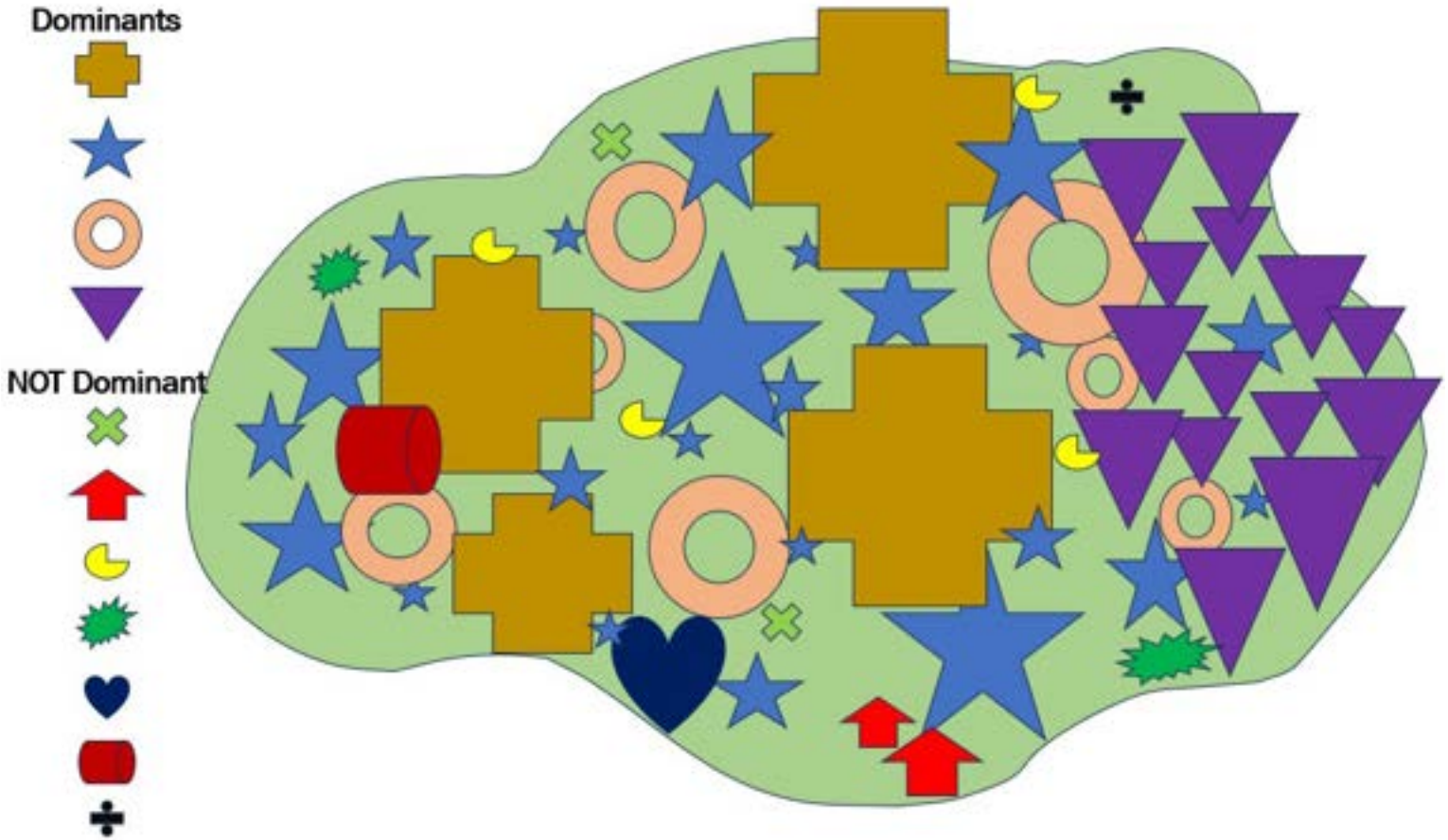
Vegetation Surveys 101

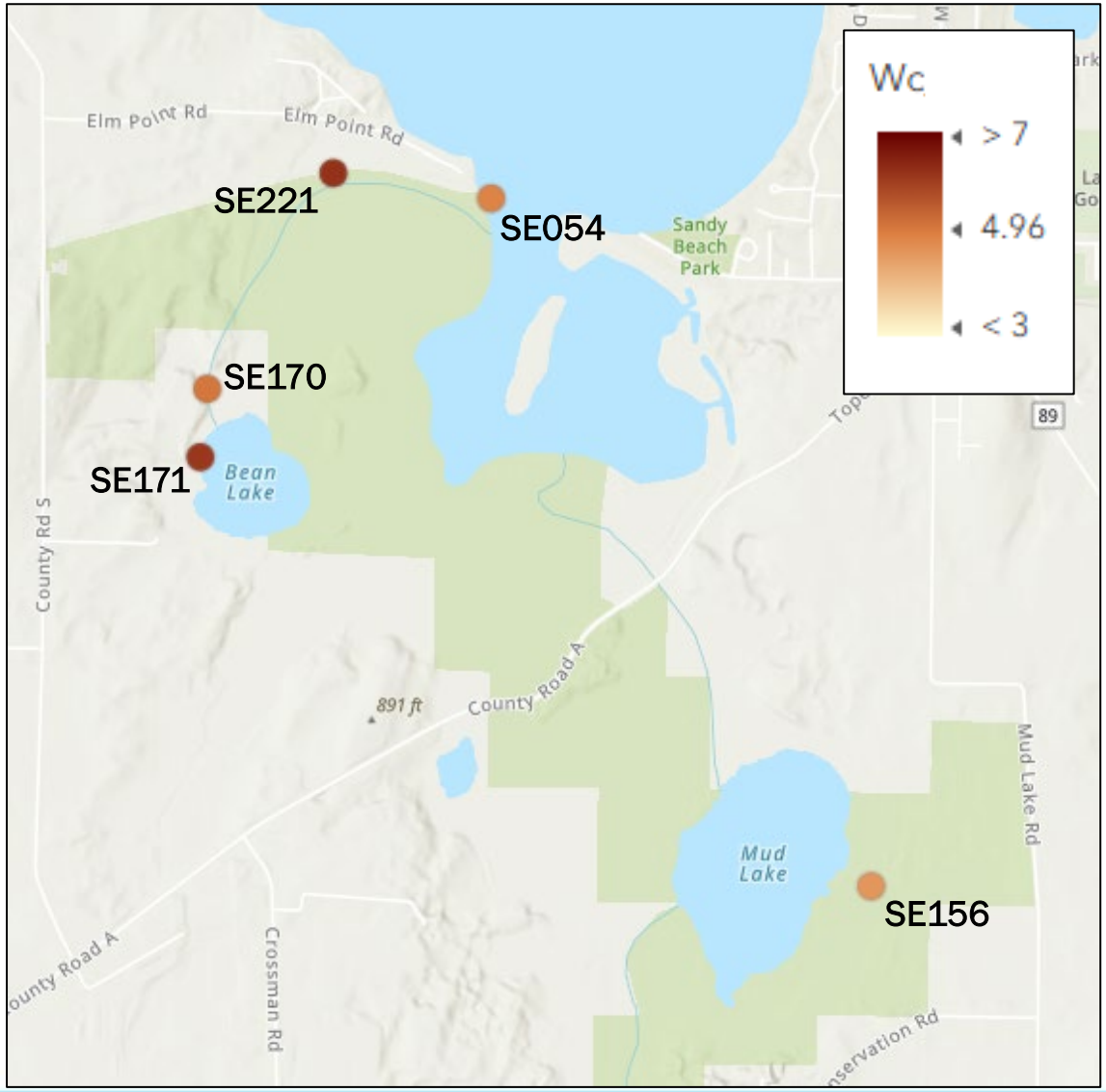
- Vegetation good indicator of wetland quality
- Every plant assigned a coefficient of conservatism (c-value)
- C-values 0 – 10
  - 0 = non-native, weedy
  - 10 = highly conservative
- Weighted Mean C
  - Average c-value of plants
  - Weighted by their coverage in the wetland



