Steps in the Development of Wetlands Standards – New Mexico

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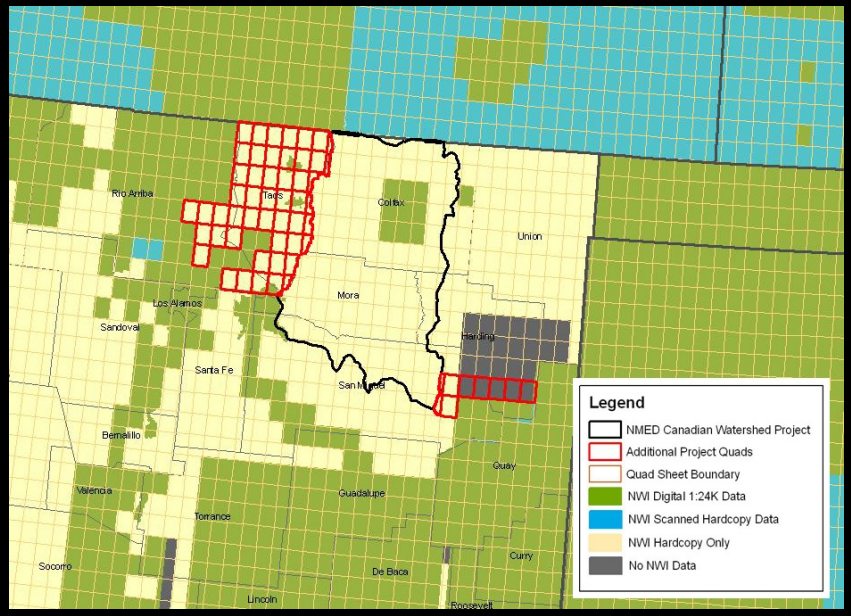
Surface Water Quality Bureau
Wetlands Program

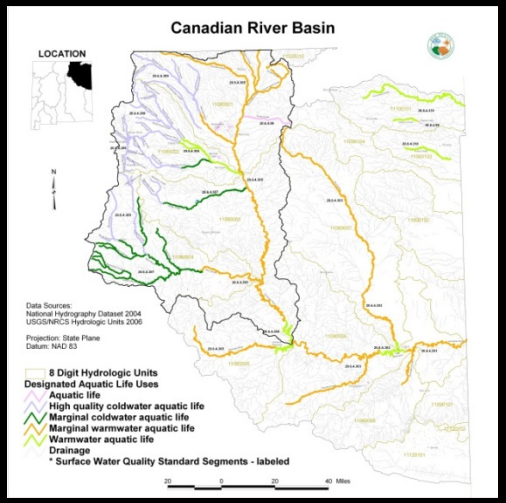
Steps In developing Standards for Wetlands

1. **Mapping and classification update**
2. **Identifying wetland functions by wetland type**
3. **Hydrogeomorphic classification applied**
4. **Measuring the condition of wetlands by wetland type**
5. **Identifying stressors that affect wetland condition**
    1. **Protection of Standard Reference Wetlands**
    2. **Protection of most threatened wetlands**
    3. **Development of Mitigation Ratio condition assessment to apply 401 certification more effectively.**
6. **Database development**
7. **Identifiers of each wetland – Assessment Units**
8. **Using these data to develop a defensible narrative standard by wetlands type**
9. **Plan for outreach to the public regarding the development and uses of wetland standards**

