehensive understanding of the community's viewpoints. The survey specifically targets the articulation of concerns and perceptions regarding potential risks confronting the resource of the Brown's Creek Watershed District.

The research delves into stakeholders' awareness and comprehension of the actionable measures available for the preservation of the District's natural resources. This involves an exploration of their familiarity with extant conservation practices, environmental regulatory frameworks, and local community initiatives dedicated to safeguarding the watershed.

The Survey findings will enable BCWD to identify and target areas of particular need or opportunity. For instance, knowing what barriers stakeholders see to practice implementation will allow the District to provide information and resources to overcome those barriers. Alternately the survey may reveal gaps in the public's understanding of specific threats to the resource which could then be addressed. This evidence-based approach will greatly increase the effectiveness of District efforts.

The findings derived from this survey will also hold academic significance as they contribute to the body of knowledge surrounding environmental attitudes and may provide a robust foundation for ongoing research endeavors.

Dissemination and analysis plan

Dissemination refers to the process of presenting the survey to the target audience to gather their responses. There are many ways to undertake this effort; we recommend a broad approach to maximize response rates. The campaign is recommended to run from March to October 2024, with a goal of collecting 300 unique responses (roughly 2% of the watershed population).

We aim to guide BCWD's efforts to reach residents and users invested in the BCWD's resources through a comprehensive dissemination plan. Recommended efforts may include:

- Targeted mailings to key groups, such as farmers and major landholders.
- Email campaigns for widespread engagement.
- In-person outreach tables along bike paths or at events like festivals.
- Well-designed flyers at key locations, including boat launches.
- Distribution of branded coasters to local bars and restaurants.

EOR will provide handout/flyer design services; these will include a QR code which users can scan with a mobile device to access the survey.

We plan to execute the survey using a platform like Qualtrics, Microsoft Forms, or a similar online survey tool, ensuring efficient data collection and analysis on both desktop and mobile platforms. Final statistical analysis may be performed using the SIDMA system, which has been built and optimized for these analyses, though additional analysis may be undertaken using statistical analysis platforms such as R if deemed necessary.

We further recommend offering an incentive for completing the survey, such as a monthly drawing for a gift card or similar; in addition to increasing response rates this would provide an email list which could be used for future efforts.

It is assumed that District Staff will be responsible for the dissemination plan, including (1) printing or ordering outreach materials (2) distributing flyers and hanging posters at key locations and (3) planning and staffing outreach events within the watershed. EOR staff will monitor incoming responses to ensure the data collection is going according to plan, and will provide suggestions for strategic changes to the strategy if needed.

Deliverables

EOR will provide the following deliverables at the conclusion of the project:

- Completed survey tool
- Spreadsheet containing survey responses
- Raw statistical analysis
- A comprehensive report detailing survey results and conclusions

Estimated Cost

TASK	HOURS	ESTIMATED COST*
Survey development including finalization of survey questions, testing with the development of a mobile-friendly survey interface, consultation with District Staff to review questions, development of public-facing outreach materials.	50	\$8,250
Dissemination including monitoring and management of survey collection platforms and potential updates to outreach strategies based on response rates during the open period	16	\$2,500
Analysis and reporting including uploading results to SIDMA, running statistical analyses, presentation of results to BCWD, and developing a final report.	48	\$7,750
TOTAL	114	18,500

* Estimated cost includes mileage & expenses.


Timeline

The goal is to have the survey ready to go for the project kick-off open house, currently anticipated for mid-March 2024. We would like to share the QR code with attendees and set up a station where people can respond to the survey in an electronic or hard copy format. The survey can remain active for as long as needed, but we anticipate closing it in or around October, 2024.


Requested Action

1. Approve this budget in the amount of \$18,500 from account 947-0022 to develop and conduct a survey which will gauge the public's understanding of threats to and opportunities for the Brown's Creek Watershed which can be used to inform the BCWD's watershed management plan update, and to establish a baseline against which BCWD can evaluate the effectiveness of their future initiatives.

