



MEMORANDUM

Comfort Lake-Forest Lake Watershed District

Date: February 12, 2024
To: CLFLWD Board of Managers
From: Mike Kinney, District Administrator
Subject: Floodplain Vulnerability Assessment



District Wide

Introduction

The purpose of this agenda item is to provide an update on the Floodplain Vulnerability Assessment project, including work completed to date and proposed next steps.

Work Completed to Date

At the September 28, 2023, regular meeting, the Board approved the first two tasks in the Emmons & Olivier Resources (EOR) scope of work: 1) Develop the Flood Risk Index and 2) Conduct Flood Risk Assessment. These tasks are almost completed, and EOR prepared a summary along with associated maps, which are enclosed. The remaining work under task 2 is more detailed modeling in key priority areas. In January, staff and EOR met with the engineering firms for the District's three largest cities: Forest Lake, Wyoming, and Scandia. The city engineers performed a preliminary review of the assessment summary and maps, and they provided additional insights into the cities' stormwater models and available GIS shapefiles. In general, the city engineers were in agreement with the direction the District is headed.

Next Steps

The next steps are to review the results in more detail with the Board, get a shared understanding of Board priorities, identify the priority areas to complete the more detailed modeling work, and expand community engagement efforts. Community engagement will entail performing an equity assessment, creating a more detailed community engagement plan, and implementing engagement strategies such as workshops and surveys with target audiences. This can be a collaborative effort, led by District staff, with support from an equity/engagement consultant called Zan Associates, and technical support from EOR. The proposed equity assessment by Zan Associates will be useful not only for this project, but for the District's broader work as well. This task will have multiple benefits, beyond the current project at hand.

The community engagement component is important because flood risk affects everyone in the watershed in different ways, and various community members and government staff members have different roles to play in flood mitigation. There are numerous ways to prioritize flood mitigation activities, and the community engagement surveys and workshops will help



MEMORANDUM

Comfort Lake-Forest Lake Watershed District

identify which are the highest priorities to which groups, and what sorts of activities are the most in-demand. This community engagement component will also dovetail with the District's overall outreach efforts and serve as an opportunity for the District to make connections and share its work.

We are proceeding with this prioritization work in a very thoughtful and thorough manner. The Board's input on this data will be highly influential in how the data is presented to partners and the public.

Staff and EOR will provide a brief update at the February 22nd board meeting. We recommend setting up a special board meeting/workshop with the board, staff, and EOR to provide further detail and establish a shared understanding of priorities. Then staff will bring back action items to the following regular board meeting before proceeding with the community engagement and modeling work.

Attached:

- Flood Risk Assessment Summary and Maps

ENVIRONMENTAL

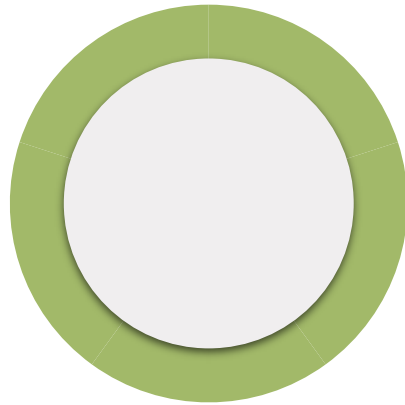
SOCIAL

INFRASTRUCTURAL

FLOOD HAZARD



ENVIRONMENTAL



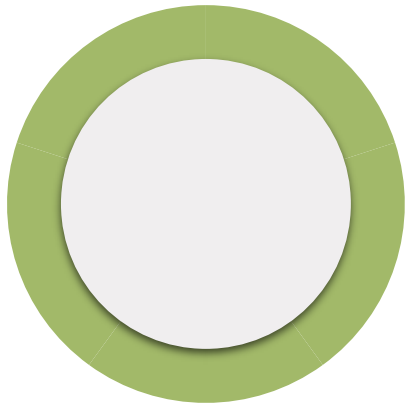
Impaired Waters

**Native Plant
Communities
Connected with
Groundwater**

Soil Erosion Risk

**Minnesota Biological
Survey (MBS) Sites of
Biodiversity Significance**

ENVIRONMENTAL



Impaired Waters

Native Plant Communities
Connected with
Groundwater

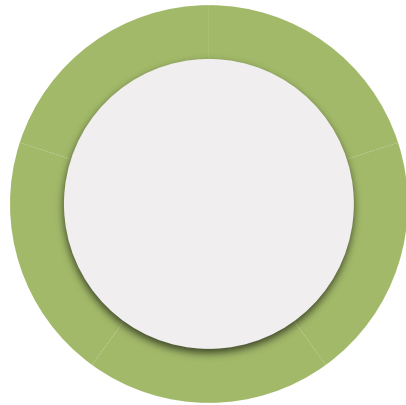
Soil Erosion Risk

MBS Sites of
Biodiversity
Significance

Impaired Lakes/Streams

- **Source:** MPCA
- **Description:** Impaired waterbodies as determined by MPCA's surface water quality assessment process for the 2022 reporting cycle to US Environmental Protection Agency (EPA).
- **Publication:** 2022-05-04
- **Scoring Process:** Impaired Lakes/Streams intersect with the catchments. They are quantiled based on the area or length in each catchment, with scores ranging from 1 to 3.

ENVIRONMENTAL



Impaired Waters

**Native Plant
Communities
Connected with
Groundwater**

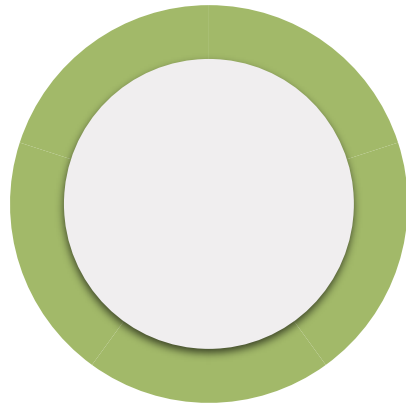
Soil Erosion Risk

MBS Sites of
Biodiversity
Significance

Native Plant Communities Connected with Groundwater

- **Source:** DNR
- **Description:** The basic units of classification are the wetland native plant communities (NPC) as described in the series of Field Guides to the Native Plant Communities of Minnesota (MnDNR 2005a, 2005b, 2003). The NPCs are grouped into readily recognizable wetland type categories.
- **Publication:** 2019-01-18
- **Scoring Process:** Scoring the NPC index from 1 to 5 based on its type of groundwater dependence, calculating the average NPC index within each catchment, and then categorizing it into a 1 to 3 scoring system based on quartiles.

ENVIRONMENTAL



Impaired Waters

Native Plant
Communities
Connected with
Groundwater

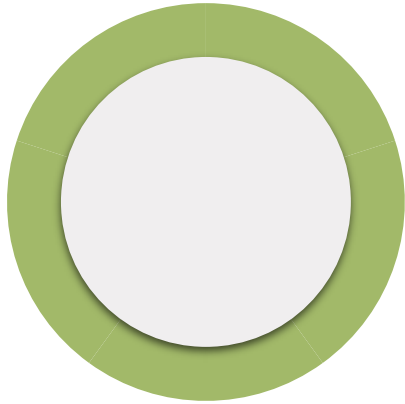
Soil Erosion Risk

MBS Sites of
Biodiversity
Significance

Soil Erosion Risk

- **Source:** BWSR
- **Description:** This data layer represents a general risk score for potential soil erosion on a 0-100 point scale, 100 being the highest risk. Larger values indicate soils that have a higher potential to erode if no conservation practices were in place and overland sheet or rill runoff was present.
- **Scoring Process:** Calculate the average soil erosion risk score within each catchment, and then categorize it into a 1 to 3 scoring system based on quartiles.

