

Chapter 5:
Ecological & Biological Diversity of the National Grasslands of the
Cibola National Forest
In
Ecological and Biological Diversity of National Forests in Region 3

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SAVING THE LAST GREAT PLACES ON EARTH

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Introduction

The Cibola National Forest manages several National Grasslands including the Black Kettle, McClellan Creek, Kiowa and Rita Blanca National Grasslands. These are the only National Grasslands within US Forest Service Region 3 (Region 3) jurisdiction and are biologically and ecologically distinct from other lands within the Region. These National Grasslands have a unique history, as they have only recently become a part of the Forest Service. Traditionally, these grasslands were utilized by tribes of the Plains Indians. In the late 1800s, homestead efforts converted much of the area into private domain. After severe drought and economic depression in the late 1910s and early 1920s, the Federal Government bought large tracts of grasslands from private owners as part of a restoration effort known as the Land Utilization Projects, which was overseen by the Soil Conservation Service. In 1950, these lands were transferred to the Forest Service and are now part of the Cibola National Forest. Today, numerous tracts of private land are still scattered throughout these National Grasslands.

The four National Grasslands of Region 3 range across three states. The Black Kettle National Grasslands is situated near Cheyenne, Oklahoma on the west-central border of the state and comprises approximately 31,300 acres, not including the private land holdings it surrounds. McClellan Creek National Grassland is 1,449 acres and is located between the towns of Groom and McClean in Gray County, Texas. The Rita Blanca National Grasslands is found in the northwestern part of Texas and the southwestern Oklahoma Panhandle. The Kiowa National Grasslands is made up of two distinct areas. One area is situated near Roy, New Mexico and the other borders the Rita Blanca along the north east corner of New Mexico. Together, the Kiowa and Rita Blanca National Grasslands comprise approximately 239,000 acres, not including the private lands they surround. These four National Grasslands are located within the Southern Shortgrass Prairie Ecoregion, although distinct dominant vegetation and wildlife communities can be found throughout.

The goal of this chapter is to synthesize information from existing regional-scale assessments to identify important ecological and biological values that occur on the National Grasslands of the Cibola National Forest and highlight information that may be pertinent to forest planning. Information from three assessments was synthesized for the Grasslands, including:

- Distribution and extent of potential natural vegetation types (PNVTs)
- Plant and animal species richness and their conservation statuses
- Conservation areas and targets associated with Ecoregional Assessments

These types of information may be useful within the forest planning process for evaluating the suitability of current management activities and land management designations, identifying ecological characteristics that may be considered in developing desired conditions, and identifying species that may need special consideration because of continuing threats to their existence. Detailed descriptions of these datasets and the methods used to analyze them are available in Chapter 2.

Results

I. Potential Natural Vegetation Types on the National Grasslands of the Cibola National Forest

The distribution of potential natural vegetation types (PNVTs) was determined for the Kiowa/Rita Blanca and Black Kettle National Grasslands only. To conduct this analysis, data from the Southwest Regional GAP Analysis, Oklahoma GAP and Texas GAP Programs were used. See chapter two for more information regarding these datasets. To calculate total area of each PNVT on the Kiowa/Rita Blanca and Black Kettle, congressional boundaries were used and therefore, acreages for the PNVT analysis include private lands within the National Grassland boundaries. Consequently, total acreages reported in the results are considerably greater than the actual designated National Grasslands area. This provides a comprehensive perspective on the vegetation systems in the immediate areas for forest plans, which are intended to be strategic and (vegetation) system focused. Lastly, it is important to note that some GAP data have not been accuracy tested, and may not be appropriate when applied to small geographic areas. Thus, it was deemed that the acreage of McClellan Creek National Grasslands was too small to confidently analyze the PNVTs using Texas-GAP data.

