

APPENDIX F – PNVT Departure from Historical Conditions

Appendix F supplements the information found in the Ecosystem Diversity section of the Ecological Sustainability Report for the Kiowa, Rita Blanca, Black Kettle and McClellan Creek National Grasslands. Specifically, it outlines the current and historical conditions for shortgrass prairie, piñon-juniper, cottonwood-willow riparian, sand sagebrush, mixed grass prairie, shinnery oak, and mixed hardwood riparian Potential Natural Vegetation Types (PNVTs). The information in the following tables was used to determine the degree of departure from historic conditions. There are three classes of departure for this evaluation:

1. No departure from historical – within historical condition
2. Moderately departed
3. Severely departed

In order to determine the class of departure for a PNVT, the mid-scale vegetation found within each PNVT was placed into a class based on the information in the historical condition reference model being used for the evaluation. A comparison was then made of the current percentage to the historical percentage for each class within the model. The lesser of the two percentages (current vs. historical) was subtracted from 100 for each class. The resulting number determined the level of departure.

1. 0-33 = No departure from historical – within historical condition
2. 34-66 = Moderately departed
3. 67-100 = Severely departed

For example, the cottonwood-willow PNVT has two classes of vegetation. There is currently 16% of the PNVT in Class A and 84% in Class B. The historical condition is 20% for Class A and 80% for Class B. To calculate the departure, start with 100 percent and subtract the lesser amount for each class.

$$\begin{array}{r} 100 \\ \text{Class A} \quad - 16 \\ \text{Class B} \quad - \underline{80} \\ = 4 \end{array}$$

The departure number is four, meaning that this PNVT is within its historical condition.

Mixed Grass Prairie and Shinnery Oak PNVTs degree of departure was determined using VDDT modeling and are represented as a range of percents. The method for calculating departure was applied in the same manner as above using the median of the range of percentages as historical.

Mixed Grass Prairie		Current %	Historical %
Class	Composition		
A	Grama grass	35%	28%
B	Bluestem/Forbs/Shrubs	65%	72%

Departure for mixed grass prairie: 7 = within historical condition

Shinnery Oak		Current %	Historical %
Class	Composition		
A	Grass & Forbs	44%	19%
B	Shrub/low/medium/tall	56%	81%

Departure for shinnery oak: 25 = within historical condition

Shortgrass Prairie Class	Composition	Current %	Historical Range %	
A	Sparsely vegetated	1%	2%	5%
	Playa/Ephemeral Draw	1%		
B	Sandsage dunes	3%	11%	30%
	Bluestem	8%		
C	Grama	87%	87%	65%

Departure for shortgrass prairie: 22 = within historical condition

Pinyon Juniper Class	Composition	Current %	Historical Range %	
A	Grama	2%	12%	10%
	Bluestem	9%		
	Sparsely vegetated	1%		
	Playa/Ephemeral Draw	0%		
B,C,D,E	Grama w/Juniper	32%	88%	90%
	Juniper Canyons	15%		
	Oak Canyons	11%		
	Piñon Canyons	30%		

Departure for pinyon-juniper: 2 = within historical condition

Cottonwood-Willow Class	Composition	Current %	Historical Range %	
			A	Bluestem
Gramma	6%			
Sandsage dunes	8%			
Sparsely vegetated	0%			
B,C,D	Juniper Canyons	7%	84%	80%
	Oak Canyons	8%		
	Piñon Canyons	1%		
	River Canyon Bottoms	69%		

Departure for cottonwood-willow: 4 = within historical conditions

Mixed Hardwood Riparian Class	Composition	Current %	Historical Range %	
			A	Blue grama / hairy grama grassland
Mixed bluestem grassland	8%			
Sparsely vegetated/bare/developed	1%			
B,C,D,E	Forested floodplains and draws	76%	86%	80%
	Shelterbelts	2%		
	Shinnery oak grassland	8%		
F	Exotic grassland	1%	1%	0%

Departure for mixed hardwood riparian PNVT: 7 = within historical condition

Sand Sagebrush Class	Composition	Current %	Historical Range %	
			A	Sparsely vegetated
B	Sandsage dunes	30%	30%	44%
C	Bluestem	6%	69%	55%
	Gramma	63%		

Departure for sandsage: 14 = within historical condition