Full vs Rapid Floristic Quality Assessment

	Full FQA	Rapid FQA
Type	Level 3 – Intensive	Level 2 – Rapid
Who	2 Expert Botanists	1+ Ecological Professionals
Time	30 minutes - 2 hours	15-30 minutes
Where	Wetland AA	Wetland AA
Output	Weighted Mean C	*Rapid* Weighted Mean C
Community classification	NHC Wetland Community Type	Herb / Shrub / Forested

Full FQA Surveys – DNR Collected



Site (Survey Year)	Community	wC	Floristic Condition
SE054 (2017)	Emergent Marsh	4.9	Good
SE221 (2023)	S. Tamarack Swamp	6.2	Good
SE170 (2017)	Shrub Carr	4.7	Good
SE171 (2017)	Emergent Marsh	6.1	Excellent
SE156 (2017)	Shrub Carr	4.6	Fair

Weighted Mean C (wC) Condition Benchmarks for Southeast WI Till Plains and Central Corn Belt Plains Ecoregions Wetlands based on Overall Disturbance Scores

		Condition Category:				
		Least Disturbed			Most Disturbed	
	Natural Community:	Excellent	Good	Fair	Poor	Very Poor
Emergent	Emergent Marsh	> 5.7	4.1 - 5.7	2.1 - 4.0	1.0 - 2.0	< 1.0
	Southern Sedge Meadow	> 6.3	5.6 - 6.3	3.8 - 5.5	1.0 - 3.7	< 1.0
	Wet-Mesic Prairie	> 5.5	4.6 - 5.5	3.1 - 4.5	1.9 - 3.0	< 1.9
	Wet Prairie	> 5.4	4.4 - 5.4	1.9 - 4.3	1.1 - 1.8	< 1.1
	Calcareous Fen	> 7.0	6.2 - 7.0	3.6 - 6.1	2.2 - 3.5	< 2.2
Shrub	Shrub-Carr	> 5.1	4.7 - 5.1	3.2 - 4.6	2.3 - 3.1	< 2.3
	Bog Relict	> 8.3	7.2 - 8.3	4.3 - 7.1	2.2 - 4.2	< 2.2
Forested	Cedar Swamp (NWMF)	> 6.5	6.5	5.8 - 6.4	5.3 - 5.7	< 5.3
	Floodplain Forest	> 4.0	3.4 - 4.0	2.3 - 3.3	2.2	< 2.2
	Forested Seep	> 6.1	4.6 - 6.1	3.5 - 6.0	2.5 - 3.4	< 2.5
	Northern Hardwood Swamp	> 6.2	5.4 - 6.2	3.6 - 5.3	3.4 - 3.5	< 3.4
	Southern Hardwood Swamp	> 4.7	4.0 - 4.7	2.9 - 3.9	2.0 - 2.8	< 2.0
	Southern Tamarack Swamp	> 6.6	6.1 - 6.6	3.9 - 6.0	3.3 - 3.8	< 3.3

Rapid FQA Surveys – County Collected

- DNR trained Jefferson County staff on use of Rapid FQA
- Completed around 10-15 surveys with County Staff

LWCD Efforts on Rock Lake

2024 Rock Lake Area Wetlands RFQA

Jefferson County Land and Water

Wisconsin Department of Natural Resources

City of Lake Mills – Strand Engineering

LWCD Efforts on Rock Lake - Annual

- Stream Sampling (4 Sites) w/ Funding Assistance from RLIA
- Agricultural Cost-Sharing for Conservation Practices
- Rock Lake Deep Hole Location Long-Term Trend Monitoring
- Aquatic Invasive Species Refresher Training for Volunteers
- Healthy Lakes Grants Program
- CBCW Coordination for Inspectors

LWCD Efforts on Rock Lake

- Rock Lake Management Plan Updating (Current: 2018-2028)