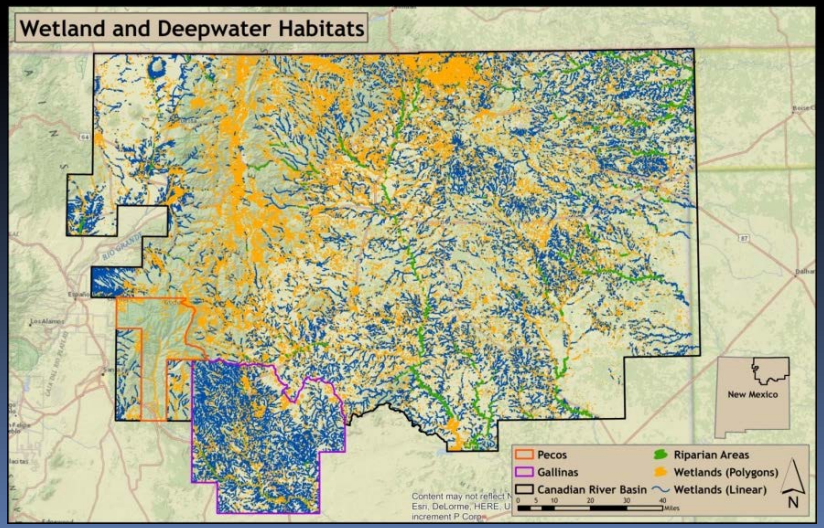
Mapping and Classification Update

Example of limited mapping coverage in New Mexico in 2010



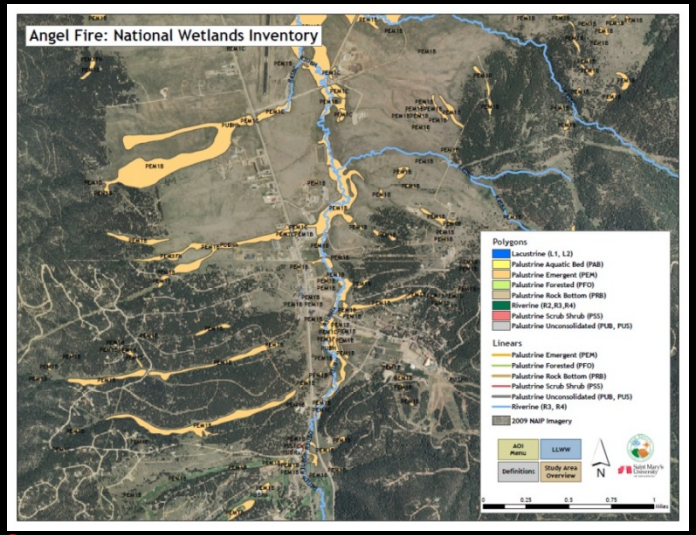


Current Mapping

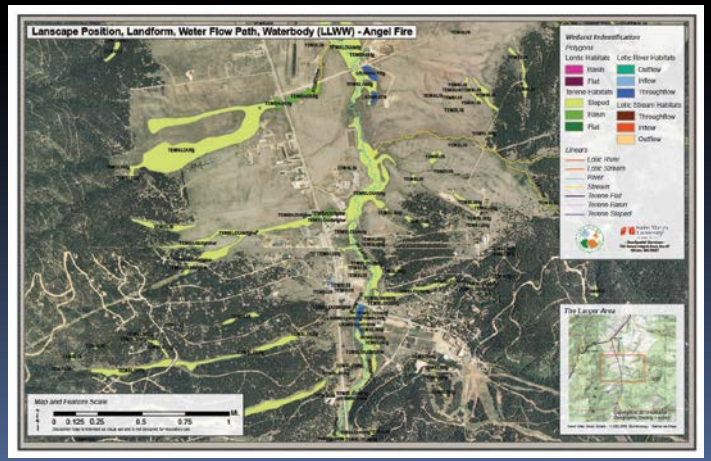


Mapping and Classification

1. **Mapping and remapping of all wetlands within New Mexico.**
   - Establish a baseline using the Cowardin classification for NWI
   - Use Riparian Classification to map adjacent riparian areas
   - Include linear wetlands for confined wetland types



