Weaving Wetland Knowledge at SMSC: Using Cultural Inputs and Geospatial Tools for Improved Stewardship

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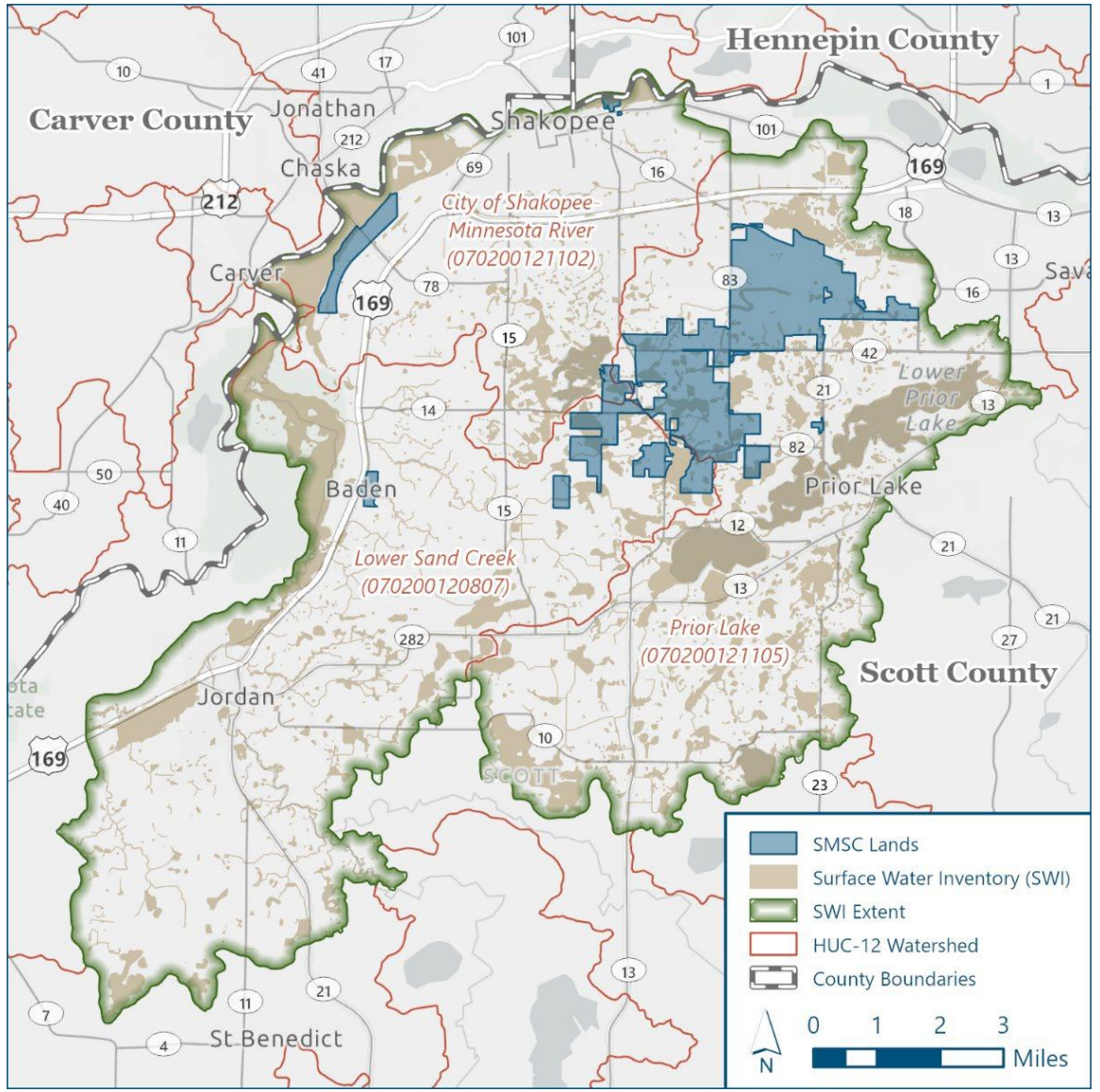
Program Overview