Eight PNVTs were identified on the Black Kettle National Grasslands (Table 5-1). See Chapter 2, Appendix 2-B for a description of each PNVT and Appendix 2-A for the cross-walk between the GAP land cover types and PNVTs. Nearly 74% of the Black Kettle is dominated by Great Plains Grassland. A large percentage (17%) is urban or agriculture, which exists exclusively on the private land surrounding the Grasslands. Six percent is considered shinnery oak (also known as Havard oak) shrubland. On the Kiowa/Rita Blanca National Grasslands, 12 PNVTs were identified. Great Plains Grasslands was also the most abundant PNVT on the Kiowa/Rita Blanca, comprising 85% of the total area. Urban and agriculture, which occur on the private lands surrounding the Grasslands, comprised a significant proportion (12%) of the remaining area.

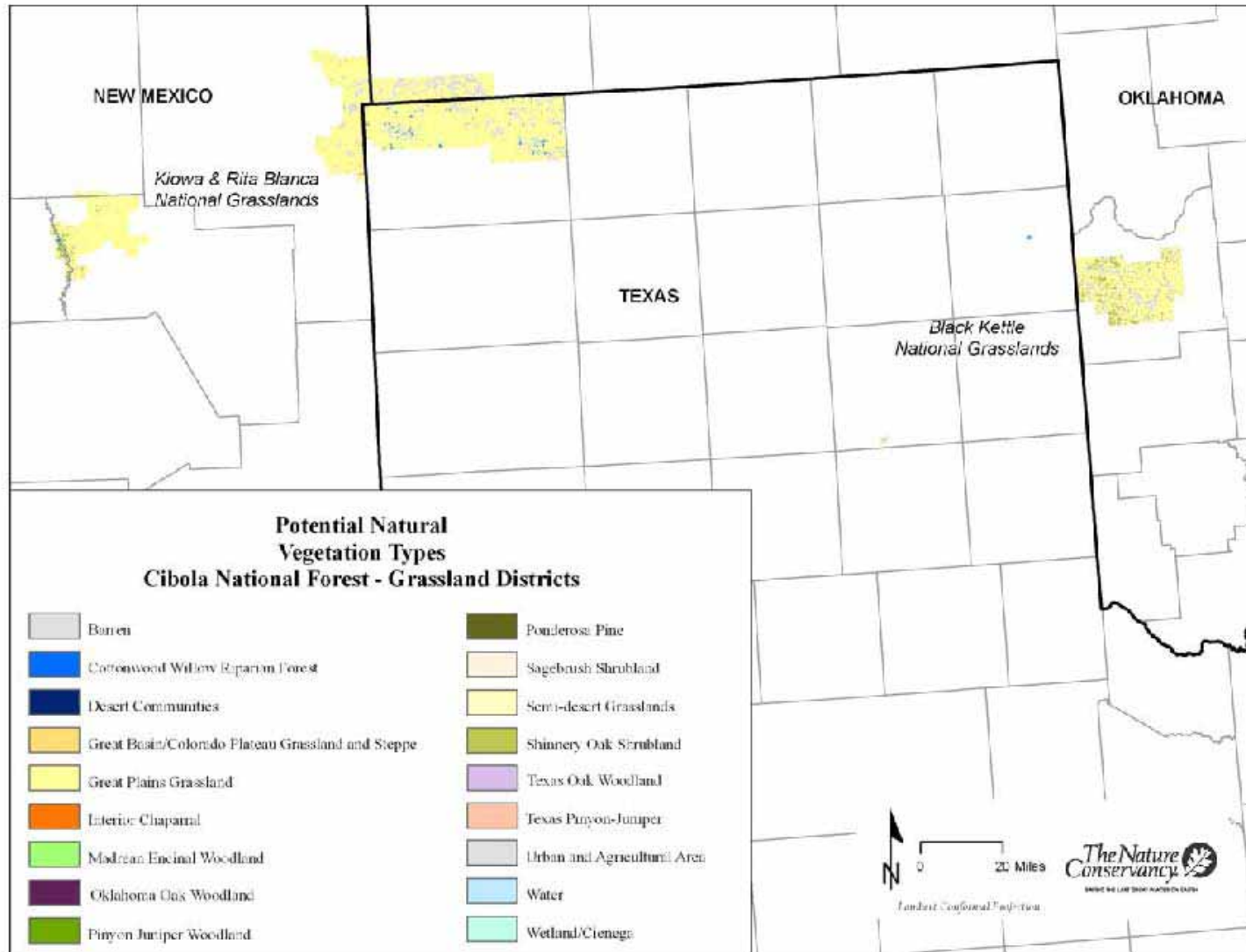


Figure 5-1. Distribution of PNVTs on the Black Kettle and Kiowa/Rita Blanca National Grasslands of the Cibola National Forests. The map was generated using data from the Southwest Regional GAP Analysis, Oklahoma GAP and Texas GAP Programs. See Chapter 2 for more information regarding these datasets.

Table 5-1. Total area (in acres) of potential natural vegetation types (PNVTs) on the Black Kettle and Kiowa/Rita Blanca National Grasslands of the Cibola National Forest. Congressional boundaries were used, thus these areas include private lands that are surrounded by the National Grasslands. Data from the Southwest Regional Gap Analysis (SWReGAP), Oklahoma GAP, and Texas GAP Projects (U.S. Geological Survey National Gap Analysis Program) were used to assess PNVTs. SWReGAP and GAP land cover types were aggregated and converted to potential natural vegetation types. See Chapter 2 for more details on methods.

BLACK KETTLE

PNVT	Total Area
Cottonwood Willow Riparian Forest	2,300
Great Plains Grassland	179,800
Oklahoma Oak Woodland	3,400
Shinnery Oak Shrubland	15,000
Texas Oak Woodland	200
Texas Pinyon Juniper	300
Urban/Agriculture	41,500
Water	1,100
Total	243,700

KIOWA - RITA BLANCA

PNVT	Total Area
Barren	200
Cottonwood Willow Riparian Forest	7,800
Desert Communities	300
Great Basin / Colorado Plateau Grassland and Steppe	5,200
Great Plains Grassland	734,500
Interior Chaparral	800
Madrean Encinal Woodland	100
Pinyon-Juniper Woodland	2,800
Ponderosa Pine	1,800
Semi-desert Grassland	200
Urban/Agriculture	105,500
Water	500
Total	243,700

II. Plant and Animal Species Richness

