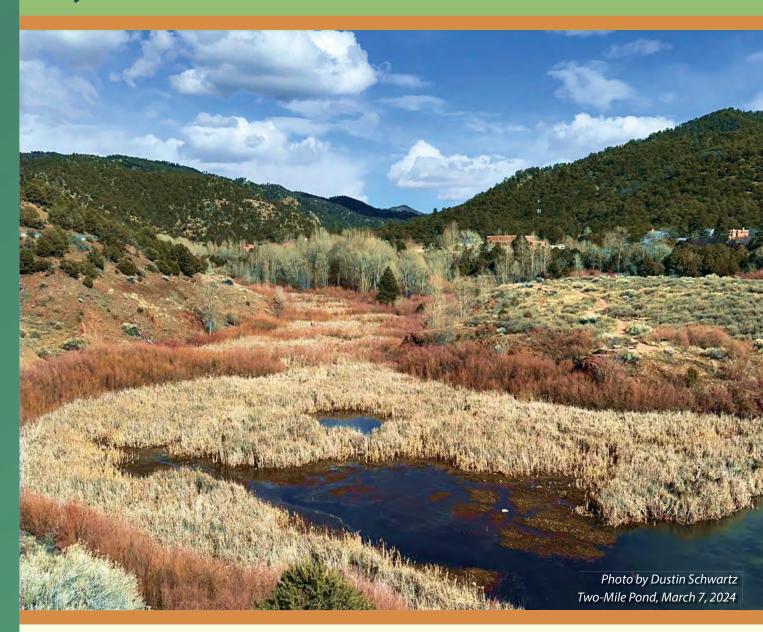
# First Quarter 2024 Monitoring Report Two-Mile Pond Complex Riparian Survey

City of Santa Fe, New Mexico



prepared by



prepared for



JOHN SHOMAKER & ASSOCIATES, INC.
WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS
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# FIRST QUARTER 2024 MONITORING REPORT TWO-MILE POND COMPLEX RIPARIAN SURVEY, CITY OF SANTA FE, NEW MEXICO

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Appendix C. NDVI Images for Two-Mile Pond Complex

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Appendix E. Field Photos

# FIRST QUARTER 2024 MONITORING REPORT TWO-MILE POND COMPLEX RIPARIAN SURVEY, CITY OF SANTA FE, NEW MEXICO

#### 1.0 INTRODUCTION

John Shomaker & Associates, Inc. (JSAI) was contracted by City of Santa Fe Public Works Department to provide monthly monitoring of the Two-Mile Pond Complex riparian area from the Restoration Channel staff gage to decommissioned Two-Mile Dam (Figs. 1 through 3). The monitoring area is focused on the riparian area associated with the Restoration Channel and Two-Mile Pond Complex. Six monitoring transects have been identified for assessment of riparian conditions (Fig. 1). JSAI utilized standardized riparian monitoring and assessment methods described by New Mexico Rapid Assessment Method (NMRAM) Field Guide prepared by the New Mexico Environment Department Surface Water Quality Bureau (NMED SWQB) (Muldavin et al., 2022). The NMRAM field guide provides procedures for conducting a rapid ecological assessment of wetlands and riparian areas in the Montane Riverine Wetland Subclass, that occur along unconfined mountain streams and rivers at elevations between 6,000 and 8,500 feet above mean sea level (ft amsl).

#### 1.1 Project Background

The Santa Fe River begins in the Sangre de Cristo Mountains and flows to the Rio Grande. The Two-Mile Pond Complex is in the upper reach of the Middle Santa Fe River hydrologic system (Fig. 1). Reservoirs were established in the Middle and Upper Santa Fe River hydrologic system as a result of securing and developing water supply for the City of Santa Fe (Fig 2). The City reservoirs include:

- Old Stone Dam constructed in 1880, but silted in by 1904
- Two-Mile Dam and Reservoir constructed in 1893 and decommissioned in 1994
- Granite Point (McClure) Dam and Reservoir constructed in 1926
- Nichols Dam and Reservoir constructed in 1943

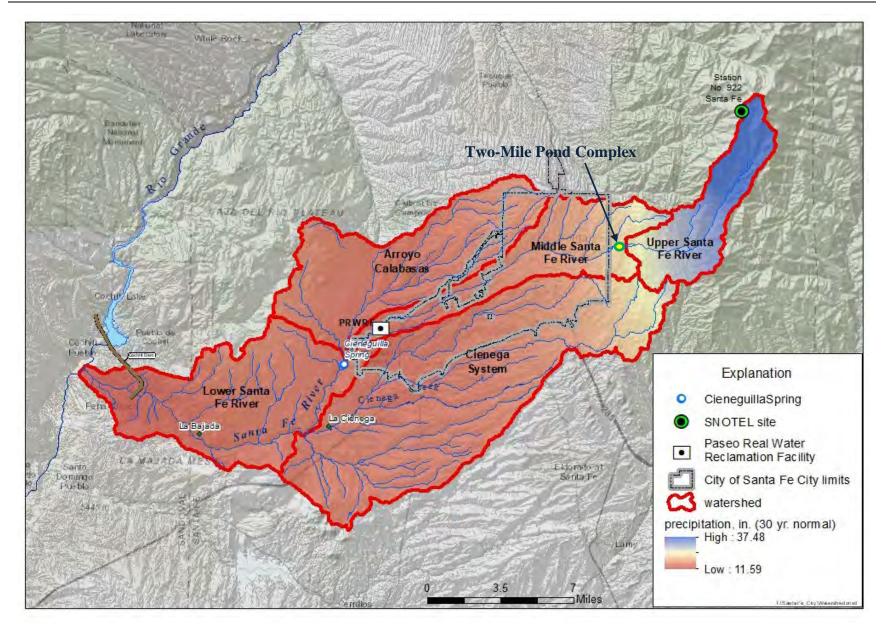


Figure 1. Map of Santa Fe watershed showing location of Two-Mile Pond Complex.

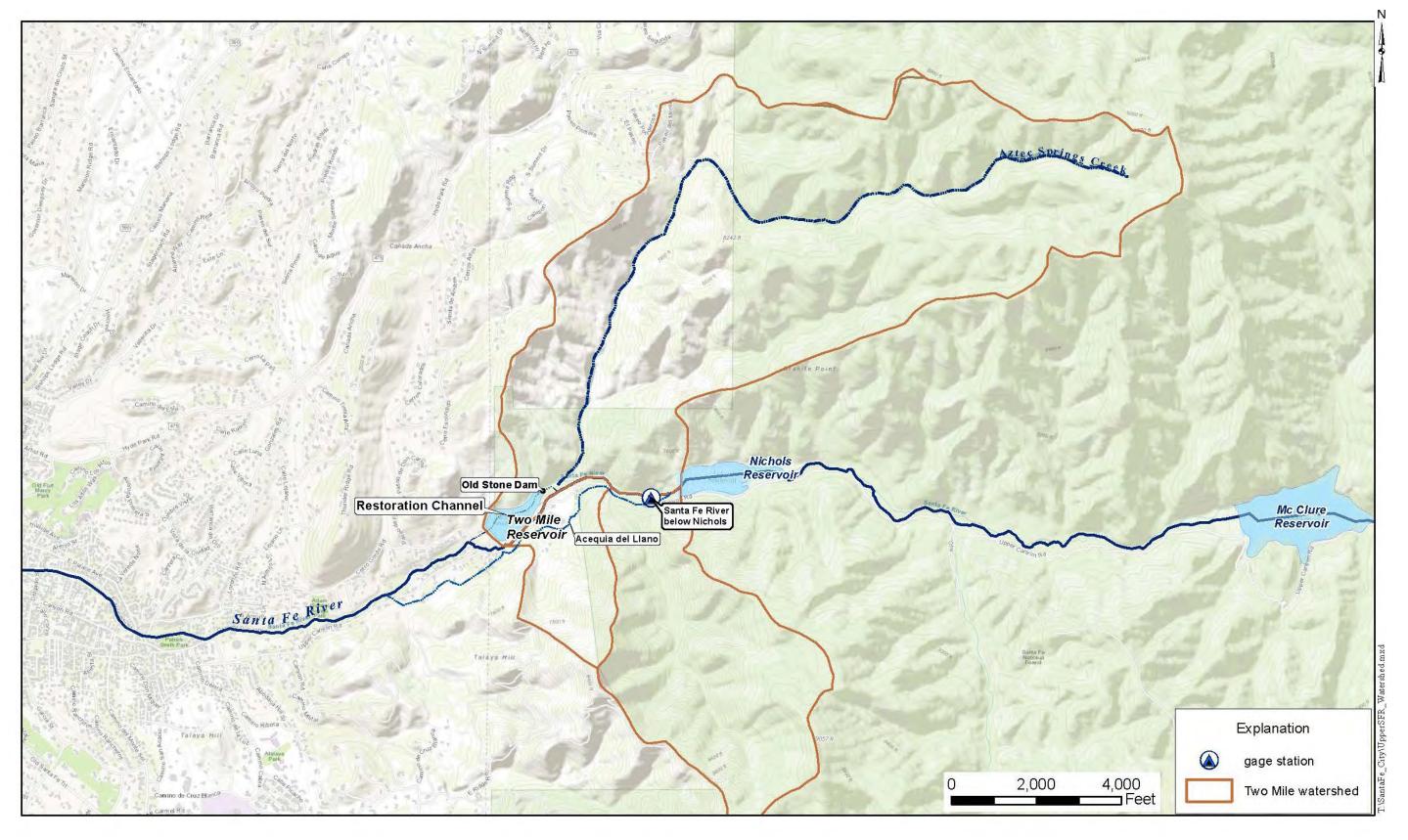


Figure 2. Map showing location City of Santa Fe Reservoirs, Santa Fe River, and Two-Mile Pond receiving watershed.

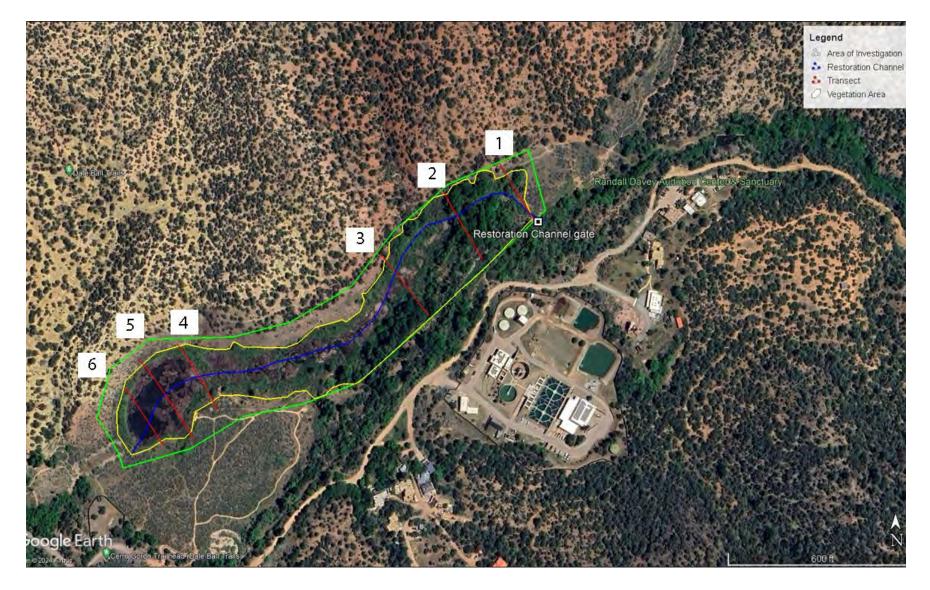


Figure 3. Landscape-scale map showing the Two-Mile Pond Complex and area of investigation on June 7, 2023 aerial photograph.

The Two-Mile Pond Complex is the result of restoration of the decommissioned Two-Mile Dam that was constructed in the Santa Fe River canyon. The Two-Mile Pond Complex was donated to The Nature Conservancy (TNC) in 2000, which converted it into the "Santa Fe Canyon Preserve." Features of the Two-Mile Pond Complex include:

- Restoration Channel
- Remnants of Old Stone Dam
- Remnants of decommissioned Two-Mile Dam
- Established riparian area along the Restoration Channel in the former footprint of Two-Mile Reservoir

The City of Santa Fe Ordinance 2012-10 established the Santa Fe River Target flows for a Living River Initiative. Target Flows are Santa Fe River flows originating from above McClure Reservoir that are bypassed (water that flows past a diversion or storage facility) and released to Santa Fe River at the base of Nichols Dam. Since 2012, target flows have run through Two-Mile Complex via the Santa Fe River and Restoration Channel. Other bypass flows include those for court ordered acequia deliveries downstream of the Two-Mile Complex.

Santa Fe River bypassed flows are waters of the State. In 2023, the New Mexico Office of the State Engineer (NMOSE) determined that Restoration Channel diversions from the Santa Fe River and storage in Two-Mile Pond had no supporting water right permit, and ordered a stop to these diversions and storage of water. There are concerns that these changes in streamflow conditions through the Two-Mile Pond Complex will alter the established riparian system. The primary objective of assessing the Two-Mile Pond Complex riparian area is to determine current conditions and health of the system, and affects due to changes to the hydrologic regime.

#### 1.2 Scope of Work

The intentions of the quarterly monitoring reports are to provide a summary of the project, present data collected to date, to provide an assessment of the collected data, and to present observations and findings. The quarterly monitoring reports are to include:

- Field datasheets (Appendix D)
- ► landscape map (Fig. 3)
- > sampling rank and score and assessment summary (Table 2)
- > stressor checklist (Appendix D)
- > sampling area rank and score and assessment summaries (Table 6)
- water flows and budget from the streamflow monitoring network
- > observed changes in surface water and soil moisture conditions

#### 2.0 SUMMARY OF EXISTING DATA AND INFORMATION

Available existing data and information were compiled for the Two-Mile Pond Complex, which were limited to NMED riparian habitat mapping, historical imagery, and streamflow monitoring performed for Santa Fe Water Division.

# 2.1 NMED SWQB

The NMED SWQB has prepared a riparian habitat map of the Two-Mile Pond Complex portion of the Santa Fe River (Fig. 4). Each colored section represents a different habitat in the Two-Mile Pond area. These Habitats were used as a guideline in completing Worksheet 5 and B1 of the Montane Riverine Wetlands field worksheets. It should be noted that habitat IA1 in this model appears to be exaggerated and was not included in the field observations.

#### 2.2 Google Earth Images

Google Earth historical aerial imagery for the Two-Mile Pond Complex were available for 1991 to 2023. Historical imagery can be referenced from Appendix A. The Restoration Channel and area of investigation were placed on each image for reference. A summary of the historical images reviewed is presented in Table 1. The Two-Mile Pond Complex riparian area begins around 1996, and significant tree canopies are observed by 2005. Since Two-Mile Dam and Reservoir were decommissioned, the riparian area was established and ponded water has been observed in Two-Mile Pond.

Table 1. Summary of the historical images for Two-Mile Pond Complex

Google Earth image date	approximate combined area of riparian and surface water (acres)	observations			
May 25,1991	na	Two-Mile Reservoir operational			
October 8, 1996	8.86	4 years after Two-Mile decommissioned			
December 6, 2002	9.52	significant drought period			
May 10, 2004	8.32	prior to SFR target flows			
April 26, 2005	9.67	established tree canopies			
May 8, 2009	9.39	water present in Two-Mile Pond			
June 16, 2011	8.38	beaver ponds present			
October 2, 2013	9.96	beaver ponds present			
November 1, 2015	10.00	water present in Two-Mile Pond			
June 10, 2017	9.64	water present in Two-Mile Pond			
March 2, 2021	9.38	water present in Two-Mile Pond			
June 7, 2023	10.40	water present in Two-Mile Pond			

SFR – Santa Fe River

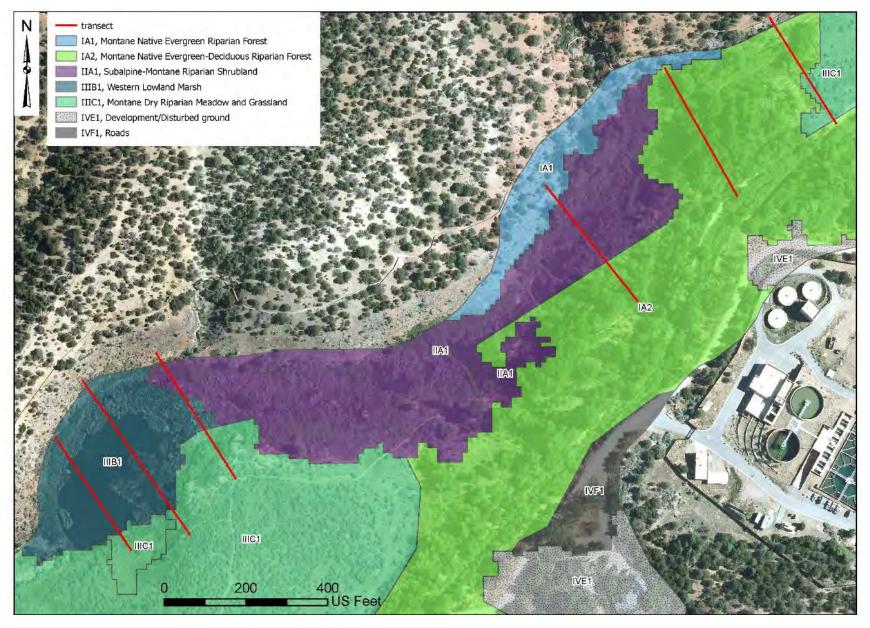


Figure 4. Map showing NMED SWQB defined riparian habitat zones for Two-Mile Pond Complex.

The combined riparian and surface-water area was estimated from each historical image after 1996. Over the last 28 years, the combined riparian and surface-water area has varied between 8.32 and 10.40 acres. For 2013 to current, the average area has been about 10 acres. The primary change in the riparian area has been the development of the tree canopy, particularly from 2005 to current.

#### 2.3 NDMI Images

Normalized Difference Moisture Index (NDMI) from Modified Copernicus Sentinel Data is used to determine vegetation water content and monitor droughts. The values range from -1 to 1 with negative values representing barren soil, values around zero correspond to water stress, and positive values represent vegetative canopy without water stress. NDMI images for January 16, 2024, February 5, 2024, and March 3, 2024 can be referenced from Appendix B. The quality of the imagery depends on degree of cloud cover.

#### 2.4 NDVI Images

Normalized Difference Vegetation Index (NDVI) from Modified Copernicus Sentinel Data are used to quantify green vegetation. It is a measure of the state of vegetation health based on how plants reflect light at certain wave lengths. The values range from -1 to 1 with negative values representing water, values around zero correspond to barren areas of rock, sand, or snow, low positive values represent shrub and grassland, and high positive values represent forested areas. NDVI images for January 16, February 5, 2024 and March 3, 2024 can be referenced from Appendix C.

#### 2.5 Streamflow Monitoring

The City of Santa Fe Water Division has contracted JSAI to install and maintain several continuous streamflow monitoring points in the Two-Mile Pond Complex area (Fig. 5).

The gage *Santa Fe River below Nichols* monitors all bypass flows below Nichols Dam. The river channel at the gage *Santa Fe River below Nichols* was clogged with fallen trees during this last winter, which affected access and potentially validity of recorded streamflow data. Therefore, data from this monitoring point are currently not available until it is compared to measured flows from Santa Fe Water operations at Nichols Reservoir.

The Two-Mile return 6-inch Parshall flume monitors all streamflow exiting the Two-Mile Pond Complex. JSAI has been monitoring this flume for the past few years. There have been issues with maintaining the flume, such as suspended sediment and organic debris clogging the ports for the stilling well and flume entrance. Transducer data from the flume are currently under review, however field measurements are presented on Figure 6.

An existing 90° v-notch weir in the Santa Fe River next to Two-Mile Pond was modified by expanding the weir dimensions. At the beginning of March 2024, the v-notch weir was built up and equipped with a stilling well and transducer to accommodate flow measurements up to 6 cubic feet per second (cfs). The v-notch weir next to Two-Mile Pond measures Santa Fe River flows upstream of the Two-Mile Pond return (Fig. 5).

At the beginning of February 2024, a 90° v-notch weir was installed in the Santa Fe River below the confluence of Two-Mile Pond returns and Santa Fe River. The weir is equipped to provide continuous monitoring of flows up to 6 cfs in the Santa Fe River below Two-Mile Pond return.

Hydrographs were prepared for the time period January 1 to March 31, 2024 (Fig. 6). Santa Fe River flows next to Two Mile Pond had a base flow of 0.1 from Nichols Dam ranged from 0.1 to 0.5 cfs during the First Quarter of 2024. Streamflow measured at the Two-Mile return flume ranged from 0.16 to 0.40 cfs, and average 0.24 cfs during the First Quarter of 2024. Santa Fe River flows below the confluence with Two-Mile Pond returns ranged from 0.1 to 0.7 cfs. Water temperature is plotted with measured flows which ranged between 0 and 16 degrees Celsius.

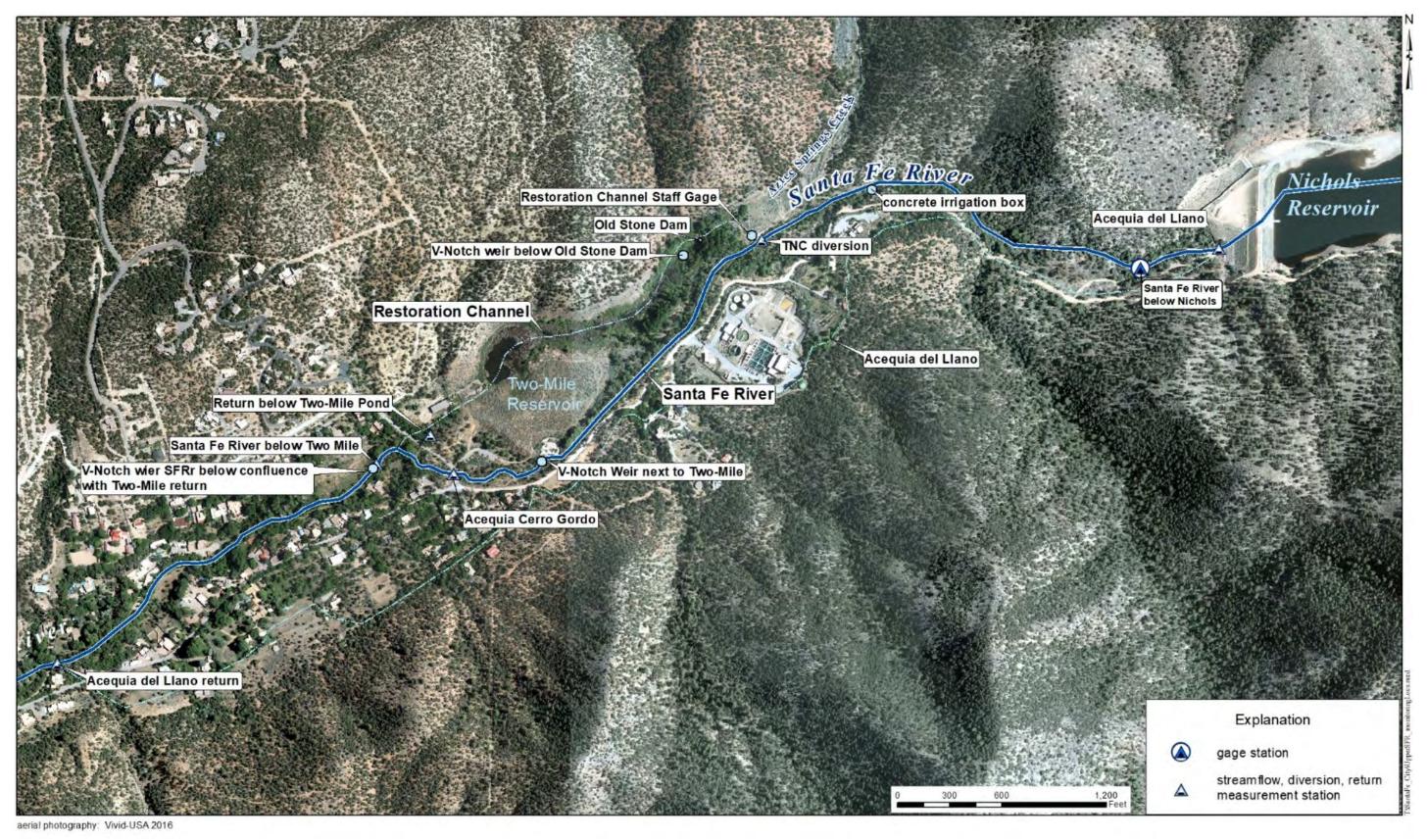


Figure 5. Map of Two-Mile Pond Complex showing streamflow monitoring stations:

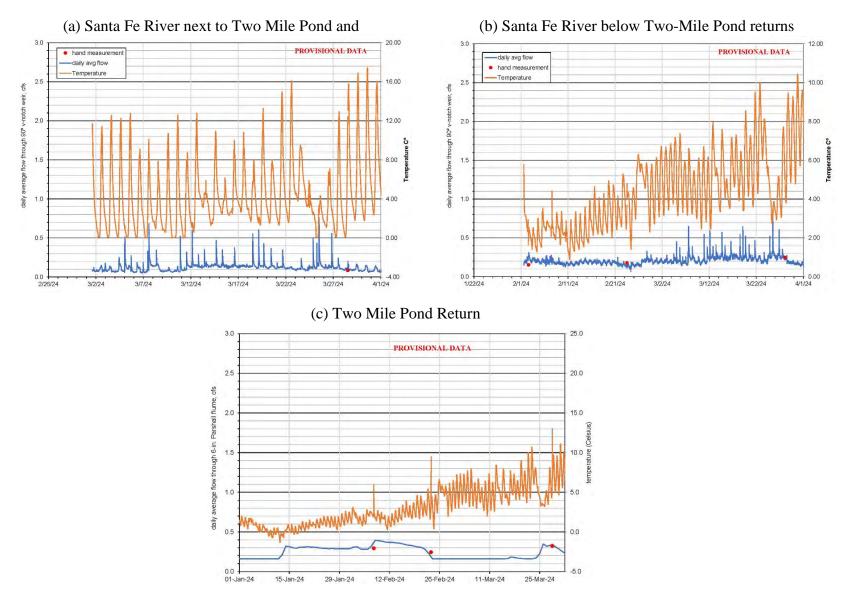


Figure 6. Hydrographs for First Quarter 2024 of (a) Santa Fe River next to Two Mile Pond, (b) Santa Fe River below Two Mile Pond returns, and (c) Two-Mile Pond returns (below Two-Mile).

#### 3.0 RIPARIAN MONITORING

The monitoring period is January to December 2024. Field investigations are performed monthly during the growing season between March and November.

#### 3.1 March 7, 2024 Field Investigation

The New Mexico Rapid Assessment Method (NMRAM) Montane Riverine Wetlands data sheets for assessment of Two-Mile Pond on March 7, 2024 can be referenced from Appendix D, including the stressor checklist. Field photographs are presented in Appendix E.

Category scores are graded on a scale from 1 to 4 (higher numbers are more desirable indicating better health and riparian condition). Table 2 is a summary of the scoring and ranking method. Each transect is graded independently and the resulting grades are multiplied against a weighted ratio and combined to give each transect a wetland condition score.

rankscoredescriptionA $\geq 3.25 - 4.0$ excellent conditionB $\geq 2.5 - \langle 3.25|$ good conditionC $\geq 1.75 - \langle 2.5|$ fair conditionD $1.0 - \langle 1.75|$ poor condition

Table 2. NMRAM scoring and ranking description

NMRAM - New Mexico Rapid Assessment Method

### 3.1.1 Landscape Context

Landscape maps (Figs. 3 and 4, Appendix A) and field observations were used to evaluate the Landscape Context metrics such as surrounding land use and riparian connectivity. A summary of the landscape context metric scoring is presented as Table 3.

Tuble of 11 truge beered for fundaceape content metrics				
landscape context metric	average score			
buffer integrity index	3.00			
riparian corridor connectivity	4.00			
relative wetland size	4.00			
surrounding land use	2.00			
total	3 25			

Table 3. Average scores for landscape context metrics

#### 3.1.2 Biotic Metrics

Biotic metric scores were calculated using the Montane Riverine Wetlands Field Guide method of ranking a riparian area. Each category has a set of biotic measurements and observations that are recorded in the field and then combined to result in a final ranking for the riparian area. Table 4 shows the average of all six transects for the total biotic component of Two-Mile Pond reservoir. Results from all transects can be found in Appendix D.

biotic metrics	average scores*
relative native plant community composition	2.83
vegetation horizontal patch structure	2.83
vegetation vertical structure	2.83
native riparian tree regeneration	3.00
invasive exotic plant species cover	2.83
total	2.87

Table 4. Average scores for biotic metrics

Along six different transects of the investigated area biotic factors were documented. Signs of birds, deer, and some insects were seen throughout the area below Old Stone Dam. New seedlings and sprouts of spring growth were popping up throughout the entire area but most of the flora was still dormant from winter. An area just north of Transect 3, which is located between Two-Mile Pond and the 'beaver dams,' was particularly populated with many birds. No birds were specifically identified but the noise coming from the area was distinct and notable. Gold fish were seen swimming in Two-Mile Pond, which was surrounded by dormant cattails and willows. Overall biotic life is recovering from the winter and more flora and fauna are expected to appear in the following months.

#### 3.1.3 Abiotic Metrics

Scores were calculated using the Montane Riverine Wetlands Field Guide method of ranking a riparian area. Each category has a set of abiotic measurements and observations that are recorded in the field and then combined to result in a final ranking for the riparian area. There are four abiotic metrics that reflect the physical status of the riparian area:

- 1. Physical Patch Complexity, which is a measure of the physical structural complexity of a site that contributes to ecological richness.
- 2. Channel Equilibrium, which is the assessment of the degree of channel aggradation or degradation relative to reference equilibrium conditions.

<sup>\*</sup> As plant life becomes more active and easier to identify, the biotic data and subsequent score will include species and riparian indicators

3. Steam Bank Stability and Cover, which is a measure of stream bank soil/substrate stability and erosion potential that reflect overall stream bank stability.