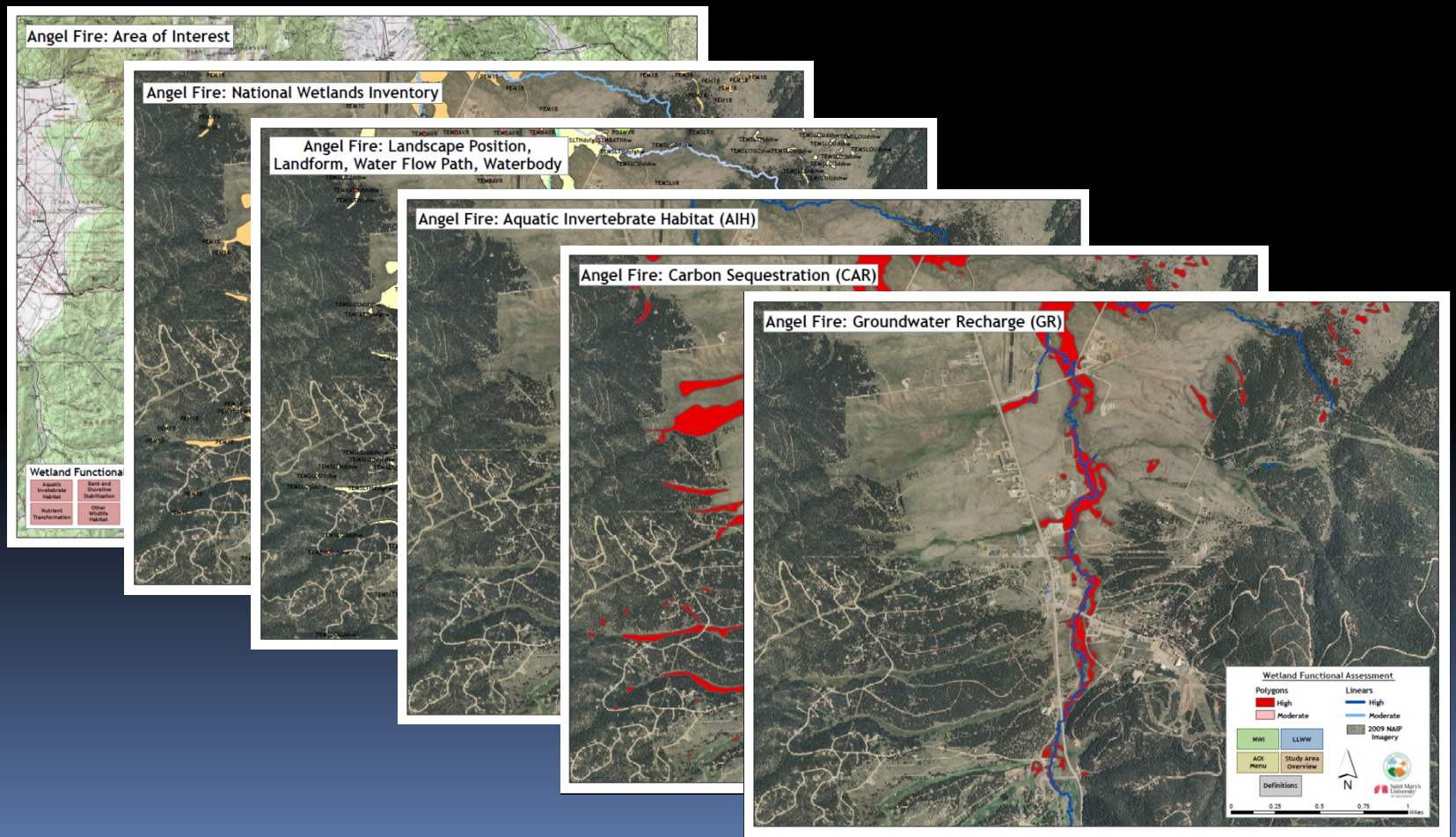
2. **Enhance wetland characterization using LLWW descriptors.**
   - Landscape position, landform, water flow path, waterbody type
   - Develop additional modifiers for the arid west for the 4 basic attributes
   - Use for cross-correlation with hydrogeomorphic (HGM) subclasses established for NM wetlands.