The R3 Species Database (described in detail in Chapter 2) was used to summarize the conservation status of species that exist on the National Grasslands of the Cibola National Forest, and to identify species that might potentially be considered as species-of-interest and species-of-concern as defined in the USFS planning directives. For the purposes of this analysis, the definitions used to categorize species were similar, but not identical, to the definitions provided in the directives.

Species-of-concern were defined as species that fall in one or more of the following categories:

1. NatureServe G/T-rank of three or less
2. Proposed or candidate species under the Federal Endangered Species Act
3. Recently (<5 years) been delisted under the Federal Endangered Species Act
4. Has been petitioned for federal listing and for which a positive “90-day finding” has been made

Species-of-interest were defined as species that fall in one or more of the following categories:

1. NatureServe N-rank of N1/N2, or S-rank of S1/S2 in New Mexico, Oklahoma, or Texas
2. State listed threatened and endangered species, including species listed as threatened or endangered in New Mexico, threatened, endangered, or species-of-concern in Oklahoma, or endangered in Texas
3. Identified as species of concern or priority species in any of the New Mexico, Oklahoma, or Texas Comprehensive Wildlife Conservation Strategies
4. On the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority List

In particular, the directives provide further criteria that can be used in considering species-of-interest, such as trends, rarity, ranges, and public interest. However, this information was not available in the R3 Species Database and is beyond the scope of this analysis

Species List —The R3 Species Database includes 332 species that inhabit the National Grasslands of the Cibola National Forest (Figure 5-2, a complete list is provided in Appendix 5-A). This number is likely conservative in terms of overall species diversity as it may not account for all vertebrate species that may occur in this area, and is not comprehensive for plant and invertebrates. In addition, the information in the R3 Species Database for the National Grasslands was based primarily on the knowledge of local land managers and standardized surveys (birds), so some species that inhabit the National Grasslands may be absent from these results. One extirpated species, lesser prairie chicken (*Tympanuchus pallidicinctus*), is included in this list.