4. Soil Surface Condition reflects anthropogenic soil disturbance impacts within the sampling area

Because of the circumstances of Two-Mile Pond "Floodplain Hydrologic Connectivity" was not accounted for since its results could be misleading and its importance is not relevant to this particular investigation. Table 5 shows the average of all six transects for the total abiotic component of Two-Mile Pond reservoir. Results from all transects can be found in Appendix D.

abiotic categories	average score
physical patch diversity	2.50
channel equilibrium	4.00
stream bank stability and cover	4.00
soil surface condition	3.67
total	3.54

Table 5. Average scores for abiotic metrics

Two-Mile Pond is covered in leaves and debris from winter especially in the high forest areas of the reservoir. The leaves have drifted down and in some areas of the stream, 'beaver dams' or stormflow dams have been created and can hold a significant amount of water, which creates micro-habitats across the area below Old Stone Dam. The channels and waterways themselves are surrounded by thick walls of willows and cattails that keep the banks from eroding. The streams themselves appear to be in a state of equilibrium and there are no signs of active degradation or aggradation that were noticeable at this time. The anthropogenic disturbance also appears low considering the popularity of the area's trails. Overall, the abiotic components of the riparian area appear to rank on the higher end of the scoring throughout Two-Mile Pond Complex.

#### 3.1.4 Summary Riparian Metrics Ranking

The Landscape Context, Biotic, and Abiotic metrics for each transect are ranked and scored using NMRAM. The weighted average for each metric is calculated, tabulated, and ranked using the scoring method summarized in Table 2. The Two-Mile Pond Complex riparian area ranking is summarized in Table 6. For Landscape Context metrics, the surrounding land use has the lowest score because of urban encroachment. The weighted average scores for Biotic metrics were all similar. For Abiotic metrics, the Physical Patch Diversity had the lowest score. Transects 1, 2, and 6 have a riparian ranking of B, where Transects 3, 4, and 5 have a riparian ranking of A. The difference between A and B ranking is attributed to the dry portions of the transects on the margin of the riparian area.

Table 6. Summary of Two-Mile Pond Complex riparian area metrics ranking

NMRAM	weight	transects						
metric description	wt	1	2	3	4	5	6	total
landsca	pe context							
buffer integrity index	0.25	3.0	3.0	3.0	3.0	3.0	3.0	3.0
riparian corridor connectivity	0.25	4.0	4.0	4.0	4.0	4.0	4.0	4.0
relative riparian size	0.25	4.0	4.0	4.0	4.0	4.0	4.0	4.0
surrounding land use	0.25	2.0	2.0	2.0	2.0	2.0	2.0	2.0
b	iotic							
relative native plant community composition	0.20	2.0	4.0	2.0	4.0	3.0	2.0	2.8
vegetation horizontal patch structure	0.20	2.0	2.0	4.0	3.0	3.0	3.0	2.8
vegetation vertical structure	0.20	3.0	3.0	3.0	3.0	3.0	2.0	2.8
native riparian tree regeneration	0.20	2.0	4.0	3.0	3.0	3.0	3.0	3.0
invasive exotic plant species cover	0.20	3.0	4.0	3.0	3.0	2.0	2.0	2.8
ab	oiotic							
physical patch diversity	0.25	2.0	2.0	3.0	2.0	3.0	3.0	2.5
channel equilibrium	0.25	4.0	4.0	4.0	4.0	4.0	4.0	4.0
stream bank stability and cover	0.25	4.0	4.0	4.0	4.0	4.0	4.0	4.0
soil surface condition	0.25	4.0	2.0	4.0	4.0	4.0	4.0	3.7
major attribute								
landscape context	0.30	3.3	3.3	3.3	3.3	3.3	3.3	3.3
biotic	0.35	2.4	3.4	3.0	3.2	2.8	2.4	2.9
abiotic	0.35	3.5	3.0	3.8	3.5	3.8	3.8	3.5
RIPARIAN CONDITION SCORE	Σ	3.0	3.2	3.3	3.3	3.3	3.1	3.2
RIPARIAN RANK		В	В	A	A	A	В	В

#### 3.1.5 Soil Moisture

Soil moisture was measured every 15 feet from the southeast end of a transect to the northwest end. Moisture was measured using a conductance-style moisture meter, which had a probe depth 6 inches. The moisture meter gives results from a scale of 1 to 10, which is a relative indicator of moisture based on conductivity of water in the soil. This device helps us get a general idea of where water might be concentrated in the ground and over time, we will be able to see how this parameter changes. The northwest side of these transects are not always accessible due to thick willows but readings are made until water is reached or until willows become too thick to enter. Willow thickets indicate high moisture areas. Field notes from the soil monitoring can be found in Appendix D.

The soil moisture data for March 7, 2024 were contoured, interpretations were made between data points using imagery (see Figs. 7 and 8).

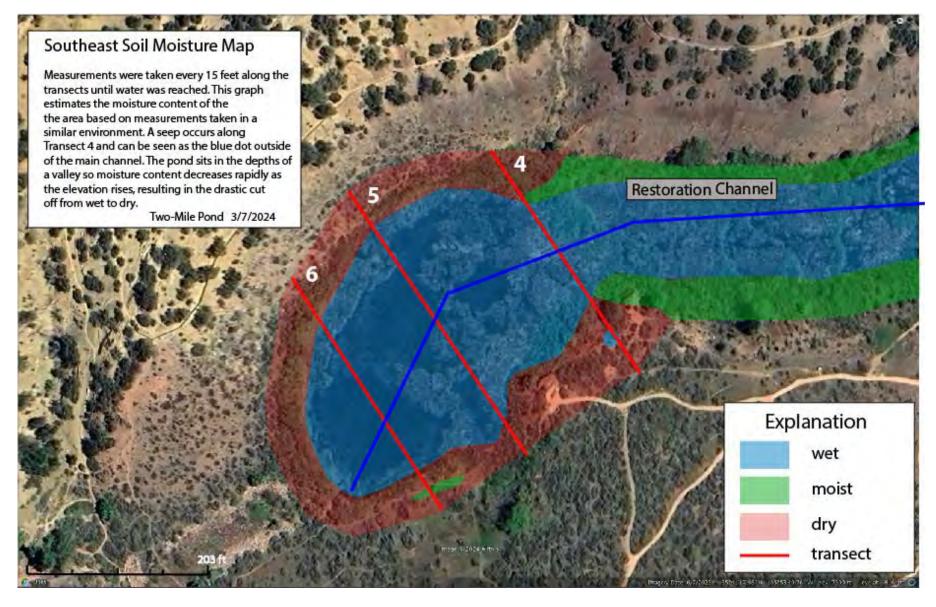


Figure 7. Map showing March 7, 2024 soil moisture distribution for the lower half of the Two-Mile Pond Complex.

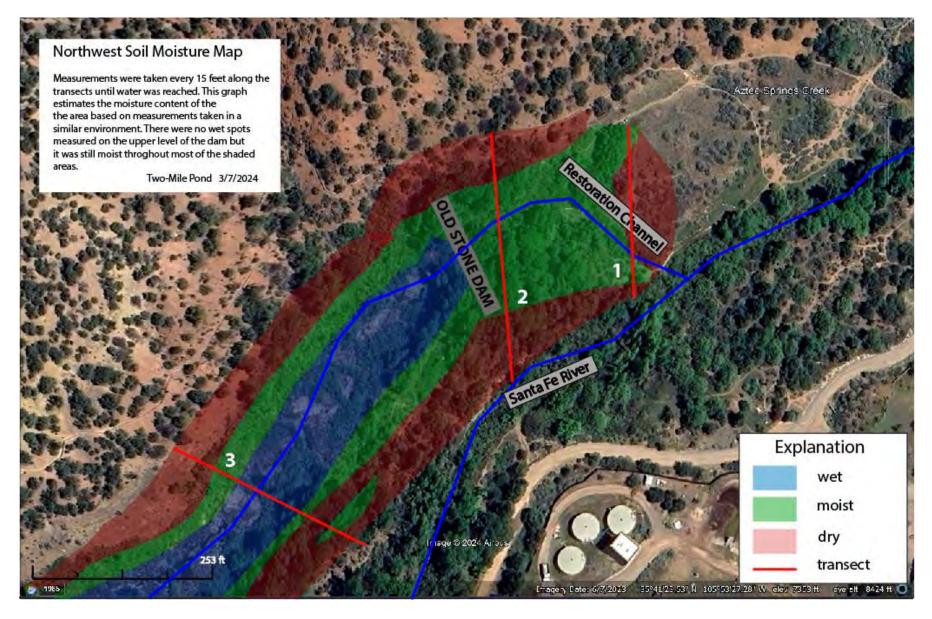


Figure 8. Map showing March 7, 2024 soil moisture distribution for the upper half of the Two-Mile Pond Complex.

#### 4.0 SUMMARY OF FINDINGS

The Two-Mile Pond Complex riparian area started after the decommissioning of Two-Mile Dam and Reservoir in 1992, and has been about the same size for over the last 20 years. Large tree canopies above and below Old Stone Dam became evident around 2005. See historic imagery in Appendix A.

During the March 7, 2024 field investigation, most of the soils in the Two-Mile Pond riparian area are moist to wet, with the exception of the upstream end above Old Stone Dam and the southern margins of the upper half of the area of investigation (see Figs. 7 and 8).

Streamflow through Two-Mile Pond Complex during the First Quarter originated from groundwater discharge at the base of Old Stone Dam. The outflow from Two-Mile Pond ranged from 0.16 to 0.40 cfs, and averaged 0.24 cfs.

For March 7, 2024, the Two-Mile Pond Complex riparian ranking is between B (good condition) and A (excellent condition). An excellent condition (A) riparian system has intact functions and processes, diverse vegetative communities with almost no exotic weeds, is relatively large compared to its historical size, and has natural buffers. These riparian systems are largely undisturbed and provide an excellent habitat for native flora and fauna.

A good condition (B) is somewhat degraded in response to environmental stressors. Riparian areas with a B ranking have various combinations of relatively minor disturbances or factors negatively affecting condition (e.g. some alteration of the hydrological regimes; evidence of on-site anthropogenic disturbances; a reduction of vegetative community and structural diversity with the presence of some exotic weeds).

The current conditions of Two-Mile Pond Complex riparian area look promising to provide a good-excellent ecosystem for the coming year. Additional, monthly field investigations are needed to assess potential changes in biotic and abiotic metrics. Monthly field investigations will be conducted and with increased biotic life recovering from dormancy more species are expected to be identified and monitored to observe the changes in Biotic and Abiotic metrics throughout the duration of the investigation.

#### 5.0 REFERENCES

- Modified Copernicus Sentinel Data, <a href="https://www.sentinel-hub.com/">https://www.sentinel-hub.com/</a> Modified Copernicus Sentinel data [2024]/Sentinel Hub
- Muldavin, E.H., Bader, B., Milford, E.R., McGraw, M., Lightfoot, D., Nicholson, B., and Larson, G., 2011, New Mexico Rapid Assessment Method: Montane Riverine Wetlands, Version 1.1. Final report to the New Mexico Environment Department, Surface Water Quality Bureau, Santa Fe, New Mexico, 90 pp. and appendices.
- Muldavin, E., Milford, E., Triepke, J., Gonzalez, C., Urbanovsky, A., McCartha, G., Kennedy, A., Chauvin, Y., Smith, J., Leonard, J., Elliot, L., Hanberry, P., Diamond, D., and Clark, A.E., 2022, New Mexico Riparian Habitat Map (NMRipMap): Version 2.0 Plus. New Mexico Natural Heritage, Museum of Southwestern Biology, University of New Mexico; USDA Forest Service, Southwest Region; Missouri Resource Assessment Partnership (MoRAP), University of Missouri, and USDA Forest Service, Geospatial Technology and Applications Center (GTAC), Salt Lake City, UT, Accessible at nhnm.unm.edu/riparian/nmripmap.

## **APPENDICES**

# Appendix A.

**Historical Google Earth Images of Two-Mile Pond Complex** 

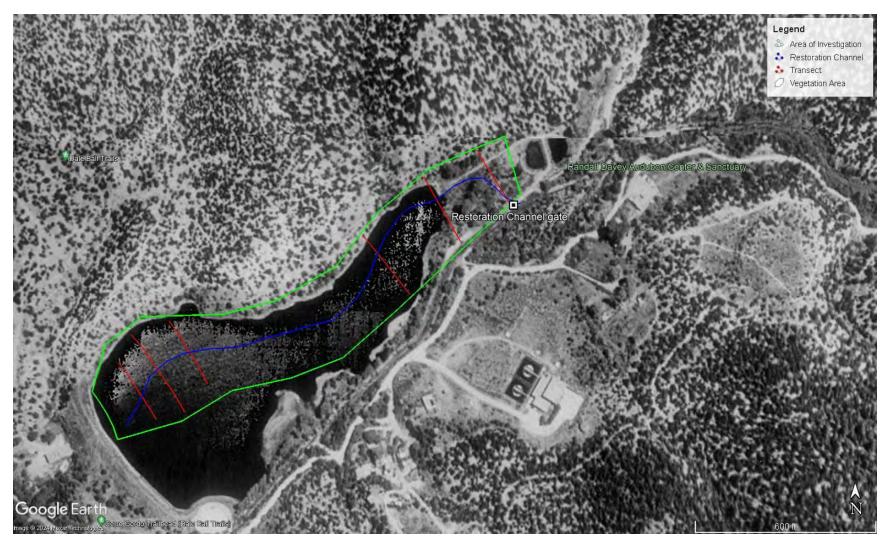


Figure A1. Historical image of Two-Mile Pond Complex dated May 25, 1991.

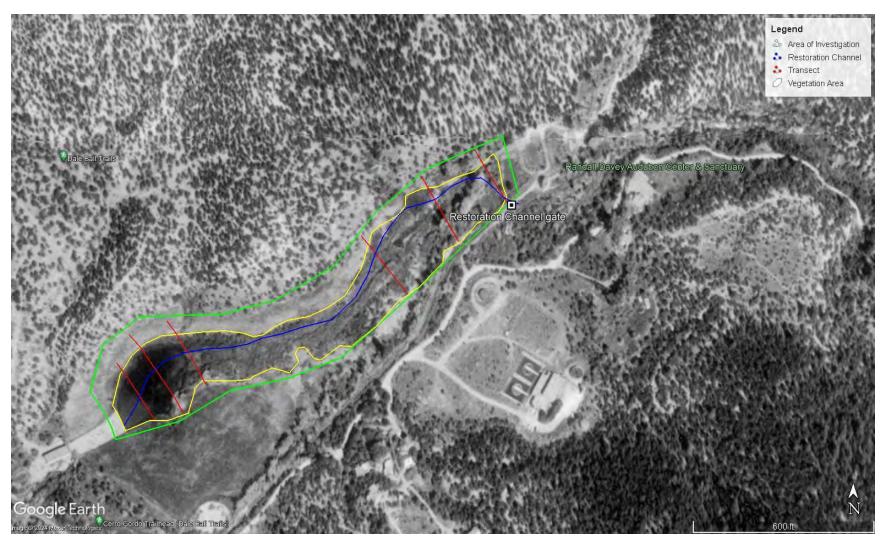


Figure A2. Historical image of Two-Mile Pond Complex dated August 10, 1996.

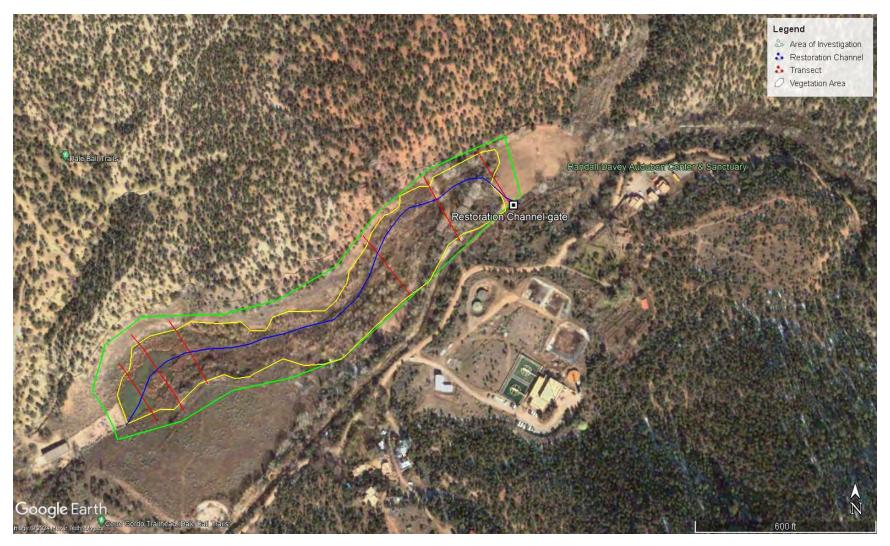


Figure A3. Historical image of Two-Mile Pond Complex dated December 6, 2002.

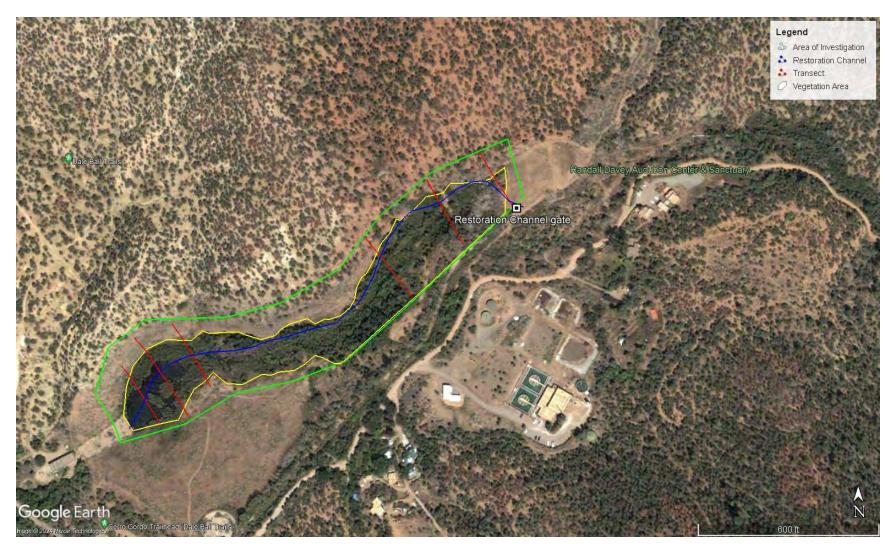


Figure A4. Historical image of Two-Mile Pond Complex dated May 10, 2004.



Figure A5. Historical image of Two-Mile Pond Complex dated April 26, 2005.



Figure A6. Historical image of Two-Mile Pond Complex dated May 8, 2009.

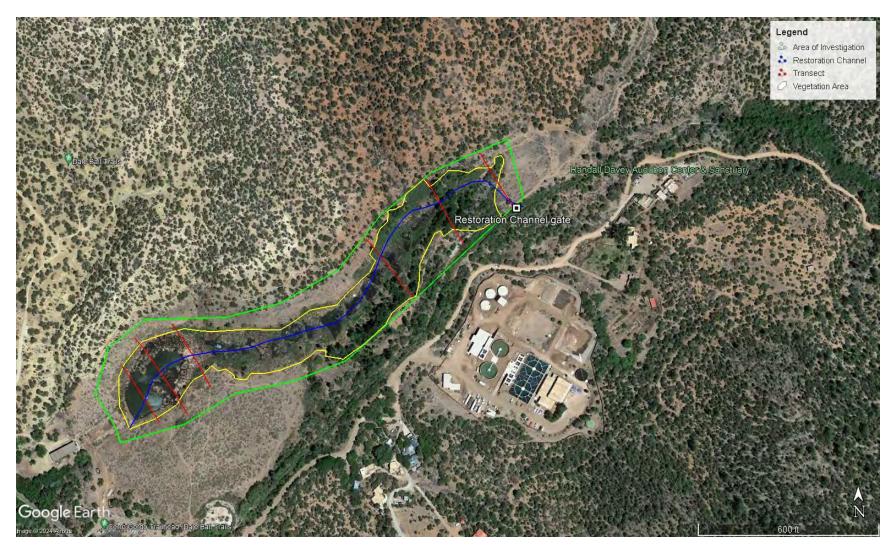


Figure A7. Historical image of Two-Mile Pond Complex dated June 16, 2011.

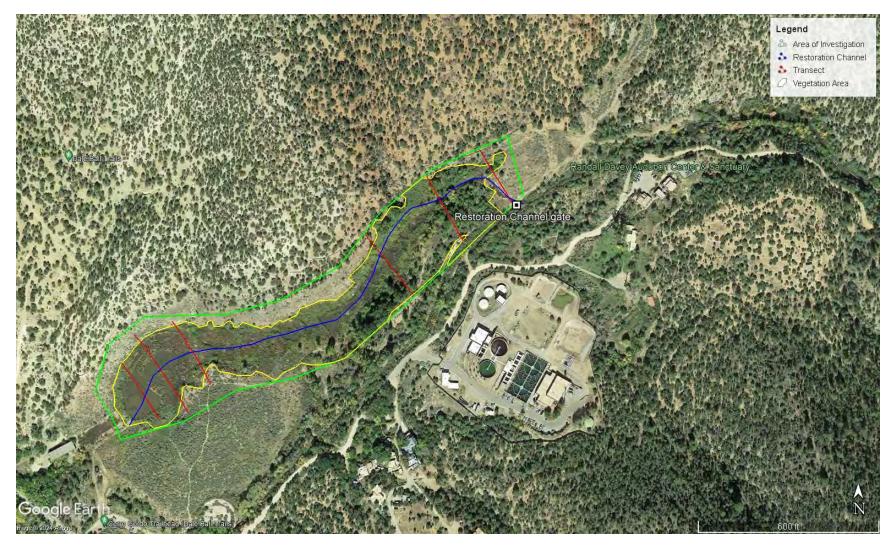


Figure A8. Historical image of Two-Mile Pond Complex dated October 2, 2013.

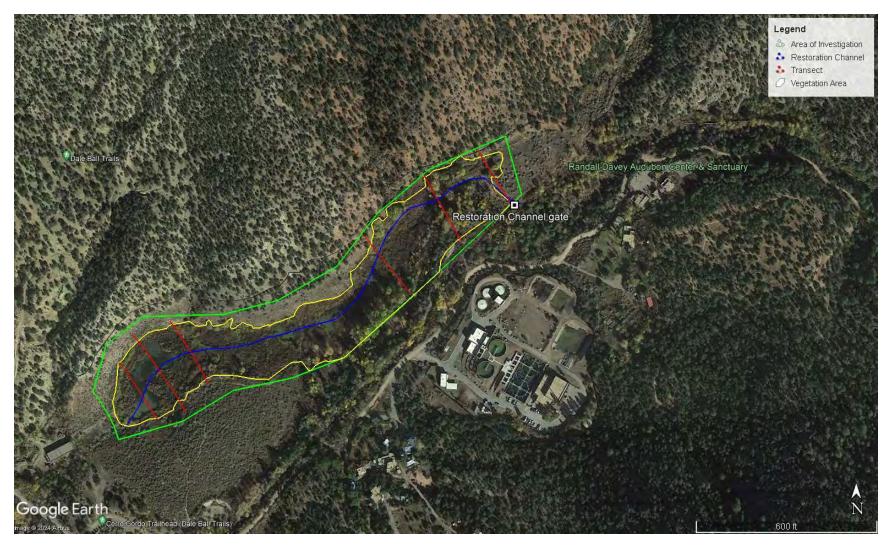


Figure A9. Historical image of Two-Mile Pond Complex dated November 1, 2015.

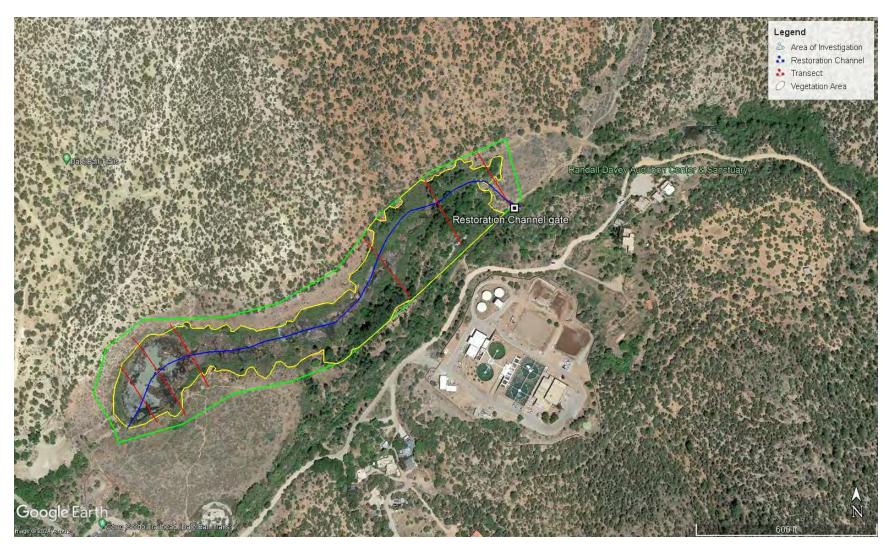


Figure A10. Historical image of Two-Mile Pond Complex dated June 10, 2017.

JSAI Appendix A.

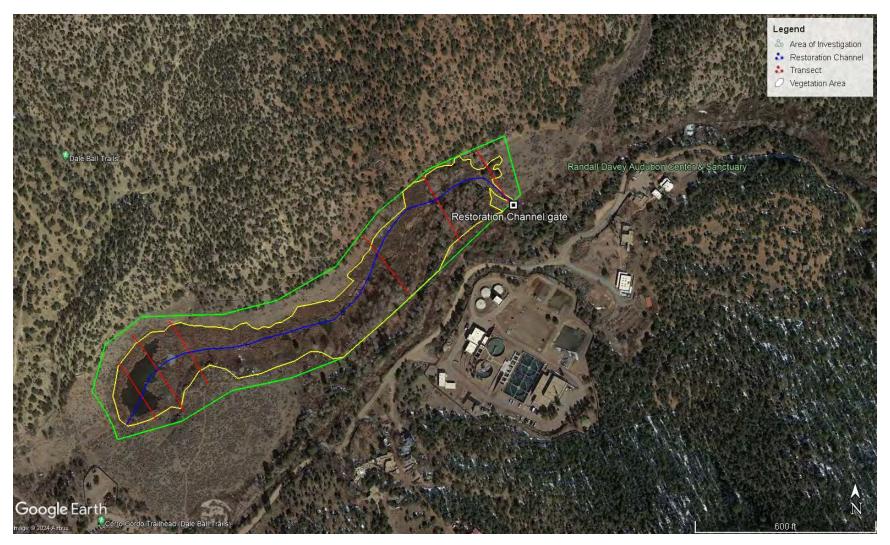


Figure A11. Historical image of Two-Mile Pond Complex dated March 2, 2021.

JSAI Appendix A.

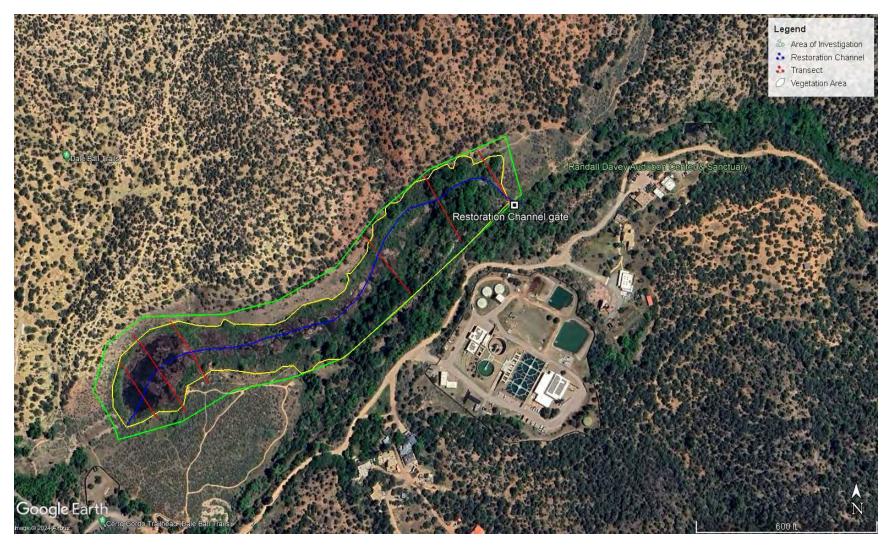


Figure A12. Historical image of Two-Mile Pond Complex dated July 6, 2023.

# Appendix B.

**NDMI Images for Two-Mile Pond Complex** 

JSAI

Appendix B.