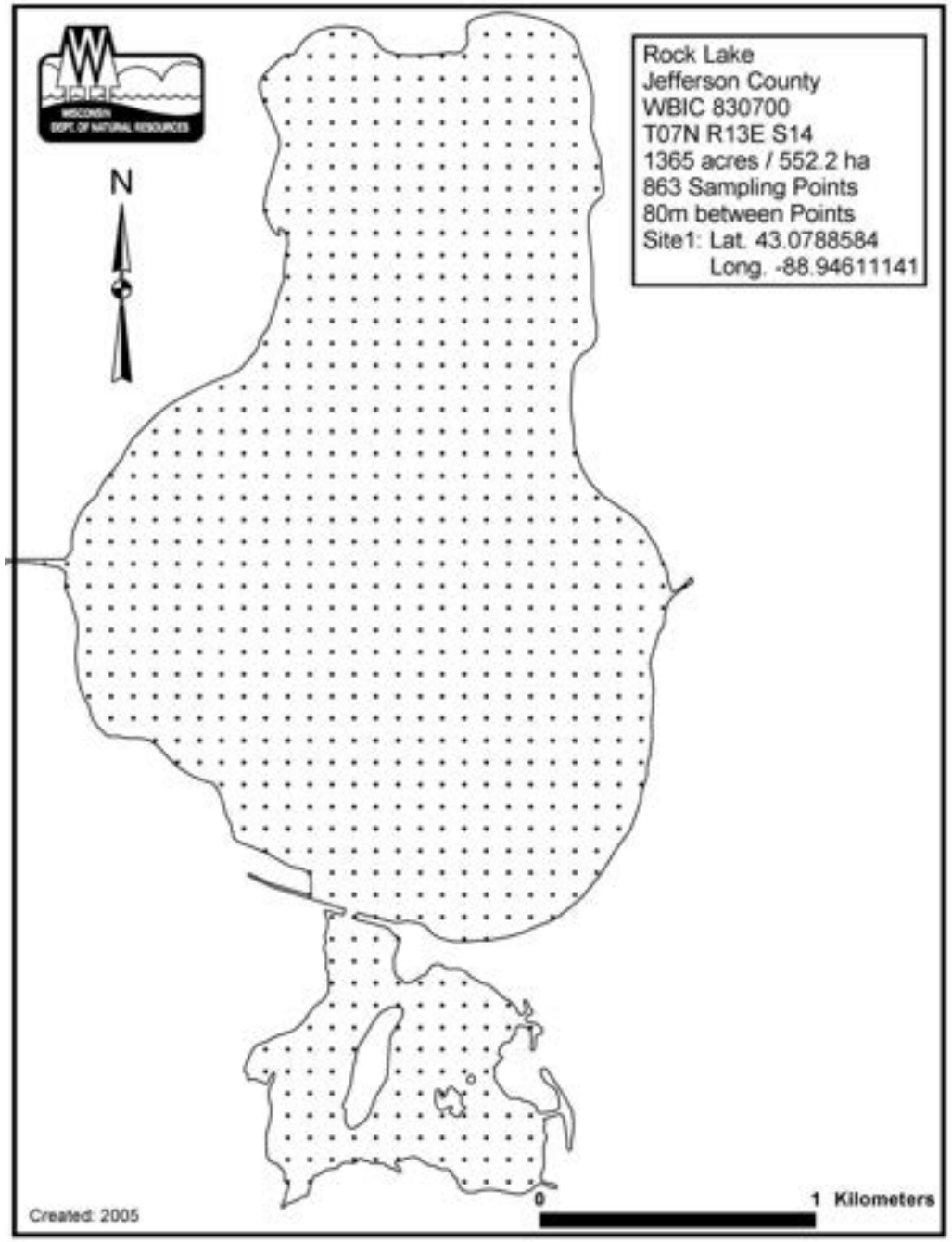
https://www.jeffersoncountywi.gov/

Search “Rock Lake Plan”

https://rocklake.org/

Select “Lake Reports”

- Lake Wide Aquatic Plant Point Intercept Surveys (2017, 2022)
- Millpond Aquatic Plant Point Intercept Surveys (2017, 2022, 2024)
- Shoreland Habitat Survey (2012, 2021)
- Nearshore Fish Surveys (2014)



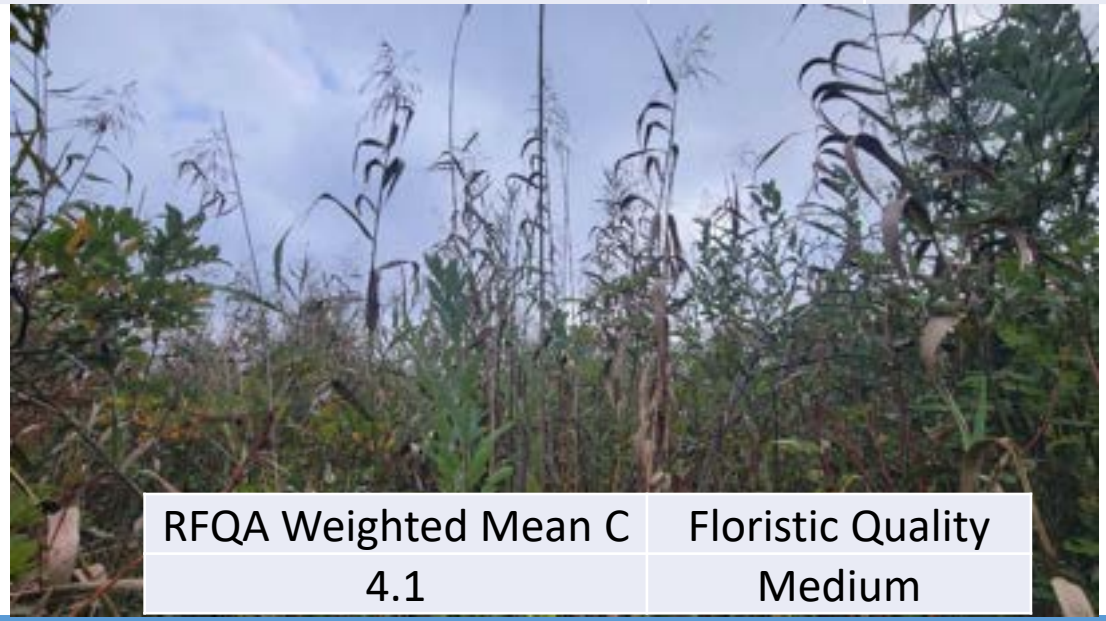
Ruderal Wet Meadow (1)