ENVIRONMENTAL



Impaired Waters

Native Plant
Communities
Connected with
Groundwater

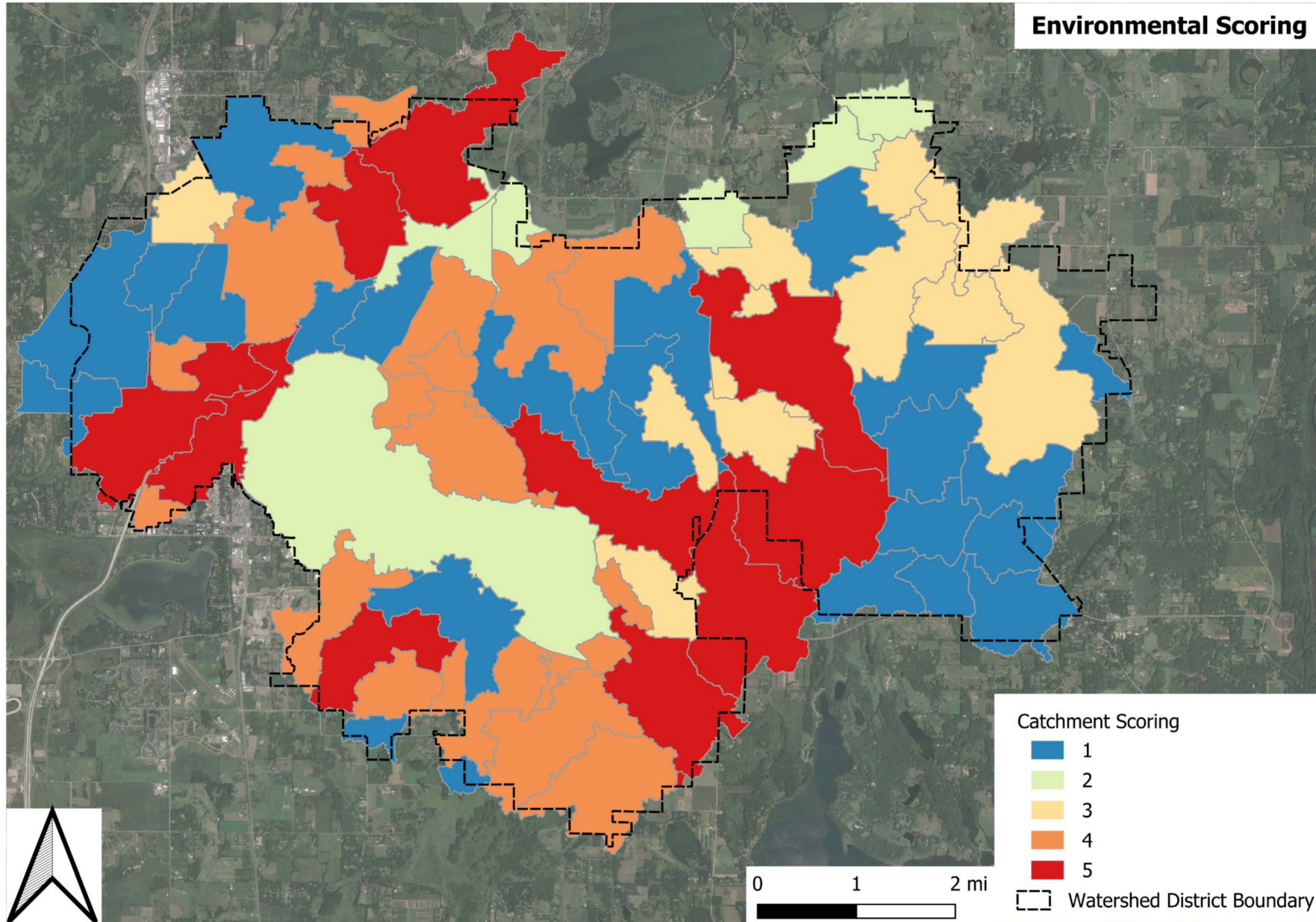
Soil Erosion Risk

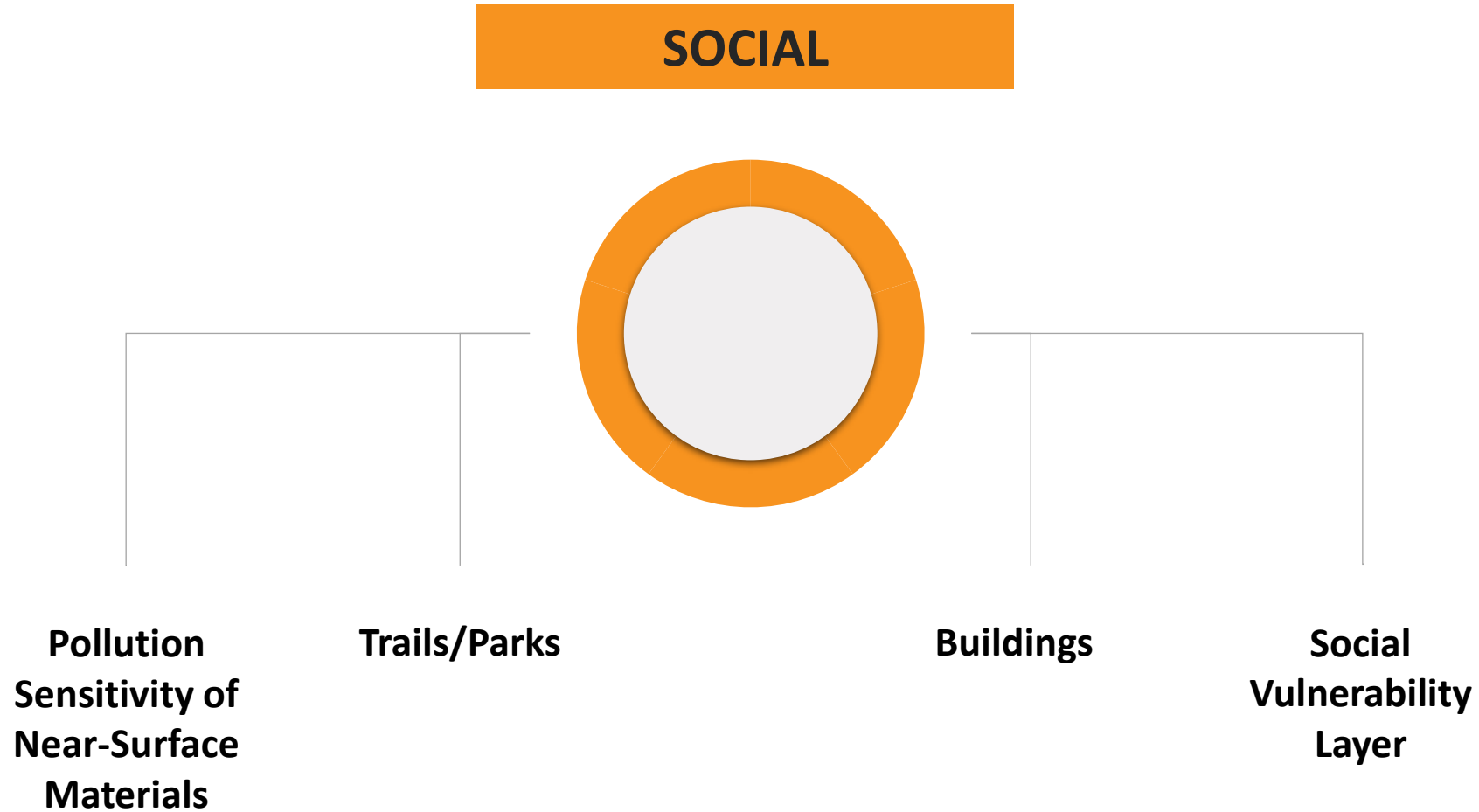
**MBS Sites of
Biodiversity
Significance**

MBS Sites of Biodiversity Significance

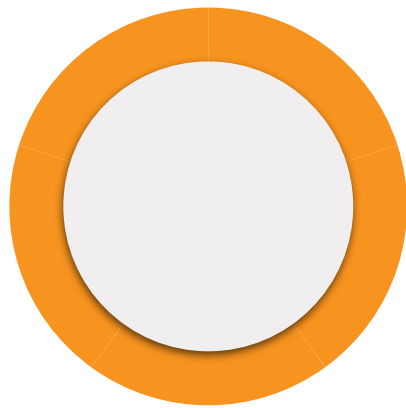
- **Source:** DNR
- **Description:** This data layer represents areas with varying levels of native biodiversity that may contain high quality native plant communities, rare plants, rare animals, and/or animal aggregations.
- **Publication:** 2023-09-07
- **Scoring Process:** Score the biodiversity significance index from 1 to 4 based on its biodiversity significance rank, calculate the average significance index within each catchment, and then categorize it into a 1 to 3 scoring system based on quartiles.

Environmental Scoring





SOCIAL



Pollution Sensitivity of Near-Surface Materials

Trails/Parks

Buildings

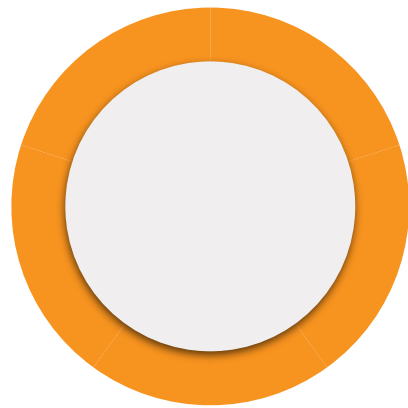
Social
Vulnerability
Layer

Pollution Sensitivity of Near-Surface Materials

- **Source:** DNR
- **Description:** This dataset estimates the pollution sensitivity of near-surface materials from the transmission time of water through 3 feet of soil and 7 feet of surficial geology, to a depth of 10 feet from the land surface.
- **Publication:** 2018-10-31
- **Scoring Process:** Score the pollution sensitivity index from 1 to 5 based on its geologic sensitivity rating, calculate the average sensitivity index within each catchment, and then categorize it into a 1 to 3 scoring system based on quartiles.

Note: Due to its overlapping information with drinking water quality, private well locations, and aquifer vulnerability layers, only this layer is used here for scoring.