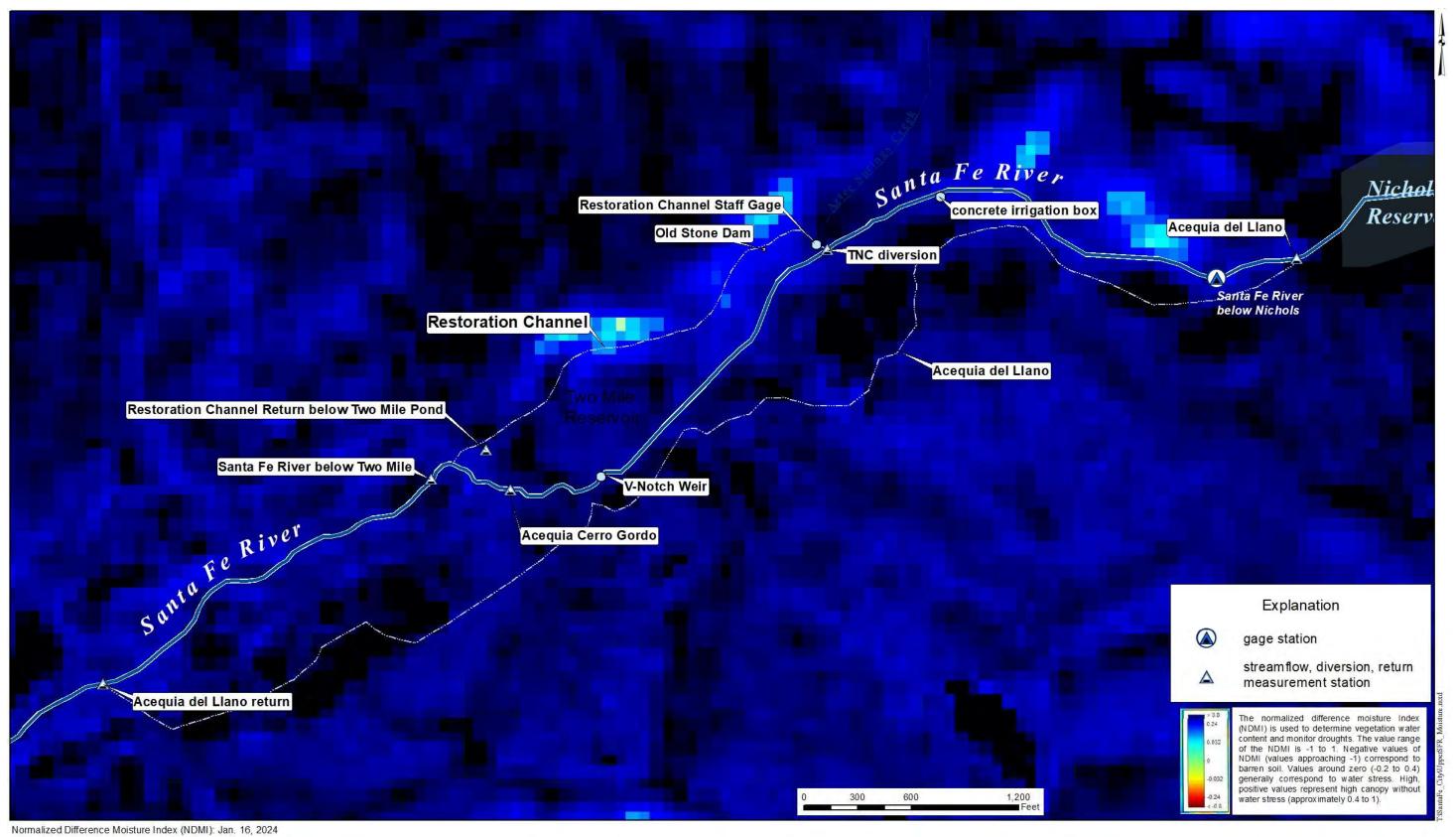


Figure B1. NDMI image of Two-Mile Pond Complex for January 16, 2024.

JSAI

Appendix B.

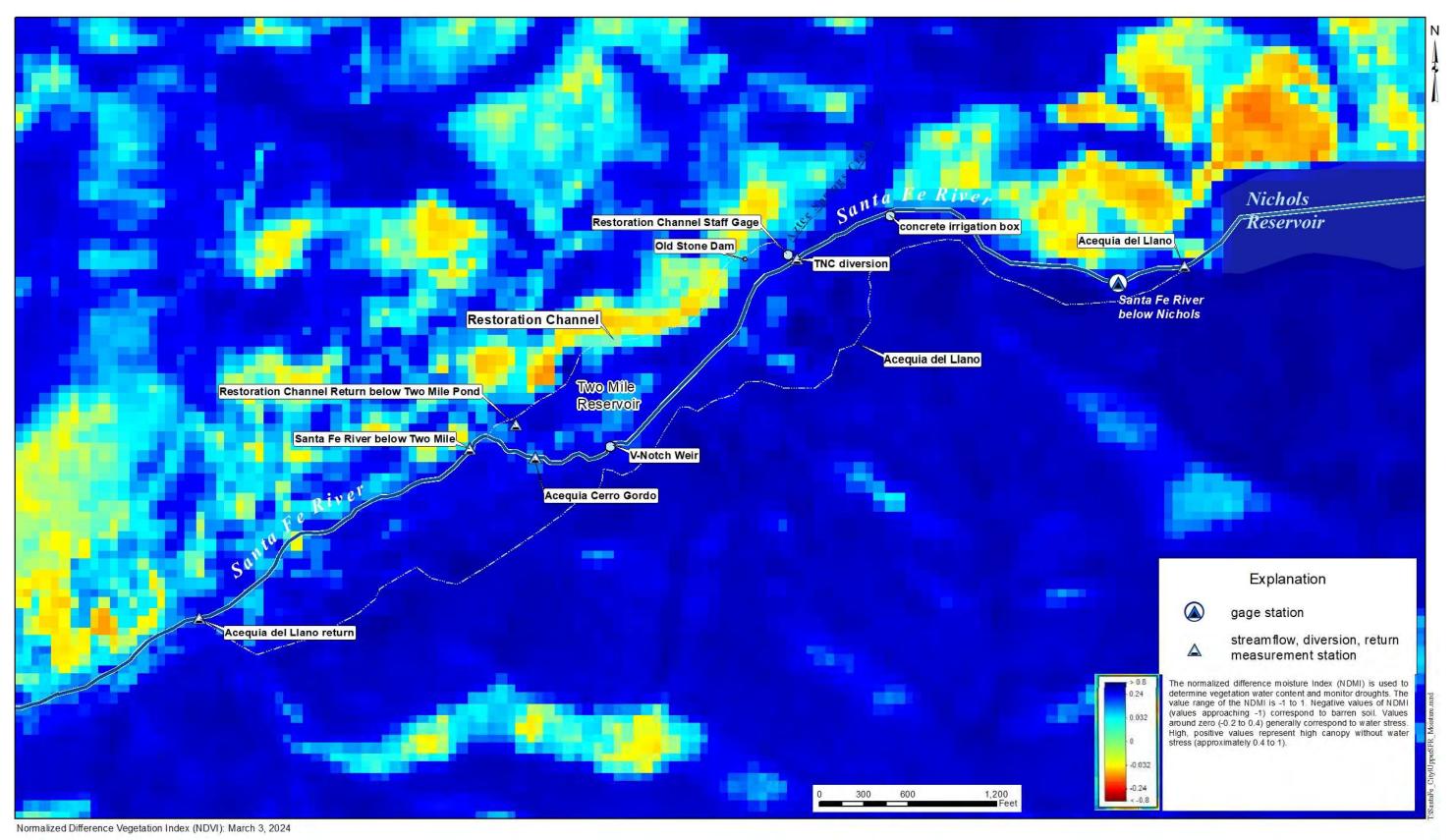
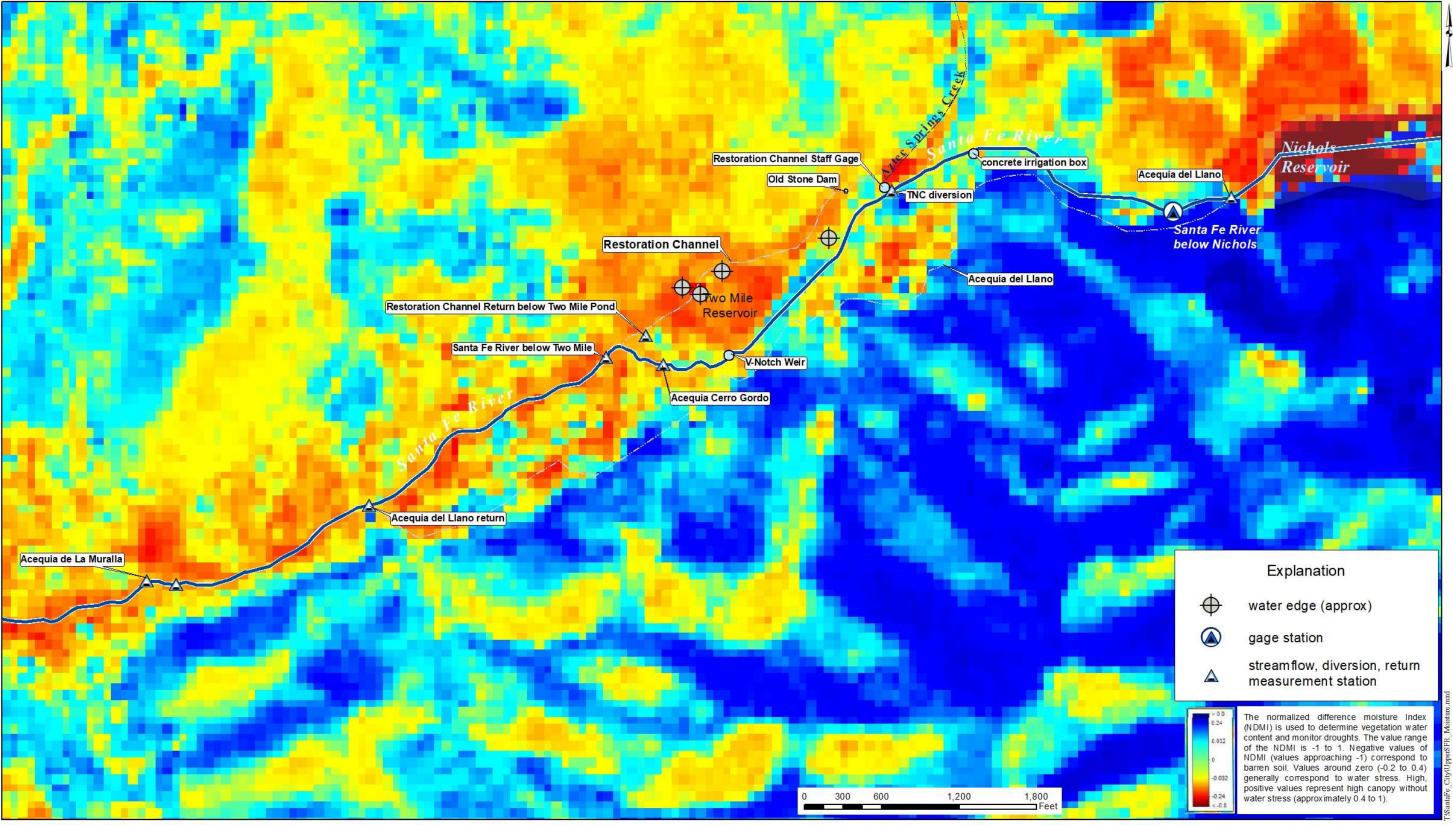


Figure B2. NDMI image of Two-Mile Pond Complex for February 5, 2024.

JSAI
Appendix B.



Normalized Difference Moisture Index (NDMI): March 3, 2024

Figure B3. NDMI image of Two-Mile Pond Complex for March 3, 2024.

# Appendix C.

**NDVI Images for Two-Mile Pond Complex** 

JSAI
Appendix C.

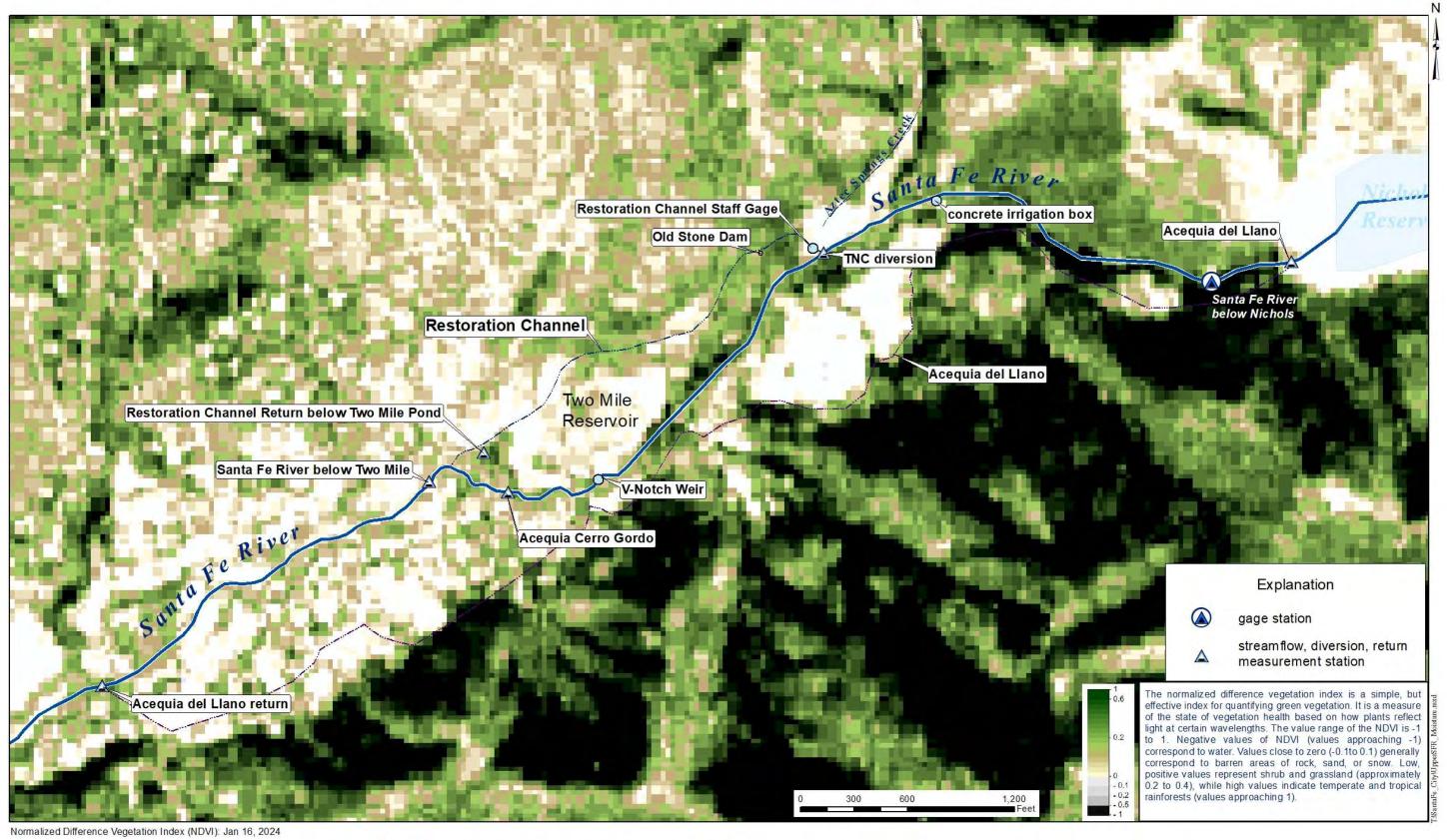


Figure C1. NDVI image of Two-Mile Pond Complex for January 16, 2024.

JSAI

Appendix C.

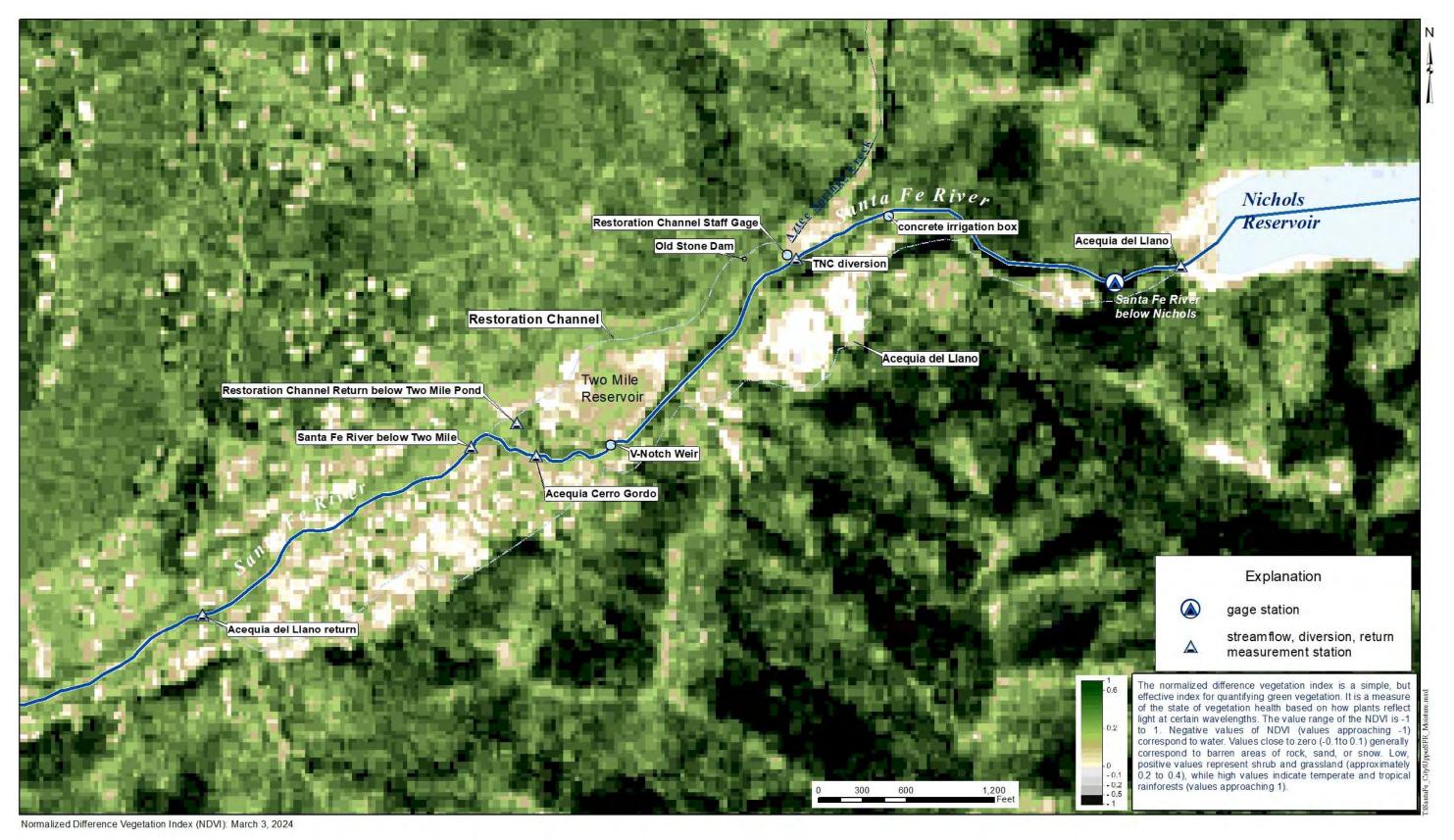


Figure C2. NDVI image of Two-Mile Pond Complex for February 5, 2024.

JSAI

Appendix C.

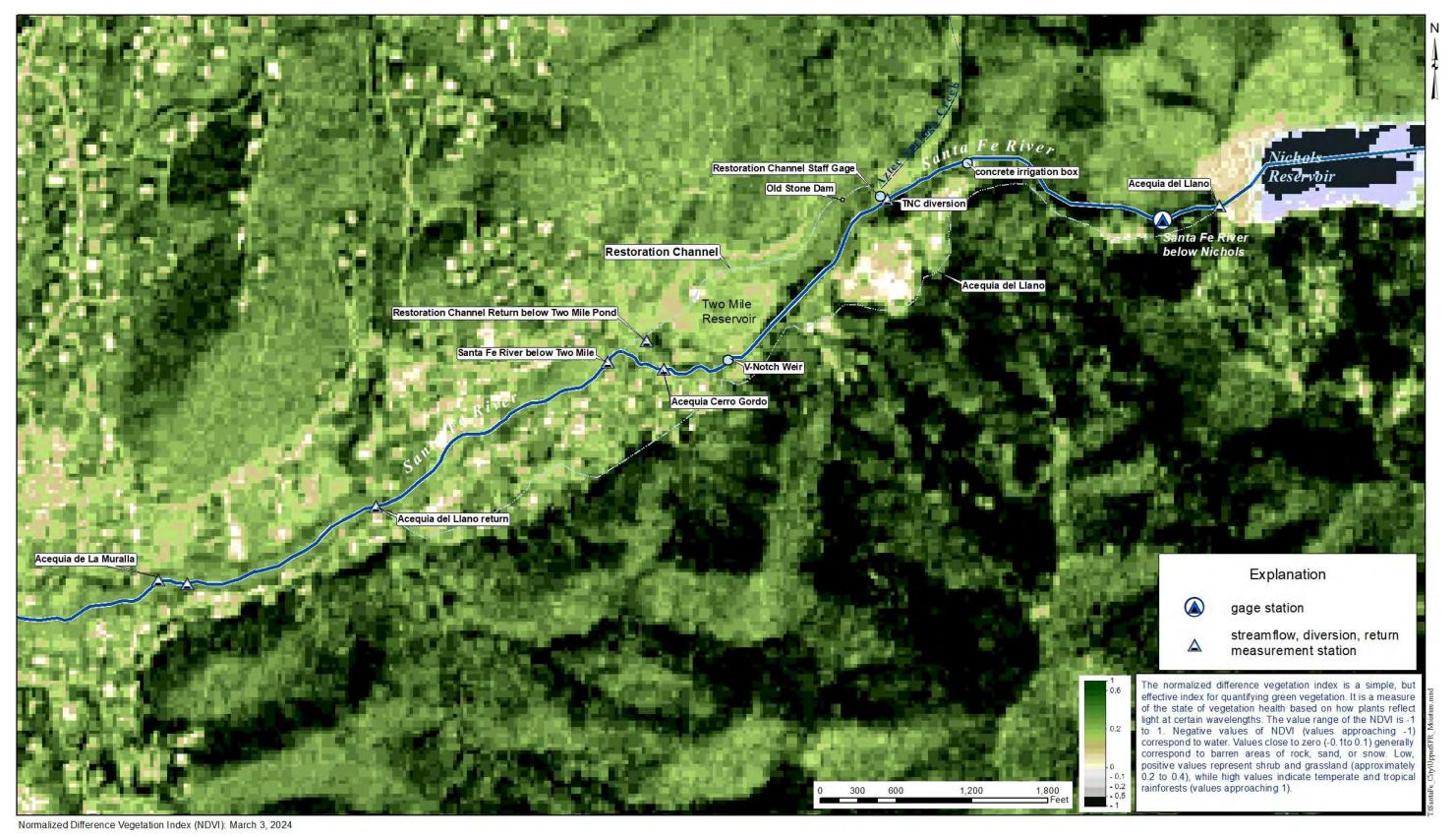


Figure C3. NDVI image of Two-Mile Pond Complex for March 3, 2024.

# Appendix D.

March 7, 2024 Field Investigation Forms

Monitorin



# **DAILY FIELD LOG**

ACTIVITY: March Monitoring CLIENT: Santa Fe

GEOLOGIST: DC5 AM PROJECT: 2 Mile Pond

08:55 DCS with Agrie in South east transact 09:04 transect transcet 6 Lat long W65 84 350 South 41 " N 7370 1050 41.2" W 53' Trangect 6 7350 35 41 15.6"N South Water 41.5" 105 53

35 10:16 15,9 Transpet 5 41 53 39.9 South edge 105 about 307° Nh 45 Cattail Start 10:59 35 Transcet 4 41 South and 105 53 38.6 35 41 Transpet 4 7362 39.2 105

1:00 CAMPS Seep 30 Lep" the ROCK 11:32 Transect Transect 35 41 3 SENd 20,0 105 53 29,5 12:00 20.3 35 105 53 30.3

2611 Broadbent Parkway NE Albuquerque, New Mexico 87107

345-3407 • www.shomaker.com

JOHN SHOMAKER & ASSOCIATES, INC. WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS



# **DAILY FIELD LOG**

DATE	3/7/	24	
CLIEN	IT: Santa	Fe	
PROJE	ECT: 2 m	ile Pond	Monitoring
35 41	74.8	7370	
25 53	26.9		
5 41	23.8	7365	
5 53	76.8		
5 41	25,6	7380	
5 53	24,6		
- 4,	7 % 6	73 7/	
		1116	
53	74.5		
20 N/ LI	^	"	1 11
	LCT up	hith St	GNO
	1 /		
getting	1 1457	measuren	16h -12
91 16,	1		
53 43.	2		
all alm	ng cat	walk	
of to c	ict por	1 Jepth	
like Si	e to	20 st thic	K
2615			
	CLIEN PROJECT 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CLIENT: Santa PROJECT: 2 m  35 41 24.8 25 53 26.9 5 41 23.8 5 53 26.8 5 41 25.6 5 53 24.6 5 53 24.6 5 41 23.5 5 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5 6 53 24.5	25. 53 26.9  S 41 23.8 7365  S 41 25.6 7380  S 53 24.6  S 41 23.5 73.76  S 3 24.6  S 41 23.5 73.76  S 3 24.5  Worth From "car turn of the start of t



3/7/24

DATE: City Of Santa Fe

PROJECT: Two Mile Pond Riparian Assessment

North Side T2 Log start of debils	35	41 53	24.8	7370	
South Side TZ		41 53	23,8	7365	
North Side TZ	35 105	41	25.6	7380	
South Side TI			23.5	7376	

#### 2024 MOISTURE MEASUREMENT FORM

	1	1
PAGE:_	(	OF

TOAT	
<b>JSAI</b>	
The state of the s	

DATE: 3/7 -

CLIENT: Santa Fe

PROJECT: Riparian Assesmen

SITE LOCATION: Transect 1

ACTIVITY: Moisture Measurement

GEOLOGISTS: DC5 +AM

Moisture Meter Description: Stendard Green 1-10 gage meter,

Distance from SE endpoint in feet	Date 3/7	Date	Average								
6	3										
15	0										
30	2										
45	2										
60	3										
75	2										
90	2										
105	3										
120	/										
135	3										
150	3										
165	/										
180	3										
195	3										
210	3										
225	5										

#### NMRAM Montane Riverine Wetlands Version 2.5

SA Cover Worksheet												
		SA Cove	r Worksheet									
A Code SF2MI [ ] SA Name: Two Mile Pond Reservoir Project: Riparian Assessment  de Tsct [ ] AU Name: Transect [ ] WOI: Two Mile Pond Reservoir												
A de Tsct [ / ]	July 1 Ju											
County Santa Fe HUC 12 Headwaters Santa Fe River Elevation (ft) 7299 (m) 2224.7 Ecoregion 6.0 NWFM												
A riparian system t decommissioned o of water rights.		cated on the east side	of Santa Fe bordering the and a water diversion to the									
	e from Albuquerque you you reach the reservoir		cos Trail. Then head east o	on Camino Del Monte S	ol and right on							
Ownership The Nature	Conservative and The S	anta Fe National Fores	Data Sharing Results Restrictions only.	to client Fish Obse Wetla	110							
Surveyor Role		Surve	yor Name	A MINISTER OF THE PARTY OF THE	Surveyor Initials							
Landscape	Oustin	and An	nie		DC5+AM							
Biotic	<i>a</i>		Ąŧ		e )'							
Abiotic	"		11		A 11							
Stressors	"		1	ı	W 11							
Easting (m)	Northing (m)	Zone	Datum	Latitude (DD ft)	Longitude (DD ft)							
-105° 53' 24" W	35° 41' 23" N	13	NAD- 83 UTM	35.689722	-105.89							
Survey Date	3/7 /24	Start Time	13:29	End Time	13:45							
		SA Do	escription									
SA Landscape Conte	xt (summarize the wetla	and and surrounding la	andscape; include condition	on and impacts)								
Starting	to get into	High desert like	re environment. T At 411 plants appoint	he water has	recently							
been o	is continued to	this area. Bu	of 411 plants appe	our to still be	/							
refresent	the of hon :	the vegetation	previously looked									
SA Biotic Condition	(vegetation patterns, co	mposition and structu	re, exotics and invasives, c	disturbance evidence, fi	re and herbivory)							
When	getting	near the	edge of the	valley we	see							
more	deciduous	trees in	edge of the	ide from +	hat							
	is most											
		/ /	c.]; flooding characteristics	s and evidence of overb	pank flooding; soil							
			r other factors that define	0.775.007.27.30.07.003								
A I			that ran throu	ngh it that	is now							
70	longer flo	wing.										
Assessment Summa			ents after the field data is									
	This area	is ti	ke a conj	trol group	because							
0	I don't	ex pect	ke a cont this area t	o charge w	ery much,							
Provisional Field Score 3,04 Ra	nk <i>B</i> Surveyor(s)	DCS/Am Final Score		Initials DCS	Date 3/7/24							
		Pag	e 1 of 17									

SA CODE: SF2MI  $\begin{bmatrix} 1 \end{bmatrix}$ 

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 1 ]

Surveyor Initials: DCS

Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	2	0.25	0.5
Biotic		Σ	
B1. Relative Native Plant Community Composition	12	0.2	.4
B2. Vegetation Horizontal Patch Structure	2	0.2	4
B3. Vegetation Vertical Structure	3	0.2	16
B4. Native Riparian Tree Regeneration	2	0.2	4
B5. Invasive Exotic Plant Species Cover	3	0.2	1
Abiotic		Σ	, b
A1. Floodplain Hydrologic Connectivity		Q)B	-
A2. Physical Patch Diversity	2	0.25	.5
A3. Channel Equilibrium	4	0.25	١
A4. Stream Bank Stability and Cover		0.25	1,
A5. Soil Surface Condition		0.15	7

SA Condition Scoring Summary									
Major Attribute	Score	Wt.	Wt. Score						
Landscape Context	3.25	0.3	0.975						
Biotic	2,4	0.35	0.84						
Abiotic	3,5	0.35	1,225						
SA WETLAND	3,04								
SA WETLAND	RANK =	3.04	В						

SA Wetland Rank										
Rank	Score	Description								
Α	≥3.25 - 4.0	Excellent Condition								
B	≥2.5 - <3.25	Good Condition								
С	≥1.75 - <2.5	Fair Condition								
D	1.0 - <1.75	Poor Condition								

Stressor Summary	Major	Minor	Top Three
	0	0	1 No water running through
			2 Exotic species
			3 No stream.

