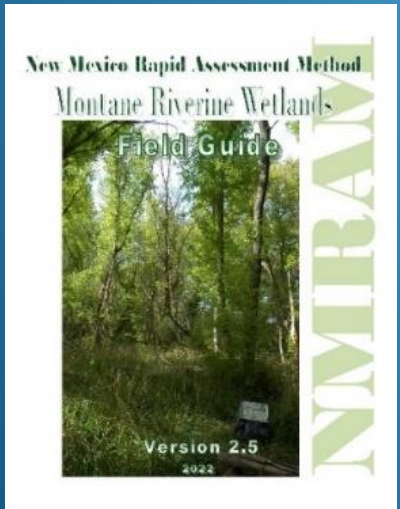
New Mexico Environment Department

New Mexico Rapid Assessment Method (NMRAM)

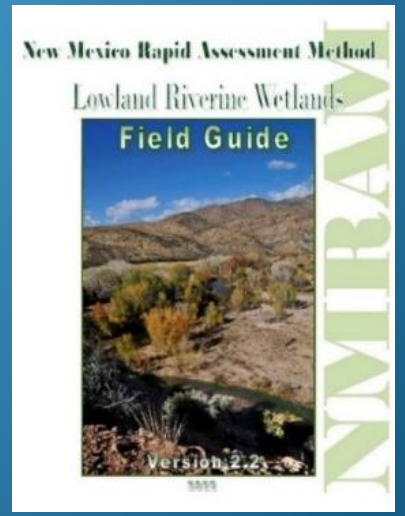
Riverine Wetlands

Score Roll-Up



New Mexico Environment Department
Surface Water Quality Bureau
Wetlands Program

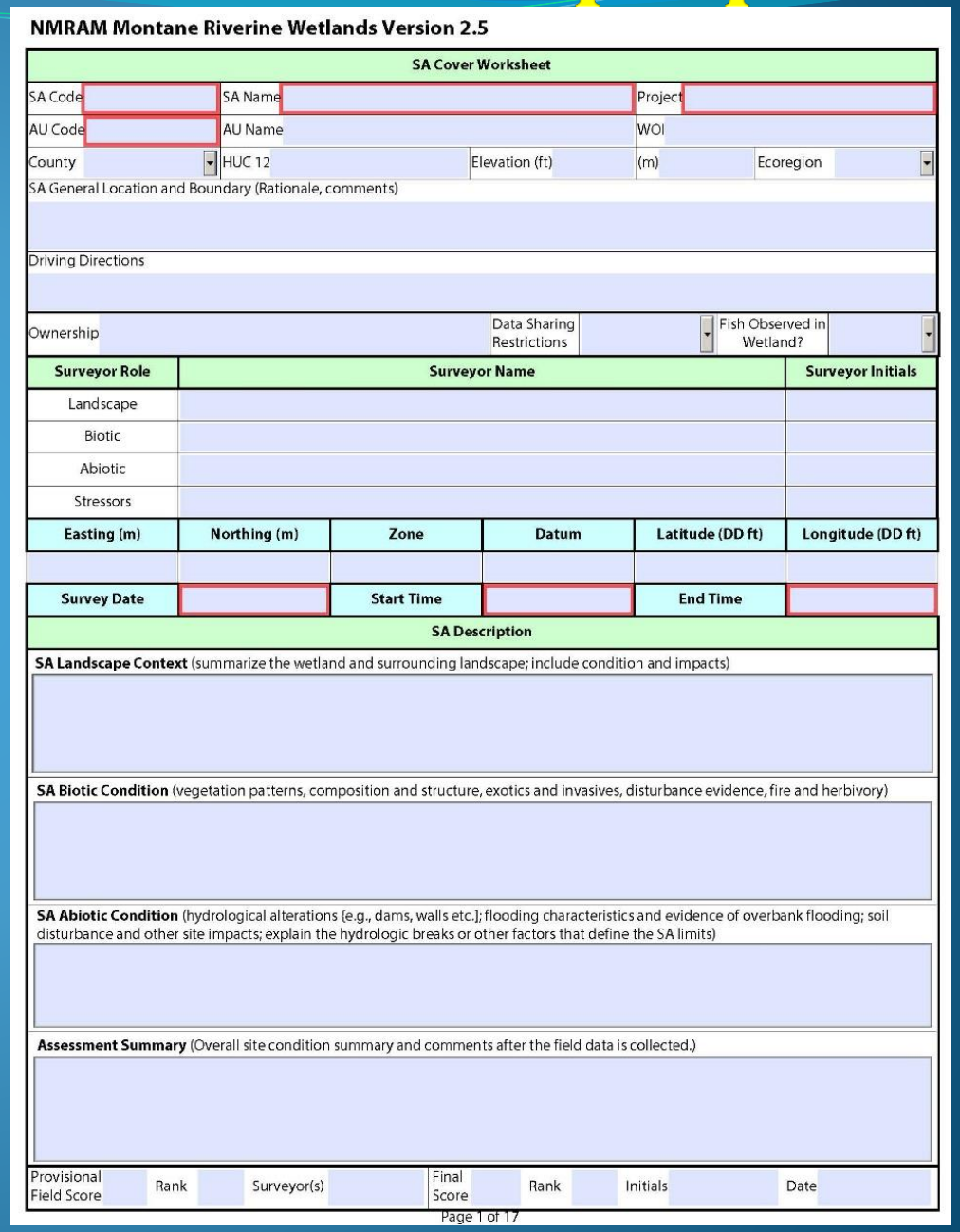
Natural Heritage New Mexico
University of New Mexico