Identification of Wetland Functions

3. Assign and map functions for identified wetland types.

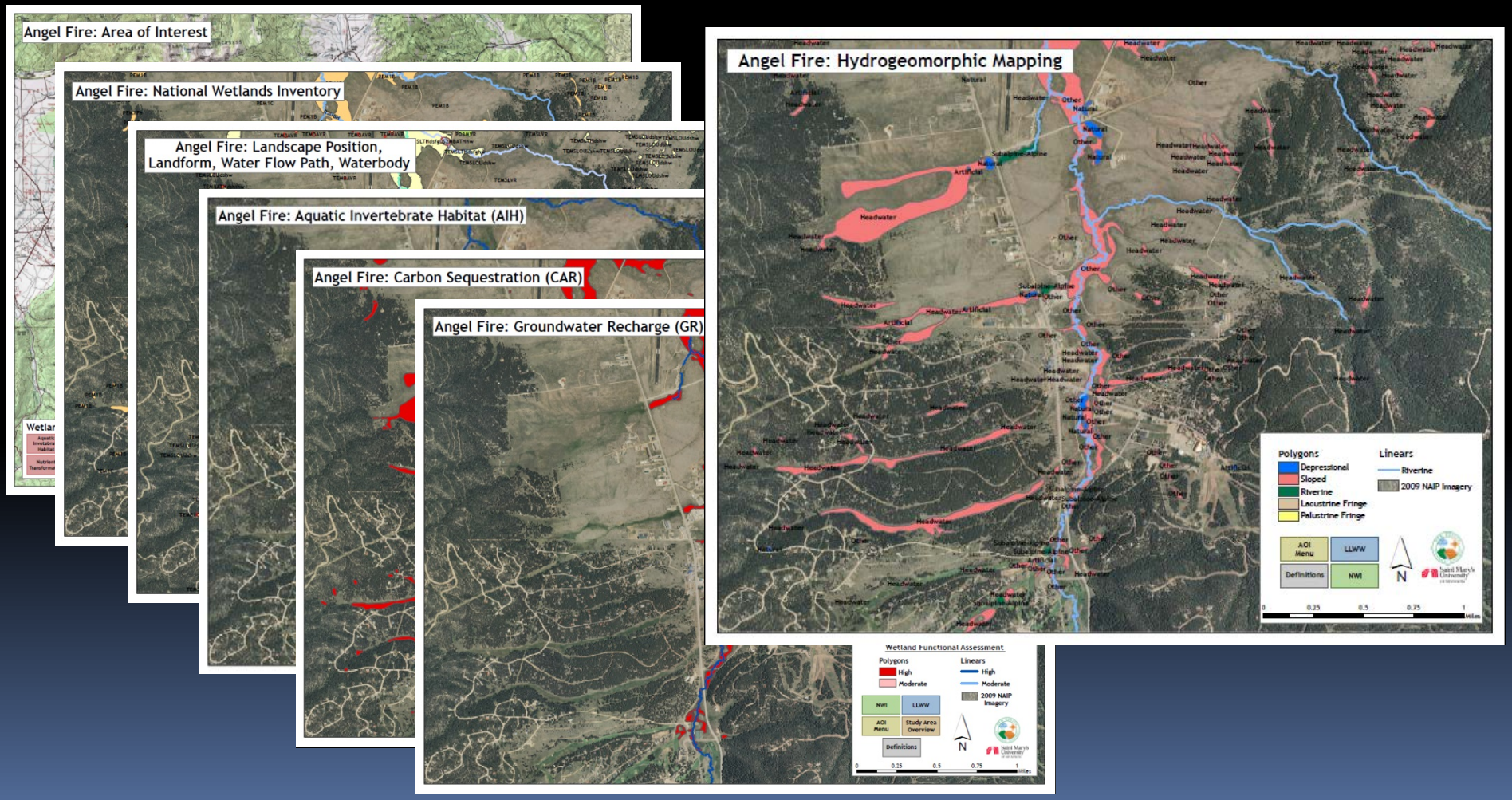
- Assign a set of wetland functions to wetland types
- Assign wetlands to moderate or high functioning for wetland type