Stressor Comments (Evaluation of risk)

This area is mostly high desert which puts it at small risk because the lack of water shouldn't change much

SA CODE: SF2MI[ 1]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 1 ]

Surveyor Initials: DCS

# **Landscape Context**

Li - B	uffer	Integrity I	ndex										
												dors that are either allowed,	
			lered non-buffer ele	ements th	hat disru <sub>l</sub>	pt ecosys	tem co	nnectivity	/. Indi	cate	the imag	ery type and date (season	
and yea													
Imagery Google Earth KMZ. file						Image	Image Date 6/23						
1		er/RCC land c	over elements				excluded non-buffer/RCC land cover elements					ents	
Buffer I	RCC					Buffer	RCC						
X	X	Natural or se	mi-natural vegetati	on patch	nes	X	X	1				elopments, parking lots, and other structures	
x	Х	Small irrigation	on ditches without	levees				Lawns, p	arks,	golf	courses, s	ports fields	
		Old fields, un	maintained					Railroad	5				
		Open range l	land					Maintair material				t piles, construction	
X	X	Foot trails, ho	orse trails, unpaved	bike trai	ils (low			Intensive	e lives	stock	areas, ho	rse paddocks, feedlots	
X	X	Non-channel	l onen water					1	_			ained pastures, hay fields,	
			ning abandoned ve	getated	levees, o	r					ls, and vir	neyards econd-order unpaved but	
X	X	t	curring levees			X	X	graded i	oads	ls			
		unpaved two	o tracks roads			X	x	Open was		bounded by a levee or other manmade			
		Other						Other					
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**SA CODE:** SF2MI[ 1 ] **Date:** 3/7/24

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# L2 - Riparian Corridor Connectivity (RCC)

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

Segments	Upstream	n Segment	Downstream Segment			
Banks	Left Bank	Right Bank	Left Bank	Right Bank		
A) Total Bank Disruption (m)	0 .	0	0	0		
B) Total Disruption by Segment (m)		0	(	)		
C) % Segment Disruption = (B/1000)*100		0	0			
D) Total Disruption both segments	0					
E) % Total Disruptions = (D/2000)*100	Zero disruption noticeable along the banks.					

	Table L2. RCC Rating						
Ra	ating	Description					
Ŕ	4	<b>0%</b> total disruption on both segments combined.					
0	3	<15% total disruption on both segments combined.					
C	2	≥15% - <40% total disruption on both segments combined.					
C	1	≥40% total disruption on both segments combined.					

#### L3 - Relative Wetland Size

Worksheet 3a. Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Worksh

		RSR			RWSI						
Current Size	1	Historic Size	=	RSR	1	-	RSR	X	100		RWSI (%)
9	1	10	=	0.9	1	THE D	0.1	X	100	=	10

		Table L3. Relative Wetland Size Rating
Rating	RWSI Score	Description
(X 4	≤10%	Wetland is at or only minimally reduced from its full natural extent
C3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size
C 2	>40% - ≤70%	Wetland has been reduced by more than 40% its natural size
C 1	>70%	Wetland has been reduced by more than 70% its natural size

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#### L4 - Surrounding Land Use

orksheet 4. Surrounding Land Use. Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
riculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

Ţ	able L4.	Surrounding Land Use Rating
R	ating	LUI Score
$\Box$	4	≥95 - 100
$\bigcirc$	3	≥80 - <95
X	2	≥40 - <80
0	1	<40

**SA Name:** Two Mile Pond Reservoir Transect  $[ \ 1 \ ]$ 

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**Biotic Metrics** 

Species Cover (B5) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3, B4, and B5 for Polygons from SA Biotic Map. Enter data for each polygon under a unique number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant he Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List grandmagrass, wild eye blue stem chimisa around channel P. non Appendix D). Use the comments box for documenting and describing vegetation community patch features. W, 11025 3/0/6/ Comments Invasive Exotic Species ungulyun (List Code(s)) Mallein Species % Cover 221 None **B5** Invasive Exotic B4 Tree Regeneration B % Cover 0/0 V Polygon B3 Vertical Structure No Type  $\subseteq$ IA1 IΑ 11181 **IA2** 10 12 14 2  $\alpha$ 4 Ξ 3 15 16 5 9 / ∞ 6

Pane 6

17

9

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20

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# **B1 - Relative Native Plant Community Composition**

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon.

index 2 E Species 3 E Species 4 E Species 5 E Species 6 E Species	WIIICH IS HIS	Tall Woody Stratum 1	Tall Woody Stratum 1	Stratum	-	Short Woody Stratum <sup>2</sup>	ly Stratu	ım 2		Short Woody Stratum 2 Herbaceous/Sparse Stratum 3	:/Sparse	Stratum 3		CT Score 4	4 6	
2   Nayle N Pirler N Christ, N Willey N   40 33 %   40 3	T	n Nos.	Species 1	ш Z	ecies 2	Species 3	, ш Z	ies 4		Species 5	ш 7	Species 6	шZ	Raw4	% SA5	Wt Score <sup>6</sup>
5				>		Chlm.sa	7	Willow	><					40	30%	1.2
Final Weighted Score?						~/1/Pm		Chinisa		blue stem	>	Wild Rye		2.0	1200	1.4
Final Weighted Score <sup>7</sup>	C															
	Q															
Final Weighted Score <sup>7</sup>	Ш				,											
Final Weighted Score7	ш															
Final Weighted Score <sup>7</sup>	G															
Final Weighted Score7	I															
Final Weighted Score7		,									Sum.					
	*															
	7															
	Σ															
Final Weighted Score <sup>7</sup>	z															
	0															
											Final	Weighted	Score <sup>7</sup>			2.6

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating 1. Trees and shrubs > 6 m (20 feet) and > 25% total stratum cover; 2. Trees and shrubs ≤6m (20 feet) and >25% total stratum cover; 3. Herbaceous (graminoids and forbs)>10% total stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

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Date:

SA Name:

Two Mile Pond Reservoir Transect [ 1 ]

Surveyor Initials: DCS

Table B1	Relative Native Plant C	ommunity Composition Rating
Rating	CT Fina	al Weighted Score
O 4	≥ 3.75	<10% non-native
3	≥ 3.25 and <3.75	10% ≤20% non-native
2 2	> 2.0 and <3.25	20% ≤50% non-native
O` 1	≤2.0	>50% non-native







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#### **B2 - Vegetation Horizontal Patch Structure**

**Worksheet 7.** Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal Patch Structure	pattern	A,B,C,	or D:
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C

		Table B2. Rating for Vegetation Horizontal Patch Structure
F	Rating	Description
C	4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
0	3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
X	2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
C	1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

#### **B3 - Vegetation Vertical Structure**

**Worksheet 8. Percentage of SA by vertical structure type (VST).** Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous Vegetation	VST 7 Sparse Vegetation
Total % of SA		40	50			10	

Table B3. Rating for Vegetation Vertical Structure. Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	<b>Dominant VST</b>	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%
	1	5	6W and/or 6H
C 4	1	6W	
	2 or 1 and 2	5	6W and/or 6H
	1		
X 3	2 or 1 and 2	5	
7 3	2 or 1 and 2	6W	
	5	6W	
	2 or 1 and 2		
2	5		
	6W		
	65		
1 1	6H		
	7		

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#### **B4 - Native Riparian Tree Regeneration**

34. Native Riparian Tree Regeneration rating. Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

Rating		Description		
C	/1	Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.		
Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.				
Œ		Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.		
$\bigcirc$	1	Native poles, saplings, and/or seedlings absent (0% cover).		

#### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Rating Method

Invasive cover (%)



calculate

Table B5. Ratings for Invasive Exotic Plant Species Cover				
Rating	Invasive Species Cover %			
C 4	0%			
7 3 X	>0% - <1%			
2	≥1% - <10%			
C 1	≥10			

#### Additional CTs and Biotic Metric Comments:

Area is very dry since recovering from winter.

This transect is mostly high desert but does

have some decidnous trees on the far NW side.

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A2 - P	hysica	Patch	Comp	lexity
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Worksheet 11. Physical Patch Complexity checklist. Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet. Upper Segment Middle Segment **Lower Segment** Field Indicators (check all existing conditions) Active side channels Abandoned channels Backwater/eddy Riffles or rapids Shoals, sparely-vegetated bars Channel boulders Oxbow lakes/ponds on floodplains Vegetated island and side bars X Terraces Channel pools Beaver ponds Swales, depressional features on floodplains Debris jams in channel Woody wrack piles on the floodplain Floodplain micro-topography (mounds, pits) Downed logs Natural levees Standing snags Variegated, convoluted, or crenulated foreshore

limited because only middle segment

Undercut banks in channels No. of unique Patch Types

Tabl	le A2.	Rating for Physical Patch Complexity
Rati	ng	Description
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).
C	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).
X	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).
0	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, $\leq 5$ unique indicators are present in the SA.

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#### A3- Channel Equilibrium

Worksheet 12. Channel Equilibrium Checklist. Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)
		X		The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.
		À		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
!		X		There is leaf litter, thatch, or wrack in most pools.
Indicators of		M		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Channel Equilibrium		Ø		There is little or no active undercutting or burial of riparian vegetation.
				There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).
				Channel and point-bars consist of well-sorted bed material.
	-			The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.
				There are channel pools at meander bends and some deep pools within the reach.
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.
				There are active headcuts within the channel.
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.
				There are partially buried living tree trunks or shrubs along the banks.
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.
				There are partially buried or sediment-choked culverts.
				There are avulsion channels on the floodplain or adjacent valley floor.

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Table A3. Rating for Channel Equilibrium					
Rating	Description				
Ø 4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.				
C 3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.				
O 2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.				
O 1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.				

# A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

ating on the SA Summary Worksheet.						
Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators		
	<u></u> 4	<b>⊅</b> 4	<u></u> 4	Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.		
Indicators of Bank Soil Stability	□3	3	_3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.		
Soli Stability	2	<u>2</u>	<u></u> 2	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.		
	1	_1	<u></u> 1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.		
Indicators of Stream Bank Erosion Potential	<u></u> 4	<b>5</b> 4	<u>4</u>	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.		
	3	□3	3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.		
	<u></u> 2	<u></u> 2	<u></u> 2	≥25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.		
	1	_1	1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.		

Average Indicator Score	4

Rating	Description		
፟ 4	>3.5 - 4.0		
C 3	>2.5 - ≤3.5		
O 2	>1.5 - ≤2.5		
C 1	1.0 - ≤1.5		

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#### **A5 - Soil Surface Condition**

reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

<b>Upper Segment</b>	Middle Segment	Lower Segment	Field Indicators (Check all existing conditions)	
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).	
	N N		Multiple livestock and other (fishing, hiking) trails,	
			Vehicle tracks including off-road and construction, etc.	
			Impervious compacted surfaces or pavement	
			Grading or plowing	
			Fill	
			Gravel pits	
			Anthropogenic levees and berms	
			Irrigation-driven salinity and mineral crusts	
			Fire pits	
			Other:	
			Estimate % soil disturbance by segment area	

Average % Soil Disturbance:

20
----

	Table A5. Soil Surface Condition Rating					
Rating	Description					
<b>%</b> 4	Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA.					
O 3	Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area.					
C 2	Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific area and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA.					
G 1	Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Wate is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.					

SA CODE: SF2MI[ 1 ]

3/7/24 **Date:** 

**SA Name:** Two Mile Pond Reservoir Transect [ 1 ]

Surveyor Initials: DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unkno Rank Major Stressors in Dominant Stressor column(Pick up to 3)

Rank	nk Affect			Shuaran Guaran ISA						
Rank	Major	Minor	Absent	Unknown	Stressor Group/Stressor	Comments				
					Adverse water management					
					Extended low flow dam releases	Water No loger flows here				
					Timing of flow releases not concordant					
			Ø		Extended high flow dam releases					
			Ø		Agriculture/Urban flow diversion upstream					
					Adverse sediment management					
					Adverse sediment retention by dams					
			Ø		Sediment loss by dredging					
					Adverse sediment input (roads/development)					
					Artificial water additions					
					Sewer treatment effluent					
			Ø		Point source urban runoff					
					Factory, feedlot outfall					
					Agricultural irrigation ditch returns					
					Mining waste					
					Ground water pumping					
					Urban depletions					
					Fracking					
					Agriculture irrigation wells					
					Watershed alteration					
					Extensive recent fires in watershed					
					Extensive recent timber harvest					
					Extensive open pit mining in watershed					
			Ø		Livestock/wildlife overgrazing					
					Local biodiversity impacts					
			Z		Evidence of excessive grazing (local)					
			Z		Excessive noise affecting wildlife					
	0	0		0	Counts by Intensity					
Additiona	l Commen	nts A	vea	is m	ostly High desert. Small stream	No longer has water				
			C-4	4.7	DINA HILLY AND THE STORY STORY	in the tonger may waster				

Version Date: 04/25/2022

Schema: Montane 2.5

#### 2024 MOISTURE MEASUREMENT FORM

PAGE: 1 OF 1
--------------

<b>JSAI</b>	
OBTAL	

DATE: 3/7

CLIENT: Santa Fe

PROJECT: Riparian Assessment

SITE LOCATION: Transect 2

ACTIVITY: Moisture Meter

GEOLOGISTS: DCS

Moisture Meter Description: Standard Green 1-10 gaze meter

Distance from SE endpoint in feet	Date 3/7	Date	Average								
0	2										
15	3										
30	7										
45	3										
60	4										
75	4										
1 89	4										
97	5										
100	6										
115	5										
136	7										-
140	7										
190											

Starter Charmel

too much debris

#### NMRAM Montane Riverine Wetlands Version 2.5

SA Cover Worksheet										
A Code SF2MI [ 2 ] SA Name: Two Mile Pond Reservoir Project: Riparian Assesement										
A ode Tsct [2]	ode Tsct [ 2 ] AU Name : Transect [ 2 ] WOI : Two Mile Pond Reservoir									
County Santa Fe			Elevation (ft) 7299	(m) 2224.7	Ecor	region 6.0 NWFM				
A riparian system t decommissioned c of water rig hts.										
Driving to Santa Fe	Driving Directions Driving to Santa Fe from Albuquerque you head north on Old Pecos Trail. Then head east on Camino Del Monte Sol and right on Canyon Road until you reach the reservoir located to the North.									
Ownership The Nature	Conservative and The S	Santa Fe National Fore	st Data Sharing Res Restrictions only	ults to client y.	Fish Obser Wetlar	rved in No nd?				
Surveyor Role		Surve	yor Name	34/31		Surveyor Initials				
Landscape	Lustin					DS				
Biotic	Annie					AM				
Abiotic	Dustin					Ds				
Stressors	Beth					DS				
Easting (m)	Northing (m)	Zone	Datum	Latitude	(DD ft)	Longitude (DD ft)				
-105° 53' 24" W	35° 41′ 23" N	13	NAD- 83 UTM	35.68972	22	-105.89				
Survey Date	3/7	Start Time	12:55	End 1	Гime	13.29				
		SAD	escription							
SA Landscape Conte	xt (summarize the wetla	and and surrounding l	andscape; include conc	dition and impac	ts)					
Above	the Dam a	long the	rver look path	Th,'s	area	sets				
a lot	the Dam a of Hikors	and used	I to have	a stream	n run	through				
;4	B.									
	(vegetation patterns, co									
This o	irea had th	e histest	variety of	plants	with	many differen				
trees	shrubs	and grasses	. More than	any o	ther	location.				
	n (hydrological alteratio					ank flooding; soil				
	er site impacts; explain the					the - t				
•	ie mille		nounes 3/rea	m that	runj	17/0037				
[]	ne middle	· - · +,								
Assessment Summa	Assessment Summary (Overall site condition summary and comments after the field data is collected.)									
	This area	is the most	diverse the	e lack	of w	ater will				
17	kely kill	the 20st	thick wall:	s of h	1:1100	tree s				
٩	very kill round the st	roam. Ground	is covered	in leaves						
Provisional Field Score 3.215 Ra	ink B Surveyor(s	) D 5 Final Scor	e_3.215 Rank B	Initials	DCS	Date 3/7/24				

SA CODE: SF2MI[2]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 2 ]

Surveyor Initials: DS

NMRAM - SA Rank Summary Worksheet: Montane Riverine Wetlands 2.5	= <u> </u>		
Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	0.25	0.5	
Biotic		Σ	REFE
B1. Relative Native Plant Community Composition	14	0.2	.8
B2. Vegetation Horizontal Patch Structure	0.2	4	
B3. Vegetation Vertical Structure	2	0.2	1.
B4. Native Riparian Tree Regeneration	4	0.2	. 8
B5. Invasive Exotic Plant Species Cover	4	0.2	-8
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity	7	rdis	<del></del>
A2. Physical Patch Diversity	1	0.25	.5
A3. Channel Equilibrium	4	0.25	1
A4. Stream Bank Stability and Cover	Ч	0.25	
A5. Soil Surface Condition	2	00 25	.5 (

Major Attribute	Score	Wt.	Wt. Score			
Landscape Context	3.25	0.3	0.975			
Biotic	3.4	0.35	1,19			
Abiotic	3	0.35	1.05			
SA WETLAND CONDITION SCORE $\Sigma$ 3.215						
SA WETLAND RANK = 3, 215						

SA Wetland Rank		
Rank	Score	Description
А	≥3.25 - 4.0	Excellent Condition
В	≥2.5 - <3.25	Good Condition
С	≥1.75 - <2.5	Fair Condition
D	1.0 - <1.75	Poor Condition

Stressor Summary	Major	Minor	Top Three
	0	0	1 lots of trail use
			2 No water going to stream
			3 Abandoned stream,

Stressor Comments (Evaluation of risk)

This area is high popularity in the park with a lot of trails and benches, No water is going through the stream anymore, Could kill Willow trees.

SA CODE: SF2MI [2]

**Date:** 3/7/24

DCS

**SA Name:** Two Mile Pond Reservoir Transect [2]

Surveyor Initials:

# **Landscape Context**

L. Bu	ıffer	Integrity I	ndex	3 2 3			11/8	78					
	clude	ed and consid											dors that are either allowed, ery type and date (season
lmagery	,	Google Earth	KMZ. file			lmag	Image Date 6/23					. 2 24	
Allowed	buffe	er/RCC land c	over elements			Exclu	Excluded non-buffer/RCC I			CC la	nd c	over elem	ents
Buffer R	CC					Buffe	ıffer RCC						
X	х	Natural or sei	mi-natural vegetati	on patch	ies	X	]	X	Commercial/residential developments, parking lots, dams, bridges, revetments, and other structures				
X	X	Small irrigation	on ditches without	levees			] [		Lawns, p	arks,	golf	courses, s	ports fields
		Old fields, un	maintained				] [		Railroads				
		Open range l	and						Maintain material				t piles, construction
X	X	Foot trails, ho intensity)	orse trails, unpaved	bike trai	ls (low				Intensive	e lives	tock	areas, ho	rse paddocks, feedlots
X	x	Non-channel	open water				]		1	sive agriculture: maintained pastures, hay fields, rops, orchards, and vineyards			
X	x	Non-function	ning abandoned ve urring levees	getated	levees,	or x	]	X	Paved roads or developed second-order unpaved but graded roads				
		unpaved two	tracks roads			X	]	x	Open wa	oen water bounded by a levee or other manmade ructure			
		Other					] [		Other				
			cent Sub-metric. N									Table	L1a. Buffer Percent
			allowed buffer eler etric using Table L1								Rating Buffer Percent		
		nmary Worksh									0	4	100%
			Buffer Percent	t (%)=	85%						Œ	3	≥80% - <100%
Worksh	eet 1	. Buffer Widt	: <b>h Sub-metric.</b> Mea	sure the	lenath	of each l	buffe	r line	e in mete	rs in	C	2	≥50% - <80%
			age the line length		-						C	1	<50%
			ry Worksheet 1d.									Tabl	le L1b. Buffer Width
Line	Bu	iffer Width (m)	Buffer Width (ft)	Line	Buf	fer Widt (m)	h	В	Buffer Width (ft)		$\vdash$	Rating	
A	-	164.26	538.91		1	61.93		-	531.26	$\dashv$			Average buffer width
											(C)	3	≥190m ≥130 - <190m
В		125.25	410.92	F		231.48			759.44		0	2	≥65 - <130m
С		115.39	378.57	G	1	21.25			397.80		0	1	<65m
D		111.07	364.40	Н	455				511.38			•	(03111
				36.58		(ft)			Ta	able L1c. S	Summary Rating for Buffer		
Average 148.31 (m) 486.5							(11)					Integrity	
			egrity Summary. E									Rating	Score
and L1b above to calculate the Buffer Integrity Index Score using below. Using the Buffer Integrity Index Score, enter rating for Buff												4	>3.5
on the SA Summary Worksheet.						· .	,			R	3	>2.5 - ≤3.5	
Buffer	% Ra	ting + B	uffer Width Rating	/2	= B	Buffer Int	teari	ity Ir	idex Sco	re		2	>1.5 - ≤2.5
								-,		-	$\bigcirc$	1	≤1.5
3	<b>+</b> 3 /2=				=	3							

SA CODE: SF2MI[2]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [2]

Surveyor Initials: DCS

#### L2 - Riparian Corridor Connectivity (RCC)

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

Segments	Unctropy	n Commont	D1			
Jeginents	Opstream	n Segment	Downstream Segment			
Banks	Left Bank	Right Bank	Left Bank	Right Bank		
A) Total Bank Disruption (m)	0	0	0	0		
B) Total Disruption by Segment (m)		0	(	)		
C) % Segment Disruption = (B/1000)*100		0	0			
D) Total Disruption both segments	0					
E) % Total Disruptions = (D/2000)*100	Zero disruption noticeable along the banks.					

	Table L2. RCC Rating								
R	ating	Description							
Œ	4	<b>0%</b> total disruption on both segments combined.							
C	3	<15% total disruption on both segments combined.							
C	2	≥15% - <40% total disruption on both segments combined.							
C	1	≥40% total disruption on both segments combined.							

#### L3 - Relative Wetland Size

**Worksheet 3a.** Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Worksh

RSR				RWSI							
Current Size	1	Historic Size	=	RSR	1		RSR	X	100	=	RWSI (%)
9	1	10		0.9	1	-	0.1	X	100	=	10

Table L3. Relative Wetland Size Rating				
Rating	RWSI Score	Description		
( <del>X</del> 4	≤10%	Wetland is at or only minimally reduced from its full natural extent		
<b>C</b> 3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size		
C 2	>40% - ≤70%	Wetland has been reduced by more than 40% its natural size		
<u>C</u> 1	>70%	Wetland has been reduced by more than 70% its natural size		

SA CODE: SF2MI[2]

2M[2] Date: 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 2 ] Surveyor Initials: DCS

#### L4 - Surrounding Land Use

orksheet 4. Surrounding Land Use. Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
griculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

Т	Table L4. Surrounding Land Use Rating					
R	ating	LUI Score				
	4	≥95 - 100				
0	3	≥80 - <95				
<b>®</b>	2	≥40 - <80				
$\Box$	1	<40				

SA CODE: SF2MI [ 2 ]

SA Name: Two Mile Pond Reservoir Transect [ 2 ]

Surveyor Initials: DCS

3/7/24

Date:

# **Biotic Metrics**

Species Cover (BS) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use Queiger, Restoration channel is dry ventalong rock path Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3, B4, and B5 for Polygons from SA Biotic Map. Enter data for each polygon under a unique number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant the Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List -MORR Appendix D). Use the comments box for documenting and describing vegetation community patch features. either Horse ta, 1 Comments Invasive Exotic Species unknown (List Code(s)) F/23 1 Species % Cover None B5 Invasive B4 Tree B5 Inva: Regeneration Exotic 0% ~ % Cover Polygon B3 Vertical Structure No Type TA 11181 IA2 IIA1 10 12 15 40 9 7 13 14 16 9  $\infty$ 6 17 19 20

Dane 6

0

**SA Name:** Two Mile Pond Reservoir Transect  $\begin{bmatrix} 2 \end{bmatrix}$ 

SA CODE. SF2MI[ 2

Surveyor Initials: DCS

**Date:** 3/7/24

## **B1 - Relative Native Plant Community Composition**

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon.

				Tal	Tall Woody Stratum 1	Stratun	٦,		Short Woody Stratum <sup>2</sup>	ody Strat	um <sup>2</sup>		Herbaceon	s/Spars	Herbaceous/Sparse Stratum <sup>3</sup>		CT Score 4	e 4	
b	Polygon Nos.	Nos.		Sp	Species 1	шΖ	Species 2	ш Z	Species 3	ш Z	ies 4	шΖ	Species 5	шZ	Species 6	шZ	Raw4	% SA5	Wt Score <sup>6</sup>
4	7			O .	Coffeed	×	E/m	۲	W. Now	N	guniper	N	Horsefa,1	3	Blue Stem byodreed	۲	3.75	1, 001	3,75
m																			
U																			
۵																			
ш																			
ш																!			
U							:												
I			_				,												
_								:											
_																			
×							:												
															,				
Σ																			
z																			
0																			
				3										Fina	Final Weighted Score7	Score			8.75

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

SF2M1[2]

3/7/24 Date:

SA Name:

Two Mile Pond Reservoir Transect [ 2 ]

Surveyor Initials: DCS

Table B1	. Relative Native Plant C	ommunity Composition Rating
Rating	CT Fina	al Weighted Score
4	≥ 3.75	<10% non-native
3	≥ 3.25 and <3.75	10% ≤20% non-native
<u> </u>	> 2.0 and <3.25	20% ≤50% non-native
$\bigcirc$ 1	≤2.0	>50% non-native









### **B2 - Vegetation Horizontal Patch Structure**

**Worksheet 7.** Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal Patch	Structure	pattern	A,B,C,	or	D:
------------------	-----------	---------	--------	----	----

,C, or D:	 

		Table B2. Rating for Vegetation Horizontal Patch Structure
F	Rating	Description
C	4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
0	3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
8	2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
$\circ$	1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

### **B3 - Vegetation Vertical Structure**

**Worksheet 8. Percentage of SA by vertical structure type (VST).** Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous	VST 7 Sparse
Total % of SA	50	Torest		50	wettand	Vegetation	Vegetation

**Table B3. Rating for Vegetation Vertical Structure.** Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	Dominant VST	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%
	1	5	6W and/or 6H
O 4 L	1	6W	
	2 or 1 and 2	5	6W and/or 6H
,	1		
3	2 or 1 and 2	5	
Ø 2	2 or 1 and 2	6W	
	5	6W	
	2 or 1 and 2		
C 2	5		
	6W		
	6S		
0 1	6H		
	7		

SA CODE: SF2MI[ 2 ]

Date:

3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 2 ] **Surveyor Initials:** 

DCS

### **B4** Native Riparian Tree Regeneration

Tal. 34. Native Riparian Tree Regeneration rating. Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

R	ating	Description
8	1	Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.
$\circ$	3	Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.
Ô		Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.
	1	Native poles, saplings, and/or seedlings absent (0% cover).

### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Ratina	Method	

O
---

nvasive cover (%)	0

calculate

Table B5. Rating	s for Invasive Exotic Plant Species Cover
Rating	Invasive Species Cover %
C 4 X	0%
3	>0% - <1%
2	≥1% - <10%
C. 1	≥10

### Additional CTs and Biotic Metric Comments:

More of a High forest environment with lots of diversity. New life starting all around but mostly covered in leaves and other debris.

SA CODE: SF2MI[2]

3/7/24

Date:

SA Name: Two Mile Pond Reservoir Transect [ 2 ] Surveyor Initials: DCS

### A2 - Physical Patch Complexity Worksheet 11. Physical Patch Complexity checklist. Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet. **Upper Segment** Middle Segment **Lower Seament** Field Indicators (check all existing conditions) Active side channels X Abandoned channels Backwater/eddy Riffles or rapids Shoals, sparely-vegetated bars X Channel boulders Oxbow lakes/ponds on floodplains Vegetated island and side bars П X Terraces Channel pools Beaver ponds Swales, depressional features on floodplains Debris jams in channel Woody wrack piles on the floodplain Floodplain micro-topography (mounds, pits) $\square$ **Downed logs** Natural levees $\leq$ Standing snags Variegated, convoluted, or crenulated foreshore Undercut banks in channels No. of unique Patch Types

limited because only middle segment and lack of water source

Table A2. Rating for Physical Patch Complexity										
Rati	ng	Description								
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).								
C	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).								
X	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).								
C	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, ≤ 5 unique indicators are present in the SA.								

**SACODE:** SF2MI[2]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ <sup>2</sup> ]

Surveyor Initials: DCS

### A3- Channel Equilibrium

**Worksheet 12. Channel Equilibrium Checklist.** Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)		
		X		The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.		
		X		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.		
		M		There is leaf litter, thatch, or wrack in most pools.		
Indicators of		X		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.		
Channel Equilibrium				There is little or no active undercutting or burial of riparian vegetation.		
				There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).		
				Channel and point-bars consist of well-sorted bed material.		
				The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.		
				There are channel pools at meander bends and some deep pools within treach.		
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.		
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.		
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.		
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.		
				There are active headcuts within the channel.		
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.		
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.		
				There are partially buried living tree trunks or shrubs along the banks.		
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.		
				There are partially buried or sediment-choked culverts.		
				There are avulsion channels on the floodplain or adjacent valley floor.		

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**SA CODE:** 

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Two Mile Pond Reservoir Transect [ 2 ]

**Surveyor Initials:** DCS

Table A3. Rating for Channel Equilibrium								
Rating	Description							
₹ 4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.							
C 3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.							
C 2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.							
O 1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.							

### A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

rating on the 3A 3ul	ating on the SA Summary Worksheet.								
Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators					
	<u></u> 4	<b>3</b> 4	<u></u> 4	Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.					
Indicators of Bank Soil Stability	3	□3	<u></u> 3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.					
3011 Stability	2	2	<u> </u>	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.					
	_1 _1 _1		1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.					
	<u></u> 4	<b>X</b> 4	<u></u> 4	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.					
	<u></u> 3	<u></u> 3	_3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.					
Indicators of Stream Bank Erosion Potential	<u></u> 2	<u></u> 2	<u> </u>	>25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.					
	<u></u> 1	1	<u></u> 1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.					