Plant Name	C- Value	Coverage %
Common Reed Grass	0	95
Cattails	0.3	5

RFQA Weighted Mean C	Floristic Quality
0	Low

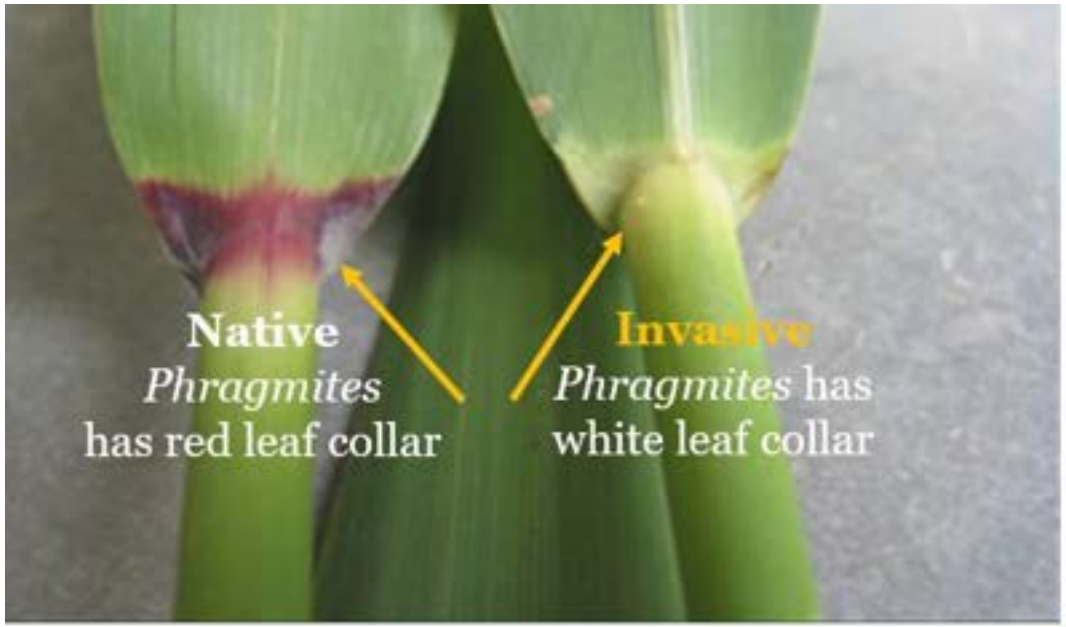
Emergent Marsh (1)

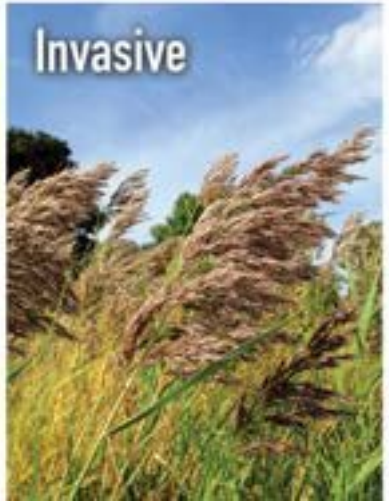
Plant Name	C- Value	Coverage %
Blue-joint grass	5	30
Cattails	0.3	20
Sedges	6.4	15
Swamp Loosestrife	7	7
Nettles Group	5	7
Common Reed	1	7
Bulrushes (Hardstem & Softstem)	5.4	5
Broad Leaved Arrowhead	3	3

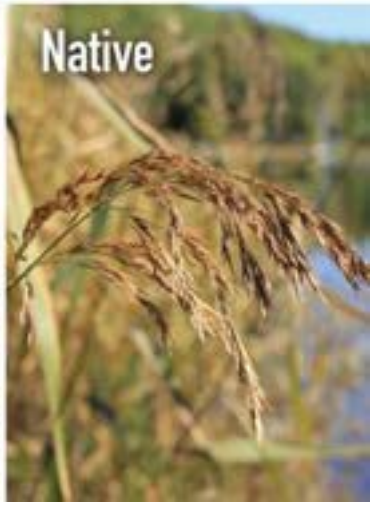


RFQA Weighted Mean C	Floristic Quality
4.1	Medium

Non-Native Phragmites vs Native Phragmites







WI DNR and County staff to take DNA samples in 2025.

Ruderal Emergent Marsh (6)

Plant Name	C- Value	Coverage %
Cattails	0.3	83
Blue-Joint Grass	5	27
Common Reed Grass	0	15
Wiregrass Sedge	9	7
Swamp Loosestrife	7	7
Fraser's Marsh St. Johns Wort	8	5
Sedges	6.4	4
Bulrushes (Hardstem & Softstem)	5.4	3
Swamp Loosestrife	7	2
Broad Leaved Arrowhead	3	2
Water Smartweed	5	1

RFQA Weighted Mean C	Floristic Quality
0.8	Low
0.4	Low
1.1	Low
0.8	Low
1.2	Low
3.5	Medium

Floating Leaved Marsh (1)

RFQA Weighted Mean C	Floristic Quality
5.8	High

Plant Name	C- Value	Coverage %
White Water Lily	6	60
Bull-Head Pond Lily	6	20
Common Bladderwort	7	10
Sago Pondweed	3	10

Southern Tamarack Swamp

Plant Name	C- Value	Coverage %
Tamarack	8	21.7
Buckthorns (Non-native)	0	20.0
Bog birch	7	15.0
Sedges (Shrub Wetlands)	6.4	15.0
Elm	3	15.0
Aspen/Cottonwood	2.1	15.0
Blue-joint grass	5	9.0
Ferns (Shrub Wetlands)	5	9.0
Winterberry	7	8.5
Poison Sumac	7	8.5
Broad-leaved arrowhead	3	7.0

RFQA Weighted Mean C	Floristic Quality
5.7	High
3.5	Medium
6	High

Shrub Carr (6)

Plant Name	C- Value	Coverage %
Swamp Loosestrife	7	23.5
Dogwoods	3	20.6
Bog Birch	7	17.3
Winterberry	7	17.3
Sedges	6.4	17.1
Hoary Willow	10	10.3
Common Reed Grass	0	10.0
Wiregrass Sedge	9	9.5
Willows (shrubs)	5.2	9.1
Pussy Willow	2	9.0
Poison Sumac	7	8.8
Meadow willow	6	8.8
Marsh Marigold	6	8.0
Ferns	5	7.4
Tamarack	8	6.7
Blue-Joint Grass	5	5.7
Arrowhead	3	4.5

RFQA Weighted Mean C	Floristic Quality
5.5	High
5.8	High
4.7	High
4.5	Medium
5.2	High
6.9	High