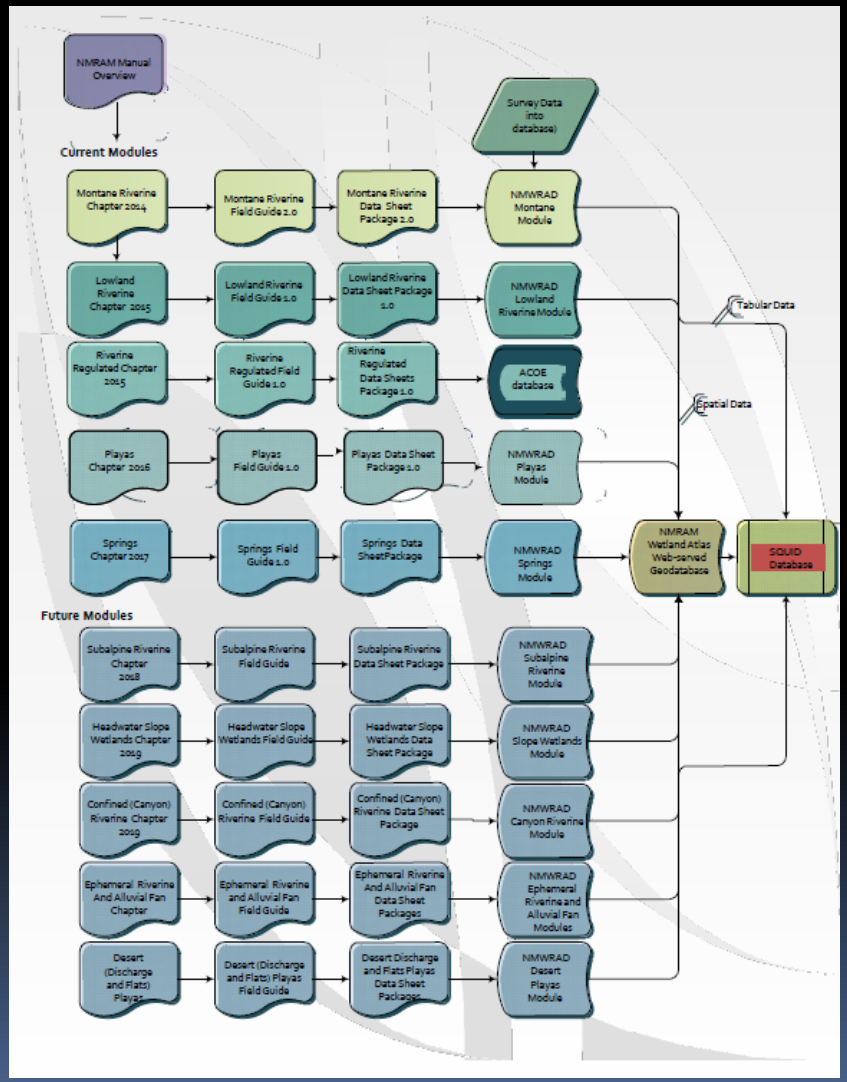
Hydrogeomorphic Classification Applied

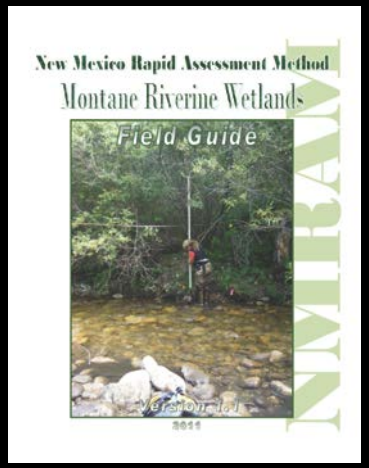
4. Map Hydrogeomorphic (HGM) subclasses

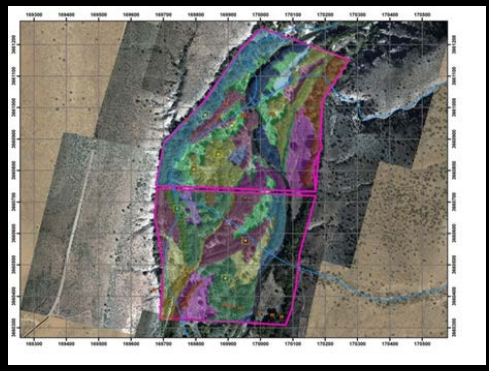
- **Prepare for future NMRAM data collection**



