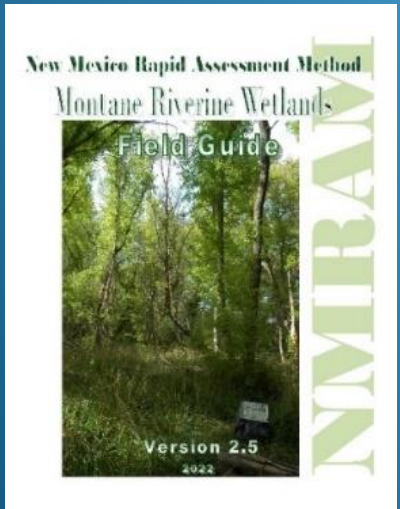
New Mexico Environment Department

New Mexico Rapid Assessment Method (NMRAM)

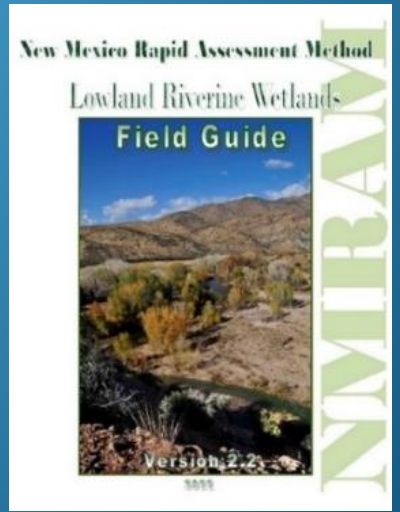
Riverine Wetlands

Relative Wetland Size



New Mexico Environment Department
Surface Water Quality Bureau
Wetlands Program

Natural Heritage New Mexico
University of New Mexico



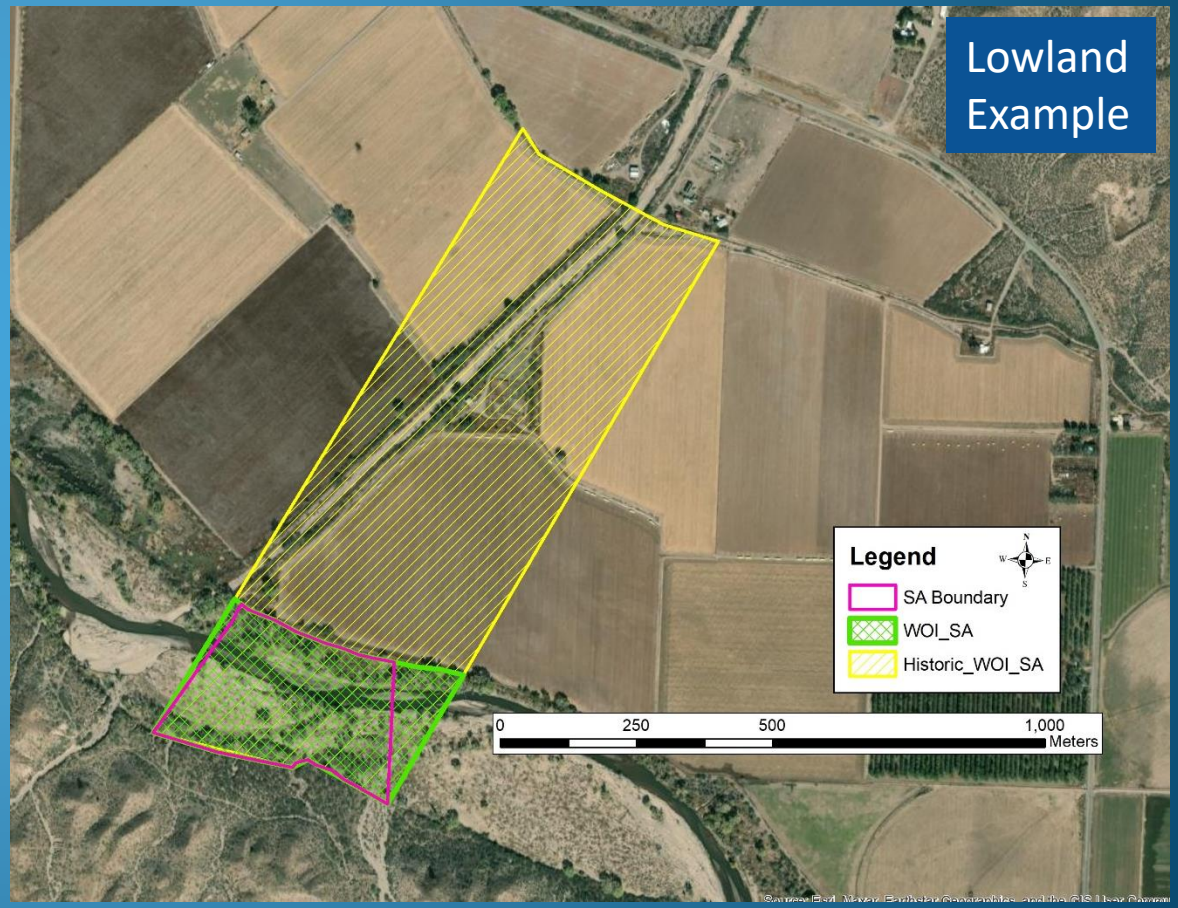
Relative Wetland Size