Southern Sedge Meadows

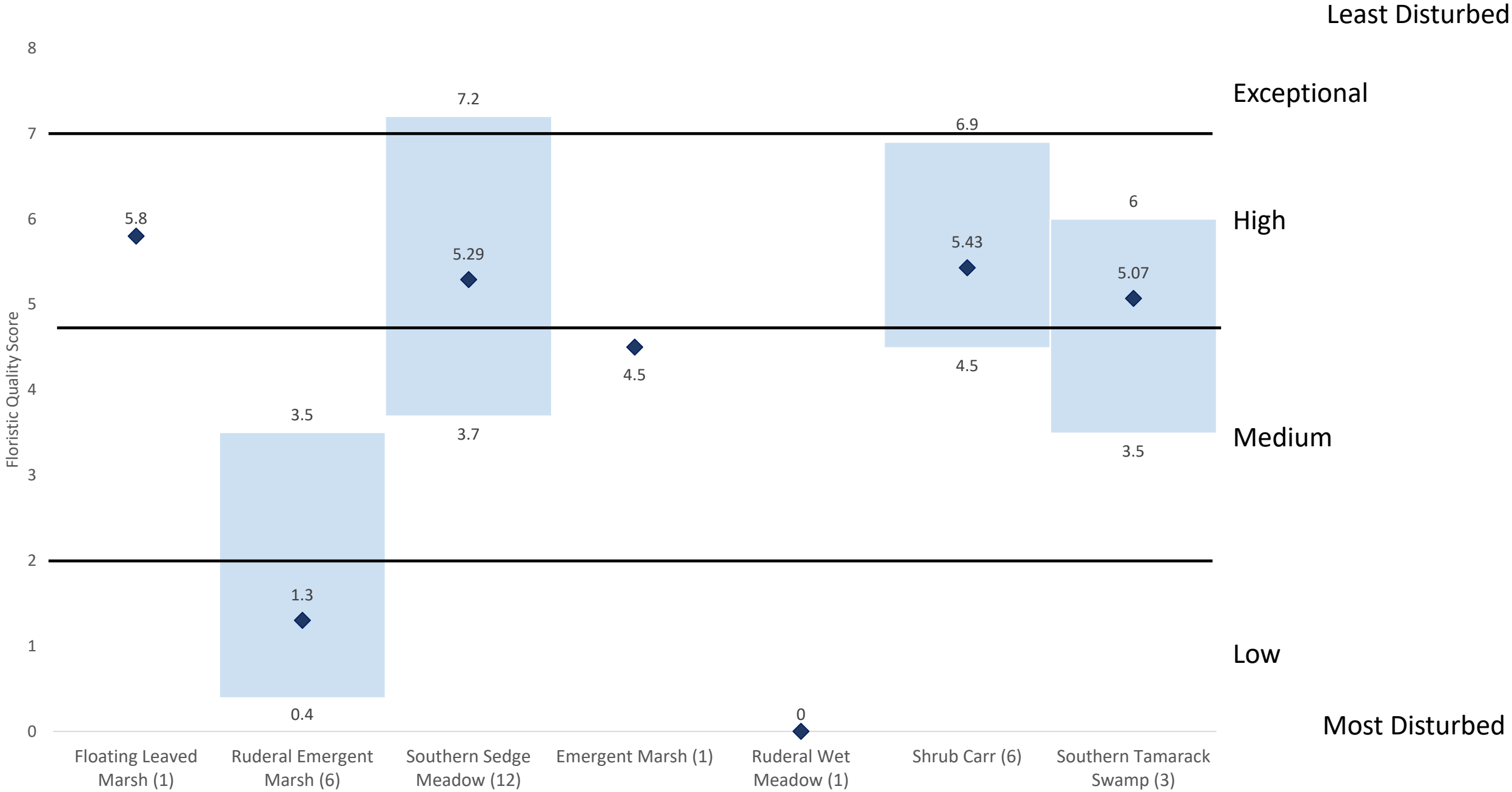
Plant Name	C- Value	Coverage %
Sedges	6.4	48.6
Fen Wiregrass Sedge	9	31.4
Blue-Joint Grass	5	19.8
Bog Birch	7	16.0
Cattails	0.3	15.3
Swamp Loosestrife	7	15.0
Poison Sumac	7	12.7
Ferns (Herbaceous Wetlands)	5.2	9.6
Broad-leaved Arrowhead	3	8.8
Marsh Cinquefoil	8	7.7
Dogwoods	3	7.6
Meadow Willow	6	7.2

RFQA Weighted Mean C	Floristic Quality
7.2	Exceptional
6.2	High
6	High
5.8	High
5.7	High
5.5	High
5.2	High
5	High
4.6	Medium
4.5	Medium
4.1	Medium
3.7	Medium