- Recipient of 2019/2021 EPA Wetland Program Development Grants
- Updated wetland inventory (2020)
- Developed Rapid Wetland Conditional Assessment (2021)
- Updated Wetland Program Plan (2023)
- Developed dashboards to share wetland information (2024)
- Created threats and stressors analysis (2024)
- Created wetland prioritization and restoration tool (2024)



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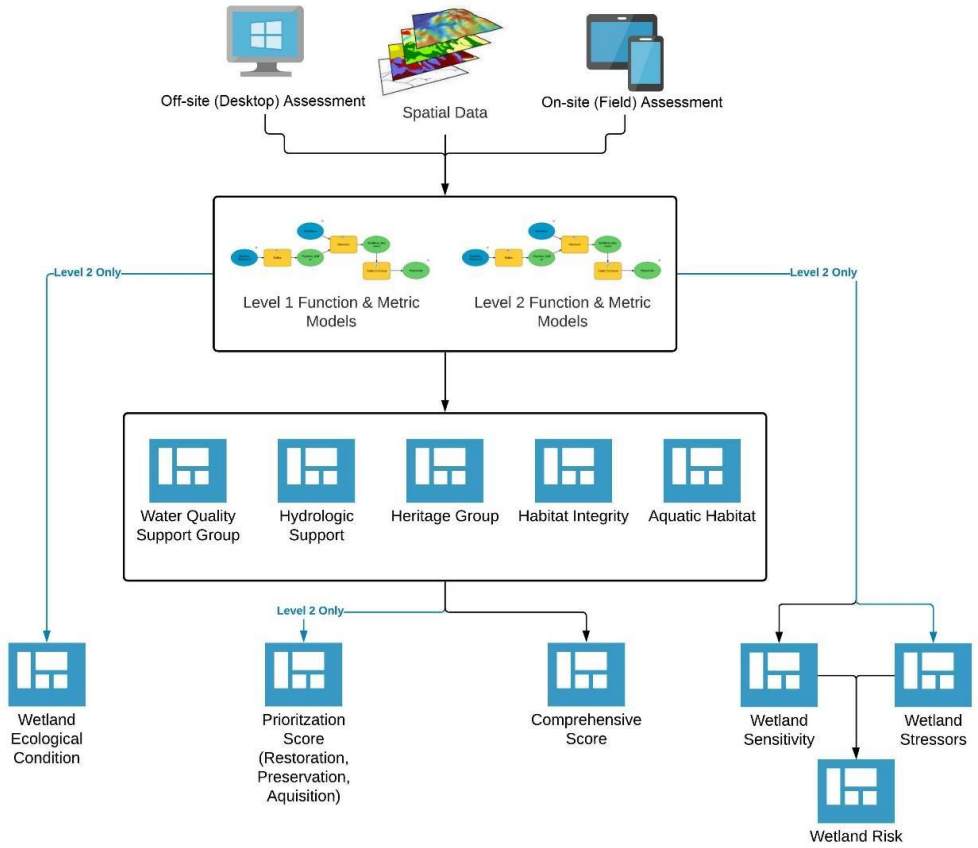
SMSC RAM



Function Group	Function
Aquatic Habitat Group	Amphibian and Turtle Habitat Aquatic Invertebrate Habitat Shorebird Habitat Waterfowl and Waterbird Habitat
Habitat Integrity Group	Characteristic Plant Community Support Energy Dissipation Landscape Connectivity Soil Surface Condition
Heritage Group	Education Potential Historical Site Potential Visual/Aesthetic Quality Water-based Recreation
Hydrologic Group	Groundwater Recharge Water Storage
Water Quality Support	Carbon Sequestration Phosphorus Retention Sediment Retention and Stabilization

Habitat Integrity Group

Characteristic Plant Community Support (CPCS)

Herbaceous species identified as culturally significant to the SMSC that were found:

Examples include:

- hiŋtkáŋ hú (cattail)
- saŋtúhu tanka (prairie cordgrass)
- siŋkpé tȟawóte (sweet flag)
- pȟeží wačháŋǧa (sweetgrass)