Rating	Description
X 4	>3.5 - 4.0
O/ 3	>2.5 - ≤3.5
O 2	>1.5 - ≤2.5
G/ 1	1.0 - ≤1.5

SA CODE: SF2MI[2]

Date:

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**SA Name:** Two Mile Pond Reservoir Transect [2]

Surveyor Initials: DCS

### **A5 - Soil Surface Condition**

reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

Upper Segment	Middle Segment	Lower Segment	Field Indicators (Check all existing conditions)					
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).					
			Multiple livestock and other (fishing, hiking) trails,					
			Vehicle tracks including off-road and construction, etc.					
			Impervious compacted surfaces or pavement					
			Grading or plowing					
			Fill					
			Gravel pits					
			Anthropogenic levees and berms					
			Irrigation-driven salinity and mineral crusts					
			Fire pits					
			Other:					
			Estimate % soil disturbance by segment area					

Average % Soil Disturbance: < 1 %

	Table A5. Soil Surface Condition Rating									
Rating	Description									
C 4	Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA.									
O 3	Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area.									
7× 2	Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific areas and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining, or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA.									
O 1	Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Water is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.									

SA CODE: SF2MI [2]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 2 ]

Surveyor Initials: DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unkno Rank Major Stressors in Dominant Stressor column(Pick up to 3)

Rank Affect			Strong Converts			
Harik	Major	Minor	Absent	Unknown		Comments
				Τ	Adverse water management	
					Extended low flow dam releases	
					Timing of flow releases not concordant	
					Extended high flow dam releases	
					Agriculture/Urban flow diversion upstream	
					Adverse sediment management	
			Z		Adverse sediment retention by dams	
			Ø		Sediment loss by dredging	
					Adverse sediment input (roads/development)	
					Artificial water additions	
					Sewer treatment effluent	
					Point source urban runoff	
			Z		Factory, feedlot outfall	
					Agricultural irrigation ditch returns	
					Mining waste	
					Ground water pumping	
			Ø		Urban depletions	
					Fracking	
					Agriculture irrigation wells	
		La la			Watershed alteration	
					Extensive recent fires in watershed	
					Extensive recent timber harvest	
					Extensive open pit mining in watershed	
					Livestock/wildlife overgrazing	
					Local biodiversity impacts	
					Evidence of excessive grazing (local)	
					Excessive noise affecting wildlife	
	0	0		0	Counts by Intensity	
Addition	al Comme	nts h	Vater	,	shut aff to	'water is shut off to this area'

Version Date: 04/25/2022

Schema: Montane 2.5

2024 MOISTURE MEASUREMENT FORM

PAGE:	1	_OF_	1
			_

JSAI

DATE: 3/7 -
CLIENT: Santa Fe
PROJECT: Riparian Assesment
SITE LOCATION: Transect 3
ACTIVITY: Moisture Meter

Moisture Meter Description: Standard Green 1-10 gage meter

Distance from SE endpoint in feet	Date 3/7	Date	Date	Date	Average						
0	1										
15	1										
30	4										
45	j										
60	1										
75	6										
90	W										
120	water										
								<u> </u>			

200 ling

### NMRAM Montane Riverine Wetlands Version 2.5

		SA Cove	er Worksheet				
SA Code SF2MI [3]	] SA Name: Two M	lile Pond Reservoir		Project : Riparian As	ssesement		
A de Tsct [3]	AU Name : Trans	ect [ <b>3</b> ]		WOI : Two Mile Pon	nd Reservoir		
County Santa Fe	HUC 12 Headw	aters Santa Fe River	Elevation (ft) 7299	(m) 2224.7	Ecoregion 6.0 NWFM		
A riparian system t decommissioned c of water rights. Driving Directions	due to safety concerns re	ated on the east side garding the reservoir	of Santa Fe bordering th and a water diversion to ecos Trail. Then head east	the area was recently	shut down due to lack		
	I you reach the reservoir				,		
Ownership The Nature	Conservative and The Sa	anta Fe National Fore	st Data Sharing Resul Restrictions only.		bserved in No etland?		
Surveyor Role		Surve	eyor Name		Surveyor Initials		
Landscape	Dustih				DS.		
Biotic	Annie				AM		
Abiotic	Dustin				DS		
Stressors	Both			1.1	PS		
Easting (m)	Northing (m)	Zone	Datum	Latitude (DD ft			
-105° 53' 24" W	35° 41' 23" N	13	NAD- 83 UTM	35.689722	-105.89		
Survey Date	3/7/24	Start Time	11:32	End Time	12:55		
		SA D	escription				
SA Landscape Conte	xt (summarize the wetla	nd and surrounding I	andscape; include condit	ion and impacts)			
This	Area is and large	the middle	of the n	cet land with	h beautr		
SA Biotic Condition	(vegetation patterns, cor	mposition and structu	re, exotics and invasives,	disturbance evidenc	e, fire and herbivory)		
Evi	erything is ever small	dry in the	is area vege	tation wise. Le water/p	ommed area,		
			tc.]; flooding characteristi or other factors that defin		verbank flooding; soil		
	This area 1	had a stor	m flow / Beaver the ground	- dam. This	dam held		
Assessment Summa		the state of the s	nents after the field data i				
	This area covered in on the	leaves, Nos	ty dry rist	d is viewe	able except		
Provisional Field Score 3338 Ra	nk Surveyor(s)	D CS Fina Scor	1 3.338 Rank A	Initials DCS	Date 3/7/24		

SA CODE: SF2MI[ 3]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 3 ]

Surveyor Initials: DCS

Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	2	0.25	0.5
Biotic		Σ	807
B1. Relative Native Plant Community Composition	2	0.2	Ц
B2. Vegetation Horizontal Patch Structure	4	0.2	1.8
B3. Vegetation Vertical Structure	3	0.2	66
B4. Native Riparian Tree Regeneration	3	0.2	6
B5. Invasive Exotic Plant Species Cover	3	0.2	16
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity	-	0.3	-
A2. Physical Patch Diversity	3	0.25	.75
A3. Channel Equilibrium	4	0.2 5	1
A4. Stream Bank Stability and Cover	4	0.2 5	i
A5. Soil Surface Condition		001 25	17

SA Condition Scoring Summary						
Major Attribute	Score	Wt.	Wt. Score			
Landscape Context	3.25	0.3	0.975			
Biotic	3,06	0.35	1.05			
Abiotic	3.75	0.35	5.3/2			
SA WETLAND CONDITION SCORE $\Sigma$ 3, 338						
SA WETLAND RANK = $3,338$ A						

SA Wetland Rank		Walter State of the State of th
Rank	Score	Description
A	≥3.25 - 4.0	Excellent Condition
В	≥2.5 - <3.25	Good Condition
С	≥1.75 - <2.5	Fair Condition
D	1.0 - <1.75	Poor Condition

Stressor Summary	Major	Minor	Top Three	
-	0	0	1	Tralls
			2	Beaver Dama
			3	lack of water

Stressor Comments (Evaluation of risk)

This Area is capable of holding a lot of water in the stormflow/Beaver Dom. lack of water could affect this.

**SA CODE:** SF2MI[3]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 3 ]

Surveyor Initials: DCS

### **Landscape Context**

Lı -B	uffer	Integrity l	ndex										
or are e	xclud											dors that are either allowed, ery type and date (season	
Imagen	nagery Google Earth KMZ. file						Image Date 6/23						
Allowed	d buff	er/RCC land co	over elements			Exclude	ed nor	n-buffer/R	CC la	nd c	over elem	ents	
Buffer I	RCC					Buffer	RCC						
X	x	Natural or ser	ni-natural vegetati	on patch	nes	X	X	1				elopments, parking lots, and other structures	
X	X	Small irrigation	on ditches without	levees				Lawns, p	arks,	golf	courses, s	ports fields	
		Old fields, un	maintained					Railroad	s				
		Open range la	and					Maintain material				t piles, construction	
X	X	Foot trails, ho intensity)	rse trails, unpaved	bike trai	ils (low			Intensive	e lives	stock	areas, ho	rse paddocks, feedlots	
X	X	Non-channel	open water					1	_		ure: mainta	ained pastures, hay fields, neyards	
X	x	Non-function	ing abandoned ve urring levees	getated	levees, or	x	x	Paved ro		ds or developed second-order unpaved but			
0		unpaved two	tracks roads			X	x	Open wa	pen water bounded by a levee or other manmade tructure				
		Other						Other					
Worksheet 1b. Buffer Percent Sub-metric. Measure or estimate													
											Table	e L1a. Buffer Percent	
SA peri	meter	r composed of	allowed buffer ele	ments ar	nd enter in	to the Bu	uffer P	ercent				e L1a. Buffer Percent  Buffer Percent	
SA peri Box be	metei low. R	r composed of	allowed buffer ele etric using Table L1	ments ar	nd enter in	to the Bu	uffer P	ercent		<u> </u>	Rating	Buffer Percent	
SA peri Box be	metei low. R	r composed of late the sub-m	allowed buffer ele etric using Table L1	ments ar a and er	nd enter in	to the Bu	uffer P	ercent		C &		I	
SA peri Box be Integri	meter low. R ty Sun	r composed of late the sub-mo nmary Worksho	allowed buffer ele etric using Table L1 eet 1d. Buffer Percen	ments ar a and er t (%)=	nd enter in nter the rat 85%	to the Buing on th	uffer Pone Buff	ercent fer	rs in		Rating 4	Buffer Percent 100%	
SA peri Box be Integri	meter low. R ty Sun	r composed of late the sub-monmary Worksho c. Buffer Widt	allowed buffer ele etric using Table L1 eet 1d.	ments ar a and er t (%)=	85% e length of	to the Buing on the	uffer Pone Buff	ercent fer e in mete		C Ø	Rating 4 3	Buffer Percent 100% ≥80% - <100%	
SA peri Box be Integrii Worksh the GIS the Buff	meter low. R ty Sun neet 1 or on	r composed of late the sub-mannery Workshood c. Buffer Widt the map. Avera	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length by Worksheet 1d.	ments ar a and er t (%)=	85% e length of re using Ta	to the Buing on the each buble L1b.	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating	on	<u> </u>	4 3 2 1	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%	
SA peri Box be Integrit Worksh the GIS the Buff	meter low. R ty Sun neet 1 or on	r composed of late the sub-monmary Worksho c. Buffer Widt the map. Averaggity Summan uffer Width	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length by Worksheet 1d.  Buffer Width	ments ar a and er t (%)=	85% e length of the using Tail	each buble L1b.	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating	on		Rating 4 3 2 1 Tab	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  le L1b. Buffer Width	
SA peri Box be Integrit Worksh the GIS the Buff	meter low. R ty Sun neet 1 or on fer Inte	r composed of late the sub-me nmary Worksho c. Buffer Widt the map. Avera egrity Summan uffer Width (m)	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen h Sub-metric. Mea age the line length ry Worksheet 1d.  Buffer Width (ft)	ments ar a and er t (%)= asure the s and rat Line	85% e length of the using Tal	each buble L1b.  Width m)	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating uffer Wic (ft)	on	C & C C	Rating  4 3 2 1 Tab	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width	
SA peri Box be Integrit Worksh the GIS the Buff	meter low. R ty Sun neet 1 or on fer Inte	r composed of late the sub-monmary Worksho c. Buffer Widt the map. Averaggity Summan uffer Width	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length by Worksheet 1d.  Buffer Width	ments ar a and er t (%)= asure the s and rat	85% e length of the using Tail	each buble L1b.  Width  93	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating	on		Rating  4 3 2 1 Tab  Rating 4	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m	
SA peri Box be Integrit Worksh the GIS the Buff	meter low. R ty Sun neet 1 or on er Inte	r composed of late the sub-me nmary Worksho c. Buffer Widt the map. Avera egrity Summan uffer Width (m)	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen h Sub-metric. Mea age the line length ry Worksheet 1d.  Buffer Width (ft)	ments ar a and er t (%)= asure the s and rat Line	85% e length of the using Tal	each buble L1b.  Width  93	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating uffer Wic (ft)	on	C   C   C   C   C   C   C   C   C   C	Rating  4  3  2  1  Tab  Rating  4  3	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m	
SA peri Box be Integrit Worksh the GIS the Buff Line	meter low. R ty Sun neet 1 or on er Into	c. Buffer Widt the map. Averagerity Summar uffer Width (m) 164.26	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length ry Worksheet 1d.  Buffer Width (ft)  538.91	ments ar a and er t (%)=  asure the s and rat  Line E	85% e length of the using Tail	each buble L1b.  Width  93	uffer Pe ne Buff ffer lin Enter t	ercent fer e in mete the rating uffer Wic (ft) 531.26	on	C & C C   C & C	### Rating   4   3   2   1     Tab     ### Rating   4   3   2   2     4   3   2     4   3   2     4   3   2     4   3   2	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m	
Worksh the GIS the Buff  A B C	neter low. R ty Sun eet 1 or on er Inte	c. Buffer Widt the map. Averegrity Summar uffer Width (m) 164.26 125.25	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length y Worksheet 1d.  Buffer Width (ft) 538.91 410.92 378.57	ments ar a and er t (%)= asure the s and rat  Line E F	85% e length of the using Tail  Buffer (1)  161.	each buble L1b. Width n) 93 .48	uffer Pe ne Buff ffer lin Enter t	e in mete the rating suffer Wic (ft) 531.26 759.44 397.80	on	C   C   C   C   C   C   C   C   C   C	Rating  4  3  2  1  Tab  Rating  4  3	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m	
SA peri Box be Integrit  Worksh the GIS the Buff  Line  A  B	neter low. R ty Sun eet 1 or on er Inte	c. Buffer Widt the map. Averegrity Summar uffer Width (m) 164.26 125.25 115.39	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length y Worksheet 1d.  Buffer Width (ft) 538.91 410.92 378.57 364.40	ments ar a and er t (%)= asure the s and rat  Line E F G H	85% e length of the using Tail  Buffer (tr.  231  121	each buble L1b. Width n) 93 .48	ffer lin	e in mete the rating fer Wic (ft) 531.26 759.44 397.80	on		Rating  4 3 2 1 Tab  Rating 4 3 2 1	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m	
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Worksh the GIS the Buff  Line  A  B  C  D  Works and L1 below.	Ave	c. Buffer Widt the map. Averagerity Summar uffer Width (m) 164.26 125.25 115.39 111.07 erage 1d. Buffer Intopy to Calculate g the Buffer Intopy Summary W	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length ry Worksheet 1d.  Buffer Width (ft)  538.91  410.92  378.57  364.40  148.31 (m)  egrity Summary. Eathe Buffer Integrit egrity Index Score, forksheet.	ments ar a and er t (%)= esure the s and rat  Line E F G H Enter the ty Index S enter ra	85% e length of the using Tail  Buffer (r  161. 231 121 155 486.: sub-metri Score using for Bu	each buble L1b.  Width m) .93 .48 .25 .87 58 c Rating g the foruffer Integral	ffer lin Enter t  (ft) s from mula in grity in	ein mete the rating uffer Wic (ft) 531.26 759.44 397.80 511.38 Tables L1 n the box	a c		Rating  4 3 2 1 Tab  Rating 4 3 2 1  Rating 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  le L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer Integrity  Score  >3.5	
Worksh the GIS the Buff  Line  A  B  C  D  Works and L1 below.	Ave  heet b abo Using the S	c. Buffer Widt the map. Averagerity Summar uffer Width (m) 164.26 125.25 115.39 111.07 erage 1d. Buffer Intopy to Calculate g the Buffer Intopy Summary W	allowed buffer ele etric using Table L1 eet 1d.  Buffer Percen  h Sub-metric. Mea age the line length ry Worksheet 1d.  Buffer Width (ft)  538.91  410.92  378.57  364.40  148.31 (m)  egrity Summary. Eathe Buffer Integrit egrity Index Score,	ments ar a and er t (%)= esure the s and rat  Line E F G H Enter the ty Index S enter ra	85% elength of the using Tall Buffer (r) 161. 231 121 155 486.: sub-metrificating for Buffer	each buble L1b.  Width m) .93 .48 .25 .87 58 c Rating g the foruffer Integral	offer Pone Buffer In Enter t  (ft) s from mula in grity in grity In grity In	ein metethe rating  uffer Wic (ft) 531.26 759.44 397.80 511.38  Tables L1 n the box	a c		Rating  4 3 2 1 Tab  Rating 4 3 2 1  Rating 4 3 2 1  Rating 4 3 3 3	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  le L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer Integrity  Score  >3.5  >2.5 - ≤3.5	

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### **L2 - Riparian Corridor Connectivity (RCC)**

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

Segments	Upstrear	m Segment	Downstrea	Downstream Segment		
Banks	Left Bank	Right Bank	Left Bank	Right Bank		
A) Total Bank Disruption (m)	0	0	0	0		
B) Total Disruption by Segment (m)		0	0			
C) % Segment Disruption = (B/1000)*100		0	0			
D) Total Disruption both segments	0					
E) % Total Disruptions = (D/2000)*100	Zero disruption noticeable along the banks.					

	Table L2. RCC Rating						
R	lating	Description					
Œ	4	<b>0%</b> total disruption on both segments combined.					
0	3	<15% total disruption on both segments combined.					
0	2	≥15% - <40% total disruption on both segments combined.					
C	1	≥40% total disruption on both segments combined.					

### L3 - Relative Wetland Size

Worksheet 3a. Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Worksh

RSR								WSI	SI		
Current Size	1	Historic Size	=	RSR	1		RSR	X	100	=	RWSI (%)
9	1	10	=	0.9	1	-	0.1	X	100	=	10

Table L3. Relative Wetland Size Rating						
Rating	RWSI Score	Description				
(X) 4	≤10%	Wetland is at or only minimally reduced from its full natural extent				
<b>C</b> 3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size				
		Wetland has been reduced by more than 40% its natural size				
C <sub>1</sub>	>70%	Wetland has been reduced by more than 70% its natural size				

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### **L4 - Surrounding Land Use**

**orksheet 4. Surrounding Land Use.** Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
riculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

Т	Table L4. Surrounding Land Use Rating					
R	ating	LUI Score				
$\cap$	4	≥95 - 100				
$\cap$	3	≥80 - <95				
(X)	2	≥40 - <80				
0	1	<40				

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## **Biotic Metrics**

Works numbe Specie the Tal Appen	sheet 5. Vegetation (er assigned from the !s Cover (B5) metrics. I bles in Appendix B an idix D). Use the comm	Community SA Biotic Ma Enter the Ve od the Field (	Patch Polygoi ip. Each polygoi rtical Structure Suide for metric r documenting	n Data for Biotic Metrics n is evaluated with respect Type (VST) for B3, tree reg : instructions. Enter the sp and describing vegetation	Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3, B4, and B5 for Polygons from SA Biotic Map. Enter data for each polygon under a unique number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant Species Cover (B5) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use the Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List - Appendix D). Use the comments box for documenting and describing vegetation community patch features.
Polygon No	B3 Vertical Structure Type	B4 Tree Regeneration % Cover	B5 Invasive Exotic Species % Cover	Invasive Exotic Species (List Code(s))	Comments
-	IA1				
7	IA2	>04	72%	Asllein	Cotton wood and cla mound is down laws a though
m	llA1	70%	N/A	None	Beak grain forus willing cott. 1/2 hours I late in
4	IIB1				
5	IIIC1				
9					
7					
80					
6					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

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**SA Name:** Two Mile Pond Reservoir Transect [ 3

SA CODE · SF2MI [3]

# **B1 - Relative Native Plant Community Composition**

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon.

N W DIC	which it is more abundant. Each polygon is eitner assigned to the same CI in this the same composition of a new CI is created for the polygon.	n is either a.	Ssigned (	מוווב כיו ווי	Lids tile sall	וערכווולי	OSICIOII OI A II	מרובתונים יכו	, LE	790		i	_	
		Tall Woody Stratum	· Stratum	_	Short Woody Stratum <sup>2</sup>	dy Stratt		Herbaceous/Sparse Stratum	Sparse	Stratum 2		CI Score 4		
t	Polygon Nos.	Species 1	шZ	Species 2 E	Species 3	шZ	Species 4 E	Species 5 E			ш Z	Raw4	% SA <sup>5</sup>	% SA5 Wt Score <sup>6</sup>
<	2	Ela (	MA	Cottom N	E, //av	7	l	Rullein	H	Sene	$\mathcal{L}$	2.4	50	1.2
В	w	Cottonum	2		W, 11025	2	1	catta,1	2	Bartgrain	3	2.5	50	50 1.25
O					P									
٥														
ш														
ш.								ļ						
ŋ														
工														
_								:						
¥														
Σ														
z														
0														
					- Control of the Cont				Final	Final Weighted Score7	score7		2,4	2,45
L										1				

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating 1. Trees and shrubs > 6 m (20 feet) and > 25% total stratum cover; 2. Trees and shrubs ≤6m (20 feet) and >25% total stratum cover; 3. Herbaceous (graminoids and forbs)>10% total stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

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Two Mile Pond Reservoir Transect [ 3 ]

**Surveyor Initials:** 

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T	able B1	. Relative Native Plant C	ommunity Composition Rating
Ra	ating	CT Fina	al Weighted Score
0	4	≥ 3.75	<10% non-native
$\bigcirc$	3	≥ 3.25 and <3.75	10% ≤20% non-native
8	2	> 2.0 and <3.25	20% ≤50% non-native
0	1	≤2.0	>50% non-native









### **B2 - Vegetation Horizontal Patch Structure**

Worksheet 7. Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal Patch Structure pattern A,B,C, or D:



		Table B2. Rating for Vegetation Horizontal Patch Structure
R	ating	Description
X	4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
$\cap$	3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
0	2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
$\circ$	1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

### **B3 - Vegetation Vertical Structure**

Worksheet 8. Percentage of SA by vertical structure type (VST). Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous Vegetation	VST 7 Sparse Vegetation
Total % of SA	50			50			

Table B3. Rating for Vegetation Vertical Structure. Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	Dominant VST	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%
	1	5	6W and/or 6H
C 4	1	6W	
	2 or 1 and 2	5	6W and/or 6H
	1		
× 3	2 or 1 and 2	5	
7 3	2 or 1 and 2	6W	
	5	6W	
	2 or 1 and 2		
C 2	5		
	6W		
	65		
C 1	6H		
	7		

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### **B4** - Native Riparian Tree Regeneration

Ta. 34. Native Riparian Tree Regeneration rating. Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

R	ating	Description
С	4	Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.
X	3	Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.
0	2	Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.
$\overline{C}$	1	Native poles, saplings, and/or seedlings absent (0% cover).

### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Rating Method

•	ζ.	1_	
	_		

Invasive cover (%)

calculate

Table B5. Rating	s for Invasive Exotic Plant Species Cover
Rating	Invasive Species Cover %
C 4	0%
( 3 X	>0% - <1%
2	≥1% - <10%
C 1	≥10

### Additional CTs and Biotic Metric Comments:

This area is very much a High Structure forest with some short shrub land around the stream. Visible grats and new plants growing around

**SA CODE:** SF2MI[<sup>3</sup>]

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A2 - Physical Patch Complexity	A2	- Phy	ysical	<b>Patch</b>	Comp	lexity
--------------------------------	----	-------	--------	--------------	------	--------

Worksheet 11. Physical Patch Complexity checklist. Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet. Upper Segment **Middle Segment Lower Segment** Field Indicators (check all existing conditions) Active side channels X Abandoned channels X Backwater/eddy Riffles or rapids Shoals, sparely-vegetated bars Channel boulders Oxbow lakes/ponds on floodplains Vegetated island and side bars X Terraces X Channel pools X Beaver ponds Swales, depressional features on floodplains  $\boldsymbol{\lambda}$ Debris jams in channel X Woody wrack piles on the floodplain Floodplain micro-topography (mounds, pits) X **Downed logs** X Natural levees Standing snags Variegated, convoluted, or crenulated foreshore

Moderate chosan beause only lacked at middle segment

Undercut banks in channels

No. of unique Patch Types

Tabl	e A2.	Rating for Physical Patch Complexity
Rati	ng	Description
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).
Ø.	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).
Q	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).
C	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, ≤ 5 unique indicators are present in the SA.

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SA CODE:	SF2MI [ 3	]	Date:

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### A3- Channel Equilibrium

Worksheet 12. Channel Equilibrium Checklist. Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

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Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)
		X		The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.
		×		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
		X		There is leaf litter, thatch, or wrack in most pools.
Indicators of		×		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Channel Equilibrium				There is little or no active undercutting or burial of riparian vegetation.
				There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).
				Channel and point-bars consist of well-sorted bed material.
				The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.
(			, 🔲	There are channel pools at meander bends and some deep pools within the reach.
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.
				There are active headcuts within the channel.
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.
				There are partially buried living tree trunks or shrubs along the banks.
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.
				There are partially buried or sediment-choked culverts.
				There are avulsion channels on the floodplain or adjacent valley floor.

SA CODE: SF

SF2MI[ 3]

Date:

3/7/24

SA Name:

Two Mile Pond Reservoir Transect [3]

Surveyor Initials: DCS

	Table A3. Rating for Channel Equilibrium					
Rating	Description					
<b>A</b> 4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.					
C 3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.					
O 2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.					
O 1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.					

### A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

	Condition Upper Middle Lower					
Condition	Segment	Segment	Lower Segment	Field Indicators		
	<u></u> 4	<b>⊠</b> 4	<u></u> 4	Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.		
Indicators of Bank Soil Stability	3	□3	_3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.		
Soil Stability	_2	2	<u></u> 2	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.		
	1	1	_1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.		
	<u></u> 4	<b>⊠</b> 4	<u></u> 4	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.		
	□3	□3	_3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.		
Indicators of Stream Bank Erosion Potential	<u></u> 2	<u></u> 2	<u></u> 2	>25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.		
	<u></u> 1	1	1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.		

<del></del>	
Average Indicator Score	4

Table A4. Stream Bank Stability and Cover Rating				
Rating	Description			
<b>☆</b> 4	>3.5 - 4.0			
C 3	>2.5 - ≤3.5			
C 2	>1.5 - ≤2.5			
C 1	1.0 - ≤1.5			

SA CODE	: SI	F2MI [	3 ]	
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Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [3]

**Surveyor Initials:** DCS

### **A5 - Soil Surface Condition**

reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

Upper Segment   Middle Segment   Lower Se		Lower Segment	Field Indicators (Check all existing conditions)	
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).	
	X		Multiple livestock and other (fishing, hiking) trails,	
			Vehicle tracks including off-road and construction, etc.	
			Impervious compacted surfaces or pavement	
		Grading or plowing		
		Fill		
		Gravel pits		
			Anthropogenic levees and berms	
			Irrigation-driven salinity and mineral crusts	
			] Fire pits	
			Other:	
			Estimate % soil disturbance by segment area	

**Average % Soil Disturbance:** 

<	1	%

	Table A5. Soil Surface Condition Rating					
Rating	Description					
<b>%</b> 4	Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA.					
O 3	Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area.					
C 2	Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific areas and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining, or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA.					
C 1	Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Water is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.					