- The degree of a wetland's alteration from its historical natural size (and condition) as a function of human-induced disturbances, particularly land-use conversions and major hydrological modifications

- Level 1 : mapping and ground-based as necessary

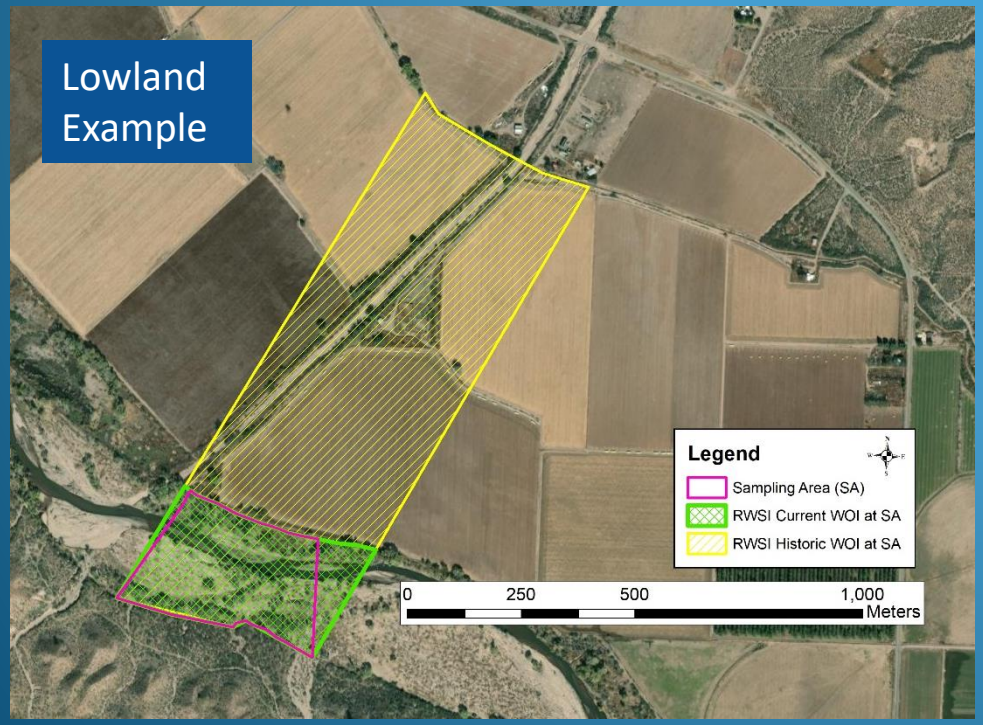
- Large reductions from potential indicate :
  - alteration to hydrology or ecosystem processes
  - ecological instability
  - reduced viability
  - and tendency to lose diversity