Aquatic Habitat Group

Waterfowl and Waterbird Habitat (Wbird)

Select the waterfowl identified as culturally significant to the SMSC that were found within the AA or observed within the AA during the field visit

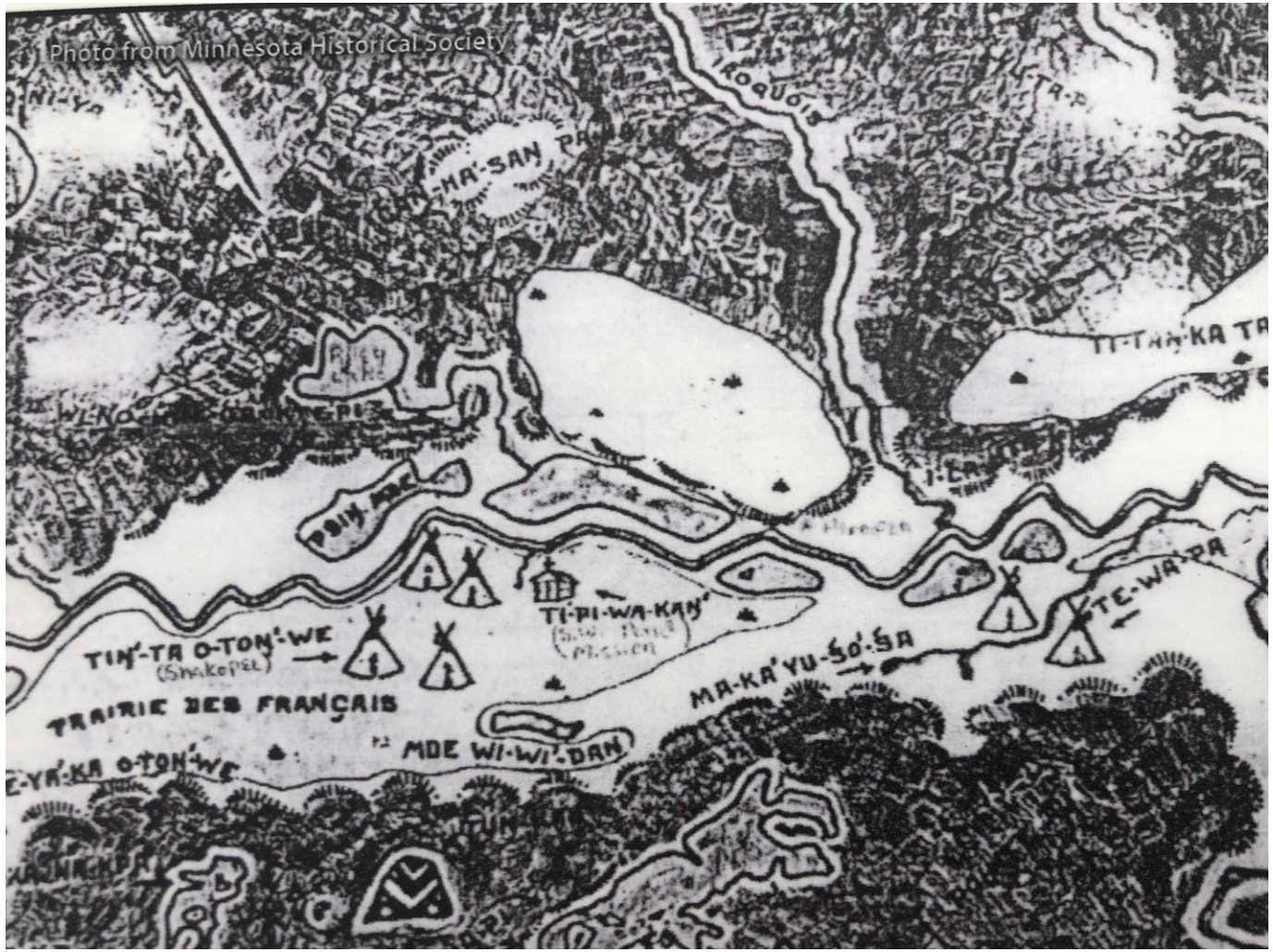
Examples include:

- Pagúŋta (mallard)
- Magáa Sápa (Canada goose)
- Mdóza (common loon)

Heritage Group

Historical Site Potential (HSite)

Is the AA within a documented historic or archaeological site, within 500 ft. of a documented historic or archaeological site, or does it contain documented historic or archaeological features representing a Mdewakaŋtuŋwaŋ village nearby?