Draft Survey Tool



SIDMA
Social Indicators
Data Management and Analysis Tool



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Browns Creek Draft Survey

Your Water Resources

1. Do you know where the rain water goes when it runs off of your property?
 No
 Yes

2. If you answered 'Yes' above, where does your rain water drain to?

Your Opinions

Please indicate your level of agreement or disagreement with the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The way that I care for my lawn and yard can influence water quality in local streams and lakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. It is my personal responsibility to help protect water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. It is important to protect water quality even if it slows economic development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My actions have an impact on water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I would be willing to pay more to improve water quality (for example: though local taxes or fees)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I would be willing to change the way I care for my lawn and yard to improve water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	()	()	()	()	()
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Water Impairments

Below is a list of water pollutants and conditions that are generally present in water bodies to some extent. The pollutants and conditions become a problem when present in excessive amounts. In your opinion, how much of a problem are the following water impairments in your area?

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know
1. Sedimentation (dirt and soil) in the water	()	()	()	()	()
2. Nitrogen	()	()	()	()	()
3. Phosphorus	()	()	()	()	()
4. Bacteria and viruses in the water (such as E.coli / coliform)	()	()	()	()	()
5. Trash or debris in the water	()	()	()	()	()
6. Salt / TDS / Chlorides	()	()	()	()	()
7. Heavy metals	()	()	()	()	()
8. Habitat alteration harming local fish	()	()	()	()	()

Sources of Water Pollution

The items listed below are sources of water quality pollution across the country. In your opinion, how much of a problem are the following sources in your area?

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know
1. Discharges from industry into streams and lakes	()	()	()	()	()
2. Soil erosion from construction sites	()	()	()	()	()
3. Soil erosion from farm fields	()	()	()	()	()
4. Grass clippings and leaves entering storm drains	()	()	()	()	()
5. Improperly maintained septic systems	()	()	()	()	()
6. Stormwater runoff from rooftops and/or parking lots	()	()	()	()	()
7. Droppings from geese, ducks and other waterfowl	()	()	()	()	()
8. Excessive use of fertilizers for crop production	()	()	()	()	()
9. Urban stormwater runoff	()	()	()	()	()
10. Residential stormwater runoff	()	()	()	()	()
11. Highway/road/bridge runoff	()	()	()	()	()
12. Groundwater withdrawal	()	()	()	()	()
13. Boat maintenance	()	()	()	()	()
14. Shoreline erosion from boat wakes	()	()	()	()	()
15. Recreational and tourism activities (non-boating)	()	()	()	()	()

Consequences of Poor Water Quality

Poor water quality can lead to a variety of consequences for communities. In your opinion, how much of a problem are the following issues in your area?

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know
1. Contaminated drinking water	()	()	()	()	()
2. Beach closures	()	()	()	()	()
3. Contaminated fish	()	()	()	()	()
4. Loss of desirable fish species	()	()	()	()	()
5. Reduced beauty of lakes or streams	()	()	()	()	()
6. Reduced opportunities for water recreation	()	()	()	()	()
7. Excessive aquatic plants or algae	()	()	()	()	()
8. Fish kills	()	()	()	()	()
9. Odor	()	()	()	()	()
10. Lower property values	()	()	()	()	()
11. Lost economic-tourist activity	()	()	()	()	()

Practices to Improve Water Quality

Please indicate which statement most accurately describes your level of experience with each practice listed below.

	Not relevant for my property	Never heard of it	Somewhat familiar with it	Know how to use it; not using it	Currently use it
1. Following the manufacturer's instructions when fertilizing lawn or garden	()	()	()	()	()
2. Use a mulching lawn mower	()	()	()	()	()
3. Keep grass clippings and leaves out of the roads, ditches, and gutters	()	()	()	()	()
4. Follow pesticide application instructions for lawn and garden	()	()	()	()	()
5. Regular servicing of septic system	()	()	()	()	()
6. Repair home sewage treatment system	()	()	()	()	()
7. Properly dispose of pet waste	()	()	()	()	()
8. Use rain barrels	()	()	()	()	()
9. Use vegetated filter strips	()	()	()	()	()
10. Use grass swales	()	()	()	()	()
11. Use infiltration device	()	()	()	()	()
12. Use extended wet detention	()	()	()	()	()
13. Use dry detention	()	()	()	()	()
14. Use settling basin	()	()	()	()	()

15. Use sand filters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Use infiltration basin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Use porous pavement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Use wet pond	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Manage runoff from roofs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Restore compacted soils	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Use prescribed burning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Specific Constraints of Practices

Rain Garden : *A garden that uses native plants to absorb and filter stormwater collected off a roof, parking lot, sidewalk, or driveway.*

1. How familiar are you with this practice?

- Not relevant
- Never heard of it
- Somewhat familiar with it
- Know how to use it; not using it
- Currently use it

2. If the practice is not relevant, please explain why.

3. Are you willing to try this practice?

- Yes or already do
- Maybe
- No

How much do the following factors limit your ability to implement this practice?