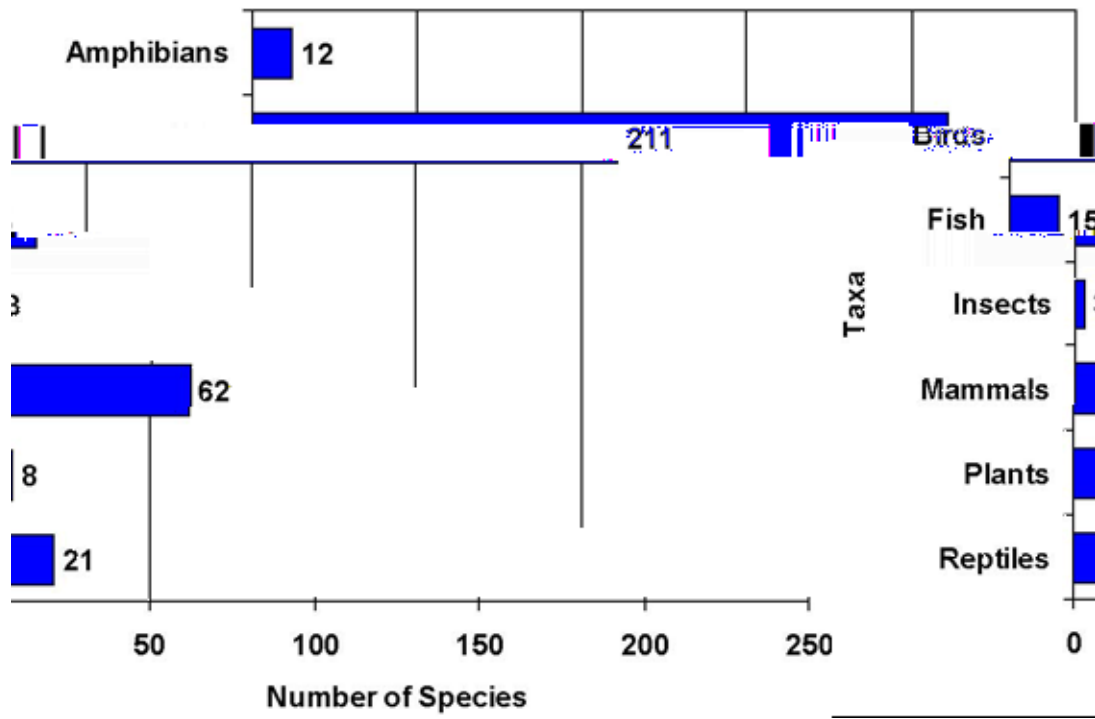


Figure 5-2. Number of species by taxon on the National Grasslands of the Cibola National Forest according to the R3 Species Database. This database includes all terrestrial vertebrates and native fishes, but only plants and invertebrates that are known to be of management concern.

Endangered and Threatened Species —Three species that inhabit the National Grasslands are listed under Federal Endangered Species Act of 1973 (Table 5-2).

Table 5-2. Species listed as endangered and threatened under the Federal Endangered Species Act of 1973 that inhabit the National Grasslands of the Cibola National Forest.

Taxa	Endangered	Threatened
Birds	Interior least tern	Bald Eagle
Fish	Arkansas River Shiner	

Potential species-of-concern — According to information in the R3 Species Database, 17 (5.1%) species in five taxa meet the criteria to be considered as potential species-of-concern on the National Grasslands (Table 5-3). There were no species which have been petitioned for federal listing and for which a positive “90-day finding” has been made identified on the Grasslands.