NMRAM Riverine Assessment Wrap Up

Cover sheet

- SA Cover Worksheet (page 1)
- Basic SA information
  - General location, elevation, HUC, ecoregion, etc.
  - Directions
  - Landowner
- Surveyors w/ initials
- GPS center point location
- Comments by Attribute class
  - Fill in after assessment, but before leaving SA
- Provisional Field Score
  - Fill in prior to data collection
- Final SA Score and Rank
  - Last item before leaving the site!



NMRAM Montane Riverine Wetlands Version 2.5

SA Cover Worksheet

SA Code		SA Name		Project	
AU Code		AU Name		WOI	
County		HUC 12	Elevation (ft)	(m)	Ecoregion

SA General Location and Boundary (Rationale, comments)

Driving Directions

Ownership	Data Sharing Restrictions		Fish Observed in Wetland?

Surveyor Role	Surveyor Name	Surveyor Initials
Landscape		
Biotic		
Abiotic		
Stressors		

Easting (m)	Northing (m)	Zone	Datum	Latitude (DD ft)	Longitude (DD ft)

Survey Date		Start Time		End Time	

SA Description

SA Landscape Context (summarize the wetland and surrounding landscape; include condition and impacts)

SA Biotic Condition (vegetation patterns, composition and structure, exotics and invasives, disturbance evidence, fire and herbivory)

SA Abiotic Condition (hydrological alterations (e.g., dams, walls etc.); flooding characteristics and evidence of overbank flooding; soil disturbance and other site impacts; explain the hydrologic breaks or other factors that define the SA limits)

Assessment Summary (Overall site condition summary and comments after the field data is collected.)

Provisional Field Score		Rank		Surveyor(s)		Final Score		Rank		Initials		Date	

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Cover Sheet - Examples

NMRAM Montane Riverine Wetlands Version 2.5

SA Cover Worksheet

SA Code	05Cimarr076.8	SA Name	Cimarron River - Cimarron SP upper			Project	Canadian RAM		
AU Code		AU Name				WOI	Upper Cimarron Canyon		
County	Colfax	HUC 12	110800020107	Elevation (ft)	8,000	(m)	2,438.43	Ecoregion	21c

SA General Location and Boundary (Rationale, comments)
In Cimarron State Park just downstream of Toby Campground

Driving Directions
From Cimarron drive west on highway 64 until reaching Toby Campground. Park on the road before the campground to access the SA.

Ownership	State Parks, Department of Game and Fish	Data Sharing Restrictions	Not Restricted	Fish Observed in Wetland?	No

Surveyor Role	Surveyor Name	Surveyor Initials
Landscape	Yvonne Chauvin, Hannah Burnham	YC, HB
Biotic	Yvonne Chauvin	YC
Abiotic	Hannah Burnham, Emile Sawyer	HB, ES
Stressors	Yvonne Chauvin	YC

Easting (m)	Northing (m)	Zone	Datum	Latitude (DD ft)	Longitude (DD ft)
480,378	4,043,706	13N	Nad83		

Survey Date	08/04/2016	Start Time	9:15am	End Time	2:00pm

SA Description

SA Landscape Context (summarize the wetland and surrounding landscape; include condition and impacts)

The SA is in a canyon with a very well traveled highway to the south. It is just downstream of a very popular campground and is used as a fishing area. It is just upstream of a beaver complex. There are many trails, but these are mostly vegetated in the SA. Eagle Nest Dam is about a mile upstream of the site.