SA CODE: SF2MI[3]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 3 ]

Surveyor Initials: DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unkno Rank Major Stressors in Dominant Stressor column(Pick up to 3)

					inim() lek up to 3/	hou
Rank			ect		Stressor Group/Stressor	Comments
	Major	Minor	Absent	Unknown	<u> </u>	Confinents
					Adverse water management	
					Extended low flow dam releases	
			Ø		Timing of flow releases not concordant	
			贝		Extended high flow dam releases	
			Ø		Agriculture/Urban flow diversion upstream	
					Adverse sediment management	
					Adverse sediment retention by dams	
			Ø		Sediment loss by dredging	
					Adverse sediment input (roads/development)	
					Artificial water additions	
			Z		Sewer treatment effluent	
					Point source urban runoff	
			/		Factory, feedlot outfall	
					Agricultural irrigation ditch returns	
,					Mining waste	
					Ground water pumping	
			Z		Urban depletions	
					Fracking	
					Agriculture irrigation wells	
					Watershed alteration	
					Extensive recent fires in watershed	
					Extensive recent timber harvest	
					Extensive open pit mining in watershed	
					Livestock/wildlife overgrazing	
					Local biodiversity impacts	
					Evidence of excessive grazing (local)	
					Excessive noise affecting wildlife	
	0	0	Vel-	0	Counts by Intensity	
Addition	al Comme	nts	Less	we	iter being sent to this area	

Version Date: 04/25/2022

Schema: Montane 2.5

2024 MOISTURE MEASUREMENT FORM

1	1
PAGE:	OF

<b>JSAI</b>	
UDIAL	

DATE:

CLIENT: Sonta Fe

PROJECT: Riperian Assesment

SITE LOCATION: Transect

ACTIVITY: Moisture Measurement

GEOLOGISTS: DLS+AM

Moisture Meter Description: Standard Green 2-10 gage meter

	Distance from SE endpoint in feet	Date 3/7	Date	Average								
	0	3			·					-		
	15	3										
5	30	10										
4	45	10										
	60	3										
	75	3		-								
	90	3										
/ [	105	10										
		_										
						-					-	
	·											

### NMRAM Montane Riverine Wetlands Version 2.5

Li		SA Cover	Worksheet				
SA Code SF2MI [ 7 ] SA Name: Two Mile Pond Reservoir Project: Riparian Assessment							
ode Tsct [ 4 ]	AU Name : Tran	sect [ 4 ]		WOI : Two Mile Pond Re	eservoir		
County Santa Fe HUC 12 Headwaters Santa Fe River Elevation (ft) 7299 (m) 2224.7 Ecoregic							
A riparian system decommissioned of water rights. Driving Directions Driving to Santa F	due to safety concerns r	ocated on the east side of egarding the reservoir at u head north on Old Pec	f Santa Fe bordering the sond a water diversion to the sond as the	ne area was recently shu	t down due to lack		
——————————————————————————————————————	e Conservative and The	Santa Fe National Forest	Data Sharing Results Restrictions only.	to client Fish Obser Wetlar	1 10		
Surveyor Role		Survey	or Name	Control of the Control	Surveyor Initials		
Landscape	Dustin				DS		
Biotic	Annie				AM		
Abiotic	Dustin				DS		
Stressors	Both				DS		
Easting (m)	Northing (m)	Zone	Datum	Latitude (DD ft)	Longitude (DD ft		
-105° 53' 24" W	35° 41' 23" N	13	NAD- 83 UTM	35.689722	-105.89		
Survey Date	3/7/24	Start Time	10:59	End Time	11:32		
SA Description							
SA Landscape Conte	ext (summarize the wet		cription dscape; include condition	on and impacts)			
Ar	abandoned party	and and surrounding lar	ndscape; include condition wet land sits ter from the	in a valley tiver shut of			
SA Biotic Condition	recently ;	and and surrounding lar	dscape; include condition  ret land sits  ter from the  e, exotics and invasives, d	tiver shut of	e and herbivory)		
SA Biotic Condition	(vegetation patterns, co	and and surrounding lar	et land sits  et land sits  ter from the  e, exotics and invasives, d  at tails and	fiver shut of	re and herbivory)  ds like  tails		
SA Biotic Condition  SA Abiotic Condition	(vegetation patterns, co	and and surrounding lar	et land sits  ter from the  e, exotics and invasives, described birds  l; flooding characteristics	tiver shut of disturbance evidence, firm there sound in the cat	re and herbivory)  ds like  tails		
SA Abiotic Condition  SA Abiotic Condition disturbance and other	(vegetation patterns, consisted for a location is location. It is location is location is location. It is location is location is location. It is location is location.	and and surrounding lar	et land sits  et land sits  ter from the  e, exotics and invasives, d  at tails and	listurbance evidence, fire there sound in the cat	re and herbivory)  ds like  tails,  ank flooding; soil		
SA Abiotic Condition  SA Abiotic Condition  disturbance and other	(vegetation patterns, consist location is location is location is location is location in Loud crowd con (hydrological alteration er site impacts; explain to this area can your the cat tails.	omposition and structure  the birds.  ons {e.g., dams, walls etc. he hydrologic breaks or  sits in to  wetland h	et land sits  et land sits  er from the  e, exotics and invasives, d  at tails and  arios birds  l; flooding characteristics other factors that define  he stepest  ere is almo	disturbance evidence, fire there sound in the cat sand evidence of overby the SA limits)  slope of start and a sta	re and herbivory)  ds like  tails,  ank flooding; soil		
SA Abiotic Condition  SA Abiotic Condition  disturbance and other	recently  (vegetation patterns, co  location  location  (hydrological alteration er site impacts; explain the  Can you. The  Cat tails.  ary (Overall site condition	end and surrounding largery on the way of its water of the sure of	et land sits  ter from the  e, exotics and invasives, d  at tails and  arios birds  l; flooding characteristics other factors that define	disturbance evidence, firm there sound in the cat sand evidence of overbothe SA limits)  slope of starting controlly	re and herbivory)  ds like  tails,  ank flooding; soil  the  evered in		
SA Abiotic Condition  SA Abiotic Condition disturbance and other	(vegetation patterns, consisted for a constant of the constant	and and surrounding largery of the water of the sold its water of the sold its water of the sold its independent of the sold is the sold i	et land sits  ter from the  e, exotics and invasives, d  at tails and  arios birds  liflooding characteristics other factors that define  he stepest  ere is almo	disturbance evidence, fire shut of there sound in the cat sand evidence of overbothe SA limits)  slope of started at a sand evidence of overbothe SA limits)  collected.)  ely vegetated as sand evidence of sand evidence of sand evidence of sand evidence of overbothe SA limits)	re and herbivory)  ds like  tails,  ank flooding; soil  the  evered in		

SA CODE: SF2MI[ 4 ]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [4]

Surveyor Initials: DCS

Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	2	0.25	0.5
Biotic		Σ	
B1. Relative Native Plant Community Composition	14	0.2	. 8
B2. Vegetation Horizontal Patch Structure	3	0.2	6
B3. Vegetation Vertical Structure	3	0.2	- (
B4. Native Riparian Tree Regeneration	3	0.2	,6
B5. Invasive Exotic Plant Species Cover	3	0.2	.6
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity		\$3	_
A2. Physical Patch Diversity	2	0.25	.5
A3. Channel Equilibrium	4	0.25	- 2
A4. Stream Bank Stability and Cover	L L	0.25	)
A5. Soil Surface Condition	Ц	क्षे क	1

SA Condition Scoring Summary					
Major Attribute	Score	Wt.	Wt. Score		
Landscape Context	3.25	0.3	0.975		
Biotic	3.2	0.35	1.12		
Abiotic	3,5	0.35	1.225		
SA WETLAND CONDITION SCORE $\Sigma$ 3, 32					
SA WETLAND RANK = 3,32 A					

SA Wetland Rank							
Rank	Score	Description					
Α	≥3.25 - 4.0	Excellent Condition					
В	≥2.5 - <3.25	Good Condition					
С	≥1.75 - <2.5	Fair Condition					
D	1.0 - <1.75	Poor Condition					

Stressor Summary	Major	Minor	Top Three	
	0	0	_ 1	Trails
			2	Water Stoppinge
			3	cat tils

Stressor Comments (Evaluation of risk)

Not Many stressors here besides the lack of water that could happen this year

**SACODE:** SF2MI[ $^4$ ]

L1 - Buffer Integrity Index

В

C

D

125.25

115.39

111.07

**Average** 

3/7/24 Date:

**SA Name:** Two Mile Pond Reservoir Transect [ 4 ]

DCS **Surveyor Initials:** 

### **Landscape Context**

	clude	ed and conside										dors that are either allowed, ery type and date (season
Imagery Google Earth KMZ. file				Image	mage Date 6/23							
Allowed	buffe	er/RCC land co	over elements	· · · · · · · · · · · · · · · · · · ·		Exclud	ed nor	-buffer/RCC	lan	d cov	er eleme	ents
Buffer F	CC					Buffer	RCC					
X	x	Natural or sen	ni-natural vegetati	on patch	es	X	X	I .				elopments, parking lots, and other structures
x	X	Small irrigatio	n ditches without	levees				Lawns, park	ks, g	olf co	ourses, sp	oorts fields
		Old fields, unr	maintained					Railroads				
		Open range la	and					Maintained materials, s				piles, construction
X	X	Foot trails, ho intensity)	rse trails, unpaved	bike trai	ls (low			Intensive liv	tensive livestock areas, horse paddocks, feedlots			
X	x	Non-channel	open water					Intensive agriculture: maintained pastures, hay fields, row crops, orchards, and vineyards				
X	x	Non-function naturally occu	ing abandoned ve urring levees	getated	levees, or	x	X	Paved roads or developed second-order unpaved but graded roads				
		unpaved two	tracks roads	-		x	x	Open water bounded by a levee or other manmade structure				
		Other						Other				
Worksh	eet 1	b. Buffer Perc	ent Sub-metric. N	Aeasure (	or estimate	the per	rcenta	ge of the			Table	L1a. Buffer Percent
			allowed buffer ele						ŀ			
		ate the sub-me nmary Workshe	etric using Table L1	a and en	iter the rati	ng on t	ne Buff	er			iting	Buffer Percent
integrit	y Juli	illiary Worksile	Buffer Percen	+ (06)-	85%				- 1	$\overline{C}$	4	100%
									H	<u>x</u>	2	≥80% - <100%
			h Sub-metric. Me		_				m II	$\frac{C}{C}$	1	≥50% - <80% <50%
	the GIS or on the map. Average the line lengths and rate using Table L1b. Enter the rating on the Buffer Integrity Summary Worksheet 1d.							ן י		'	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
ule bull		egity Sulfillian	Buffer Width		Buffer	Width Buffer Width			$\dashv$	Table L1b. Buffer Width		
Line	, DC	(m)	(ft)	Line	(m			(ft)	·	Ra	ating	Average buffer width
A	,	164.26	538.91	F	161.9	93		531.26		$\overline{}$	1	>190m

Worksheet 1d. Buffer Integrity Summary. Enter the sub-metric Ratings from Tables L1a and L1b above to calculate the Buffer Integrity Index Score using the formula in the box below. Using the Buffer Integrity Index Score, enter rating for Buffer Integrity in Table L1c on the SA Summary Worksheet.

(m)

G

Н

410.92

378.57

364.40

148.31

Buffer % Rating	+ Buff	er Width Rating	/2 =	Buffer Integrity Index Score
3	+	3	/2 =	3

	Table L1b. Buffer Width							
R	ating	Average buffer width						
$\cap$	4	≥190m						
R	3	≥130 - <190m						
$\subset$	2	≥65 - <130m						

1

<65m

Table L1c. Summary Rating for Buffer Integrity						
Rating	Score					
C 4	>3.5					
(X 3	>2.5 - ≤3.5					
C 2	>1.5 - ≤2.5					
C 1	≤1.5					

231.48

121.25

155.87

486.58

759.44 397.80

511.38

(ft)

**SA CODE:** SF2MI[4]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 4 ]

Surveyor Initials:

DCS

### L2 - Riparian Corridor Connectivity (RCC)

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

Segments	Upstrear	n Segment	<b>Downstream Segment</b>			
Banks	Left Bank	Right Bank	Left Bank	Right Bank		
A) Total Bank Disruption (m)	0	0	0	0		
B) Total Disruption by Segment (m)		0	(	)		
C) % Segment Disruption = (B/1000)*100	0		0			
D) Total Disruption both segments		(	)			
E) % Total Disruptions = (D/2000)*100	Zero disr	uption notice	eable along t	he banks.		

	Table L2. RCC Rating							
R	ating	Description						
Œ	4	<b>0%</b> total disruption on both segments combined.						
C	3	<15% total disruption on both segments combined.						
C	2	≥15% - <40% total disruption on both segments combined.						
C	1	≥40% total disruption on both segments combined.						

### L3 - Relative Wetland Size

Worksheet 3a. Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Workshe

		RSR						R	WSI		
Current Size	1	Historic Size	=	RSR	1	-	RSR	X	100		RWSI (%)
9	1	10	= =	0.9	1	-	0.1	X	100	=	10

		Table L3. Relative Wetland Size Rating
Rating	RWSI Score	Description
<b>(X</b> ) 4	≤10%	Wetland is at or only minimally reduced from its full natural extent
<b>(</b> 3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size
C 2	>40% - ≤70%	Wetland has been reduced by more than 40% its natural size
C <sub>1</sub>	>70%	Wetland has been reduced by more than 70% its natural size

SA CODE: SF2MI[4]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 4 ]

Surveyor Initials: DCS

### **L4 - Surrounding Land Use**

**orksheet 4. Surrounding Land Use.** Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
riculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

Т	able L4.	Surrounding Land Use Rating
R	ating	LUI Score
0	4	≥95 - 100
0	3	≥80 - <95
Ø	2	≥40 - <80
$\bigcirc$	1	<40

SA CODE: SF2MI [ 4 ]

**SA Name:** Two Mile Pond Reservoir Transect [4]

Surveyor Initials: DCS

**Date:** 3/7/24

### **Biotic Metrics**

Species Cover (BS) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3, B4, and B5 for Polygons from SA Biotic Map. Enter data for each polygon under a unique number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant the Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List -

Appen	dix D). Use the comm	nents box for	documenting	and describing vegetation	Appendix D). Use the comments box for documenting and describing vegetation community patch features.
Polygon No	B3 Vertical Structure Type	B4 Tree Regeneration 16 % Cover	B5 Invasive Exotic Species % Cover	Invasive Exotic Species (List Code(s))	Comments
-	IA1				
2	IA2				
3	IIA1				
4	IIIB1	90%	3	N	Willows + cattails lots of birds in cattails
5	IIIC1	70%	10% of beschaff	Mustard/Mullein	Some Anipers, more mullein, Saltbush, blue stem
9					
7					
8					
6					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
70	(				

Dana 6

SA Name: Two Mile Pond Reservoir Transect [

SA CODE - SF2MI[ 4 ]

Surveyor Initials: DCS **Date:** 3/7/24

**B1 - Relative Native Plant Community Composition** 

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon. Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top

CT Polygo			Tall Woody Stratum	y Stratui	- E		Short Woody Stratum 4	מא היה לם	T F		Herbaceous/Sparse Stratum	as/spars	ב אוומוחוו		)	,	
-	Polygon Nos.		Species 1	ш Z	Species 2	шZ	Species 3	ш Z	Species 4	ш Z	Species 5	w Z	Species 6	шΖ	Raw4	% SA5	% SA <sup>5</sup> Wt Score <sup>6</sup>
_							Saltbush	3	Chim/305	Z	Blueston	N	Muller	m	2.5	2.5 10% 6,25	5,15
В Ц							Willer	>	cattail N		cath.	>			4.0	90% 3.6	3.6
U																	
												į					
ш																	į
ш																	
U														ļ			
I																	
<b>Y</b>																	
×														į			
z																	
0														-			
												Fina	Final Weighted Score <sup>7</sup>	d Score	2		80.

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating 1. Trees and shrubs > 6 m (20 feet) and > 25% total stratum cover; 2. Trees and shrubs < 6m (20 feet) and > 25% total stratum cover; 3. Herbaceous (graminoids and forbs) > 10% total stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

SF2MI[ 4 ]

Date:

3/7/24

SA Name:

Two Mile Pond Reservoir Transect [ 4 ]

Table B1	Relative Native Plant C	ommunity Composition Rating
Rating	CT Fina	al Weighted Score
4	≥ 3.75	<10% non-native
3	≥ 3.25 and <3.75	10% ≤20% non-native
2	> 2.0 and < 3.25	20% < 50% non-native

Surveyor Initials: DCS









### **B2 - Vegetation Horizontal Patch Structure**

≤2.0

Worksheet 7. Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal Patch Structure pattern A,B,C, or D:

>50% non-native

	Table B2. Rating for Vegetation Horizontal Patch Structure
Rating	Description
O 4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
<b>%</b> 3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
C 2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
O 1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

### **B3 - Vegetation Vertical Structure**

Worksheet 8. Percentage of SA by vertical structure type (VST). Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous Vegetation	VST 7 Sparse Vegetation
Total % of SA			50		50		vegetation

Table B3. Rating for Vegetation Vertical Structure. Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	Dominant VST	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%
	1	5	6W and/or 6H
C 4	1	6W	
	2 or 1 and 2	5	6W and/or 6H
	1		
Ж з □	2 or 1 and 2	5	
Λ,	2 or 1 and 2	6W	
	5	6W	
	2 or 1 and 2		
C 2	5		
	6W		
	65		
0 1	6H		
	7		

SA CODE: SF2MI [4]

**Date:** 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 4 ] Surveyor Initials: DCS

### **B4** Native Riparian Tree Regeneration

Ta. 84. Native Riparian Tree Regeneration rating. Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

Rating	Description
C 4	Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.
<b>⊘</b> 3	Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.
C 2	Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.
O 1	Native poles, saplings, and/or seedlings absent (0% cover).

### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Rating Method

1%

Invasive cover (%)

calculate

Table B5. Rating	s for Invasive Exotic Plant S <sub>i</sub>	pecies Cover
Rating	Invasive Species Cove	r%
O 4	0%	7
3 X	>0% - <1%	
( 2	≥1% - <10%	
O 1	≥10	

Additional CTs and Biotic Metric Comments:

Lots of birds and life can be heard in the willows and cat tails but none identified, Still recovering from winter

SF2MI[4] SA CODE:

3/7/24 Date:

**SA Name:** Two Mile Pond Reservoir Transect [4]

Surveyor Initials: DCS

A	2	-	Ph	ysi	cal	Pa	itch	Co	mr	lexity	,

Worksheet 11. Physical Patch Complexity checklist. Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet.

	Active side channels Abandoned channels Backwater/eddy Riffles or rapids Shoals, sparely-vegetated bars Channel boulders
	Backwater/eddy Riffles or rapids Shoals, sparely-vegetated bars
	Riffles or rapids Shoals, sparely-vegetated bars
	Shoals, sparely-vegetated bars
	Channel boulders
	 Charmer podicers
_	Oxbow lakes/ponds on floodplains
X)	Vegetated island and side bars
X	Terraces
	Channel pools
	Beaver ponds
	Swales, depressional features on floodplains
	Debris jams in channel
	Woody wrack piles on the floodplain
	Floodplain micro-topography (mounds, pits)
	Downed logs
8	Natural levees
	Standing snags
	Variegated, convoluted, or crenulated foreshore
	Undercut banks in channels
	No. of unique Patch Types

All cat tail in wetland Chose limited since only wetland and Middle Seg.

Tabl	e A2. I	Rating for Physical Patch Complexity
Rati	ng	Description
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).
0	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).
×	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).
C	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, ≤ 5 unique indicators are present in the SA.

**SACODE:** SF2MI[ $^4$ ]

**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [4]

Surveyor Initials: DCS

### A3- Channel Equilibrium

**Worksheet 12. Channel Equilibrium Checklist.** Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)
				The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.
		X		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
		Ľ		There is leaf litter, thatch, or wrack in most pools.
Indicators of		X		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Channel Equilibrium				There is little or no active undercutting or burial of riparian vegetation.
				There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).
				Channel and point-bars consist of well-sorted bed material.
				The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.
				There are channel pools at meander bends and some deep pools within the reach.
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.
				There are active headcuts within the channel.
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.
				There are partially buried living tree trunks or shrubs along the banks.
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.
				There are partially buried or sediment-choked culverts.
1				There are avulsion channels on the floodplain or adjacent valley floor.

SA CODE:

SA Name:

SF2MI[ 4 ]

Date:

3/7/24

Two Mile Pond Reservoir Transect [ 4 ]

Surveyor Initials: DCS

	Table A3. Rating for Channel Equilibrium			
R	ating	Description		
×	4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.		
0	3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.		
0	2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.		
$\bigcirc$	1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.		

### A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

rating on the SA Sur				
Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators
	<u></u> 4	<b>⊠</b> 4	<u></u> 4	Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.
Indicators of Bank Soil Stability	3	□3	_3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.
3011 Stability	<u>2</u>	2	<u></u> 2	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.
	1	1	_1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.
	<u></u> 4	<b>X</b> 14	<u></u> 4	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.
	3	□3	3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.
Indicators of Stream Bank Erosion Potential	<u></u> 2	<u></u> 2	<u> </u>	>25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.
	□1	_1	<u></u> 1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.

Average Indicator Score	Ц

Rating	Description			
₹ 4	>3.5 - 4.0			
C 3	>2.5 - ≤3.5			
O 2	>1.5 - ≤2.5			
C 1	1.0 - ≤1.5			

SA CODE: SF2MI[4]

Date: 3/7/24

< 1%

SA Name: Two Mile Pond Reservoir Transect [ 4 ] Su

Surveyor Initials: DCS

### **A5 - Soil Surface Condition**

**Forksheet 14. Soil Surface Condition.** Check all that apply in the upper, middle and lower SA segments during the field reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

<b>Upper Segment</b>	Middle Segment	Lower Segment	Field Indicators (Check all existing conditions)
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).
	X		Multiple livestock and other (fishing, hiking) trails,
			Vehicle tracks including off-road and construction, etc.
			Impervious compacted surfaces or pavement
			Grading or plowing
			Fill
			Gravel pits
			Anthropogenic levees and berms
			Irrigation-driven salinity and mineral crusts
			Fire pits
			Other:
			Estimate % soil disturbance by segment area

Average % Soil Disturbance:

**Table A5. Soil Surface Condition Rating Description** Rating Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA. Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other 3 anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area. Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific areas 2 and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining, or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA. Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Water 1 is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.

**SA CODE:** SF2MI [ $^4$ ]

Date: 3/7/24

**SA Name :** Two Mile Pond Reservoir Transect [  $4\ \ ]$ 

Surveyor Initials: DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unknov Rank Major Stressors in Dominant Stressor column(Pick up to 3)

Rank		Aff	ect		Stranger Crown (Stranger	
Hullik	Major	Minor	Absent	Unknown		Comments
					Adverse water management	
					Extended low flow dam releases	
			Ø		Timing of flow releases not concordant	
			Ø		Extended high flow dam releases	
			Ø		Agriculture/Urban flow diversion upstream	
					Adverse sediment management	
			Ø		Adverse sediment retention by dams	
					Sediment loss by dredging	
					Adverse sediment input (roads/development)	
					Artificial water additions	
			Ø		Sewer treatment effluent	
					Point source urban runoff	
					Factory, feedlot outfall	
					Agricultural irrigation ditch returns	
					Mining waste	
					Ground water pumping	
			Ø		Urban depletions	
			Ø		Fracking	
			Ø		Agriculture irrigation wells	
					Watershed alteration	
			Ø		Extensive recent fires in watershed	
			Ź		Extensive recent timber harvest	
					Extensive open pit mining in watershed	
					Livestock/wildlife overgrazing	
					Local biodiversity impacts	
					Evidence of excessive grazing (local)	
					Excessive noise affecting wildlife	
	0	0		0	Counts by Intensity	
Addition	al Comme	nts	Les	55	water being sent here t	han before

Version Date: 04/25/2022

Schema: Montane 2.5

2024 MOISTURE MEASUREMENT FORM

PAGE: 1	OF 1

JSAI	
UNITED	

DATE: 3/7 
CLIENT: Semta Fe

PROJECT: Riperian Assesment

SITE LOCATION: Transect 5

ACTIVITY: Moisture Measurements

GEOLOGISTS: DGS+ AM

Moisture Meter Description: Standard green 1-10 gage

	Distance from SE endpoint in feet	Date 3/7	Date	Average								
	0	2.5										
	15	2,0										
	25	/										
	30	2.0										
J	LIS'	10										
-												
-												
-												
-												
-												
-												
-												

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		SA Cover W	orksheet					
A Code SF2MI [ 5 ]	SA Name : Two M	Nile Pond Reservoir		Projec	t : Riparian Asse	sement		
ode Tsct [5]	AU Name : Trans	sect [ 5 ]		woi :	Two Mile Pond	Reservoir		
County Santa Fe HUC 12 Headwaters Santa Fe River Elevation (ft) 7299 (m) 2224.7 Ecoro								
A riparian system to decommissioned d of water rights. Priving Directions Driving to Santa Fe	ue to safety concerns re	cated on the east side of a garding the reservoir and the reservoir and the reservoir and the second the secon	d a water diver	sion to the area	was recently sh	nut down	due to lack	
wnership The Nature	Conservative and The S	anta Fe National Forest	Data Sharing Restrictions	Results to clie only.	nt Fish Obs Wetla		Yes	
Surveyor Role		Surveyo	r Name			Surv	eyor Initials	
Landscape	Dustin					125		
Biotic	Annie					AM		
Abiotic	Dustin					DS		
Stressors	B.th					DS		
Easting (m)	Northing (m)	Zone	Datum	La	Latitude (DD ft)		jitude (DD fi	
-105° 53' 24" W	35° 41′ 23" N	13	NAD- 83 U	JTM 35.	689722	-	-105.89	
Survey Date	3/7/29	Start Time	10:16		End Time	10	10:59	
		SA Desc						
SA Landscape Conte	kt (summarize the wetla	and surrounding land	dscape; include	condition and	impacts)			
	A popular	hin the val	ot.					
		mposition and structure,						
	on edges	of valley	Jpes 1	TAN3, \$100	To 11.9	n de	5 E W	
SA Abjectic Condition	(hydrological alteration	ns {e.g., dams, walls etc.];	flooding chara	cteristics and e	vidence of over	bank floo	ding; soil	
34 Apiotic Collabor		ne hydrologic breaks or o	ther factors tha	at define the SA	limits)			
		40			4 4	- (		
		40	valley	Some S	and bors	and		
		within a cat tail	valley 's fi	Some s	he wet	land	,	
disturbance and othe	5, 45 u	cat tail	ts after the field	d data is collect	ed.)		1101	
disturbance and othe	5, 45 u	within a cat tail	ts after the field	d data is collect	ed.)		1101	

**SA CODE:** SF2MI[5]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ <sup>5</sup> ]

Surveyor Initials: DCS

NMRAM - SA Rank Summary Worksheet: Montane Riverine Wetlands 2.5			
Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	2	0.25	0.5
Biotic		Σ	
B1. Relative Native Plant Community Composition	3	0.2	,6
B2. Vegetation Horizontal Patch Structure	3	0.2	.6
B3. Vegetation Vertical Structure	3	0.2	.6
B4. Native Riparian Tree Regeneration	3	0.2	.6
B5. Invasive Exotic Plant Species Cover	2	0.2	4
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity		40/3	_
A2. Physical Patch Diversity	3	0.25	.75
A3. Channel Equilibrium	Ц	0.2 5	4/2
A4. Stream Bank Stability and Cover	4	0.2 5	j
A5. Soil Surface Condition	L	04F 2.5	1 (

SA Condition Scoring Summary									
Major Attribute	Score	Wt. Score							
Landscape Context	3.25	0.3	0.975						
Biotic	2.8	0.35	0.98						
Abiotic	3.75	0.35	1,31						
SA WETLAND	CONDITION S	CORE Σ	3.26						
SA WETLAND	RANK =	3.26	A						

SA Wetland Rank		
Rank	Score	Description
Α	≥3.25 - 4.0	Excellent Condition
В	≥2.5 - <3.25	Good Condition
С	≥1.75 - <2.5	Fair Condition
D	1.0 - <1.75	Poor Condition

Stressor Summary	Major	Minor	Top Three					
	0	0	1	Trail	ls			
			2	Cat	tails			
			3	Less	Flow	to	Pond	

Stressor Comments (Evaluation of risk)

Water has stopped to marsh and popular

trail spot is by here.

SA CODE: SF2MI[ 5 ]

**Date:** 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 5 ] Surveyor Initials: DCS

# **Landscape Context**

al.	· -												
1	.ı -B	uffer	Integrity Ir	dex									
c	or are e	exclude											dors that are either allowed, ery type and date (season
1	mager	у	Google Earth I	KMZ. file			Image	Date	6/23				
7	Allowe	d buff	er/RCC land co	over elements			Exclud	led nor	n-buffer/R	CC laı	nd co	ver elem	ents
E	Buffer	RCC					Buffer	RCC					
	X	x	Natural or ser	ni-natural vegetati	on patch	es	X	X	1				elopments, parking lots, and other structures
	х	X	Small irrigation	n ditches without	levees				Lawns, p	arks, g	golf	courses, s	ports fields
			Old fields, uni	maintained					Railroads	s			
			Open range la	and					Maintain material				t piles, construction
	X	X	Foot trails, ho intensity)	rse trails, unpaved	bike trail	s (low			Intensive	e lives	tock	areas, ho	rse paddocks, feedlots
	X	x	Non-channel	open water					1	_		re: mainta s, and vin	ained pastures, hay fields, eyards
	x	х	Non-function naturally occu	ing abandoned ve ırring levees	getated l	evees, or	X	X	Paved ro graded r		r dev	eloped s	econd-order unpaved but
			unpaved two	tracks roads			x	x	Open wa		ounc	evee or other manmade	
ļ		$\Box$	Other		-13				Other			***	14170F - 11 - 1 - 1
				ent Sub-metric. A								Table	e L1a. Buffer Percent
				allowed buffer ele								Rating	I
	Box be	iiow. n	ate the sub-lik	etric using rable Li	a and en	ter the rat	ing on t	he Bufi	fer			vacing	Buffer Percent
			nmary Worksh	etric using Table L1 eet 1d.	a and en	ter the rat	ing on t	he Buf	fer			4	Buffer Percent 100%
						85%	ing on t	he Buf	fer		(S)		
	Integri	ty Sun	nmary Worksho	eet 1d. Buffer Percen	t (%)=	85%				rs in	$\overline{\mathbb{C}}$	4	100%
V	Integri Vorksl	ty Sun	nmary Worksho	eet 1d.	t (%)=	85% length of	each bu	ıffer lin	e in mete		(S)	4 3	100% ≥80% - <100%
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ti ti	Integri Vorksi he GIS	neet 1 or on	c. Buffer Widt	Buffer Percen <b>Sub-metric.</b> Meaning the line length	t (%)=	85% length of e using Tal	each bu	ıffer lin Enter t	e in mete	on	C @ C C	4 3 2 1	100% ≥80% - <100% ≥50% - <80%
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ti ti	Norksh he GIS he Buf Line A	neet 1 or on fer Into	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26	Buffer Percent  Sub-metric. Meaning the line length  y Worksheet 1d.  Buffer Width  (ft)  538.91  410.92	asure the s and rate  Line  E	85% length of e using Tal Buffer (r 161.	each buble L1b.  Width n)  93 48	ıffer lin Enter t	e in mete the rating uffer Wic (ft) 531.26 759.44	on	0 0 0 0 0	4 3 2 1 Table Rating 4 3 2 1	100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m
V ti ti	Vorksh he GIS he Buf Line A B C	neet 1 or on fer Into	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26 125.25 115.39 111.07	Buffer Percen  h Sub-metric. Meaning the line length y Worksheet 1d.  Buffer Width (ft)  538.91  410.92  378.57  364.40  148.31 (m)	sure the s and rate  Line  E  F  G  H	85% length of e using Tal  Buffer (r 161. 231 121 155 486.	each buble L1b.  Width n) 93 48 25 .87	uffer lin Enter t B	e in mete the rating uffer Wic (ft) 531.26 759.44 397.80 511.38	on ith	0 0 0 0 0	4 3 2 1 Table Rating 4 3 2 1	100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m
Vtiti	Vorkshe GIS he Buf Line A B C D	neet 1 or on fer Into	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26 125.25 115.39 111.07 erage	Buffer Percen  h Sub-metric. Meaning the line length y Worksheet 1d.  Buffer Width (ft)  538.91  410.92  378.57  364.40  148.31 (m)	sure the s and rate  Line  E  F  G  H	85% length of e using Tal  Buffer (r 161. 231 121 155 486.5	each buble L1b. Width n) 93 48 25 .87	uffer lin Enter t B (ft)	e in mete the rating uffer Wio (ft) 531.26 759.44 397.80 511.38	on ith		4 3 2 1 Table Rating 4 3 2 1	100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer
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t t	Vorksi he GIS he Buf Line A B C D	Ave	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26 125.25 115.39 111.07 erage	Buffer Percent Buffer Percent Buffer Percent Buffer Percent Buffer Percent Buffer Width (ft) 538.91 410.92 378.57 364.40 148.31 (m) Egrity Summary. Ethe Buffer Integritegrity Index Score,	Line  E  F  G  H	85% length of e using Tal  Buffer (r 161. 231 121 155 486.5	each buble L1b.  Width n)  93  48  25  .87  58	uffer lin Enter t B (ft)	e in mete the rating uffer Wio (ft) 531.26 759.44 397.80 511.38	a a		4 3 2 1 Table Rating 4 3 2 1 Selection Selecti	100%  ≥80% - <100%  ≥50% - <80%  <50%  Le L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer Integrity  Score
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ti ti	Vorkshe GIS he Buf Line A B C D Workshand Libelow	Ave	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26 125.25 115.39 111.07 erage 1d. Buffer Interpretation of the Buffer Interpretation of the Sammary Width	Buffer Percent Buffer Percent Buffer Percent Buffer Percent Buffer Percent Buffer Width (ft) 538.91 410.92 378.57 364.40 148.31 (m) Egrity Summary. Ethe Buffer Integritegrity Index Score,	Line  E  F  G  H  Enter the specific part of the sp	85%  length of e using Tal  Buffer (r 161. 231 121 155 486.: sub-metricore using for Bu	each buble L1b.  Width n) 93 48 25 87 68 c Rating the for	(ft) gs from	e in mete the rating uffer Wio (ft) 531.26 759.44 397.80 511.38	a c		4 3 2 1 Table Rating 4 3 2 1 Shelle L1c. Shelle L1c. Shelle L3c. S	100%  ≥80% - <100%  ≥50% - <80%  <50%  le L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer Integrity  Score  >3.5  >2.5 - ≤3.5

SA CODE: SF2MI[<sup>5</sup>]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 5 ]

Surveyor Initials: DCS

# **L2 - Riparian Corridor Connectivity (RCC)**

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

Segments	Upstrear	n Segment	<b>Downstream Segment</b>		
Banks	Left Bank	Right Bank	Left Bank Right Ban		
A) Total Bank Disruption (m)	0	0	0	0	
B) Total Disruption by Segment (m)		0	0		
C) % Segment Disruption = (B/1000)*100		0	0 eable along the banks.		
D) Total Disruption both segments		C			
E) % Total Disruptions = (D/2000)*100	Zero disr	uption notice			

Г		
	Ta	ble L2. RCC Rating
R	ating	Description
R	4	<b>0%</b> total disruption on both segments combined.
0	3	<15% total disruption on both segments combined.
0	2	≥15% - <40% total disruption on both segments combined.
C	1	≥40% total disruption on both segments combined.