SOCIAL



Pollution
Sensitivity of
Near-Surface
Materials

Trails/Parks

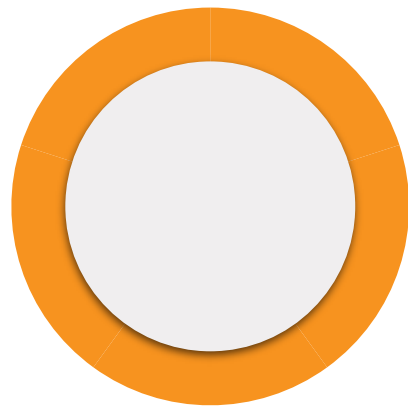
Buildings

Social
Vulnerability
Layer

Trails/Parks

- **Source:** Proposed Greenway Strategy Presentation
- **Description:** This data layer was manually created based on a trails/parks priority map from the Proposed Greenway Strategy Presentation.
- **Scoring Process:** Count the number of trails and parks in each catchment and assign a score from 1 to 3 based on the quantile for catchments with trails or parks. Assign a score of 0 to catchments without any trails or parks.

SOCIAL



Pollution
Sensitivity of
Near-Surface
Materials

Trails/Parks

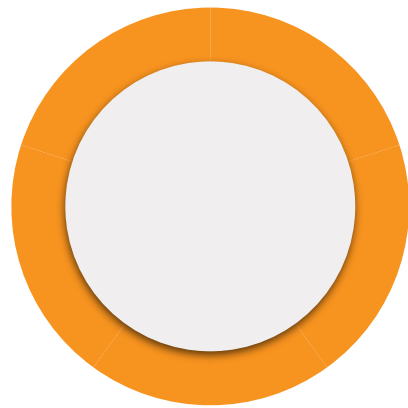
Buildings

Social
Vulnerability
Layer

Buildings

- **Source:** FEMA
- **Description:** This layer is created using structure (building) polygons (exclude any critical infrastructure) for the state of Minnesota
- **Scoring Process:** Count the number of buildings within each catchment and assign a score from 1 to 3 based on the quantile of the numbers. Assign a score of 0 to catchments without any buildings in the floodplain.

SOCIAL



Pollution
Sensitivity of
Near-Surface
Materials

Trails/Parks

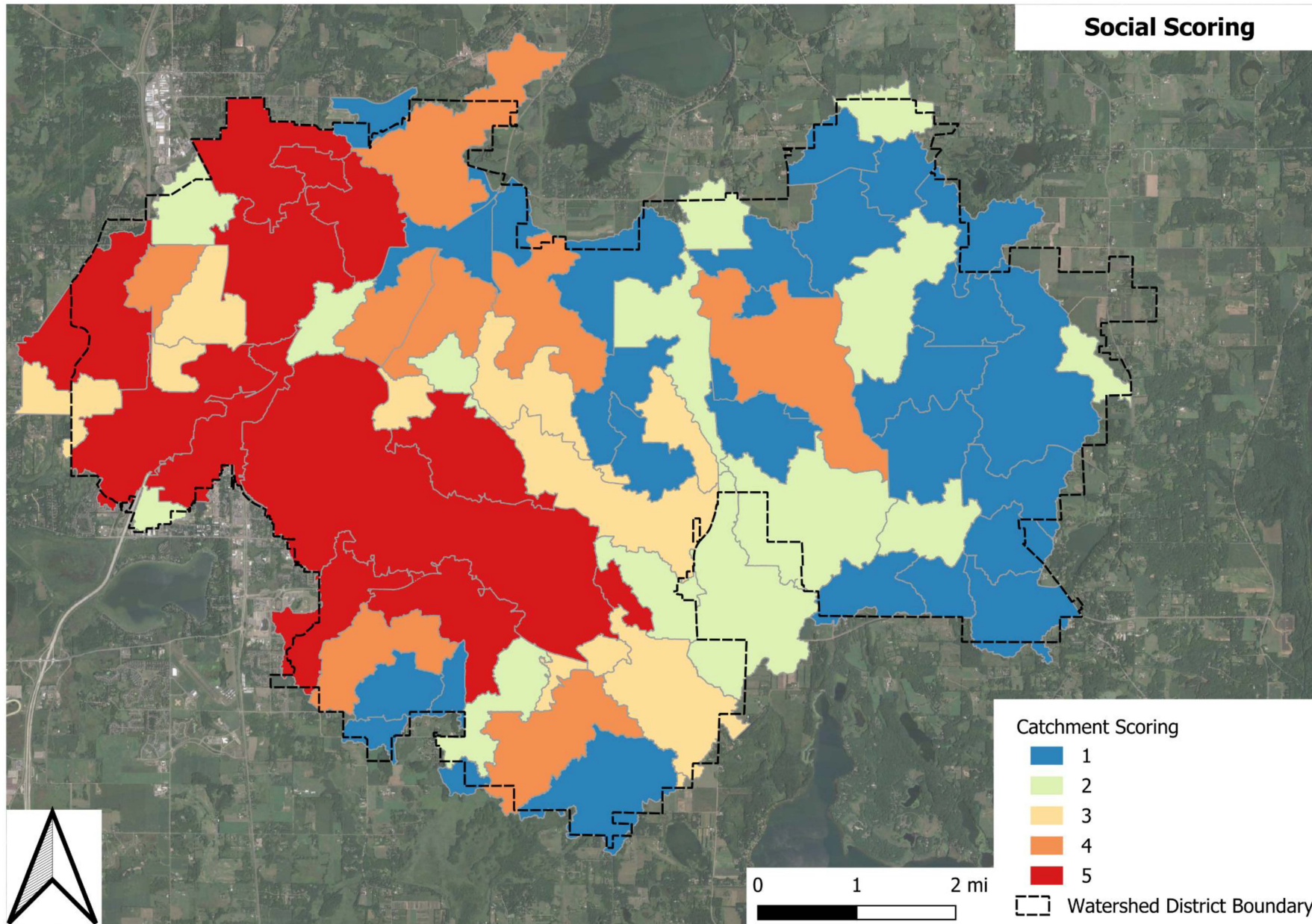
Buildings

**Social
Vulnerability
Layer**

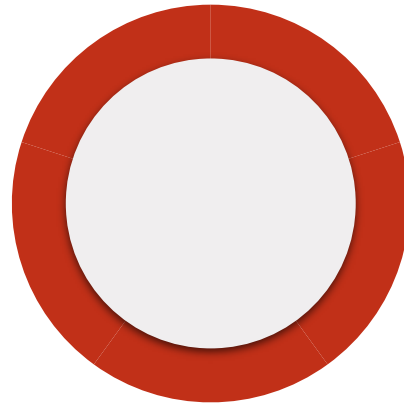
Social Vulnerability Layer

- **Source:** EOR
- **Description:** This data layer is created from a series of Census data, including 1) lone parents, 2) children aged 4 years and younger, 3) people aged 75 years and older, 4) population density, 5) renter households, 6) individuals below the poverty line, 7) individuals without a high school diploma, and 8) persons who speak English less than well.
- **Scoring Process:** The layer is indexed from 1 to 5, and the average is calculated within each catchment, after which it is categorized into a 1 to 3 scoring system based on quartiles.

Social Scoring



INFRASTRUCTURAL

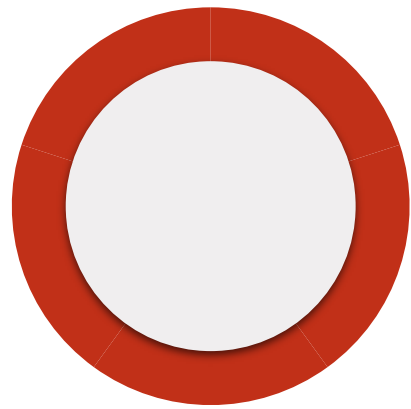


**Critical
Infrastructure**

Emergency Routes

Roadways

INFRASTRUCTURAL



**Critical
Infrastructure**

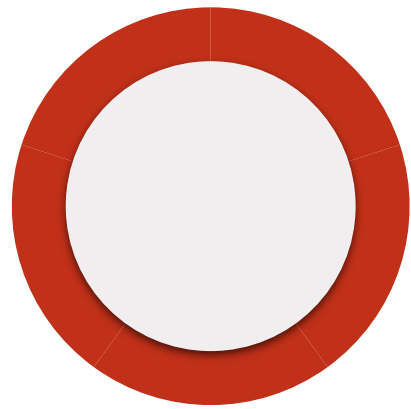
Emergency Routes

Roadways

Critical Infrastructure

- **Source:** EOR
- **Description:** This data layer is created based on the locations of fire departments, hospitals, places of worship, police stations, schools, electrical substations, and wastewater facilities.
- **Scoring Process:** Count the number of critical infrastructure facilities within each catchment and assign a score from 1 to 3 based on the quantile of critical infrastructure. Assign a score of 0 to catchments without any critical infrastructure.