SA Biotic Condition (vegetation patterns, composition and structure, exotics and invasives, disturbance evidence, fire and herbivory)

High willow diversity with mostly native understory on lower terraces. Higher terrace of older cottonwoods with little regeneration and some senescence of trees. Flood debris on higher terrace lacking. Many logs, many cut and downed. High percentage of aquatic plants in stream channel. Many small wetland habitats and moist side channels with still/slow water or saturated soils.

SA Abiotic Condition (hydrological alterations (e.g., dams, walls etc.); flooding characteristics and evidence of overbank flooding; soil disturbance and other site impacts; explain the hydrologic breaks or other factors that define the SA limits)

There are multiple old channels and swales in the SA, one may be an old evulsion channel. Banks are low and obvious. There are multiple slow water habitats, including eddies and backwater. However, no boulders in channel and bed is somewhat planar overall, almost continuously ripples. Some deep pools exist. Some lags instream, but appears base-flow controlled. Scoured and unvegetated surfaces rare. Stream lacks power. Evidence of large wrack on floodplain rare, though large.

Assessment Summary (Overall site condition summary and comments after the field data is collected.)

Valley type VII (7) and channel type Bc. Highly visited area with some Beaver activity downstream of site, where the channel divides. Single channel throughout with a plethora of aquatic vegetation in a wide, shallow, ripple/glide dominated river stretch. Hydrologic connectivity apparent, with old side channels evident.

Provisional Field Score	2.75	Rank	B	Surveyor(s)	HB, YC, ES	Final Score	3.055	Rank	B	Initials	HB, YC, ES	Date	8/4/2016

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NMRAM Lowland Riverine Wetlands Version 2.2

SA Cover Worksheet

SA Code	32RGrand474.2	SA Name	Tingley Beach North			Project	Rio Grande/Pecos 2019		
AU Code		AU Name				WOI	Rio Grande in Central Albuquerque		
County	Bernalillo	HUC 12	130202030303	Elevation (ft)	4,900	(m)	1,493.54	Ecoregion	22g

SA General Location and Boundary (Rationale, comments)
Tingley Beach Park in Albuquerque Open Space. East boundary determined by high terrace that appears to be and old levee or fill. East of the terrace is developed area with include railroad, bike path and constructed fishing ponds.

Driving Directions
Drive to City of Albuquerque Tingley Beach park and fishing pond parking lot located at 1800 Tingley Dr SW in Albuquerque. Walk west through public access way to site.

Ownership	Albuquerque Open Space	Data Sharing Restrictions	Not Restricted	Fish Observed in Wetland?	No

Surveyor Role	Surveyor Name	Surveyor Initials
Landscape Context	Hannah Burnham	HB
Biotic	Yvonne Chauvin	YC
Abiotic	Hannah Burnham	HB
Stressors	Hannah Burnham	HB

Easting	Northing	Zone	Datum	Latitude	Longitude
347,204	3,883,820	13N	NAD83		

Survey Date	04/24/2019	Start Time	1:10 PM	End Time	4:50 PM

SA Description

SA Landscape Context (summarize the wetland and surrounding landscape; include condition and impacts)

Site is urban situated near small train track to zoo and near popular fishing/artifical ponds. The river is leveed on both sides and SA is downstream of a heavily used highway and bridge. A golf course is in the buffer to the east as well. The city sounding the SA is large: noise, odor, pollution, human visitation and trash are all common.

SA Biotic Condition (vegetation patterns, composition and structure, exotics and invasives, disturbance evidence, fire and herbivory)

Site includes terrace with older canopy forest and sidebar with significant amounts of younger woody cover. City has removed exotic woody species from terrace area several times over last few years. There is a fair amount of native reproduction on the sidebars, but also number of exotic woody species. Ravennagrass is moving into the sites and was present in several parts of the SA.

SA Abiotic Condition (hydrological alterations (e.g., dams, walls etc.); flooding characteristics and evidence of overbank flooding; soil disturbance and other site impacts; explain the hydrologic breaks or other factors that define the SA limits)

Site is bounded by levees or old fill, old terrace. Trails throughout well used and compacted. There is a polygon to SW SA along the channel that appears to be a bank connected sidebar and that was fully inundated during the site visit. Older terrace has Jetty Jacks along full length of former edge, which is partially embedded in former bank. Parts of jetty jack line is between terrace and sidebar, other portions are still along the channel edge.

Assessment Summary (Overall site condition summary and comments after the field data is collected.)