### L3 - Relative Wetland Size

Worksheet 3a. Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Worksh

		RSR						R	WSI		
Current Size	1	Historic Size	=	RSR	1	-	RSR	X	100	=	RWSI (%)
9	1	10	=	0.9	1	-	0.1	X	100	=	10

		Table L3. Relative Wetland Size Rating
Rating	RWSI Score	Description
(X 4	≤10%	Wetland is at or only minimally reduced from its full natural extent
<b>3</b>	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size
		Wetland has been reduced by more than 40% its natural size
<b>O</b> 1		Wetland has been reduced by more than 70% its natural size

SA CODE: S

SF2MI[ 5 ]

Date: 3/7/24

SA Name:

Two Mile Pond Reservoir Transect [ 5 ]

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### **L4 - Surrounding Land Use**

prksheet 4. Surrounding Land Use. Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
ر riculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

Ta	ble L4.	Surrounding Land Use Rating
Ra	ting	LUI Score
0	4	≥95 - 100
0	3	≥80 - <95
(X)	2	≥40 - <80
$\cap$	1	<40

SA CODE: SF2M! [ 5 ]

**SA Name:** Two Mile Pond Reservoir Transect  $\begin{bmatrix} 5 \end{bmatrix}$ 

**Date:** 3/7/24

Surveyor Initials: DCS

**Biotic Metrics** 

Species Cover (B5) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3, B4, and B5 for Polygons from SA Biotic Map. Enter data for each polygon under a unique number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant the Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List-1,00 at 40 Cat Appendix D). Use the comments box for documenting and describing vegetation community patch features. thon Comments Invasive Exotic Species Mullen some muster (List Code(s)) Species % Cover Mullein B5 Invasive Exotic B4 Tree Regeneration 208 % Cover Polygon B3 Vertical Structure No Type M IIA1  $\Box$ IA2 IIB1 10 2 4 12 13 15 16 20 m 5 9  $\infty$ 6  $\Box$ 7 17 18 19

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Surveyor Initials: DCS

**Date:** 3/7/24

# **B1 - Relative Native Plant Community Composition**

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon.

ies 4 E Species 5 E Species 6 E N Mullein E Tridens N Mullein E Cress N Cress	N N	Short Woody Stratum 2   Herbaceous/Sparse Stratum	מכוו לכול	Tall Wood	dy Stratur	n l		Short Woody Stratum 2	Stratum	2	Fer	rbaceous	/Sparse	Stratum 3		CT Score 4	e 4	
4   Contact   C	lt	Polygon Nos.		Species 1	ш 2	ecies 2		pecies 3 E	Sp	ies 4	Spe	acies 5		Species 6	ш Z	Raw4	% SA5	% SA5 Wt Score6
	<	5			2			-	>			+	111	T	2	3,5	10%	3.15
	<u>a</u>																	
	U																	
	ш																	
	I 14								.,									
	1.5																	
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	5																	
	-					-												
Final Weighted Score <sup>7</sup>																		
													Final	Weighted	Score <sup>7</sup>			3.15

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating 1. Trees and shrubs > 6 m (20 feet) and > 25% total stratum cover; 2. Trees and shrubs ≤6m (20 feet) and >25% total stratum cover; 3. Herbaceous (graminoids and forbs)>10% total stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

SF2MI[5]

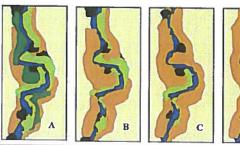
Date: 3/7/24

SA Name:

Two Mile Pond Reservoir Transect [ 5 ]

Rating	CT Fina	al Weighted Score
C, 4	≥ 3.75	<10% non-native
3	≥ 3.25 and <3.75	10% ≤20% non-native
C 2	> 2.0 and <3.25	20% ≤50% non-native
O 1	≤2.0	>50% non-native

Surveyor Initials: DCS



# **B2 - Vegetation Horizontal Patch Structure**

**Worksheet 7.** Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal	Patch	Structure	nattorn	ARC	or D.
IOIIZOIILAI	rattii	Structure	pattern	A.B.C.	. OF IJ:

,C, or D:	В	
1761		

		Table B2. Rating for Vegetation Horizontal Patch Structure
F	Rating	Description
	4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
Ø.	3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
0	2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
୍	1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

### **B3 - Vegetation Vertical Structure**

**Worksheet 8. Percentage of SA by vertical structure type (VST).** Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous Vegetation	VST 7 Sparse Vegetation
Total % of SA			80%			20%	

**Table B3. Rating for Vegetation Vertical Structure.** Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	Dominant VST	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%
39	1	5	6W and/or 6H
<u> </u>	1	6W	
	2 or 1 and 2	5	6W and/or 6H
/	1		
3	2 or 1 and 2	5	
,	2 or 1 and 2	6W	
	5	6W	
	2 or 1 and 2		
2	5		
	6W		
	65		
1	6H		
	7		

SA CODE: SF2MI[ 5]

Date:

3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 5 ] **Surveyor Initials:** DCS

### **B4 - Native Riparian Tree Regeneration**

**B4. Native Riparian Tree Regeneration rating.** Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

Rating	Description
C 4	Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.
	Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.
C 2	Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.
C 1	Native poles, saplings, and/or seedlings absent (0% cover).

### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Rating Method > 5 %

Invasive cover (%)

calculate

Table B5. Ratings for Invasive Exotic Plant Species Cover					
Rating	Invasive Species Cover %				
O 4	0%				
3	>0% - <1%				
2 X	≥1% - <10%				
O 1	≥10				

### Additional CTs and Biotic Metric Comments:

Trails of deer seen and gold fish seen in fond. Quick transition from High desert to wetland.

SA CODE: SF2MI[ 5 ]

3/7/24 Date:

**SA Name:** Two Mile Pond Reservoir Transect [ 5 ] **Surveyor Initials:** DCS

A2	- Phys	ical Pa	atch (	comp	lexity
	, .	-cui i	MECH	Ailin	ICVITA

Worksheet 11. Physical Patch Complexity checklist. Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet.							
Upper Segment	Middle Segment	Lower Segment	Field Indicators (check all existing conditions)				
			Active side channels				
			Abandoned channels				
			Backwater/eddy				
			Riffles or rapids				
			Shoals, sparely-vegetated bars				
			Channel boulders				
			Oxbow lakes/ponds on floodplains				
			Vegetated island and side bars				
			Terraces				
	<b>₩</b>		Channel pools				
	X		Beaver ponds				
			Swales, depressional features on floodplains				
	$\boxtimes$		Debris jams in channel				
			Woody wrack piles on the floodplain				
			Floodplain micro-topography (mounds, pits)				
			Downed logs				
			Natural levees				
			Standing snags				
			Variegated, convoluted, or crenulated foreshore				
			Undercut banks in channels				

Calling Moderate since only analyzing

No. of unique Patch Types

Tabl	le A2. I	Rating for Physical Patch Complexity
Rati	ng	Description
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).
X	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).
0	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).
C	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, ≤ 5 unique indicators are present in the SA.

SA CODE: SF2MI[ <sup>5</sup> ]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [5]

Surveyor Initials: DCS

## A3- Channel Equilibrium

**Worksheet 12. Channel Equilibrium Checklist.** Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)
		<b>X</b>		The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.
		Ø		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
		Ø		There is leaf litter, thatch, or wrack in most pools.
Indicators of		×		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Channel Equilibrium				There is little or no active undercutting or burial of riparian vegetation.
		凼		There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).
				Channel and point-bars consist of well-sorted bed material.
				The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.
				There are channel pools at meander bends and some deep pools within the reach.
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.
·				There are active headcuts within the channel.
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.
				There are partially buried living tree trunks or shrubs along the banks.
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.
				There are partially buried or sediment-choked culverts.
				There are avulsion channels on the floodplain or adjacent valley floor.

SA CODE:

SF2MI[5]

Date:

Date:

3/7/24

SA Name:

Two Mile Pond Reservoir Transect [ 5 ]

Surveyor Initials: DCS

	Table A3. Rating for Channel Equilibrium						
Rating	Description						
₡ 4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.						
G 3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.						
C 2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.						
C 1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.						

## A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

3	dung on the SA Summary worksneet.						
Condition Upper Middle Lower Segment Segment Segment		Field Indicators					
	<u></u> 4	<b>Ճ</b> 4	<u></u> 4	Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.			
Indicators of Bank Soil Stability	□3	□3	_3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.			
Soil Stability	2	<u>2</u>	<u></u> 2	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.			
	1	1	1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.			
	<b>4</b>	<b>X</b> 4	<u></u> 4	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.			
	3	□3	_3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.			
Indicators of Stream Bank Erosion Potential	<u></u> 2	<u></u> 2	<u></u> 2	>25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.			
	<u></u> 1	<u></u> 1	_1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.			

Average Indicator Score	4

Table A4. Stream Bank Stability and Cover Rating  Rating Description						
<b>X</b> 4	>3.5 - 4.0					
C 3	>2.5 - ≤3.5					
O 2	>1.5 - ≤2.5					
O 1	1.0 - ≤1.5					

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Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ <sup>5</sup> ]

Surveyor Initials: DCS

### **A5 - Soil Surface Condition**

reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

Upper Segment	Middle Segment	Lower Segment	Field Indicators (Check all existing conditions)	
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).	
	M		Multiple livestock and other (fishing, hiking) trails,	
			Vehicle tracks including off-road and construction, etc.	
			Impervious compacted surfaces or pavement	
			Grading or plowing	
			Fill	
			Gravel pits	
			Anthropogenic levees and berms	
			Irrigation-driven salinity and mineral crusts	
			Fire pits	
			Other:	
			Estimate % soil disturbance by segment area	

Average % Soil Disturbance:

<	1	%	

	Table A5. Soil Surface Condition Rating					
Rating	Description					
<b>A</b> 4	Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA.					
O 3	Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area.					
C 2	Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific areas and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining, or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA.					
C 1	Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Water is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.					

SA CODE: SF2MI[5]

Date: 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 5 ] **Surveyor Initials:** 

DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unkno Rank Major Stressors in Dominant Stressor column(Pick up to 3)

	Affect			II		
Rank	Major	Minor		Unknown	Stressor Group/Stressor	Comments
					Adverse water management	
					Extended low flow dam releases	
					Timing of flow releases not concordant	
			Q		Extended high flow dam releases	
			Q		Agriculture/Urban flow diversion upstream	
					Adverse sediment management	
					Adverse sediment retention by dams	
					Sediment loss by dredging	
			Á		Adverse sediment input (roads/development)	
					Artificial water additions	
					Sewer treatment effluent	
					Point source urban runoff	
			Ź		Factory, feedlot outfall	
					Agricultural irrigation ditch returns	
			Q		Mining waste	
					Ground water pumping	
					Urban depletions	
			Ď		Fracking	
			Ž		Agriculture irrigation wells	
					Watershed alteration	
			Ż		Extensive recent fires in watershed	
					Extensive recent timber harvest	
					Extensive open pit mining in watershed	
			Q		Livestock/wildlife overgrazing	
					Local biodiversity impacts	
			Ŏ		Evidence of excessive grazing (local)	
					Excessive noise affecting wildlife	
	0	0		0	Counts by Intensity	
ddition	al Comme	nts	less	wo	ter being sent here	

Version Date: 04/25/2022

Schema: Montane 2.5

2024 MOISTURE MEASUREMENT FORM

	1	1
PAGE:_	OF	

TCAT	
<b>JSAI</b>	
UNITE	

DATE: 3-/-
CLIENT: Santa Fe
PROJECT: Riparion Assessment
SITE LOCATION: Transect 6
ACTIVITY: Moisture Measurement

Moisture Meter Description: Standard Green 1-10 Meter

	Distance from SE endpoint in feet	Date 3/7	Date	Average								
	0	3										
	15	5										
	30	5										
	45	2.5										
e1	æ 55	10.0										
				_								
							-					-
										-		
	,											
										-		

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### NMRAM Montane Riverine Wetlands Version 2.5

SA Cover Worksheet									
SA Code SF2MI [ 6	SA Name : Two M	lile Pond Reservoir	THO THOUSE OF THE PARTY OF THE	Project : Ripar	rian Assese	ment			
1									
A de Tsct [6]									
County Santa Fe	HUC 12 Headw		Elevation (ft) 7299	(m) 2224.7	Ecore	egion 6.0 NWFM			
A riparian system t decommissioned of of water rights. Driving Directions Driving to Santa F	hat leads into a pond loo due to safety concerns re e from Albuquerque you I you reach the reservoir	cated on the east side or garding the reservoir a second the reservoir a second the seco	and a water diversion to	the area was re	cently shu	t down due to lack			
Ownership The Nature	Ownership The Nature Conservative and The Santa Fe National Forest Restrictions Results to client only.    Data Sharing Results to client only.   Fish Observed in Wetland?   YES								
Surveyor Role		Surve	yor Name			Surveyor Initials			
Landscape	Dustin		and the same same same same same same same sam			D5			
Biotic	Annie					DCS			
Abiotic	Dustin					D5			
Stressors	Both					DCS AM			
Easting (m)	Northing (m)	Zone	Datum	Latitude (	(DD ft)	Longitude (DD ft)			
-105° 53' 24" W	35° 41' 23" N	13	NAD- 83 UTM	35.689722		-105.89			
Survey Date	3/7/24	Start Time	09:04	End Ti	me	10:16			
A. de		SA De	escription			-			
	xt (summarize the wetla								
An	abandoned	fond that	has been ac	ting 45					
O.	abandoned nature pe	erserve. Wa	ter recently	turned of	c				
SA Biotic Condition	(vegetation patterns, co	mposition and structu	re, exotics and invasives	, disturbance ev	idence, fire	e and herbivory)			
	dry end of	winter	vesetation,	Not Mne	h gre	en/New 1.Ke,			
	n (hydrological alterationer site impacts; explain th				e of overba	ınk flooding; soil			
					hat 1.	mits height			
Sits in a valley and has drain pipe that limits height									
						Piel			
Assessment Summa	ry (Overall site condition	n summary and comm	ents after the field data	is collected.)		11/ 150			
Assessment Summary (Overall site condition summary and comments after the field data is collected.)  Very dry vegetation with little to no wild life  Present. Itish descrt transitions to willows and catta.is.									
	present. 14	ish descrt	transitions	to willow	s and	cathils.			

SA CODE: SF2MI[ 6 ]

**SA Name:** Two Mile Pond Reservoir Transect [ 6 ]

Date: 3/7/24

Surveyor Initials: DCS

NMRAM - SA Rank Summary Worksheet: Montane Riverine Wetlands 2.5		T	
Metric Description	Rating	Wt	Final Score
Landscape Context		Σ 1.0	3.25
L1. Buffer Integrity Index	3	0.25	0.75
L2. Riparian Corridor Connectivity	4	0.25	1.0
L3. Relative Wetland Size	4	0.25	1.0
L4. Surrounding Land Use	2	0.25	0.5
Biotic		Σ	
B1. Relative Native Plant Community Composition	2	0.2	,4
B2. Vegetation Horizontal Patch Structure	3	0.2	6
B3. Vegetation Vertical Structure	2	0.2	. 4
B4. Native Riparian Tree Regeneration	3	0.2	, 6
B5. Invasive Exotic Plant Species Cover	7	0.2	.4
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity		913	
A2. Physical Patch Diversity	3	0.25	76
A3. Channel Equilibrium	H	0.25	1/)
A4. Stream Bank Stability and Cover	L	0.25	i
A5. Soil Surface Condition	4	0,1,25	17

SA Condition Scoring Summary				
Major Attribute	Score	Wt.	Wt. Score	
Landscape Context	3.25	0.3	0.975	
Biotic	2.40	0.35	0.84	
Abiotic	3.75	0.35	1.31	
SA WETLAND	3.125			
SA WETLAND	RANK =		B	

SA Wetland Rank						
Rank	Score	Description				
Α	≥3.25 - 4.0	Excellent Condition				
B	≥2.5 - <3.25	Good Condition				
С	≥1.75 - <2.5	Fair Condition				
D	1.0 - <1.75	Poor Condition				

Stressor Summary	Major	Minor	Top Three	
	0	0	1	trails
			2	cat tails
			3	mustard

Stressor Comments (Evaluation of risk)

Small trails that run by trail.

Cat to: 15 taking over edge of pond.

Some patches of Mustard.

SA CODE: SF2MI[6]

**Date:** 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 6 ] Surveyor Initials: DCS

# **Landscape Context**

Worksheet 1a. Buffer and RCC Checklist. Check off land cover elements within the buffer area or RCC corridors that are of									H. F.			
or are e	xclud											dors that are either allowed, ery type and date (season
lmager	у 🗌	Google Earth I	KMZ. file			Image Date 6/23						
Allowe	d buff	er/RCC land co	over elements			Excluded non-buffer/RCC la			RCC la	nd co	over elem	ents
Buffer	RCC					Buffer	RCC					
X	х	Natural or ser	ni-natural vegetatio	on patch	es	X	X	1				elopments, parking lots, and other structures
X	X	Small irrigation	on ditches without	levees				Lawns, p	oarks,	golf	courses, s	ports fields
		Old fields, un	maintained					Railroad	S			
		Open range la	and					Maintair material				t piles, construction
X	X	Foot trails, ho intensity)	orse trails, unpaved	bike trail	s (low			Intensiv	e lives	tock	areas, ho	rse paddocks, feedlots
X	х	Non-channel	open water					1	_		re: mainta	ained pastures, hay fields, neyards
X	x	Non-function naturally occ	ing abandoned ve urring levees	getated l	evees, or	x	X	Paved ro		r de	eloped s	econd-order unpaved but
		unpaved two	tracks roads			X	X	Open was		ounc	led by a le	evee or other manmade
Other							Other					
						╜╶	. —					
Works	heet 1	lb. Buffer Pero	cent Sub-metric. M	leasure o	or estimate	the pe	rcentac			$\overline{}$	Table	L 1 - Puffor Porcent
SA per Box be	imeter Iow. R	r composed of ate the sub-me	cent Sub-metric. N allowed buffer eler etric using Table L1	ments an	d enter in	to the B	uffer P	ge of the ercent	:		Table Rating	e L1a. Buffer Percent  Buffer Percent
SA per Box be	imeter Iow. R	r composed of	allowed buffer eler etric using Table L1 eet 1d.	nents and a and ent	d enter int ter the rat	to the B	uffer P	ge of the ercent		F		T
SA per Box be	imeter Iow. R	r composed of ate the sub-me	allowed buffer eler etric using Table L1	nents and a and ent	d enter in	to the B	uffer P	ge of the ercent		F C	Rating	Buffer Percent
SA per Box be Integri	imeter low. R ty Sun	r composed of ate the sub-mo nmary Worksho	allowed buffer eler etric using Table L1 eet 1d. Buffer Percent	ments and and ent	d enter int ter the rati 85%	to the Bi	uffer Pe	ge of the ercent fer	ers in	$\overline{}$	Rating 4	Buffer Percent 100%
SA per Box be Integri Worksh the GIS	imeter low. R ty Sun neet 1	r composed of ate the sub-me nmary Worksho c. Buffer Widt the map. Avera	allowed buffer eler etric using Table L1 eet 1d.  Buffer Percent  h Sub-metric. Mea age the line length:	ments and a and ent	d enter inter the ration 85%	to the Bring on the	uffer Pe he Buff	ge of the ercent fer		(X	Rating 4	Buffer Percent 100% ≥80% - <100%
SA per Box be Integri Worksh the GIS	low. R ty Sun neet 1 or on	r composed of ate the sub-me nmary Worksho c. Buffer Widt the map. Avera egrity Summar	allowed buffer eler etric using Table L1 eet 1d.  Buffer Percent  h Sub-metric. Mea age the line length:	ments and a and ent	d enter inter the ration 85% length of e using Tal	to the Bring on the Bring on the Bring on the Bring on the Bring of th	uffer Pe he Buff ffer lin Enter t	ge of the ercent fer e in mete	on	ر ر ا	4 3 2 1	Buffer Percent 100% ≥80% - <100% ≥50% - <80%
SA per Box be Integri Worksh the GIS	low. R ty Sun neet 1 or on	r composed of ate the sub-me nmary Worksho c. Buffer Widt the map. Avera egrity Summar	allowed buffer eler etric using Table L1 eet 1d.  Buffer Percent  h Sub-metric. Mea age the line length:	ments and a and ent	d enter inter the ration 85%  length of e using Tab	to the Bring on the Bring on the Bring on the Bring on the Bring of th	uffer Pe he Buff ffer lin Enter t	ge of the ercent fer	on	<u> </u>	4 3 2 1	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%
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SA per Box be Integri  Worksh the GIS the Buff  Line  A  B	neet 1 or on fer Inte	c. Buffer Widt the map. Avera egrity Summar uffer Width (m) 164.26 125.25	allowed buffer eleretric using Table L1 eet 1d.  Buffer Percent  h Sub-metric. Mea age the line lengths y Worksheet 1d.  Buffer Width (ft)  538.91  410.92  378.57	nents and a and enter (%)= sure the sand rate  Line  E  F  G	85% length of e using Tat  Buffer (n 161.	each buble L1b.  Width n)  93  48	uffer Pohe Buff	ge of the ercent fer e in meter he rating uffer Wic (ft) 531.26 759.44 397.80 511.38	on		Rating  4 3 2 1  Table  Rating 4 3 2 1	Buffer Percent  100%  ≥80% - <100%  ≥50% - <80%  <50%  L1b. Buffer Width  Average buffer width  ≥190m  ≥130 - <190m  ≥65 - <130m  <65m  Summary Rating for Buffer
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SA CODE: SF2MI[6]

Date: 3/7/24

**DCS** 

**SA Name:** Two Mile Pond Reservoir Transect [ 6 ]

Surveyor Initials:

# **L2 - Riparian Corridor Connectivity (RCC)**

Worksheet 2. RCC excluded non-buffer elements calculation. Refer to worksheet 1a for excluded non-buffer RCC land cover elements. Following the steps in the Field Guide, enter the summed values in meters for excluded element lengths for each bank within each segment upstream and downstream of the SA. Sum the values for each segment and calculate % Segment Disruption for the upstream side and the downstream side. Add the total disruption for upstream and downstream segments and then calculate the % Total Disruptions for the riparian corridor. Rate Riparian Corridor Connectivity using Table L2 and the data from this worksheet. Enter rating on the SA Summary Worksheet.

	_			
Segments	Upstrear	n Segment	Downstrea	m Segment
Banks	Left Bank	Right Bank	Left Bank	Right Bank
A) Total Bank Disruption (m)	0	0	0	0
B) Total Disruption by Segment (m)		0	(	)
C) % Segment Disruption = (B/1000)*100		0	0	
D) Total Disruption both segments		C	)	
E) % Total Disruptions = (D/2000)*100	Zero disr	ruption notice	eable along t	he banks.

Та	ble L2. RCC Rating
Rating	Description
<b>☆</b> 4	<b>0%</b> total disruption on both segments combined.
∩ 3	<15% total disruption on both segments combined.
C 2	≥15% - <40% total disruption on both segments combined.
C 1	≥40% total disruption on both segments combined.

### L3 - Relative Wetland Size

**Worksheet 3a.** Calculate the Relative Size Ratio (RSR) between the current WOI size and the historic WOI size. b. Calculate the Relative Wetland Size Score (RWSI (%)) as (1-RSR)\*100. Rate Relative Wetland Size Index using Table L3 and enter rating on the SA Summary Worksh

		RSR						R	WSI		
Current Size	1	Historic Size	=	RSR	1	-	RSR	X	100	=	RWSI (%)
9	1	10	=	0.9	1	-	0.1	X	100	=	10

		Table L3. Relative Wetland Size Rating
Rating	RWSI Score	Description
<b>(X</b> :4	≤10%	Wetland is at or only minimally reduced from its full natural extent
<u>(</u> 3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size
C 2	>40% - ≤70%	Wetland has been reduced by more than 40% its natural size
<u>() 1</u>	>70%	Wetland has been reduced by more than 70% its natural size

**SA CODE:** SF2MI [ 6 ] **Date:** 3/7/24

SA Name: Two Mile Pond Reservoir Transect [ 6 ] Surveyor Initials: DCS

### **L4 - Surrounding Land Use**

orksheet 4. Surrounding Land Use. Enter the percent area occupied by a given Land Use Element in the Land Use Zone (LUZ) surrounding the SA. Calculate the Land Use Index (LUI) Score by element as the product of the element coefficient times the percent of the LUZ Area occupied. (The %LUZ Area must total 100%.) Sum the LUI scores for each element to create the final LUI Score. Rate using Table L4 and enter the rating in the SA Rank Summary Worksheet.

Land Use Element	Coef	% LUZ Area	LUI Score
Paved roads, parking lots, domestic or commercially developed buildings, mining (gravel pit, quarry, open pit, strip mining), railroads	0	0	0
Unpaved roads (e.g., driveway, tractor trail, unpaved parking lots), paddock, dirt lot	0.1	0	0
Dredging, borrow pits, abandoned mines, water-filled artificial impoundments (ponds and reservoirs)	0.1	0	0
Filling or dumping of sediment or soils	0.1	0	0
Intense recreation (all-terrain vehicle use, camping, popular fishing spot, etc.)	0.3	0	0
Rip-rapped channel (highly modified channel with severely limited vegetation zone that is altered by human activities but not a completely concrete channel [that goes under paved roads]), junkyards, trash dumps, disturbed ground (not including roads)	0.3	0	0
Ski area	0.4	0	0
Dam sites and flood-disturbed shorelines around water storage reservoirs	0.5	0	0
Abandoned artificial impoundments (ponds and reservoirs) and associated disturbed flood zones	0.5	10	5
Artificial/Constructed wetlands, irrigation ditches	0.7	20	14
Developed/Managed trail system (high use trail)	0.8	5	4
Agriculture - active tilled crop production	0.2	0	0
riculture - permanent crop (vineyards, orchards, nurseries, berry production)	0.3	0	0
Manicured lawns, sport fields, and golf courses; urban manicured parks	0.3	0	0
Old fields and other disturbed fallow lands dominated by ruderal and/or exotic species (e.g., kochia, Russian thistle, mustards, annual vegetation)	0.5	0	0
Mature old fields and other fallow lands with natural composition, introduced hay field and pastures (e.g., perennial vegetation cover)	0.7	0	0
Restoration areas in process to natural conditions (re-conversion in process)	0.8	65	52
Haying of native grassland (e.g., no tillage, haying and baling only)	0.9	0	0
Heavy logging or tree removal with >50% of large trees (e.g., >30 cm diameter at breast height) removed, woodland/shrub vegetation conversion (chaining, cabling, rotochopping)	0.3	0	0
Commercial tree plantation, Christmas tree farms	0.6	0	0
Selective logging or tree removal with <50% of large trees (e.g., >30 cm diameter at breast height) removed	0.8	0	0
Mature restoration areas returned to natural conditions (re-converted)	0.9	0	0
Natural area, land managed for native vegetation - No agriculture, logging, development	1	0	0
LUI Score= Coefficient * % LUZ Area		100	75

T	able L4	Surrounding Land Use Rating
R	ating	LUI Score
$\overline{C}$	4	≥95 - 100
$\bigcirc$	3	≥80 - <95
Ø	2	≥40 - <80
$\cap$	1	<40

**SA Name:** Two Mile Pond Reservoir Transect [ 6 ] SA CODE: SF2MI [ 6 ]

Surveyor Initials: DCS **Date:** 3/7/24

**Biotic Metrics** 

Worksheet 5. Vegetation Community Patch Polygon Data for Biotic Metrics B3. B4. and B5 for Polygons from SA Biotic Map. Enter data for

Specie Specie the Tal Appen	number assigned from the SA Biotic Map. Each polygon is evaluated w Species Cover (BS) metrics. Enter the Vertical Structure Type (VST) for E the Tables in Appendix B and the Field Guide for metric instructions. E Appendix D). Use the comments box for documenting and describing	SA Biotic Mal Enter the Ver od the Field C	p. Each polygor rtical Structure suide for metric documenting	n is evaluated with respect Type (VST) for B3, tree rege instructions. Enter the spe and describing vegetation	number assigned from the SA Biotic Map. Each polygon is evaluated with respect to Vegetation Vertical Structure (B3), Native Tree Regeneration (B4), and Invasive Exotic Plant Species Cover (B5) metrics. Enter the Vertical Structure Type (VST) for B3, tree regeneration % cover within the polygon for B4 and the % cover of invasive exotic species for B5. Use the Tables in Appendix B and the Field Guide for metric instructions. Enter the species codes for the invasive exotic species found in the polygon (from NM Noxious Weed List - Appendix D). Use the comments box for documenting and describing vegetation community patch features.
Polygon No	B3 Vertical Structure Type	84 Tree Regeneration % Cover	85 Invasive Exotic Species % Cover	Invasive Exotic Species (List Code(s))	Comments
-	IA1				
2	IA2				
ж	llA1				
4	IIIB1	9,08	<5%	Mullien	Broad leaf Cat fail + Willow Possible Switch grasy Common mallican
5	IIIC1	0+100 cours	25.10:05.00	Mustard	100
9					
7					
8					
6					
10					
11					
12					
13					
14				į	
15					
16					
17					
18					
19					
20					

Pane 6

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# **B1 - Relative Native Plant Community Composition**

dominant species in each stratum that appears in the polygon. See footnotes for special instructions. If a species appears in more than one strata, assign the species to the stratum in Worksheet 6. CT Plant Species and Polygon Assignments. Starting with CT A, enter the number of the first polygon from Worksheet 5. Enter the species codes for the two top which it is more abundant. Each polygon is either assigned to the same CT if it has the same composition or a new CT is created for the polygon.