INFRASTRUCTURAL



Critical
Infrastructure

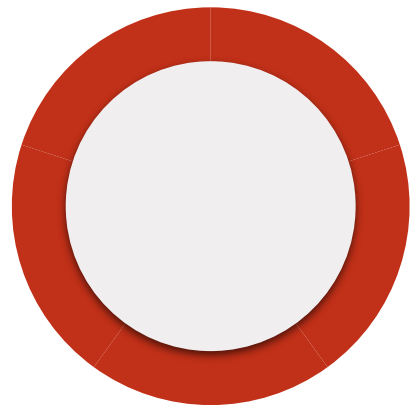
Emergency
Routes

Roadways

Emergency Routes

- **Source:** EOR
- **Description:** Truck routes was used as a proxy for emergency routes, which is estimated from the MnDOT road layer
- **Scoring Process:** The layer is intersected with each catchment to calculate its length, and then it is categorized into a 1 to 3 score based on quantiles.

INFRASTRUCTURAL



Critical
Infrastructure

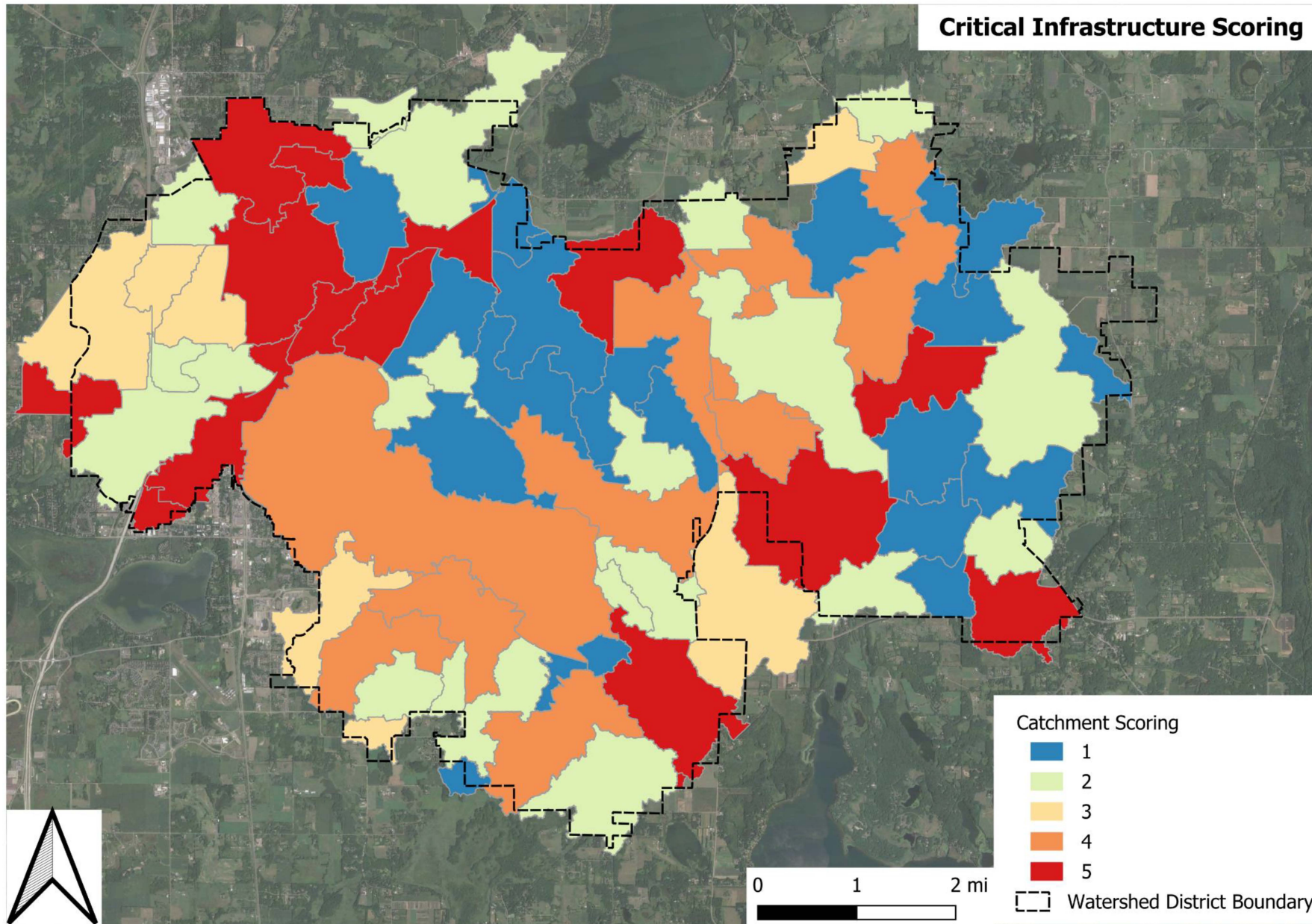
Emergency Routes

Roadways

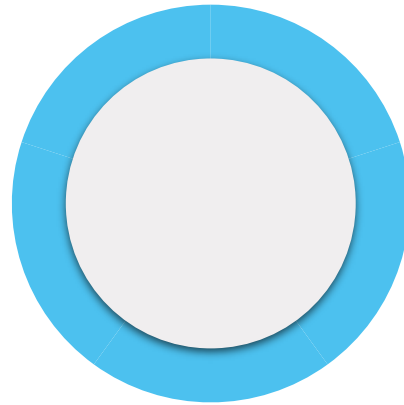
Roadways

- **Source:** EOR
- **Description:** This layer includes all the roadways, with the exception of the emergency routes.
- **Scoring Process:** The layer is intersected with each catchment to calculate its length, and then it is categorized into a 1 to 3 score based on quantiles.