Table 5-3. Potential species-of-concern on the National Grasslands of the Cibola National Forest. Species with NatureServe G-ranks/T-ranks of three or less, listed as candidate or proposed species under the Federal Endangered Species Act, or having been recently (<5 years) delisted were identified as potential species-of-concern.

Taxa/Scientific Name	Common Name	G/T-Rank	ESA Status	Recently Delisted
Birds				
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	T3		
<i>Charadrius montanus</i>	Mountain Plover	G2		
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	T3		Yes
<i>Tympanuchus pallidicinctus</i>	Lesser Prairie Chicken	G3	Candidate	
Insects				
<i>Atrytone arogos</i>	Arogos Skipper	G3		
<i>Hesperia attalus</i>	Dotted Skipper	G3		
<i>Hesperia ottoe</i>	Ottoe Skipper	G3		
Mammals				
<i>Cynomys ludovicianus</i>	Black-Tailed Prairie Dog	G3		
<i>Peromyscus truei comanche</i>	Palo Duro Mouse	T2		
<i>Vulpes velox</i>	Swift Fox	G3		
Plants				
<i>Asclepias.uncialis</i> ssp. <i>uncialis</i>	Greene Milkweed	T2		
<i>Astragalus wittmannii</i>	A Milkvetch	G3		
<i>Chenopodium cycloides</i>	Sandhill Goosefoot	G3		
<i>Herrickia horrida</i>	Horrid Herrickia (Spiny Aster)	G2		
<i>Packera spellenbergii</i>	Spellenberg's Groundsel	G2		
Reptiles				
<i>Sistrurus catenatus edwardsii</i>	Desert Massasauga	T3		
<i>Thamnophis sirtalis annectens</i>	Texas Garter Snake	T3		

Potential species-of-interest — According to information in the R3 Species Database, 135 (40.6%) species in six taxa (Figure 5-3) meet the criteria to be considered as potential species-of-interest on the National Grasslands (Table 5-4). It is important to note that this list is based strictly on information in the R3 Species Database, and further information (significant threats, trends, rarity, restricted ranges) may exist for additional species that might indicate the need for consideration as species-of-interest.