Metrics

F-57: Presence of Culturally Significant Species (CS_Spp)

Attribute Definition

Animals and plants that have traditional or cultural significance to the Shakopee Mdewakanton Sioux Community.

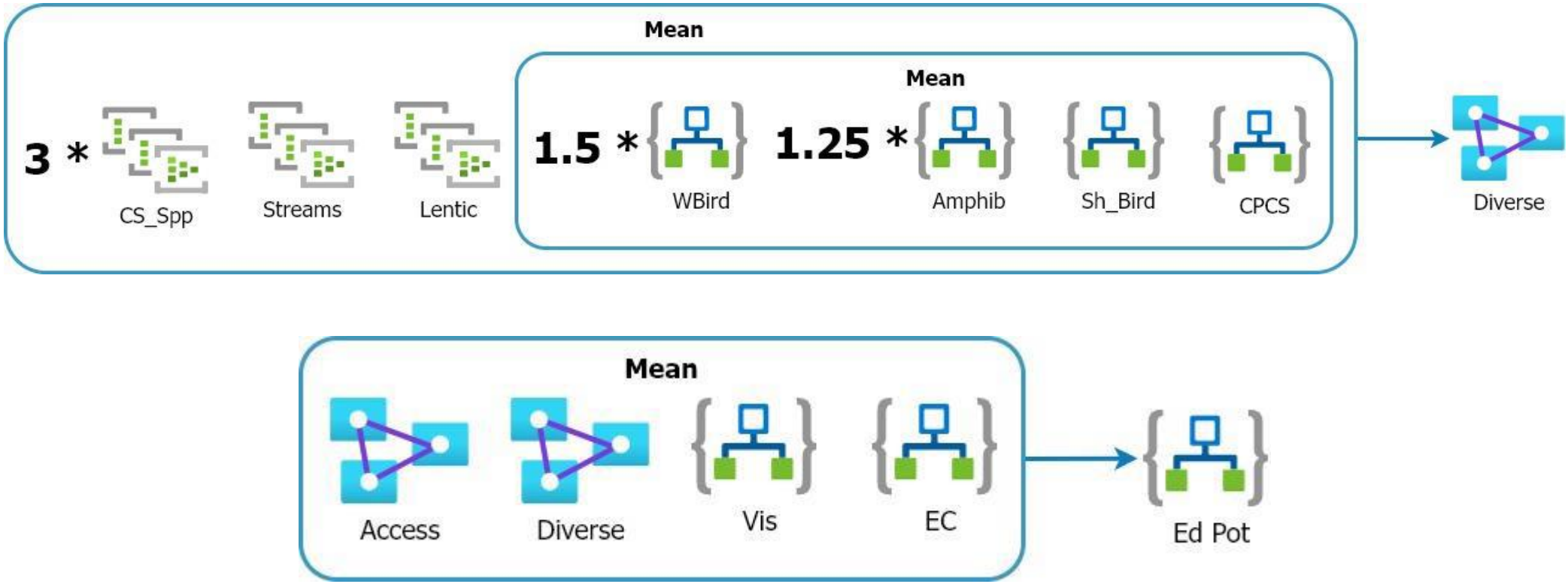
Question

How many of the species identified as culturally significant to the SMSC have been observed within the AA within the last year?