Infrastructural Scoring



FLOOD HAZARD



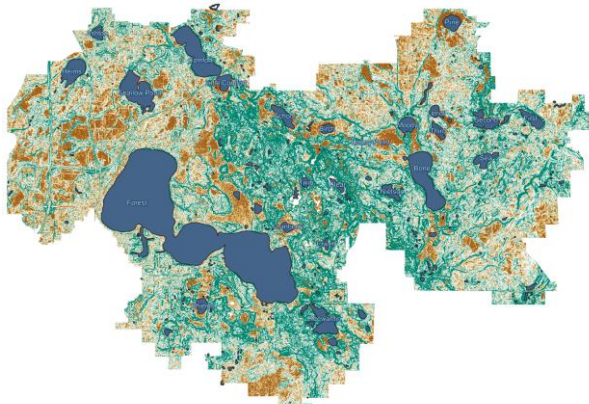
Slope

Imperviousness

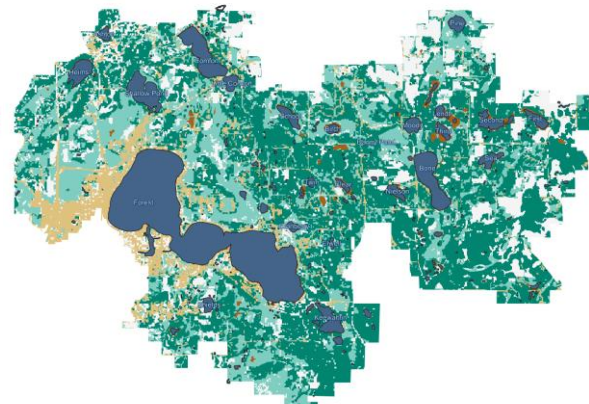
Distance to
Streams

Height above
Nearest Drainage

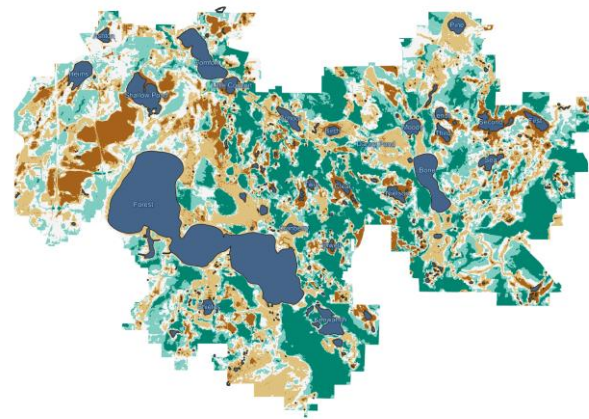
Flood Hazard Scoring



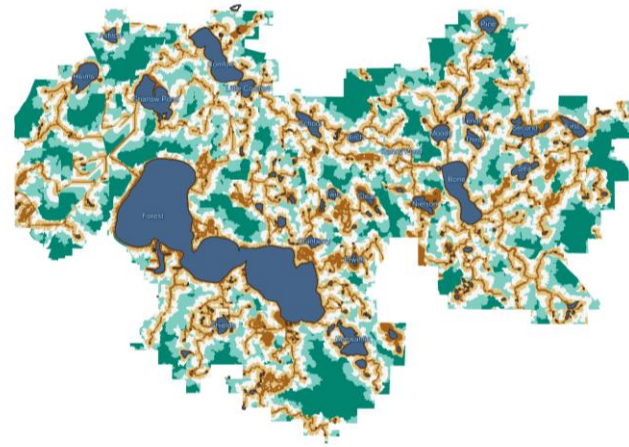
Slope



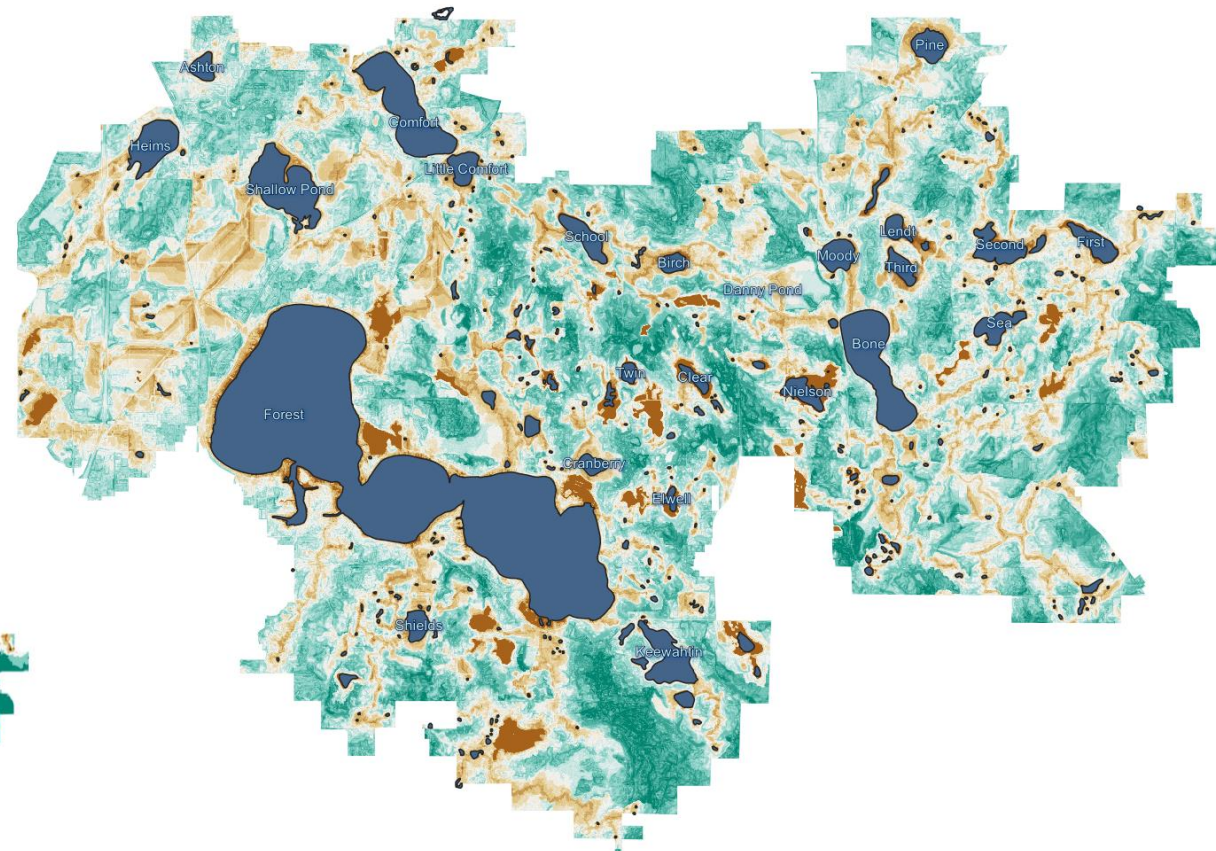
Curve Number



**Height Above Nearest
Drainage (HAND)**



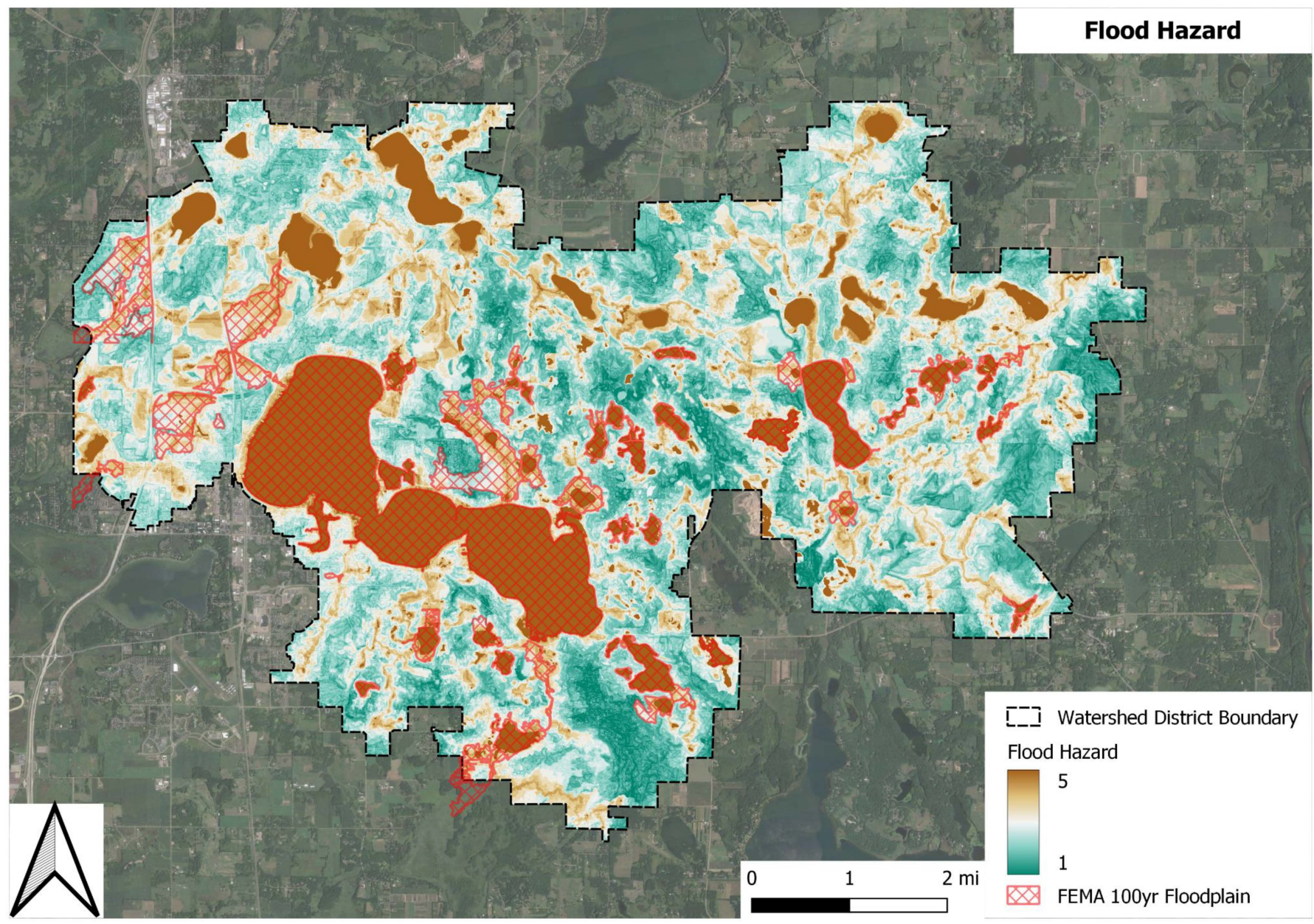
**Distance to Streams
(DS)**



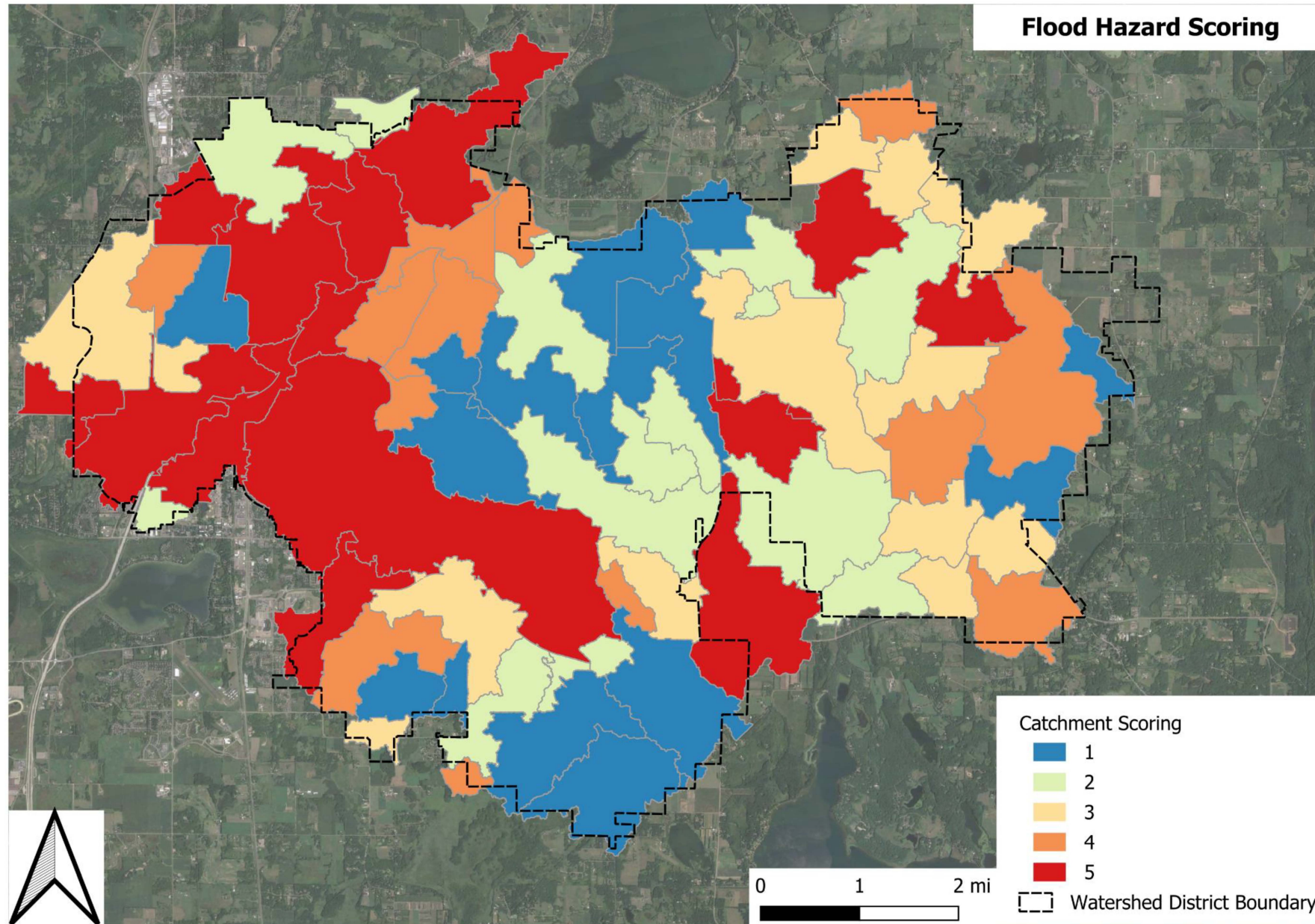
Flood Hazard



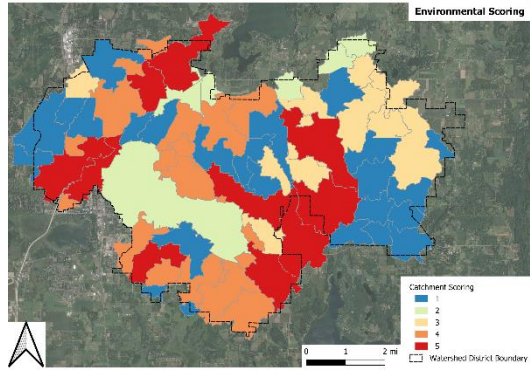
Flood Hazard Scoring



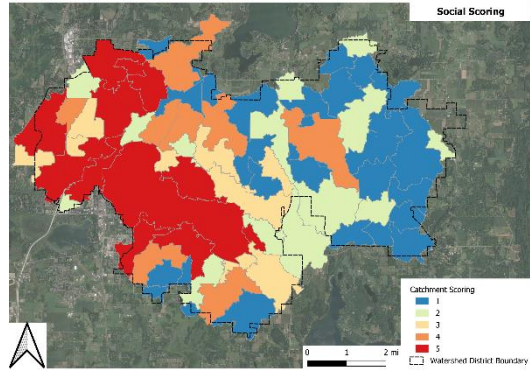
Flood Hazard Scoring



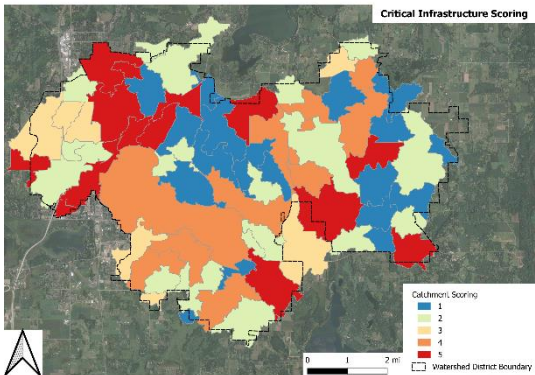
Integrated Scoring



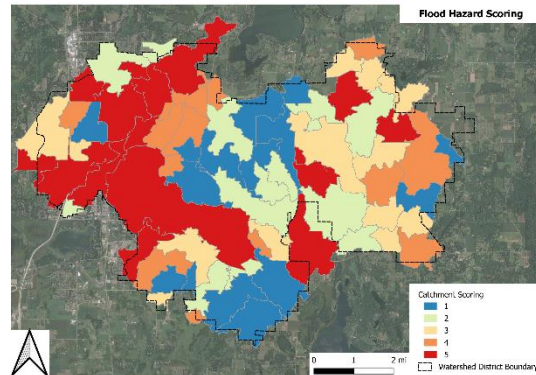
Environmental



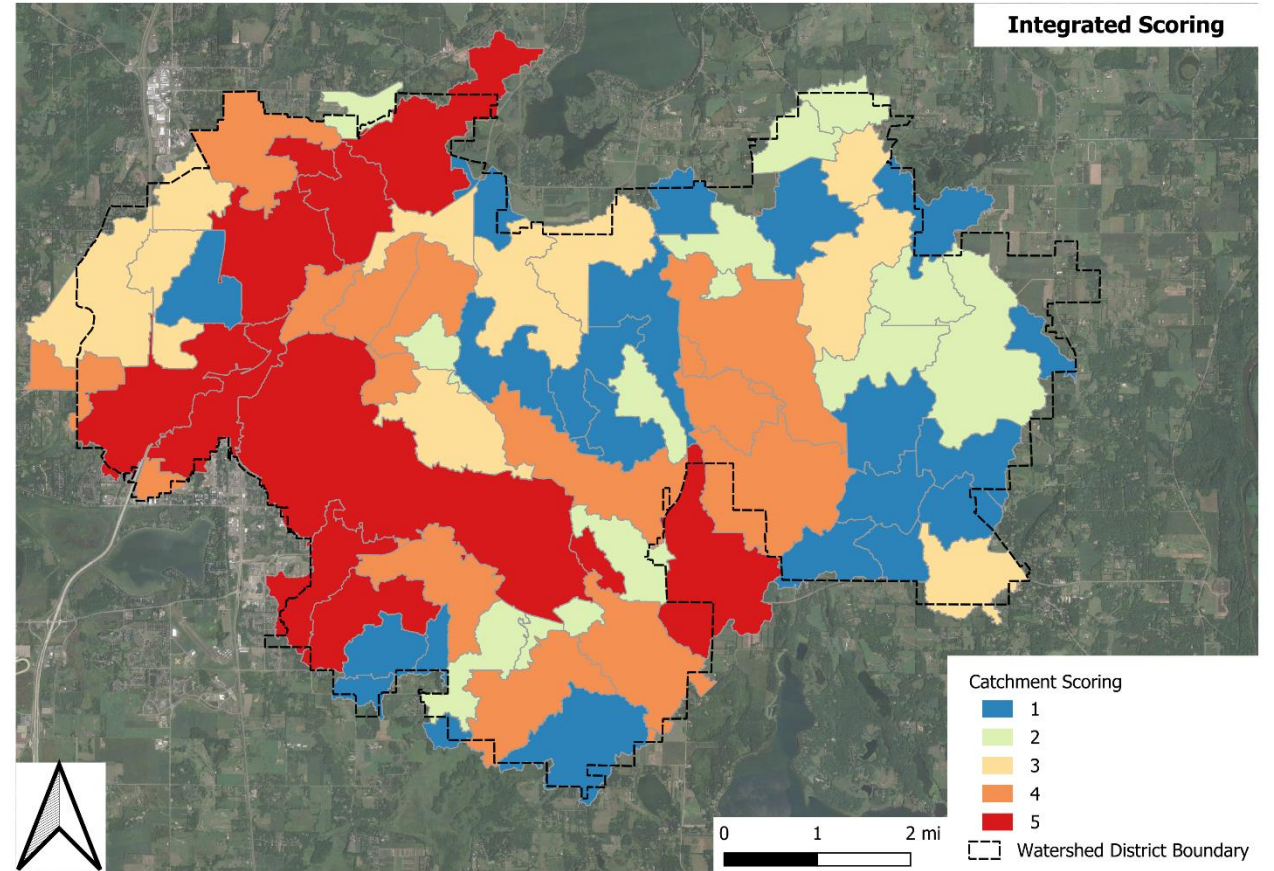
Social



Infrastructural

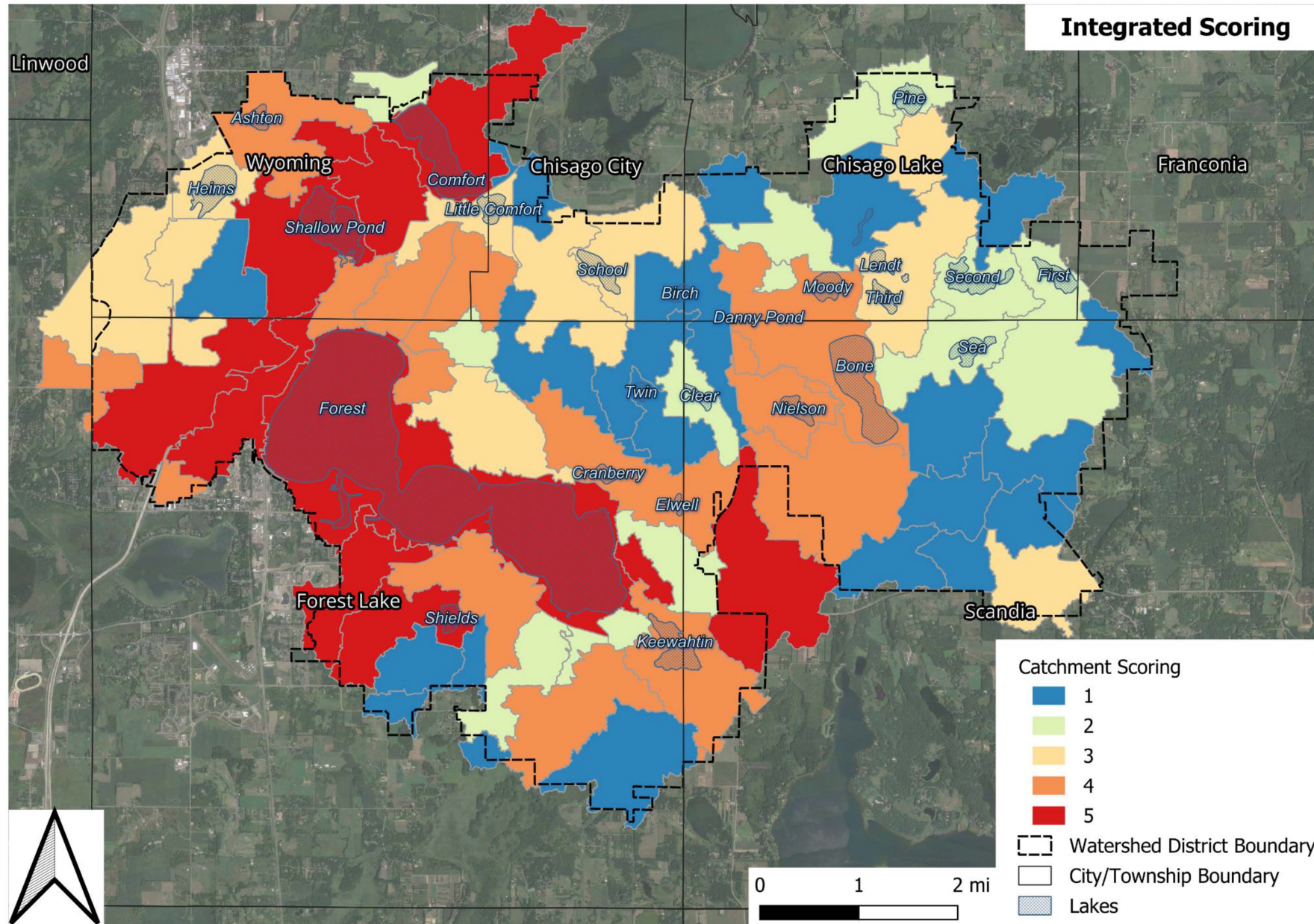


Flood Hazard

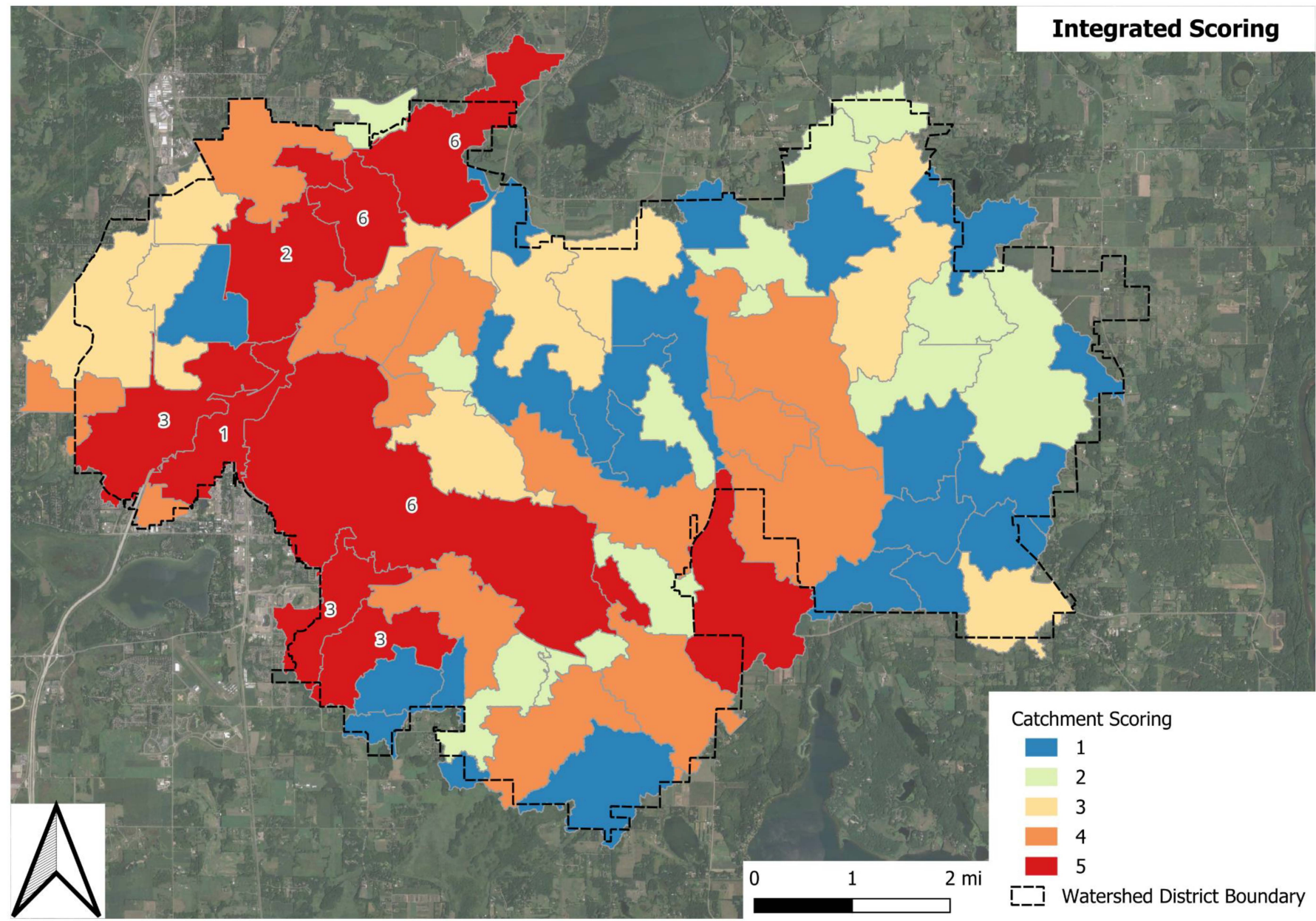


Integrated

Integrated Scoring



Integrated Scoring



- Currently, the weight assigned to each category and its sub-components is uniform (equally distributed).

Do you have any suggestions for adjusting these weights?