	Not at all	A little	Some	A lot	Don't Know
4. Don't know how to do it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Time required	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The features of my property make it difficult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Insufficient proof of water quality benefit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Desire to keep things the way they are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Physical or health limitations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Hard to use with my farming system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Lack of equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Wet Detention: Constructed basins that have a permanent pool of water throughout the parts of the year that treat incoming stormwater runoff by allowing particles to settle and algae to take up nutrients.

13. How familiar are you with this practice?

- Not relevant
 Never heard of it
 Somewhat familiar with it
 Know how to use it; not using it
 Currently use it

14. If the practice is not relevant, please explain why.

15. Are you willing to try this practice?

- Yes or already do
 Maybe
 No

How much do the following factors limit your ability to implement this practice?

	Not at all	A little	Some	A lot	Don't Know
16. Don't know how to do it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Time required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. The features of my property make it difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Insufficient proof of water quality benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Desire to keep things the way they are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Physical or health limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Weekly Street Sweeping: Use of mechanical street sweeper to clean debris from roadways and parking lots.

23. How familiar are you with this practice?

- Not relevant
 Never heard of it
 Somewhat familiar with it
 Know how to use it; not using it
 Currently use it

24. If the practice is not relevant, please explain why.

25. Are you willing to try this practice?

- Yes or already do
- Maybe
- No

How much do the following factors limit your ability to implement this practice?

	Not at all	A little	Some	A lot	Don't Know
26. Don't know how to do it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Time required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. The features of my property make it difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Insufficient proof of water quality benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Desire to keep things the way they are	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Physical or health limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Making Decisions for my Property

In general, how much does each issue limit your ability to change your management practices?

	Not at all	A little	Some	A lot	Don't Know
1. Personal out-of-pocket expense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. My own physical abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Not having access to the equipment that I need	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Lack of available information about a practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. No one else I know is implementing the practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Approval of my neighbors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Don't know where to get information and/or assistance about those practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Environmental damage caused by practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Legal restrictions on my property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Concerns about resale value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Not being able to see a demonstration of the practice before I decide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The need to learn new skills or techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About You

1. Do you make the home and lawn care decisions in your household?
 - Yes
 - No

2. What is your gender?

- Male
- Female

3. What is your age?

4. What is the highest grade in school you have completed?

- Some formal schooling
- High school diploma/GED
- Some college
- 2 year college degree
- 4 year college degree
- Post-graduate degree

5. What is the approximate size of your residential lot?

- 1/4 acre or less
- More than 1/4 acre but less than 1 acre
- 1 acre to less than 5 acres
- 5 acres or more

6. Do you own or rent your home?

- Own
- Rent

7. How long have you lived at your current residence (years)?

8. Which of the following best describes where you live?

- In a town, village, or city
- In an isolated, rural, non-farm residence
- Rural subdivision or development
- On a farm

9. Do you use a professional lawn care service?

- Yes, just for mowing
- Yes, for mowing and fertilizing
- Yes, just for fertilizing and pest control
- Yes, for mowing, fertilizing, and pest control
- No

Information Sources

People get information about water quality from a number of different sources. To what extent do you trust those listed below as a source of information about soil and water?

	Not at all	Slightly	Moderately	Very much	Am not familiar
1. Local watershed project	()	()	()	()	()
2. Local government	()	()	()	()	()
3. U.S. Environmental Protection Agency	()	()	()	()	()
4. University Extension	()	()	()	()	()
5. State environmental agency	()	()	()	()	()
6. Environmental groups	()	()	()	()	()
7. Local garden center	()	()	()	()	()
8. Lawn care company	()	()	()	()	()
9. Local community leader	()	()	()	()	()
10. Neighbors / friends	()	()	()	()	()
11. State natural resources agency	()	()	()	()	()
12. County Health department	()	()	()	()	()
13. Land trust	()	()	()	()	()
14. Browns Creek Watershed District	()	()	()	()	()

Thank You

1. Please use the space below for any additional comments about this survey or water resources in your community.

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