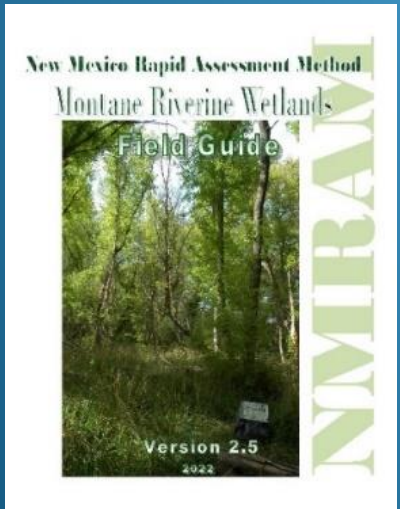
New Mexico Environment Department

New Mexico Rapid Assessment Method (NMRAM)

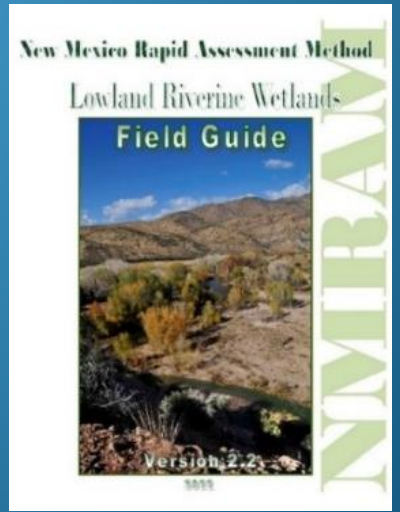
Riverine Wetlands

Physical Patch Complexity



New Mexico Environment Department
Surface Water Quality Bureau
Wetlands Program

Natural Heritage New Mexico
University of New Mexico



PHYSICAL PATCH COMPLEXITY (MONTANE AND LOWLAND)

Definition: This metric describes the physical structural richness of riverine wetlands and associated channels that foster habitat complexity and biotic diversity.

Rationale: Emphasizes condition and the relationship of physical complexity to increased habitat that fosters biological diversity in the riparian complex. Variety in physical features leads to a varied and complex habitat required to support multiple dependent organisms.

PHYSICAL PATCH COMPLEXITY

- During the reconnaissance survey of the SA, check physical patch types on:
  - Worksheet 11 on Montane
  - Worksheet 12 on Lowland
  - See Glossary for definitions
- Based on the number of patch types and overall character of the site, rate using Table A2.

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
☐	☐	☐	Shoals, sparely-vegetated bars
☐	☐	☐	Channel boulders
☐	☐	☐	Oxbow lakes/ponds on floodplains
☐	☐	☐	Vegetated island and side bars
☐	☐	☐	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

PHYSICAL PATCH COMPLEXITY

Worksheet 11 from our Montane example SA

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
☐	☐	☐	Shoals, sparely-vegetated bars
☐	☐	☐	Channel boulders
☐	☐	☐	Oxbow lakes/ponds on floodplains
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☐	☒	☒	Downed logs
☐	☐	☐	Natural levees
☐	☐	☐	Standing snags
☐	☐	☐	Variegated, convoluted, or crenulated foreshore
☒	☒	☒	Undercut banks in channels
11			No. of unique Patch Types

PHYSICAL PATCH COMPLEXITY

- Rating for Physical Patch Complexity:
  - Count of physical patch types on Worksheet 11 (Worksheet 12 Lowland)
  - Overall complexity and density of physical patch diversity across the SA
- Based on the number of patch types and overall character of the site, rate the metric using Table A2.
  - PDF datasheets auto rate on count of features
  - Field team should adjust rating as needed based on their observation of density across the SA

Table A2. Rating for Physical Patch Complexity

Rating		Description
○	4	**High** 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).
●	3	**Moderate** 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	**Limited** 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).
○	1	**Little** 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.