- Are there any information or layers that might be missing in our scoring process?

- What is the status of City's stormwater mapping?

- In the scope of work, it was initially planned to select three prioritized areas for detailed assessment.

Would it be more effective to combine these three areas into one large area, or should we maintain them as three separate locations for the assessment?



January 4, 2024

Emily Heinz, Planning Coordinator
Comfort Lake Forest Lake Watershed District

RE: PROPOSED SCOPE OF SERVICES AND COST – Community Resilience Engagement

Dear Ms. Heinz:

Thank you for the opportunity to provide this proposal to support your efforts to engage the community on resilience planning. Zan Associates has been providing planning, engagement, outreach, and communication services since it was first formed in 2001. Zan has developed a strong reputation for successful, equitable, inclusive, and creative communications and engagement for a wide array of public agencies.

Zan's process includes developing a shared understanding of project goals and benefits, conducting a customized equity analysis, creating inclusive engagement activities, providing communications tools using plain language and informative visuals, and providing high-level facilitation for all types of meetings. In addition, Zan integrates an equity-based perspective into all projects and builds meaningful project partnerships with stakeholders and community-based organizations. Zan Associates has experience on projects that require:

- An application of an equity perspective lens
- Flexibility and creativity in strategies depending on the project's communities and cultures
- The skills to translate technical information into plain language material for the public
- An understanding of public agency branding and messaging
- The ability to collaborate with a variety of public agencies

Zan has 30 employees and is located in downtown Minneapolis but works throughout the Twin Cities metro area and in Minnesota. The company is certified as a Disadvantaged Business Enterprise (DBE), Targeted Group business (TGB), Women Business Enterprise (WBE), Minority Business Enterprise (MBE) and CERT Emerging Small Business Enterprise (ESBE). Zan Associates has staff who are fluent in English, Hmong, and Spanish.