Salix candida Hoary Willow

Carex lasiocarpa Wiregrass Sedge

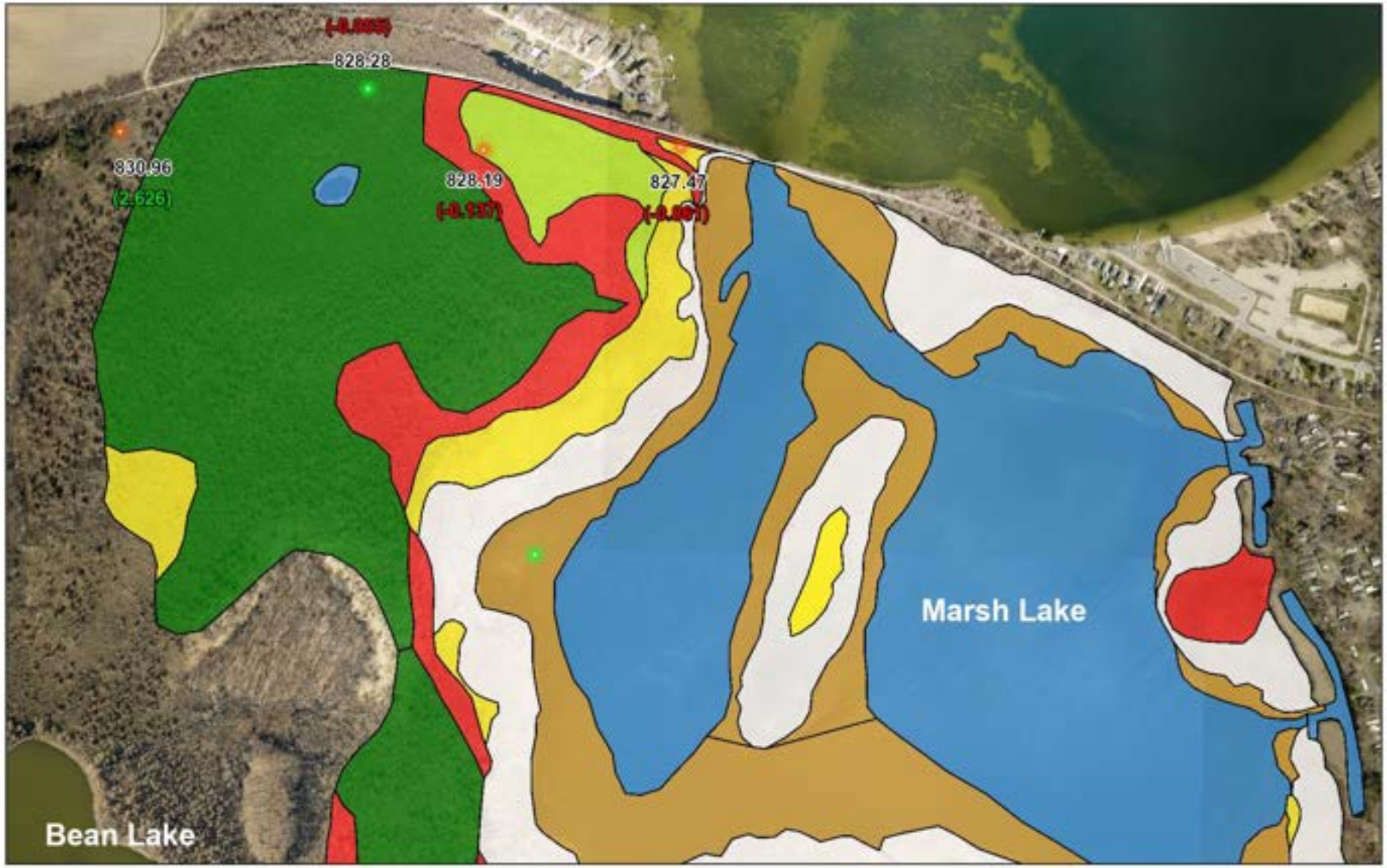
Marsh Cinquefoil


Least Disturbed
Exceptional
High
Medium
Low
Most Disturbed
Floristic Quality Score
8
7
6
5
4
3
2
1
0
5.8
7.2
5.29
3.7
3.5
1.3
0.4
4.5
0
6.9
5.43
4.5
6
5.07
3.5
Floating Leaved Marsh (1)
Ruderal Emergent Marsh (6)
Southern Sedge Meadow (12)
Emergent Marsh (1)
Ruderal Wet Meadow (1)
Shrub Carr (6)
Southern Tamarack Swamp (3)

Drone Work and Mapping

- Special Use License
  - Permit 9400-280
  - Permit 2200-127

Google Maps Imagery



2/17/2025

Floristic Quality Ratings
- High
- Medium

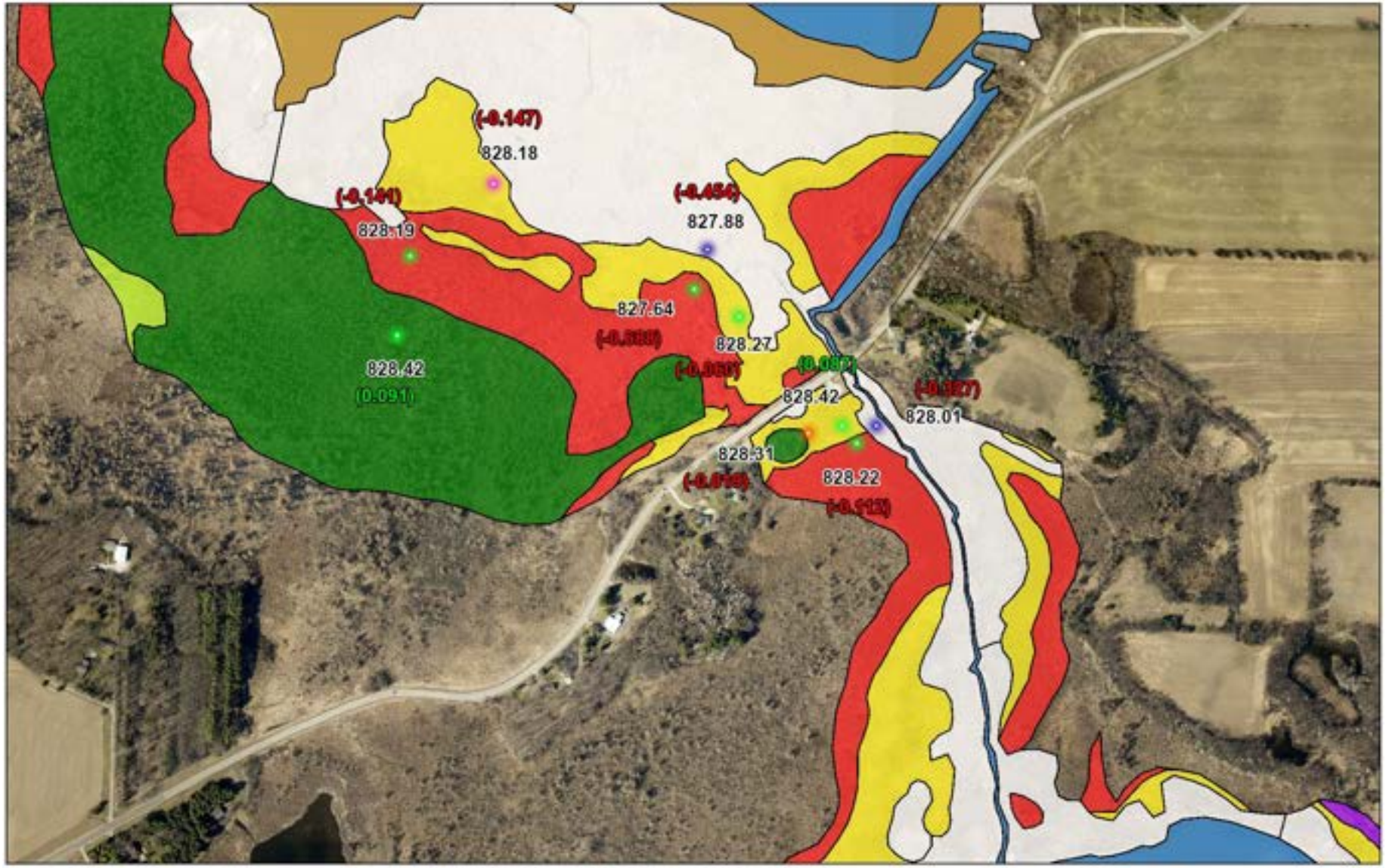
NHC Wetland Types
- Southern Sedge Meadow
- Ruderal Emergent Marsh
- Shrub Carr
- Open Water
- Floating-Leaved Marsh
- Emergent Marsh
- Southern Tamarack Swamp