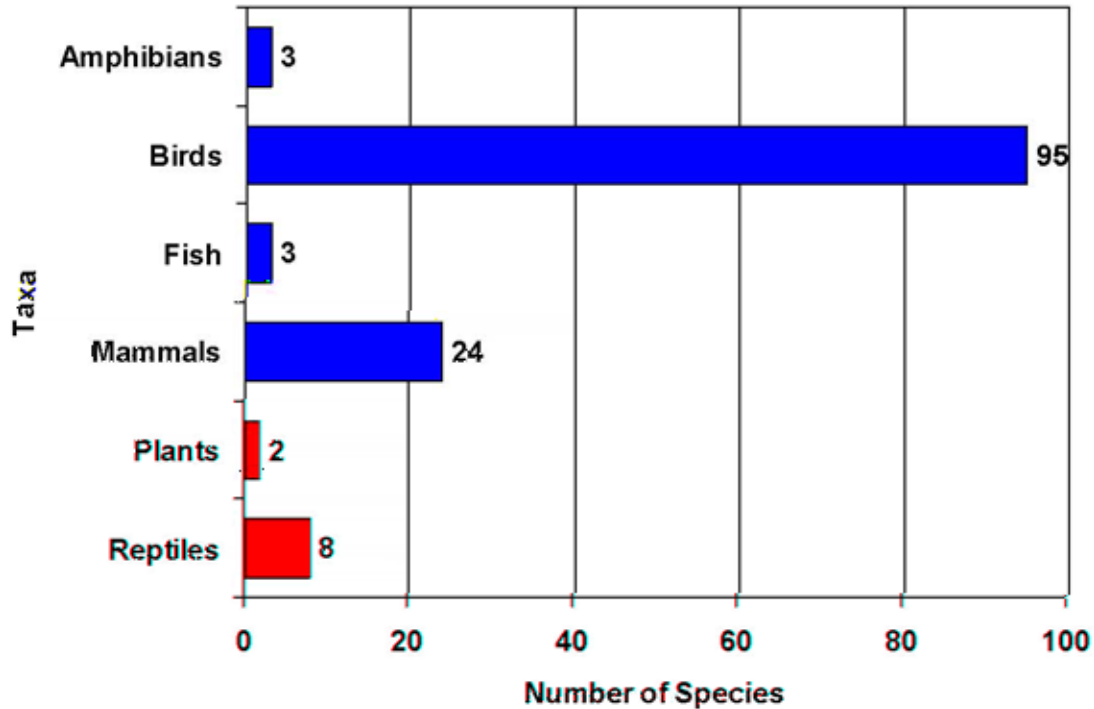


Figure 5-3. Number of potential species-of-interest for six taxa on the National Grasslands of the Cibola National Forest based on information in the R3 Species Database. Species were considered potential species-of-interest if they fell into one or more of the following categories: NatureServe national conservation rank of N1 or N2, NatureServe subnational conservation rank of S1 or S2, state listing status in NM, OK, or TX, listed as a species of concern or priority species in the NM, OK or TX State Comprehensive Wildlife Conservation Strategies, or on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list. Federally endangered or threatened species and species identified as potential species-of-concern were not considered as potential species-of-interest.

Table 5-4. Species identified as potential species-of-interest on the National Grasslands of the Cibola National Forest based on information in the R3 Species Database. Species were considered potential species-of-interest if they fell into one or more of the following categories: NatureServe national conservation rank of N1 or N2, NatureServe subnational conservation rank of S1 or S2, state listing status in NM, OK, or TX, listed as a species of concern or priority species in the NM, OK or TX State Comprehensive Wildlife Conservation Strategies, or on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list. Federally endangered or threatened species and species identified as potential species-of-concern were not considered as potential species-of-interest.

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of	
					NM	OK	TX	NM	OK	TX	NM	OK	TX	CC	
Amphibians															
	<i>Ambystoma tigrinum</i>	Tiger Salamander	G5	N5	S5	S5	S5					x			
	<i>Pseudacris triseriata</i>	Western Chorus Frog	G5	N5	S5	S3	S5					x			
	<i>Rana blairi</i>	Plains Leopard Frog	G5	N5	S4	S5	S5					x			
Birds															
	<i>Accipiter cooperii</i>	Cooper's Hawk	G5	N5	S4	S2	S3								
	<i>Actitis macularia</i>	Spotted Sandpiper	G5	N5	S4	S1	S3								
	<i>Aimophila cassinii</i>	Cassin's Sparrow	G5	N4	S5	S3	S4					x	M		x
	<i>Anmodramus leconteii</i>	Le conte's Sparrow	G4	N3	S2	S4	S3					x	M		x
	<i>Anmodramus savannarum</i>	Grasshopper Sparrow	G5	N5	S3	S4	S3				x		L		
	<i>Anas acuta</i>	Northern Pintail	G5	N5	S4	S3	S3				x	x	H		
	<i>Anas platyrhynchos</i>	Mallard	G5	N5	S5	S2	S3								
	<i>Aphelocoma californica</i>	Western Scrub Jay	G5	N5	S5	S1	S4								
	<i>Aquila chrysaetos</i>	Golden Eagle	G5	N5	S4	S2	S5								
	<i>Archiochus alexandri</i>	Black-Chinned Hummingbird	G5	N5	S5	S1	S5								
	<i>Athene cunicularia hypugaea</i>	Burrowing Owl	G4	N4	S4	S2									
	<i>Aythya collaris</i>	Ring-Necked Duck	G5	N5	S1										
	<i>Baeolophus ridgwayi</i>	Juniper Titmouse	G5	N5	S5	SNR	S2								x x
	<i>Bartramia longicauda</i>	Upland Sandpiper	G5	N5	S4	S3	S3								x
	<i>Bombycilla cedrorum</i>	Cedar Waxwing	G5	N5	S5	S1	S5								
	<i>Branta canadensis</i>	Canada Goose	G5	N5	S4	S1	S5								
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	G4	N4	S3										
	<i>Buteo regalis</i>	Ferruginous Hawk	G4	N4	S2	S1	S2					C1		x	x
	<i>Buteo swainsoni</i>	Swainson's Hawk	G5	N5	S4	S3	S4					C2			x
	<i>Butorides virescens</i>	Green Heron	G5	N5	S4	S2	S5								
	<i>Calamospiza melanocorys</i>	Lark Bunting	G5	N5	S4										
	<i>Calcarius ornatus</i>	Chestnut-Collared Longspur	G5	N5	S5	S4	S3								x