Restoration at sites positive. Site suffers from immobility and invasive woody plants, visitation, noise and trash. Still inundated polygon adds to SA complexity. Very narrow site surrounds by highly urban area. Lots of human visitation. Because site is narrow the bar areas are significant total portion of SA. The bar areas were inundated which gives the site an overall good hydro connectivity rating.

Provisional Field Score	1.9	Rank	C	Surveyor(s)	HB, YC, AU	Final Score	C	Rank	2.165	Initials	HB, YC	Date	04/24/2019

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NMRAM Riverine Score Roll-Up

Final SA Score Roll-up

- SA Rank Summary Worksheet (page 2)
- Metric scores in Rating boxes
- Attribute Scores
  - Based on weighted sum of metric scores
- SA Wetland Condition Score
  - Based on weighted sum of Attribute scores
- SA Wetland Rank (A, B, C, or D)
  - Use SA Wetland Rank table
- Stressor Summary
- Make sure to fill in final SA Score and Rank on cover sheet

NMRAM - SA Rank Summary Worksheet: Montane Riverine Wetlands 2.5

Metric Description	Rating	Wt	Final Score
Landscape Context		Σ	
L1. Buffer Integrity Index		0.25	
L2. Riparian Corridor Connectivity		0.25	
L3. Relative Wetland Size		0.25	
L4. Surrounding Land Use		0.25	
Biotic		Σ	
B1. Relative Native Plant Community Composition		0.2	
B2. Vegetation Horizontal Patch Structure		0.2	
B3. Vegetation Vertical Structure		0.2	
B4. Native Riparian Tree Regeneration		0.2	
B5. Invasive Exotic Plant Species Cover		0.2	
Abiotic		Σ	
A1. Floodplain Hydrologic Connectivity		0.3	
A2. Physical Patch Diversity		0.2	
A3. Channel Equilibrium		0.2	
A4. Stream Bank Stability and Cover		0.2	
A5. Soil Surface Condition		0.1	

SA Condition Scoring Summary			
Major Attribute	Score	Wt.	Wt. Score
Landscape Context		0.3	
Biotic		0.35	
Abiotic		0.35	
SA WETLAND CONDITION SCORE Σ			
SA WETLAND RANK =			

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

Stressor Summary	Major	Minor	Top Three
	0	0	1
			2
			3

NMRAM Riverine Condition Ranks

- A, Excellent Condition – wetlands with intact functions and processes, diverse vegetative communities with almost no exotic weeds, and large relative to its historical size, with natural buffers. These wetlands are largely undisturbed and surrounded by undisturbed land (buffer) and would be considered to meet the wetland reference standard for a site.
- B, Good Condition – somewhat degraded in response to environmental stressors. These wetlands have various combinations of relatively minor disturbances or factors negatively affecting condition, e.g., some alteration of the hydrological regimes; a reduction of vegetative community and structural diversity with the presence of some exotic species; moderately reduced size relative to their historical size, surrounding landscape maybe somewhat modified. Often, these wetlands are good candidates for wetland restoration because impacts can be reversed with a high likelihood of recovery. Wetlands in good condition may be the best available.
- C, Fair Condition – moderately degraded in response to environmental stressors. These wetlands have one or more aspects that significantly affect condition, e.g., significantly disrupted hydrological regimes; degraded vegetative condition marked by reduced vegetation community diversity, often with exotic and noxious species; often small size relative to their historical size. Surrounding landscape is typically significantly modified, but may have some natural elements remaining. These wetlands may have restoration potential depending on specific wetland conditions and on the stressors that are affecting that condition. However, restoration measures are expected to be more extensive (and maybe more costly) than B-ranked wetlands.
- D, Poor Condition – degraded wetlands with highly disrupted hydrological regimes, poor vegetative composition and diversity that is usually dominated by exotic and noxious species, usually small size relative their historic size. These wetlands will often have a disturbed surrounding landscape. These wetlands generally would require extensive rehabilitation to realize their natural potential and restore their natural functions, and restoration may be impossible without significant changes in watershed management.