1:7,200

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Jefferson County LWCD



2/17/2025

Floristic Quality Ratings

- Exceptional
- High
- Medium
- Low

NHC Wetland Types

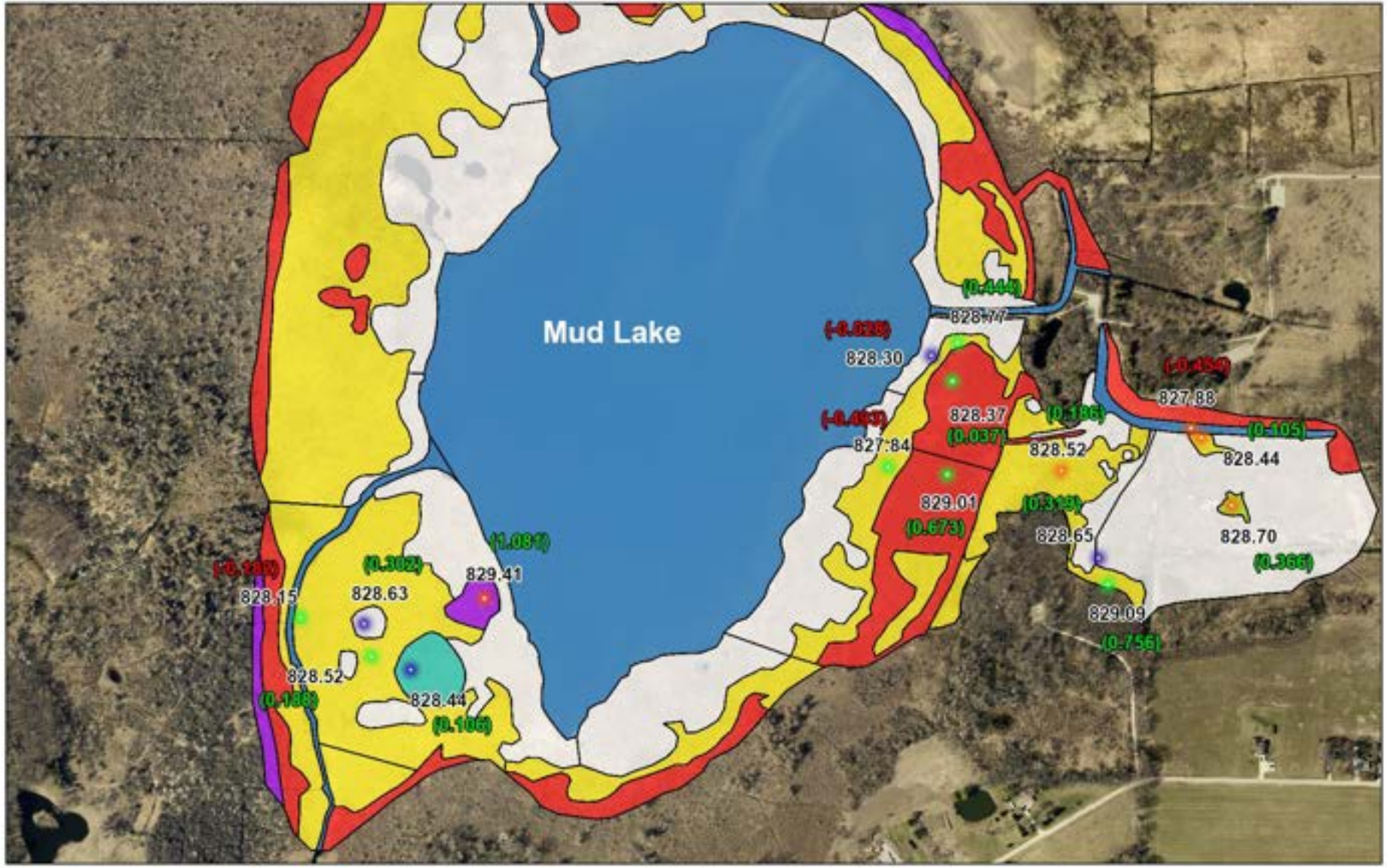
- Southern Sedge Meadow
- Ruderal Emergent Marsh
- Shrub Carr
- Open Water
- Floating-Leaved Marsh
- Degraded Woodland
- Emergent Marsh
- Southern Tamarack Swamp