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of CC
					NM	OK	TX	NM	OK	TX	NM	OK	TX	
	<i>Calidris himantopus</i>	Stilt Sandpiper	G5	N3	S4	S3	S3						L	x
	<i>Calidris mauri</i>	Western Sandpiper	G5	N5	S5	S3	S5						x	L
	<i>Callipepla squamata</i>	Scaled Quail	G5	N5	S5	S3	S4				x	x		
	<i>Gallinago delicata</i>	Wilson's Snipe	G5	N5	S2	S5	S5							L
	<i>Caprimulgus carolinensis</i>	Chuck-will's widow	G5	N5		S5	S3							M
	<i>Carduelis psaltria</i>	Lesser Goldfinch	G5	N5	S5	S2	S5							
	<i>Catherpes mexicanus</i>	Canyon Wren	G5	N5	S5	S4	S5							L
	<i>Chaetura pelagica</i>	Chimney Swift	G5	N5	S1	S5	S3							L
	<i>Chondestes grammacus</i>	Lark Sparrow	G5	N5	S5	S3	S4							L
	<i>Chordeiles minor</i>	Common Nighthawk	G5	N5	S5	S5	S4							L
	<i>Circus cyaneus</i>	Northern Harrier	G5	N5	S2	S3	S2				x		H	x
	<i>Cistothorus palustris</i>	Marsh Wren	G5	N5	S1									
	<i>Colinus virginianus</i>	Northern Bobwhite	G5	N5	S5	S5	S4						x	H
	<i>Contopus sordidulus</i>	Western Wood-Pewee	G5	N5	S5	S1	S4							
	<i>Corvus cryptoleucus</i>	Chihuahuan Raven	G5	N5	S5	S2	S4							
	<i>Dendroica petechia</i>	Yellow Warbler	G5	N5	S4						x			
	<i>Dendroica pinus</i>	Pine Warbler	G5	N5	S1									
	<i>Dolichonyx oryzivorus</i>	Bobolink	G5	N5	S1									
	<i>Egretta caerulea</i>	Little Blue Heron	G5	N5	S2	S1	S5						x	H
	<i>Empidonax minimus</i>	Least Flycatcher	G5	N5	S2									
	<i>Eremophila alpestris</i>	Horned Lark	G5	N5	S5	S5	S5							M
	<i>Falco columbarius</i>	Merlin	G5	N4	S4									L
	<i>Falco mexicanus</i>	Prairie Falcon	G5	N5	S4	S3	S3		C1				x	L
	<i>Falco sparverius</i>	American Kestrel	G5	N5	S5	S4	S4							H
	<i>Gallinago delicata</i>	Wilson's Snipe	G5	N5	S2	S5	S5							
	<i>Geothlypis trichas</i>	Common Yellowthroat	G5	N5	S4	S5	S5							H
	<i>Grus canadensis</i>	Sandhill Crane	G5	N5	S4	S2	S5				x	x		
	<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay	G5	N5	S3	S2	SNA				x	x		
	<i>Icterus bullockii</i>	Bullock's Oriole	G5	N5	S5	SNR	S4						x	
	<i>Icterus galbula</i>	Baltimore Oriole	G5	N5	S1									
	<i>Icterus spurius</i>	Orchard Oriole	G5	N5	S3	S4	S4							M
	<i>Ictinia mississippiensis</i>	Mississippi Kite	G5	N5	S2	S5	S4							L
	<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	N3	S4		S4		C2		x	x	M	x
	<i>Limosa fedoa</i>	Marbled Godwit	G5	N5	S4									L