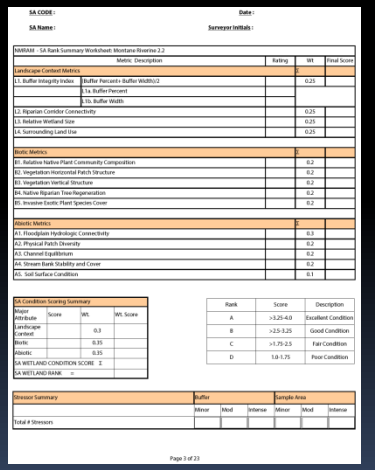
Evaluating Wetland Condition by Wetland Type



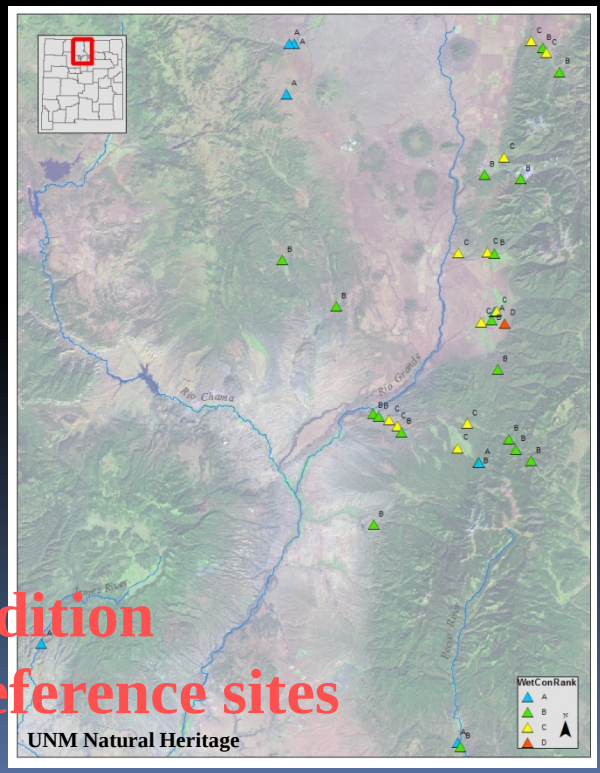




Sampling Area



Wetland condition ranking of reference sites



UNM Natural Heritage

Identifying Stressors that affect Wetland Condition

Ground water pumping lowering water tables

Vegetation Removal

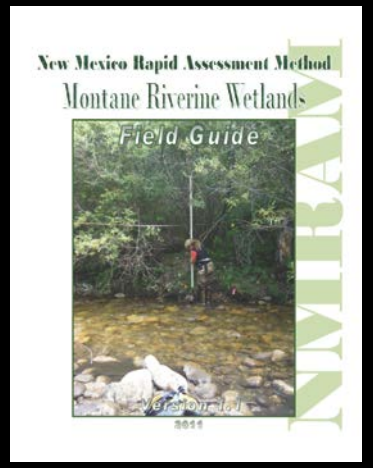
Development

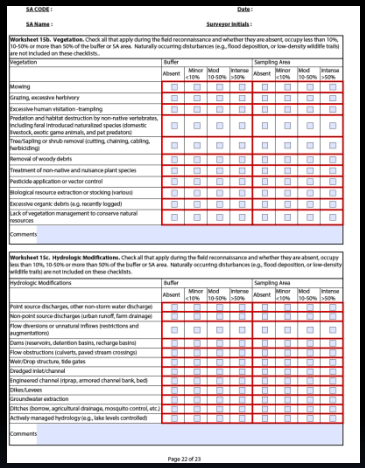
Livestock and wildlife grazing

Agriculture

Introduced exotic species

Flood control





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SA Name : Surveyor Initials :

Worksheet 11b. Vegetation. Check all that apply during the field reconnaissance and whether they are absent, occupy less than 10%, 10-50% or more than 50% of the buffer or SA area. Naturally occurring disturbances (e.g., flood deposition, or low-density wildlife trails) are not included on these checklists.