Condition Range and Scoring

Condition Range	Look-up Value
None present or observed	1
1 to 3 present/observed.	2
3 to 5 present/observed.	3
More than 5 present/observed.	4

Models


Mean
3 *
CS_Spp
Streams
Lentic
Mean
1.5 *
WBird
1.25 *
Amphib
Sh_Bird
CPCS
Diverse
Mean
Access
Diverse
Vis
EC
Ed Pot

Results

SMSC-RAM v3.1.1a

Cover Page: Basic Description of Assessment Area

Site Name: Johnston
Assessment Area (AA) ID: 1023
Investigator(s) Name: Stacy Boone, Karli Cich, Rachel Crownhart, Jennie Sirota
Date and Time of Field Vist: 6/30/22 5:00 PM

Are delineated wetlands present within the AA? Yes
List the WD#(s) (if known): 00000

Which Unique ID numbers from the wetland inventory are present within the AA?
1

Cowardin Systems and Classess present within the AA:

Systems Present:	**Classes Present:**
Lacustrine: None present	Emergent vegetation: Not present
Palustrine: None present	Aquatic beds (incl. SAV): Not present
Riverine: None present	Scrub-shrub vegetation: Not present
	Forested vegetation: Not present
	Open water: Not present
	Unconsolidated bottom: Not present
	Unconsolidated shore: Not present

Comments:
AA contained a floating bog with high plant diversity. Observed frog, snail, fawn. Open water present. Ring of reed grass around wetland.

SMSC-RAM v3.1.1a

Assessment Area Scorecard

	Function Score	Function Rating	Break Proximity	Values Score	Values Rating	Break Proximity
Abiotic Functions:						
Carbon Sequestration (CSeq)	7.82	High	H/M			
Energy Dissipation (EDiss)	10.00	High	H/H	10.00	High	H/H
Groundwater Recharge Potential (GwR)	5.82	Moderate	M/H			
Landscape Connectivity (LConn)	6.51	Moderate	M/H	6.37	Moderate	M/H
Phosphorus Retention (PR)	10.00	High	H/H	3.40	Moderate	M/L
Sediment Retention and Stabilization (SR)	10.00	High	H/H	3.47	Moderate	M/L
Soil Surface Condition (SoilCond)	8.01	High	H/M			
Water Storage (WS)	10.00	High	H/H	6.67	High	H/L
Bioitic Functions:						
Amphibian and Turtle Habitat (Amphib)	7.59	High	H/L	5.36	Moderate	L/M
Aquatic Invertebrage Habitat (AqInv)	8.24	High	H/M	3.63	Moderate	M/L
Characteristic Plant Community (CPCS)	2.42	Low	L/H	2.44	Low	L/H
Shorebird Habitat (ShBird)	6.72	High	H/L	3.83	Moderate	M/L
Waterfowl and Waterbird Support (WBird)	7.63	High	H/L	4.25	Moderate	M/L
Cultural Functions:						
Educational Potential (EdPot)	7.03	High	H/L	7.81	High	H/M
Historical Site Potential (Hist)	1.25	Low	L/M	2.50	Low	L/H
Visual/Aesthetic Quality (Vis)	2.88	Low	L/H	2.88	Low	L/H
Water-based Recreation (Rec)	5.28	Moderate	L/M	4.44	Moderate	L/M
Roll-up Scores:						
Functional Groups						
Water Quality Support (CSeq, PR, SR)	9.64	High	H/H			
Hydrologic Support (GwR, WS)	8.95	High	H/H			
Aquatic Habitat (Amphib, AqInv, ShBird, WBird)	7.89	High	H/M			
Habitat Integrity (CPCS, EDiss, LConn, SoilCond)	8.37	High	H/M			
Heritate Group (EdPot, Hist, Vis, Rec)	5.57	Moderate	M/H			
Abiotic Functions	9.26	High	H/H			
Biotic Functions	7.38	High	H/L			
Cultural Functions	5.57	Moderate	M/H			
Comprehensive Functional Score	8.45	High	H/M			
Other Condition Metrics:						
Ecological Condition (EC)	7.50	High	H/L			
Wetland Sensitivity (Sens)	5.54	Moderate	L/M			
Wetland Stressors (STR)	4.04	Moderate	M/L			
Wetland Risk	4.79	Moderate	L/M			

Restoration/Preservation/Land Acquisition Prioritization Score:
Preservation Prioritzation Score: 53.04%

Contact Information

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