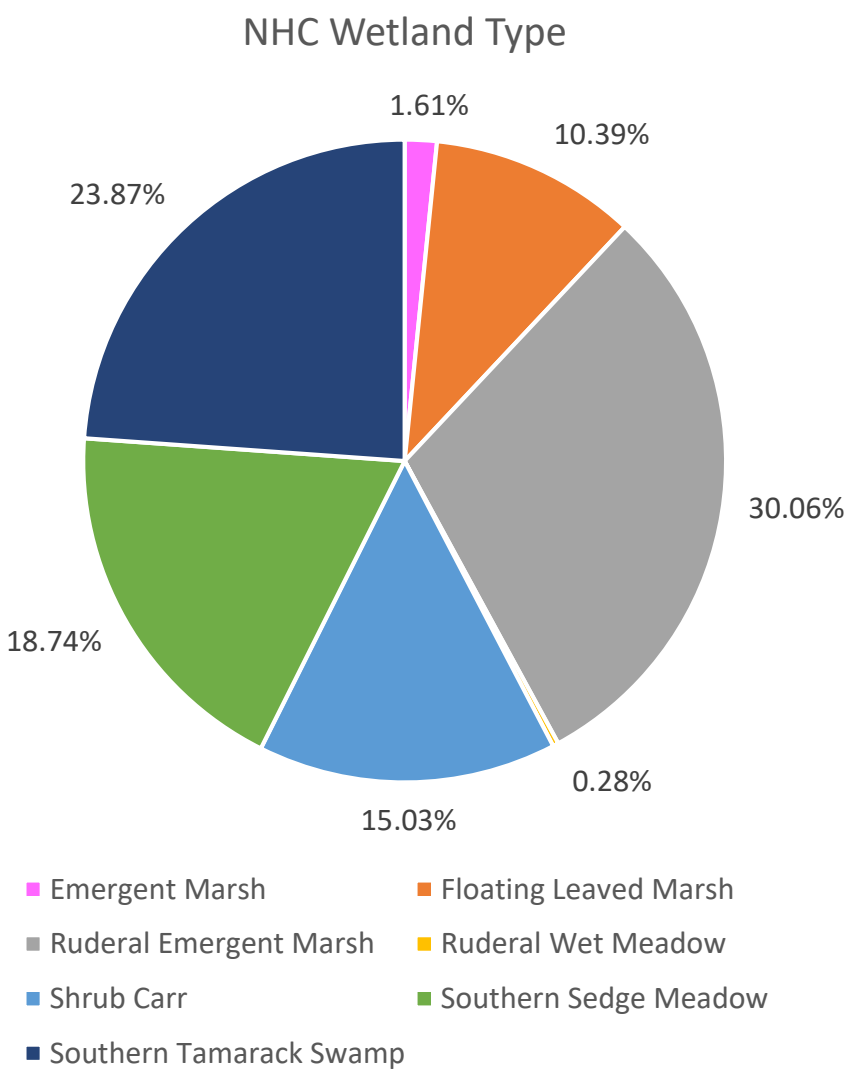
1:7,200

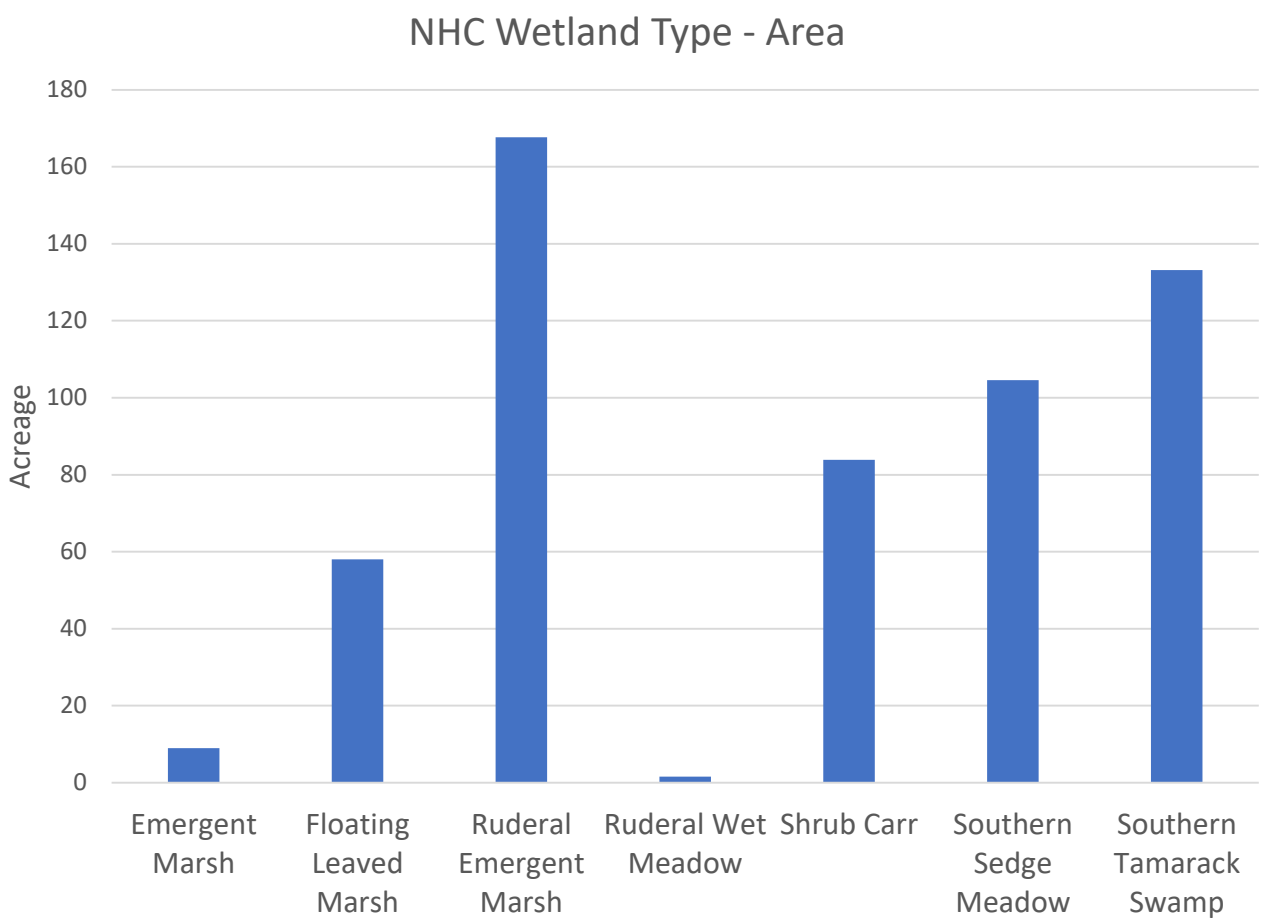
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Jefferson County LWCD


Mud Lake
828.30
828.37
(0.037)
827.84
828.52
827.88
828.44
829.01
(0.673)
828.65
828.70
(0.366)
829.09
(0.756)
828.15
828.63
829.41
828.52
828.44
(0.106)
2/17/2025
Floristic Quality Ratings
Low
High
Medium
NHC Wetland Types
Southern Sedge Meadow
Ruderal Emergent Marsh
Shrub Carr
Open Water
Degraded Woodland
Emergent Marsh
Ruderal Wet Meadow
1:7,000
0 0.05 0.1 0.2 mi
0 0.07 0.15 0.3 km
Jefferson County LWCD


NHC Wetland Type
1.61%
10.39%
23.87%
30.06%
18.74%
0.28%
15.03%
Emergent Marsh
Floating Leaved Marsh
Ruderal Emergent Marsh
Ruderal Wet Meadow
Shrub Carr
Southern Sedge Meadow
Southern Tamarack Swamp

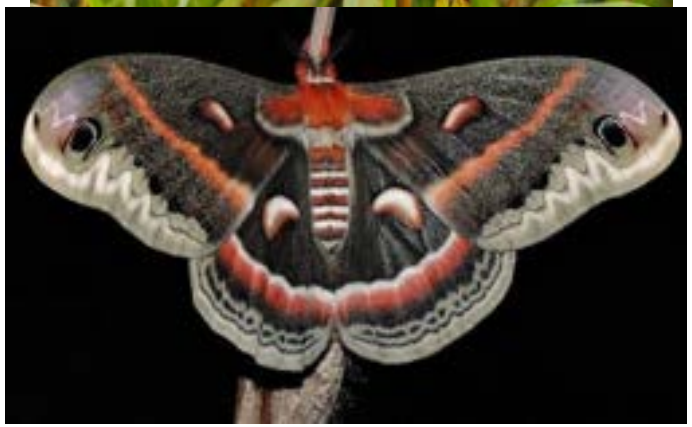

NHC Wetland Type - Area
Acreage
180
160
140
120
100
80
60
40
20
0
Emergent Marsh
Floating Leaved Marsh
Ruderal Emergent Marsh
Ruderal Wet Meadow
Shrub Carr
Southern Sedge Meadow
Southern Tamarack Swamp

Interesting Finds Along the Way …

Groundwater Input

Skunk Cabbage Flower (*Symplocarpus foetidus*)

Cecropia Moth (*Hyalophora cecropia)*



CONTACT US:

Colton Hutchinson

Water Resources Specialist

CHutchinson@jeffersoncountywi.gov

920-674-7111

Dave Hoffman

Resource Specialist

DHoffman@jeffersoncountywi.gov

920-674-7115

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JEFFERSON COUNTY
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