MIN	WINCH ILES ITTOTE ADMINISTRE EACH POLYGOTHES ELLIES ASSIGNED TO THE SAME OF THE		2												
		Tall Woody Stratum <sup>1</sup>	tratum <sup>1</sup>		Short Woody Stratum <sup>2</sup>	dy Stratu	m <sup>2</sup>	_	Herbaceou	s/Sparse	Herbaceous/Sparse Stratum <sup>3</sup>		CT Score 4	4	
b	Polygon Nos.	Species 1 E	Species 2	3.2 E	Species 3	ш Z	Species 4	<u>о,</u> ш Z		шZ	Species 6	шZ	Raw <sup>4</sup>	% SA5	Wt Score <sup>6</sup>
<	5				5 /+ Pagh	_	Chimisa	5	Musting	T	Blec	$\geq$	2.0	9,09	1.2
8	5				Viller	>	Catta:/	>	M.llein	E	Switch	2	4.0	% Qh	97
U															
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Σ			1												
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0															
										Final	Final Weighted Score <sup>7</sup>	Score <sup>7</sup>		J	2.3

equal 1; 6Wt. Score is the product of the Raw Score \* % SA; 7The Final Weighted Score is the sum of the Wt. Scores. Rate the CT Final Weighted Score on Table B1 and enter the Rating 1. Trees and shrubs > 6 m (20 feet) and > 25% total stratum cover; 2. Trees and shrubs ≤6m (20 feet) and >25% total stratum cover; 3. Herbaceous (graminoids and forbs)>10% total stratum cover. 4Raw Score is from Table B1a (Appendix B); 5%SA is the percentage of the SA area covered by the CT and expressed as a decimal number; the total area %SA must for Relative Native Plant Community Composition on the SA Rank Summary Worksheet. SA CODE:

SA Name:

SF2MII 6

Two Mile Pond Reservoir Transect [ 6 ]

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Table B1	. Relative Native Plant	Community Composition Rating
Rating	CT Fin	nal Weighted Score
C 4	≥ 3.75	<10% non-native
C) 3	≥ 3.25 and <3.75	10% ≤20% non-native
2	> 2.0 and <3.25	20% ≤50% non-native
C 1	≤2.0	>50% non-native

Surveyor Initials: DCS









### **B2 - Vegetation Horizontal Patch Structure**

Worksheet 7. Using Tables B2a and B2c (Appendix B), choose the schematic pattern that best matches the mapped vegetation patch pattern for the SA. Rate using Table B2 and enter rating on the SA Rank Summary Worksheet.

Horizontal Patch Structure pattern A,B,C, or D
--

	Table B2. Rating for Vegetation Horizontal Patch Structure
Rating	Description
C 4	Most closely matches Pattern A. SA has a diverse patch structure (≥4 patch types) and complexity. A dominant patch type would be difficult to determine.
Д 3	Pattern B. SA has a moderate degree of patch diversity (3 patch types present) and complexity. A single, dominant patch type may be present, although the other patch types would be well represented and have more than one occurrence in the SA.
O 2	Pattern C. SA has a low degree of patch diversity and complexity. Two or three patch types may be present; however, a single, dominant patch type exists with the others occupying a small portion of the SA.
C 1	Pattern D. SA has essentially little to no patch diversity or complexity. The SA is dominated by a single patch type. Other patch types, if present, occur infrequently and occupy a small portion of the SA.

### **B3 - Vegetation Vertical Structure**

Worksheet 8. Percentage of SA by vertical structure type (VST). Using the Structure Type from Worksheet 5 and the %SA from Worksheet 6 calculate the total area of the SA occupied by each VST using the formula VST(type) = Sum (%SA for CTs with same VST) x 100. Enter the total %SA for each VST below.

	VST 1 High Structure Forest	VST 2 Low Structure Forest	VST 5 Tall Shrubland	VST 6S Short Shrubland	VST 6W Herbaceous Wetland	VST 6H Herbaceous Vegetation	VST 7 Sparse Vegetation
Total % of SA			40		60		

Table B3. Rating for Vegetation Vertical Structure. Using the data from Worksheet 8 rate the SA based on the criteria in Table B3. Pick the row that best fits the distribution of VSTs in the SA. Each row specifies the required dominant structure type plus co- and sub-dominants. Percentage cover required per co- or sub-dominant is a minimum. The types listed in the columns must be the most common VSTs in the SA for the rating to be applicable (Worksheet 8). VSTs 1 and 2 can be inverted in dominance and the rating is still applicable. Work from the top of the table down. As long as the requirements for one row are met, any other types may or may not co-occur without changing the rating. Enter the rating on the SA Rank Summary Worksheet.

Rating	<b>Dominant VST</b>	Co- or Sub-dominant VST ≥15%	Sub-dominant VST ≥5%	
	1	5	6W and/or 6H	
C 4	1	6W		
	2 or 1 and 2	5	6W and/or 6H	
	1			
C 3	2 or 1 and 2	5		
3	2 or 1 and 2	6W		
	5	6W		
	2 or 1 and 2			
<b>%</b> 2	5			
~	6W			
	65			
O 1	6H			
	7			

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### **B4 - Native Riparian Tree Regeneration**

B4. Native Riparian Tree Regeneration rating. Using the polygon percent cover of native tree seedlings, saplings and poles from Worksheet 5, rate the SA based on polygon percent cover and patch density. Enter the rating on the SA Rank Summary Worksheet.

Rating		Description
C		Native poles, sapling, and seedlings trees well represented, obvious regeneration, many patches or polygons with >5% cover, typically multiple size (age) classes.
(2)	3	Native poles, saplings and/or seedlings common, scattered patches or polygons with 1% -5% cover, size classes few.
0	,	Native poles, saplings and/or seedlings present but uncommon, restricted to one or two patches or polygons with typically <1% cover, little size class differentiation.
$\circ$	1	Native poles, saplings, and/or seedlings absent (0% cover).

### **B5 - Invasive Exotic Plant Species Cover**

Worksheet 9. Based on Worksheets 5 and 6, calculate or estimate the percentage cover of invasive exotic species for the SA and enter below. Rate using Table B5 and enter the rating on the SA Rank Summary Worksheet.

Rating Method

>	5	

Invasive cover (%)

calculate

Table B5. Ratings for Invasive Exotic Plant Species Cover					
Rating	Invasive Species Cover %				
C 4	0%				
( 3 )	>0% - <1%				
2 X	≥1% - <10%				
C 1	≥10				

### Additional CTs and Biotic Metric Comments:

New plants spronting but most of area is recovering from winter.

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Surveyor Initials :  $^{
m DCS}$ 

# **A2 - Physical Patch Complexity**

**Worksheet 11. Physical Patch Complexity checklist.** Check off existing physical patch types for the upper, middle and lower segments of the SA; count the number of unique patch types and rate using Table A2 in combination with the narrative description. Enter the rating on the SA Rank Summary Worksheet.

Upper Segment	Middle Segment	Lower Segment	Field Indicators (check all existing conditions)
			Active side channels
			Abandoned channels
			Backwater/eddy
			Riffles or rapids
	$\boxtimes$		Shoals, sparely-vegetated bars
			Channel boulders
			Oxbow lakes/ponds on floodplains
	X		Vegetated island and side bars
	X		Terraces
			Channel pools
			Beaver ponds
			Swales, depressional features on floodplains
			Debris jams in channel
			Woody wrack piles on the floodplain
			Floodplain micro-topography (mounds, pits)
			Downed logs
			Natural levees
			Standing snags
			Variegated, convoluted, or crenulated foreshore
			Undercut banks in channels
			No. of unique Patch Types

Colling Moderate since only looking at middle channel

Tabl	Table A2. Rating for Physical Patch Complexity							
Rati	ng	Description						
C	4	<b>High</b> degree of physical patch complexity across the floodplain. There are many floodplain micro-habitats present (mounds and pits, woody wrack piles, etc.), many fluvial geomorphic surfaces (swales, side channels, terraces, side bars, etc.), and there is high in-channel complexity (pools and riffles, large woody debris, undercut banks, etc.). As a guide, 12 or more unique indicators are present and well distributed throughout the SA (most indicators are found on multiple segments).						
Ø	3	<b>Moderate</b> physical patch complexity scattered across the floodplain. There are several floodplain micro-habitats present, several fluvial geomorphic surfaces, and there is moderate in-channel complexity. As a guide, 9 - 11 indicators are scattered throughout the SA (some on multiple segments).						
C	2	<b>Limited</b> physical patch complexity scattered across the floodplain. There are some floodplain micro-habitats present, some fluvial geomorphic surfaces, and there is limited in-channel complexity. As a guide, on average there are 6 - 8 unique indicators present in the SA (only a few on multiple segments).						
C	1	<b>Little</b> or no physical patch complexity on the floodplain. There are few or no floodplain micro-habitats present, few different fluvial geomorphic surfaces, and there is little or no in-channel complexity. As a guide, ≤ 5 unique indicators are present in the SA.						

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SA Name: Two Mile Pond Reservoir Transect [ 6 ] Surveyor Initials: DCS

# A3- Channel Equilibrium

Worksheet 12. Channel Equilibrium Checklist. Check all field indicators that apply to the upper, middle and lower segment of the SA observed at the channel edge of the traverse. Rate using the Table A3 descriptions and based on a preponderance of evidence from this checklist. Enter the rating on the SA Rank Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators(check all existing conditions)
				The channel has a well-defined bankfull contour that clearly demarcates the point of incipient flooding where moderate frequent flow events spread flow across the floodplain.
		X		Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it.
				There is leaf litter, thatch, or wrack in most pools.
Indicators of		R		The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area.
Channel Equilibrium				There is little or no active undercutting or burial of riparian vegetation.
				There are no bars that are densely vegetated with perennial vegetation (neither mid-channel bars or point bars).
				Channel and point-bars consist of well-sorted bed material.
				The channel bed is not planar and without an abundance of fine materials filling the interstitial spaces between larger stream substrate.
				There are channel pools at meander bends and some deep pools within the reach.
				The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs.
				There are abundant bank slides or slumps, or the lower banks are uniformly scoured and not vegetated.
				Bank vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel.
Indicators of Active Degradation				Channel bed is scoured to large cobbles or boulders and entrained bank material is filling the cobble interstices and pools.
				There are active headcuts within the channel.
				An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation.
				There is abundant fresh splays of coarse sediment covering the floodplain above the natural point bar elevation.
				There are partially buried living tree trunks or shrubs along the banks.
Indicators of Active Aggradation				The channel bed is planar overall. The stream lacks well-defined channel pools at meander bends, or pools are filled with sediment.
				There are partially buried or sediment-choked culverts.
				There are avulsion channels on the floodplain or adjacent valley floor.

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SA Name:

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Surveyor Initials: DCS

Table A3. Rating for Channel Equilibrium						
Rating	Description					
<b>₹</b> 4	Most of the channel throughout the SA is in equilibrium condition with little evidence of excessive aggradation or degradation based on the field indicators listed in Worksheet 12.					
C 3	There is some evidence of excessive aggradation or degradation; the channel throughout the SA seems to approach an equilibrium condition. Circle primary process: aggradation or degradation.					
C 2	There is evidence of severe aggradation or degradation throughout most of the channel through the SA. Circle primary process: aggradation or degradation.					
O 1	The channel is artificially hardened, channelized, or is concrete throughout most of the SA.					

# A4- Stream Bank Stability and Cover

Worksheet 13. Bank Soil Stability and Streambank Erosion Potential Checklist. Check the indicator that best describes the condition looking a minimum of 25 m upstream and downstream at the channel edge of the upper, middle and lower segment of the SA. Average the six scores for both Bank Soil Stability and Streambank Erosion Potential. Rate using the Table A4 and enter the rating on the SA Summary Worksheet.

Condition	Upper Segment	Middle Segment	Lower Segment	Field Indicators
	4	4		Infrequent raw banks, less than 10% of steam bank under stress from trampling, slumping, vegetation removal or active erosion, etc.
Indicators of Bank	□3	3	□3	Raw banks and loose soil intermittently and 10%-25% of stream bank under stress from trampling, trail crossing, hoof punching, vegetation removal, erosion etc.
Soil Stability	2	□2	<u></u> 2	Significant raw banks and loose soil, 25%-50% of stream bank under stress, trampled, slumping or eroding etc.
	1	1	1	Raw banks almost continuous with greater than 50% of stream bank under stress, loose soil, slumping, trampled or eroding; or channel appear to lack banks due to trampling; or channel that is artificially hardened or concrete along most of its length.
	<u></u> 4	<b>A</b>	□4	≥ 80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by boulders, large cobbles and/or large woody debris that prevent bank erosion.
	3	3	3	≥50% - <80% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation are protected to allow only minor erosion.
Indicators of Stream Bank Erosion Potential	<u></u> 2	<u></u> 2	<u></u> 2	≥25% - <50% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those area not covered by vegetation or stabilized by roots, are covered by materials or vegetation that give limited protection.
	_1	<b>□</b> 1	_1	Less than 25% of the stream bank surfaces are covered by vegetation in vigorous condition with dense root mass or by cobble or larger material. Those areas not covered by vegetation provide little or no control over erosion and excess shear stress, and the banks are susceptible to erosion by high water flows.

Average Indicator Score	4

Rating	Description
	>3.5 - 4.0
C 3	>2.5 - ≤3.5
O 2	>1.5 - ≤2.5
O 1	1.0 - ≤1.5

SA CODE:	SF2MI[6	]
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**Date:** 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 6 ]

Surveyor Initials: DCS

A5 - Soil Surface Co	ondition
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reconnaissance. The absence of these indicators would signify that disturbances are naturally occurring (e.g., flood deposition or low-density wildlife trails). Estimate the percent soil disturbance by segment area and referring to the SA abiotic map. Rate using Table A5 and enter on the SA Rank Summary Worksheet.

Upper Segment	Middle Segment	Lower Segment	Field Indicators (Check all existing conditions)	
			Active erosion features due to anthropogenic disturbance (eg. rills, gullies, plant pedestals).	
	X		Multiple livestock and other (fishing, hiking) trails,	
			Vehicle tracks including off-road and construction, etc.	
			Impervious compacted surfaces or pavement	
			Grading or plowing	
			Fill	
			Gravel pits	
			Anthropogenic levees and berms	
			Irrigation-driven salinity and mineral crusts	
			Fire pits	
			Other:	
			Estimate % soil disturbance by segment area	

Average % Soil Disturbance:
A Training of the state of the

Table A5. Soil Surface Condition Rating			
Rating	Description		
4	Bare soil areas due to anthropogenic disturbance absent or very limited. No human-caused impervious surfaces or gravel pits are found within the SA. Total disturbance, including erosion, impervious surfaces, fill, or other anthropogenic degradation to the soil surface is less than 1% of the SA.		
C 3	Some amount of bare soil from human causes is present but the extent is limited. Area of impervious surfaces are minimal in extent. Total disturbance, including erosion, impervious surfaces, fill, gravel pits, vehicle tracks or other anthropogenic degradation to the soil surface is between 1% and 5% of the sampling area.		
C 2	Bare soils from human causes are common. These may include dense livestock trails, vehicle tracks, trails, construction staging areas, mechanical rutting, or irrigation-driven salinity. Soil disturbance, while apparent, is limited to specific areas and not found across the majority of the SA. Total disturbance, including erosion, impervious surfaces, fill, gravel mining, or other anthropogenic degradation to the soil surface is greater than 5% or less than 10% of the SA.		
G 1	Bare soil areas degrade portions of the site because of altered hydrology or other long-lasting impacts. Deep ruts from off-road vehicles or machinery are present. Livestock disturbance or trails are widespread and several inches deep. Water is channeled into rills or ponded. Additional human-caused impervious surfaces or soil compaction are present. Total disturbance, including erosion, impervious surfaces, fill, gravel mining or other anthropogenic degradation to the soil surface is equal to or greater than 10% of the SA.		

SA CODE: SF2MI[6]

Date: 3/7/24

**SA Name:** Two Mile Pond Reservoir Transect [ 6 ]

Surveyor Initials:

DCS

Worksheet 15. Stressor Checklist. Check off stressors by intensity category that may be affecting wetland ecological condition of the SA and WOI. Assign categories using direct evidence where available or your best professional judgement otherwise. If the presence of the stressor is uncertain, mark as "Unkno Rank Major Stressors in Dominant Stressor column(Pick up to 3)

Rank Affect			Street Constitution (Street			
Harik	Major	Minor	Absent	Unknown	Stressor Group/Stressor	Comments
4					Adverse water management	
			Q		Extended low flow dam releases	
					Timing of flow releases not concordant	
			Q		Extended high flow dam releases	
			Ď		Agriculture/Urban flow diversion upstream	
Adverse sediment management						
				Z	Adverse sediment retention by dams	
					Sediment loss by dredging	
					Adverse sediment input (roads/development)	
					Artificial water additions	
			<u> </u>		Sewer treatment effluent	
					Point source urban runoff	
			Q		Factory, feedlot outfall	
			$\Box$		Agricultural irrigation ditch returns	
			\(\frac{1}{2}\)		Mining waste	
					Ground water pumping	
					Urban depletions	
			立		Fracking	
			Ź		Agriculture irrigation wells	
					Watershed alteration	
					Extensive recent fires in watershed	
					Extensive recent timber harvest	
					Extensive open pit mining in watershed	
			Ż		Livestock/wildlife overgrazing	
					Local biodiversity impacts	
			$\Box$		Evidence of excessive grazing (local)	
			Ø		Excessive noise affecting wildlife	
	0	0		0	Counts by Intensity	
Addition	al Commer	nts	Jater	has	stopped being sent	to this Area.

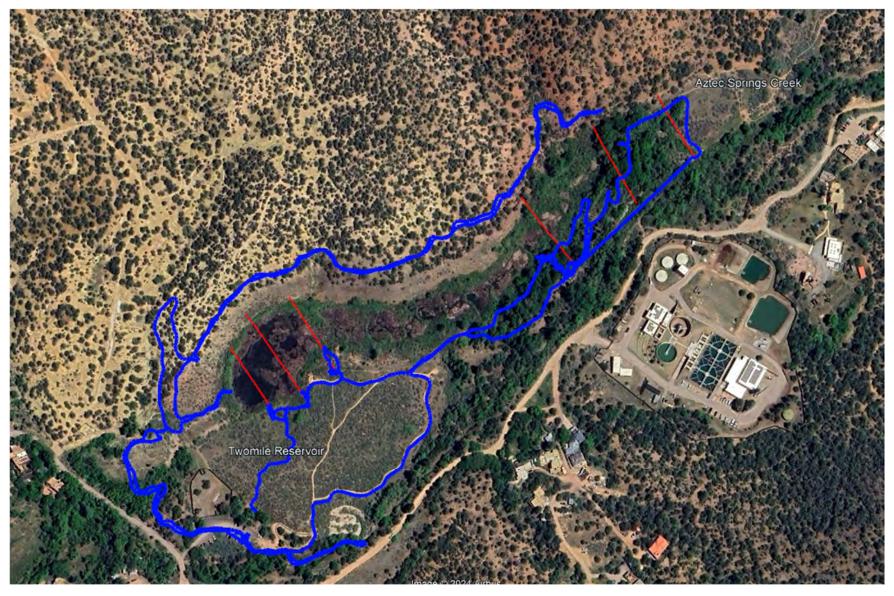
Version Date: 04/25/2022

Schema: Montane 2.5

Appendix E.

**Field Photos** 

APPENDIX E.
PHOTOGRAPHS OF MARCH 7, 2024 FIELD RECONNAISSANCE OF TWO-MILE POND



JOHN SHOMAKER & ASSOCIATES, INC. WATER-RESOURCE AND ENVIRONMENTAL CONSULTANTS

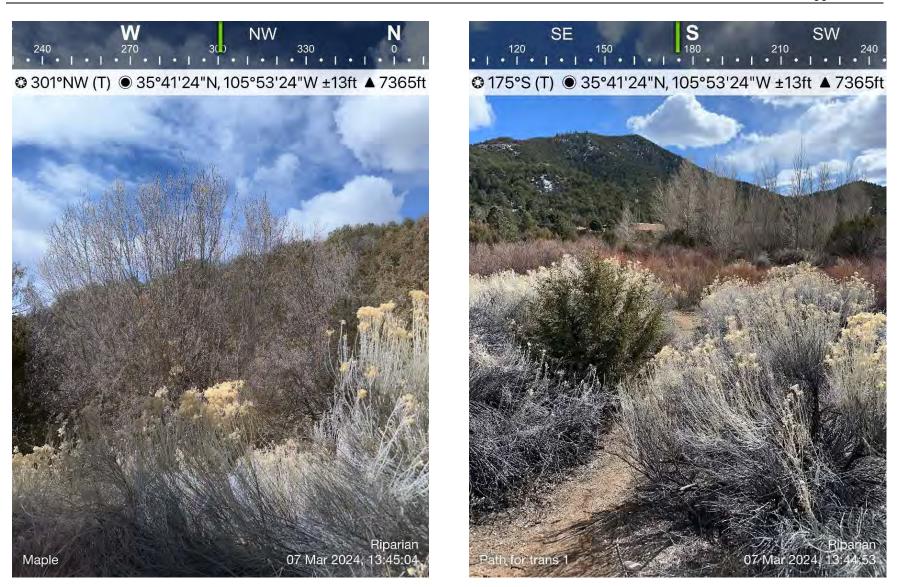


Figure E1. Photos from Transect 1 taken on 3/7/24. This area was the driest area in the entire investigation and begins at the start of the transition into a high desert-like landscape.

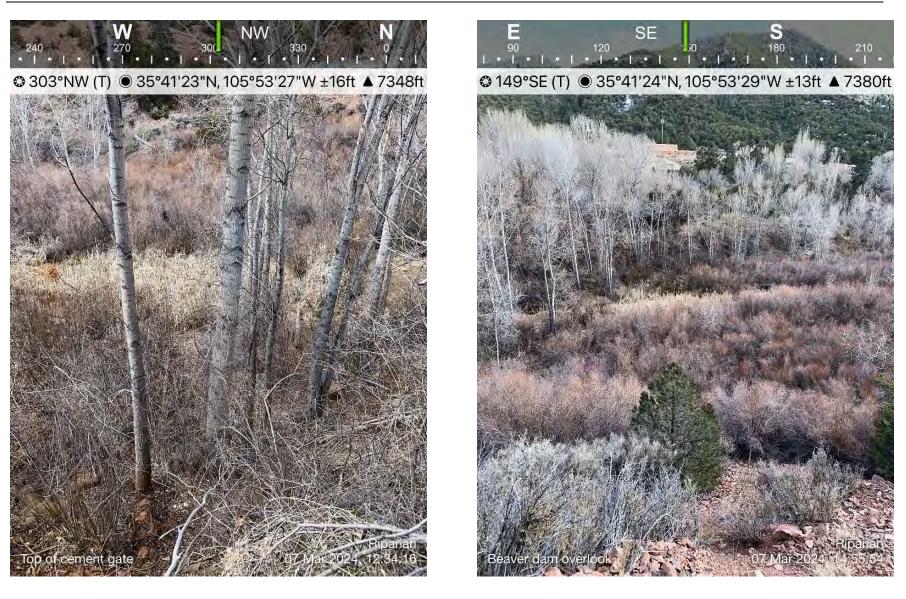
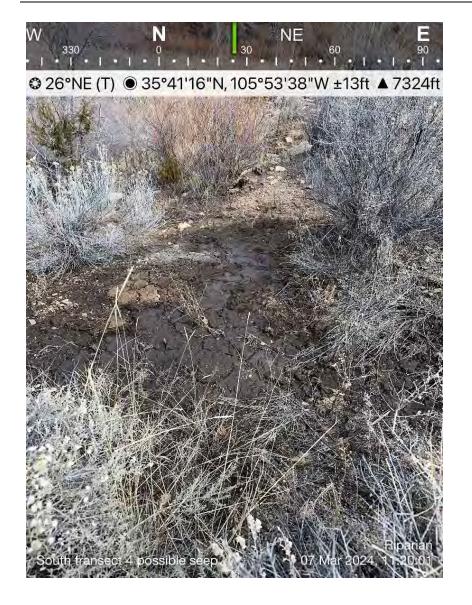


Figure E2. Photos taken of Transect 2 on 3/7/24. This area is located above the dam. The second photo also overlooks some of Transect 3 on the south and Transect 2 on the east.



Figure E3. Photos taken along Transect 3 on 3/7/24. The photo on the left shows the storm flood formed dam and the photo on the right represents new growth on a younger tree.



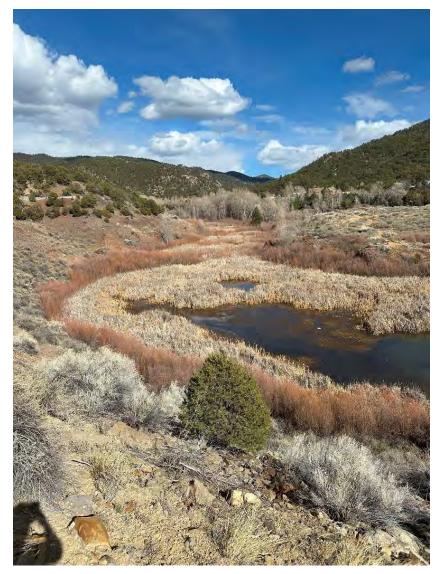


Figure E4. Photos taken of Transect 4 on 3/7/24. The photo on the left shows a possible seep that comes out on the hill approximately 15 ft above the pond. The photo on the right shows the entirety of Transect 4 across.

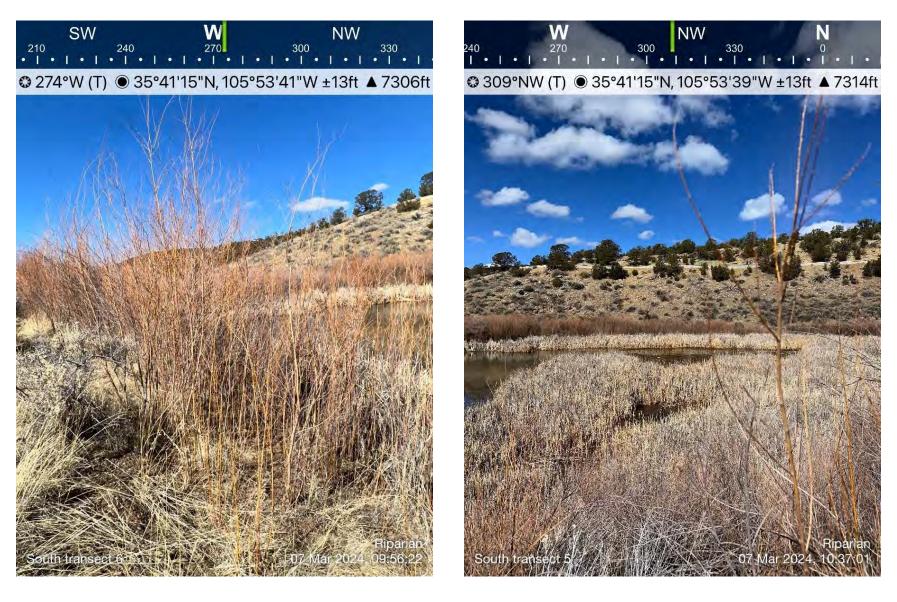


Figure E5. Photos taken along Transect 5 on 3/7/24. The left photo is of the willows that surround the pond and the right photo is of the cattails that fill the pond.

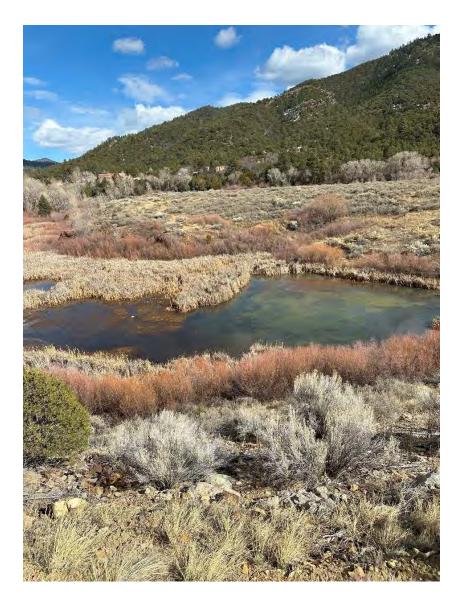




Figure E6. Photos taken along Transect 6 on 3/7/24. The left photo is an overview of the entire transect and the right photo is of the pond and growth within it.