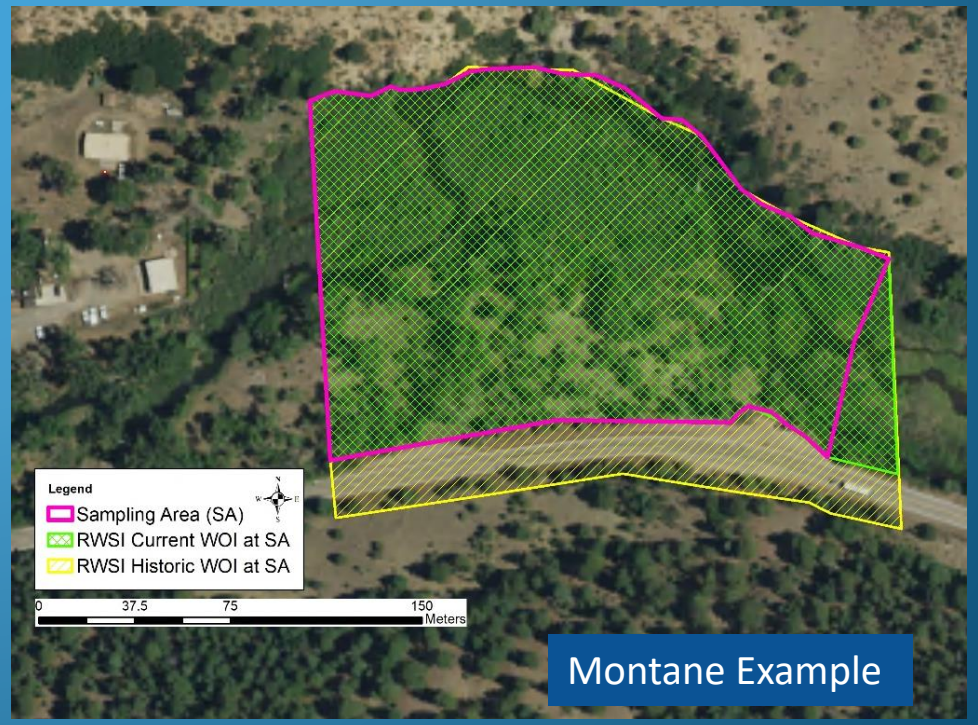
  in the future (stress)



Relative Wetland Size

- Ratio of the Current WOI size relative to the Historic WOI size
  - Measured in lateral section across the floodplain perpendicular to the SA
  - From the outer corners of the SA extend lines perpendicular to the boundary of the SA to the edge of the floodplain (upland slopes or ancient abandoned terraces) to create Historic WOI
  - Create current WOI by removing those portions of the historic WOI that are disconnected from the floodplain due to development
  - Calculate area of both polygons (can estimate by eye, but will need actual area to plug into field sheet)
  - RWSI is rated based on percentage reduction of current WOI from Historic