Vegetation	Buffer				Sampling Area			
	Absent	Minor <10%	Mod 10-50%	Intense >50%	Absent	Minor <10%	Mod 10-50%	Intense >50%
Mowing								
Grazing, excessive herbivory								
Excessive human visitation--trampling								
Predation and habitat destruction by non-native vertebrates, including feral introduced naturalized species (domestic livestock, exotic game animals, and pet predators)								
Trees/Sapling or shrub removal (cutting, chaining, cabling, herbiciding)								
Removal of woody debris								
Treatment of non-native and nuisance plant species								
Pesticide application or vector control								
Biological resource extraction or stocking (various)								
Excessive organic debris (e.g. recently logged)								
Lack of vegetation management to conserve natural resources								
Comments								

Worksheet 11c. Hydrologic Modifications. Check all that apply during the field reconnaissance and whether they are absent, occupy less than 10%, 10-50% or more than 50% of the buffer or SA area. Naturally occurring disturbances (e.g., flood deposition, or low-density wildlife trails) are not included on these checklists.

Hydrologic Modifications	Buffer				Sampling Area			
	Absent	Minor <10%	Mod 10-50%	Intense >50%	Absent	Minor <10%	Mod 10-50%	Intense >50%
Point source discharges, other non-storm water discharge)								
Non-point source discharges (urban runoff, farm drainage)								
Flow diversions or unnatural inflows (restrictions and augmentations)								
Dams (reservoirs, detention basins, recharge basins)								
Flow obstructions (culverts, paved stream crossings)								
Weir/Drop structure, tide gates								
Dredged inlet/channel								
Engineered channel (riprap, armored channel bank, bed)								
Dikes/Levees								
Groundwater extraction								
Ditches (borrow, agricultural drainage, mosquito control, etc.)								
Actively managed hydrology (e.g., lake levels controlled)								
Comments								

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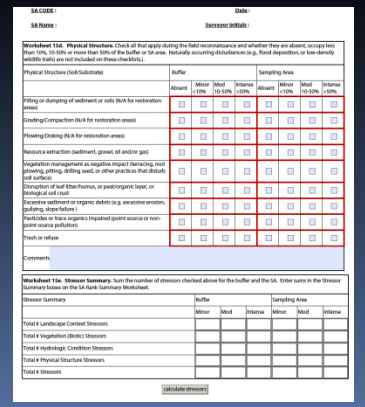

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Worksheet 11d. Physical Structure. Check all that apply during the field reconnaissance and whether they are absent, occupy less than 10%, 10-50% or more than 50% of the buffer or SA area. Naturally occurring disturbances (e.g., flood deposition, or low-density wildlife trails) are not included on these checklists.)

Physical Structure (Soil/Substrate)	Buffer				Sampling Area			
	Absent	Minor <10%	Mod 10-50%	Intense >50%	Absent	Minor <10%	Mod 10-50%	Intense >50%
Filling or dumping of sediment or soils (N/A for restoration areas)								
Grading/Compaction (N/A for restoration areas)								
Plowing/Disking (N/A for restoration areas)								
Resource extraction (sediment, gravel, oil and/or gas)								
Vegetation management as negative impact (barracing, root plowing, pitting, drilling seed, or other practices that disturb soil surface)								
Disruption of leaf litter/humus, or peat/organic layer, or biological soil crust								
Excessive sediment or organic debris (e.g. excessive erosion, pulsing, slope failure)								
Pesticides or trace organics impaired (point source or non-point source pollution)								
Trash or refuse								
Comments								

Worksheet 11e. Stressor Summary. Sum the number of stressors checked above for the buffer and the SA. Enter sums in the Stressor Summary boxes on the SA Rank Summary Worksheet.

Stressor Summary	Buffer			Sampling Area		
	Minor	Mod	Intense	Minor	Mod	Intense
Total # Landscape Context Stressors						
Total # Vegetation (Biotic) Stressors						
Total # Hydrologic Condition Stressors						
Total # Physical Structure Stressors						
Total # Stressors						

calculate stressors

Database Development and Assessment Units

- **SQUID – Surface Water Quality Information Database**
- **Identification of Wetlands – Assessment Units**
- **Quality Assurance Project Plan**

Anti-degradation and Outstanding National Resource Waters (ONRW) Designation

Tier 3 Waters: Antidegradation Policy

- **No degradation shall be allowed in waters designated by the Water Quality Control Commission as ONRW.**
- **Highest level of protection**
- **Exceptions**

Thank you from the New Mexico Environment Department Surface Water Quality Bureau Wetlands Program!

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