SCOPE OF SERVICES AND COST ESTIMATE

Supporting the CLFLWD's engagement and communications efforts at all scales is a core service of Zan Associates, and we have assisted other public agencies with similar efforts, including developing, piloting, and facilitating similar workshops and trainings.

The scope and cost estimate were revised based on the call on December 20, 2023. We understand that it is your desire for this work to happen in 2024. Attached you will find a draft scope of work and cost estimate for Zan to assist in this work. Our revised estimated cost to provide the scope of work is \$29,983.

Please let us know if you have any questions or need additional information. We are very excited about this opportunity and look forward to working with you.

Best regards,

A handwritten signature in black ink, appearing to read 'Joy R. Miciano', is written over a horizontal line.

Joy R. Miciano
President and CEO
Zan Associates

Attachment 1: Scope of Work

CLFLWD Community Resilience Engagement | 1/4/2024

<p>Description of Project</p>	<p>Increased frequency of more severe or sustained weather events combined with public and media discourse has begun to bring community resilience planning to front of mind for many communities as the issues affect everyone in the community. This project offers a unique opportunity to bring the community into the planning process to influence resilience strategies that can bring lasting community benefits. The key to realizing these benefits is meaningful engagement with community stakeholders to make sure the study not only addresses technical and regulatory constraints but also embraces and supports the values of the community. This means sharing information that is clear, listening to what people say, and creating opportunities for real community collaboration by asking questions such as:</p> <ul style="list-style-type: none">• Where are the community facilities or features?• Where is future development planned?• Where have past hazards occurred?• Where do hazards exist today?• What populations or communities are at risk?• Where should we prioritize risk mitigation measures? <p>Equity-focused Approach</p> <p>To help create a project that works for all people, we center our public engagement and stakeholder involvement approach toward equitable outcomes. As a foundational element of our engagement program, we complete an equity analysis which allows us to apply an equity lens throughout the project. This means implementing a continuous process integrated with the engagement program—not just a one-time punch list item. Zan developed the Zan Equity Stakeholder Tool (ZEST), which includes and expands on established Diversity, Equity, and Inclusion principles and practices. The ZEST will be used to guide our engagement and communications program, ensuring that we answer questions such as:</p> <ul style="list-style-type: none">• Who benefits from the project?• Who stands to see impacts?• Who are the local leaders?• What are the ways local communities engage? <p>In the end, we are committed to meeting people in the community in the places they already go, communicating in-language, and using creative and culturally appropriate engagement tactics. We recognize that many community organizations are operating at capacity and are asked to participate in many public initiatives, which can be taxing on their already limited resources.</p>
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	<p>Inclusive Communications We are committed to inclusive communications and engagement. This means communicating in ways that are easy to understand, regardless of language, ability, or familiarity with the process. We will use pictures and graphics to help people visualize the project recommendations. We “translate” the technical aspects of the project in a way that everyone can understand and react to, regardless of educational background, language, or identity. We meet people in their communities, where they already are, using strategies such as pop-up events at busy activity centers.</p> <p>Community Engagement and Stakeholder Involvement Approach Our approach to community engagement and stakeholder involvement will be confirmed during communication and engagement plan development in coordination with the CLFLWD project manager.</p> <p>We anticipate that project kick-off will occur in January 2024 with delivery of services completed in 2024.</p>
<p>Tasks</p>	<p>1. Project management activities Contractor will manage the schedule, work plan, and quality control for the project. The contractor will also submit monthly invoices. In addition, the contractor will convene regular project team meetings (up to 2) to plan engagement activities.</p> <p><i>Deliverables: Monthly invoices and up to two (2) one-hour project coordination meetings done virtually.</i></p> <p>2. Public and stakeholder engagement plan Contractor will develop draft and final engagement plan including ZEST equity analysis with an equity workshop with project team. The plan will identify key stakeholders, messages, and tools to engage the community.</p> <p><i>Deliverables: Draft and final engagement plan including high-level equity analysis and one (1) equity-focused virtual workshop with CLFLWD staff</i></p> <p>3. Public and stakeholder engagement activities Contractor will work with the project team to develop and deliver the engagement activities included below. Engagement activities may be changed or altered in coordination with CLFLWD project manager based on engagement plan and equity analysis.</p> <p>Engagement activities (to be finalized upon contract execution):</p>

Facilitated workshops

- Two (2) three-hour facilitated in-person workshops
- One-hour virtual prep meeting for each workshop
- Facilitator and support/note taking staff member for each workshop
- Workshop summary document
- Assumes meeting hosted in a public facility
- Assumes CLFLWD staff provide water resource technical expertise at workshop

Deliverables: Stakeholder workshop agenda, facilitator agenda, and workshop summary.

Online engagement

- Social Pinpoint site with project overview information and use of two (2) engagement tools (ex: survey, ideation, participatory budgeting, comment mapping, and more).
- Engagement tool data analysis

Deliverables: Host and coordinate Social Pinpoint website with project information and two (2) engagement tools, one (1) update, and data analysis

Pop-up or intercept engagement

- Hands-on engagement activity specific to gathering input from the community for CLFLWD staff to use at community events in 2024
- Assume CLFLWD staff will coordinate and staff events; Zan to provide activities and materials only

Deliverables: Digital design files for engagement activity and handouts for CLFLWD staff use at community events

COST Proposal - ZAN ASSOCIATES

Project Name: Comfort Lake Forest Lake Watershed District - Community Resilience Engagement
Estimated Project Length: 6 Months
Anticipated Start Date: 1/1/2024
Rate Sheet: 2024 Zan Standard Rates
Date of Submission 1/4/2024

Tasks	Assumptions	President	Vice President	Sr Associate 3	Sr Associate 2	Sr Creative 2	Associate 2	Creative 2	Totals	
		\$ 221.85	\$ 206.00	\$ 191.75	\$ 176.00	\$ 176.00	\$ 110.30	\$ 110.30		
Project Management										
Project administration	Invoicing, initial project launch activities, etc.		6.00	2.00	8.00				16.00	
Coordination meetings	Up to 2 one-hour virtual project coordination				3.00		4.00		7.00	
Subtotal Hours: Project Management		0.00	6.00	2.00	11.00	0.00	4.00	0.00	23.00	
									Subtotal Cost: Project Management	\$ 3,996.70
Communications and Engagement Plan										
Equity analysis	ZEST equity analysis and initial virtual workshop with project team			8.00	8.00		10.00		26.00	
Draft engagement plan	Draft engagement plan			1.00	4.00		8.00		13.00	
Final engagement plan	Final engagement plan				1.00		2.00		3.00	
Subtotal Hours: Communications and Engagement Plan		0.00	0.00	9.00	13.00	0.00	20.00	0.00	42.00	
									Subtotal Cost: Communications and Engagement Plan	\$ 6,219.75
Public and Stakeholder Engagement Activities										
Facilitated workshops	Up to 2 three-hour facilitated in-person workshops with 2 Zan staff; plan, host, document			12.00	16.00		46.00	6.00	80.00	
Online engagement	Develop Social Pinpoint project site with overview information and 2 engagement tools (ex: survey, participatory budgeting, comment mapping, etc.)			1.00	2.00	2.00	32.00	20.00	57.00	
Pop-up or intercept engagement toolkit	Engagement activity digital design file(s) for CLFLWD staff to use at community events			1.00	1.00	2.00		8.00	12.00	
Subtotal Hours: Public and Stakeholder Engagement Activities		0.00	0.00	14.00	19.00	4.00	78.00	0.00	115.00	
									Subtotal Cost: Public and Stakeholder Engagement Activities	\$ 15,335.90
Total Hours		0.00	6.00	25.00	43.00	4.00	102.00	34.00	214.00	
Total Labor Cost		\$ -	\$ 1,236.00	\$ 4,793.75	\$ 7,568.00	\$ 704.00	\$ 11,250.60	\$ 3,750.20	\$ 29,302.55	

Direct Expenses		
Item	Assumptions	Cost
Mileage	2 round trips; mileage @ \$0.655/mile or current IRS rate	80.00
Printing	Handouts for workshops	350.00
Workshop snacks and refreshments	Up to \$125/meeting	250.00
Translation and interpretation	None assumed; to be provided by client if needed	0.00
Total Direct Expenses		\$ 680.00
Total Project Cost		
Total Labor Cost		\$ 29,302.55
Total Direct Expenses		\$ 680.00
Total Proposed Cost		\$ 29,982.55

Staff Billable Rates, by Job Category

2024 Standard

President	\$221.85
Vice President	\$206.00
Senior Associate 3	\$191.75
Senior Associate 2	\$176.00
Senior Creative 2	\$176.00
Senior Associate 1	\$141.35
Senior Creative 1	\$141.35
Associate 2	\$110.30
Creative 2	\$110.30
Associate 1	\$94.55
Creative 1	\$94.55
Admin	\$76.55
Intern	\$68.00
Media Specialist	\$245.85

Zan Associates reserves the right to assign work to any staff category, depending on the requirements of the project. As such, we request that this rate card to be included in the professional services contract upon project award. Zan Associates will not change staffing assignments without prior approval from the client