Relative Wetland Size

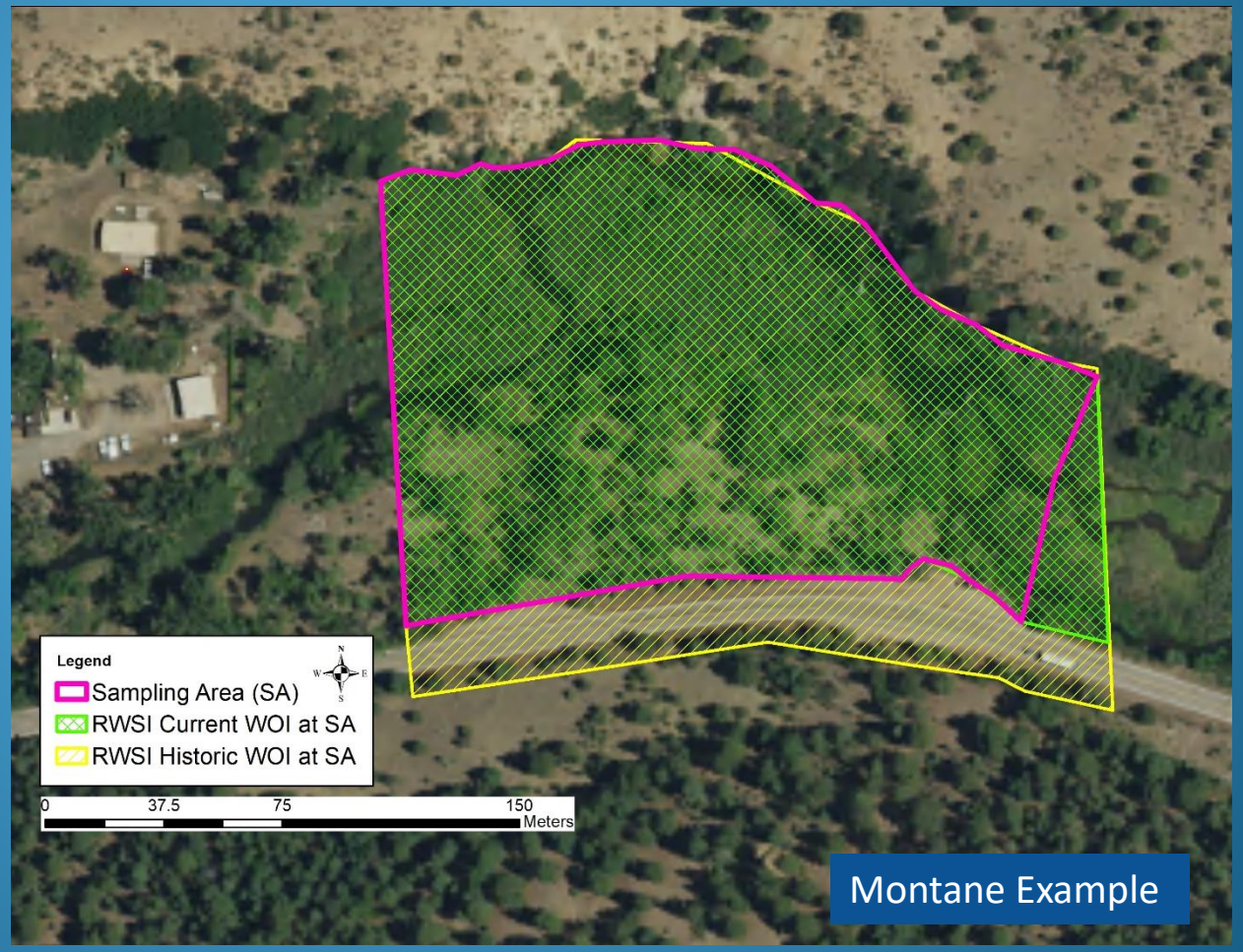
The example SA has a paved road on south which creates a hydrologic break removing a portion of the Historic WOI from the Current WOI. To the north the Historic and Current WOI boundaries are identical.

The measured areas are:

Historic WOI = 3.22 ha

Current WOI = 2.68 ha

*note, the Current WOI area is not synonymous with the SA area



Relative Wetland Size

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 Worksheet.

RSR					RWSI						
Current Size	/	Historic Size	=	RSR	1	-	RSR	X	100	=	RWSI (%)
2.68	/	3.22	=	0.8322981	1	-	0.8322981	X	100	=	16.770186

Table L3. Relative Wetland Size Rating

Rating	RWSI Score	Description
○ 4	≤10%	Wetland is at or only minimally reduced from its full natural extent
◉ 3	>10% - ≤40%	Wetland remains equal to or more than 60% of its natual size
○ 2	>40% - ≤70%	Wetland has been reduced by more than 40% its natural size
○ 1	>70%	Wetland has been reduced by more than 70% its natural size