Score Roll-Up – Montane example

SA CODE : 05Cimarr076.8 **Date :** 08/04/2016

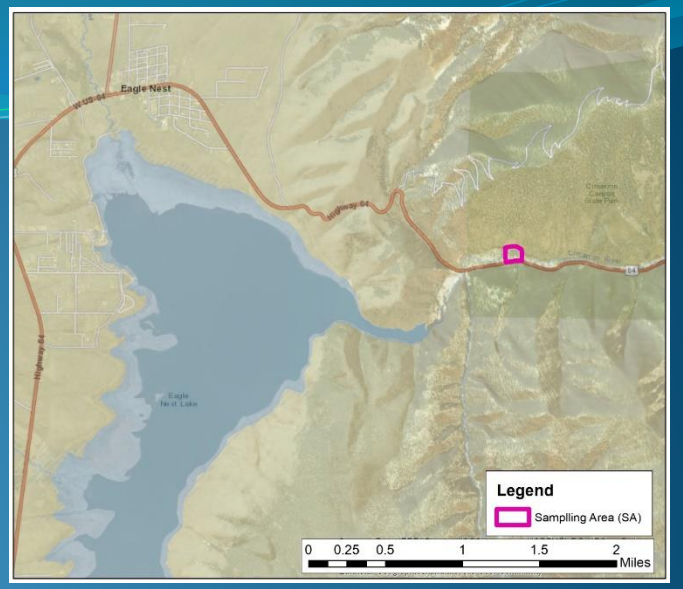
SA Name : Cimarron River - Cimarron SP **Surveyor Initials :** YC, HB, YC, HB, ES, YC

NMRAM - SA Rank Summary Worksheet: Montane Riverine Wetlands 2.5			
Metric Description	Rating	Wt	Final Score
Landscape Context		Σ	2.25
L1. Buffer Integrity Index	2	0.25	0.5
L2. Riparian Corridor Connectivity	1	0.25	0.25
L3. Relative Wetland Size	3	0.25	0.75
L4. Surrounding Land Use	3	0.25	0.75
Biotic		Σ	3
B1. Relative Native Plant Community Composition	3	0.2	0.6
B2. Vegetation Horizontal Patch Structure	3	0.2	0.6
B3. Vegetation Vertical Structure	4	0.2	0.8
B4. Native Riparian Tree Regeneration	2	0.2	0.4
B5. Invasive Exotic Plant Species Cover	3	0.2	0.6
Abiotic		Σ	3.8
A1. Floodplain Hydrologic Connectivity	4	0.3	1.2
A2. Physical Patch Diversity	3	0.2	0.6
A3. Channel Equilibrium	4	0.2	0.8
A4. Stream Bank Stability and Cover	4	0.2	0.8
A5. Soil Surface Condition	4	0.1	0.4

SA Condition Scoring Summary			
Major Attribute	Score	Wt.	Wt. Score
Landscape Context	2.25	0.3	0.675
Biotic	3	0.35	1.05
Abiotic	3.8	0.35	1.33
SA WETLAND CONDITION SCORE Σ			3.055
SA WETLAND RANK =			B

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

Stressor Summary	Major	Minor	Top Three	
	1	6	1	Agriculture/Urban flow diversion upstream
			2	Excessive noise affecting wildlife
			3	Adverse sediment retention by dams



Score Roll-Up – Lowland example

SA CODE: 32RGrand474.2 **Date:** 04/24/2019

SA Name: Tingley Beach North **Surveyor Initials:** HB, YC, HB, HB

NMRAM - SA Rank Summary Worksheet: Lowland Riverine Wetlands 2.2			
Metric Description	Rating	Wt	Final Score
Landscape Context		Σ	1.5
L1. Buffer Integrity Index	1	0.25	0.25
L2. Riparian Corridor Connectivity	3	0.25	0.75
L3. Relative Wetland Size	1	0.25	0.25
L4. Surrounding Land Use	1	0.25	0.25
Biotic		Σ	2.6
B1. Relative Native Plant Community Composition	2	0.2	0.4
B2. Vegetation Horizontal Patch Structure	3	0.2	0.6
B3. Vegetation Vertical Structure	3	0.2	0.6
B4. Native Riparian Tree Regeneration	4	0.2	0.8
B5. Invasive Exotic Plant Species Cover	1	0.2	0.2
Abiotic		Σ	2.3
A1. Floodplain Hydrologic Connectivity	3	0.3	0.9
A2. Physical Patch Complexity	2	0.2	0.4
A5. Soil Surface Condition	2	0.1	0.2
A6. Channel Mobility	1	0.2	0.2
A11. Groundwater Index	3	0.2	0.6

SA Condition Scoring Summary			
Major Attribute	Score	Wt.	Wt. Score
Landscape Context	1.5	0.3	0.45
Biotic	2.6	0.35	0.91
Abiotic	2.3	0.35	0.805
SA WETLAND CONDITION SCORE Σ			2.165
SA WETLAND RANK =			C

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

Stressor Summary	Major	Minor	Top Three	
	9	3	1	Extended low flow dam releases
			2	Timing of flow releases not concordant
			3	Adverse sediment retention by dams