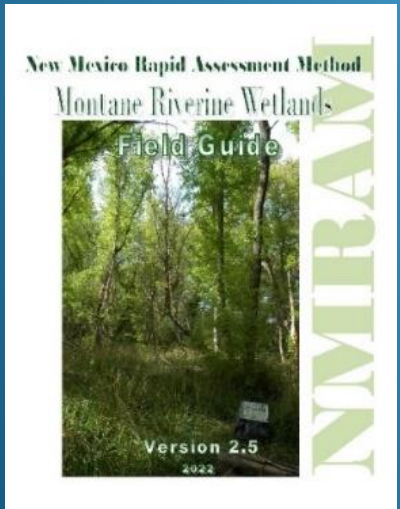
New Mexico Environment Department

New Mexico Rapid Assessment Method (NMRAM)

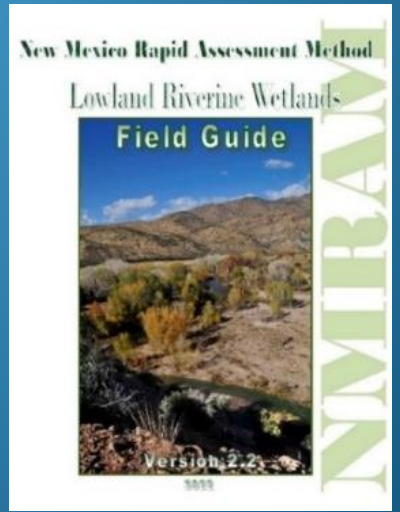
Riverine Wetlands

Vegetation Vertical Structure



New Mexico Environment Department
Surface Water Quality Bureau
Wetlands Program

Natural Heritage New Mexico
University of New Mexico



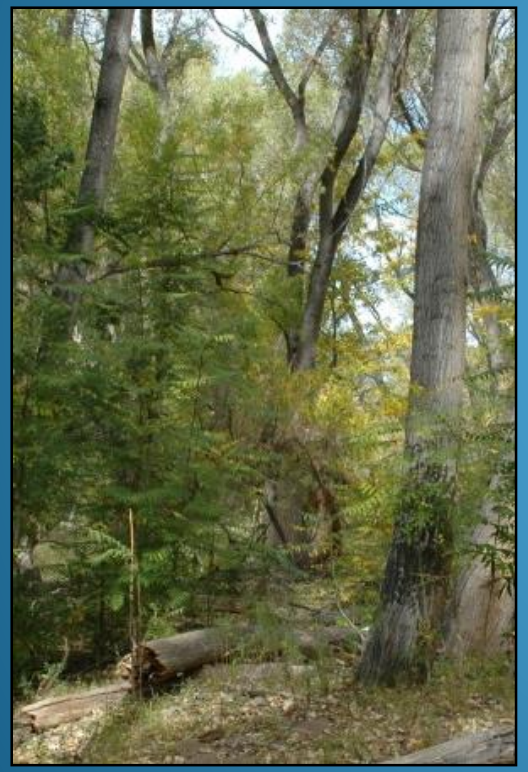
Vegetation Vertical Structure

- **Definition:** An assessment of the overall vertical structural complexity of the vegetation canopy layers across the SA, including presence of multiple strata, and age/size classes.

- **Rationale:** The more vertical strata and complexity:
  - more habitat for wildlife
    - - particularly birds
  - more overall biotic diversity
  - multiple plant life forms

Vertical Vegetation Structural Types (VST)
Tall Woody (Forest) Types

High Structure Forest
VST 1



Trees > 6m
Canopy > 25%
Woody understory
(shrubs/small trees)
1.5 -6 m tall
Canopy > 25%

Low Structure Forest
VST 2

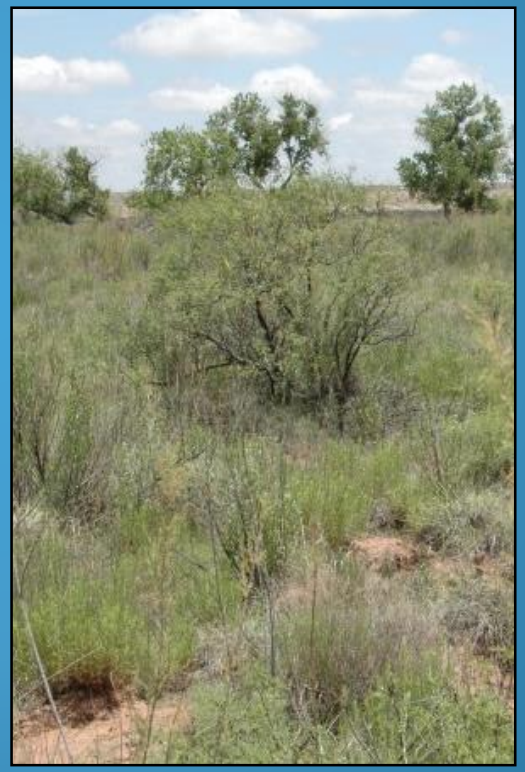
Trees > 6m
Canopy > 25%
Woody understory
(shrubs/small trees)
1.5 -6 m tall
Absent or
Canopy < 25%

Vertical Vegetation Structural Types (VST)
Short Woody (Shrub) Types

Tall Shrublands
VST 5

Young trees and/or tall shrubs
1.5 – 6 m tall
Canopy > 25%

Short Shrublands
VST 6S



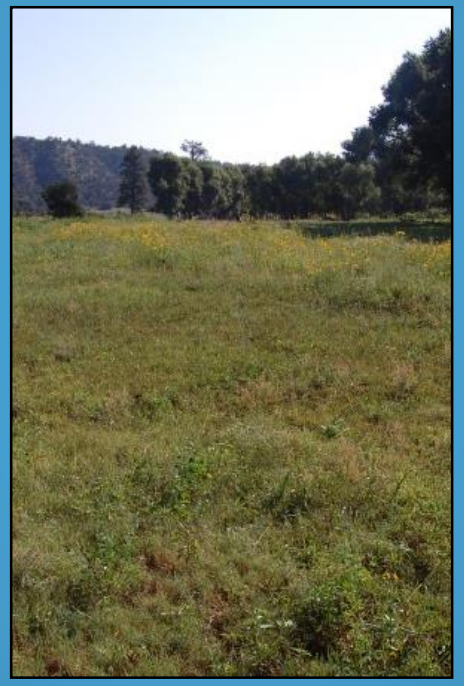
Short stature shrubs
< 1.5 m tall
Canopy > 25%

Vertical Vegetation Structural Types (VST)
Herbaceous Types

Herbaceous Wetlands
VST 6W

Herbaceous wetland
Wetland species dominant
> 10% total canopy
woody species
absent or < 25%

Herbaceous Vegetation
VST 6H



Herbaceous vegetation
Non-wetland species
dominant
> 10% total canopy
woody species
absent or < 25%

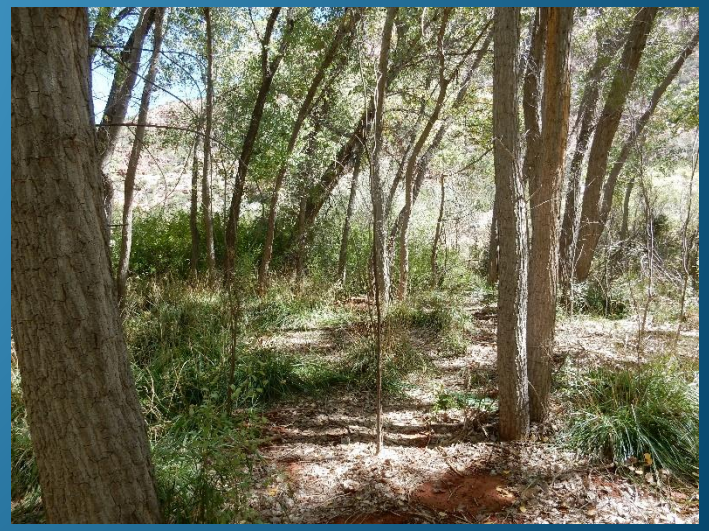
Sparse/Bare
VST 7

Bare ground or
Sparse vegetation
< 10% total vegetation
canopy cover

Rating Vegetation Vertical Structure

Scaling Rationale:

- Some structural types provide more overall vertical structure than others
- Structure types are grouped and weighted differently:
  - High Structure Forests (VST 1) are weighted most heavily in the scoring.
  - Low Structure Forests (VST 2), Tall Shrublands (VST 5), and Wetland Herbaceous (VST 6W) patches are weighted intermediately
  - Short Shrublands (VST 6S), Herbaceous Vegetation (VST 6H) and Sparse Vegetation/Bare Ground (VST 7) patches are given the lowest weight individually
- The most complex vertical structure is attained by a combination of different structure types in proximity to one another



Rating Vegetation Vertical Structure

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	0	45	40	5	10	0	0

calculate

Reset

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%
◉ 4	1	5	6W and/or 6H
	1	6W	
	2 or 1 and 2	5	6W and/or 6H
○ 3	1		
	2 or 1 and 2	5	
	2 or 1 and 2	6W	
	5	6W	
○ 2	2 or 1 and 2		
	5		
	6W		
○ 1	6S		
	6H		
	7