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of CC	
					NM	OK	TX	NM	OK	TX	NM	OK	TX		
	<i>Loxia curvirostra</i>	Red Crossbill	G5	N5	S4	S1	S3								
	<i>Melanerpes erythrocephalus</i>	Red-Headed Woodpecker	G5	N5	S3	S4	S3				x	x	M	x	
	<i>Melanerpes lewis</i>	Lewis's Woodpecker	G4	N3	S5	S2					x	x		x	
	<i>Myiarchus cinerascens</i>	Ash-Throated Flycatcher	G5	N5	S5	S2	S3								
	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	G5	N5	S2	S5	S4						L		
	<i>Numenius americanus</i>	Long-Billed Curlew	G5	N5	S4	S2	S3		C1		x	x	H	x	
	<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	G5	N5		S4	S4						L		
	<i>Oreoscoptes montanus</i>	Sage Thrasher	G5	N5	S4						x				
	<i>Pandion haliaetus</i>	Osprey	G5	N5	S1						x				
	<i>Passerina ciris</i>	Painted Bunting	G5	N5	S4	S5	S4				x	x	M		
	<i>Phalaenoptilus nuttallii</i>	Common Poorwill	G5	N5	S5	S2	S4								
	<i>Phalaropus tricolor</i>	Wilson's Phalarope	G5	N5	S1						x	x	L		
	<i>Picoides scalaris</i>	Ladder-Backed Woodpecker	G5	N5	S5								L		
	<i>Picoides villosus</i>	Hairy Woodpecker	G5	N5	S5	S5	S4						M		
	<i>Plegadis chihi</i>	White-Faced Ibis	G5	N3	S1		S4				x				
	<i>Recurvirostra americana</i>	American Avocet	G5	N5	S4	S2	S4						M		
	<i>Sialia currucoides</i>	Mountain Bluebird	G5	N5	S5	S2	S3								
	<i>Sialia sialis</i>	Eastern Bluebird	G5	N5	S4	S2	S5								
	L	<i>Spizella americana</i>									G5	N5	S1	S4	S4
	x	<i>Spizella atrogularis</i>									G5	N5	S4		
	J	<i>Spizella breweri</i>									G5	N5	S3	S2	S4
	L	<i>Spizella pusilla</i>									G5	N5	S3	S5	S5
	L	<i>Sturnella neglecta</i>									G5	N5	S5	S5	S5
	M	<i>Thryomanes bewickii</i>									G5	N5	S5	S4	S5
		<i>Thryothorus ludovicianus</i>									G5	N5	S2	S5	S5
	L	<i>Toxostoma curvirostre</i>									G5	N5	S5	S3	S4
	L	<i>Toxostoma rufum</i>									G5	N5	S4	S5	S4
	L	<i>Tringa flavipes</i>									G5	N5	S5		
	L	<i>Tringa melanoleuca</i>									G5	N5	S5	S5	S5
		<i>Troglodytes aedon</i>									G5	N5	S5	S4	S2
	L	x	<i>Tyrannus forficatus</i>								G5	N5	S4	S5	S3
	L		<i>Tyrannus tyrannus</i>								G5	N5	S4	S5	S4
	L		<i>Tyrannus vociferans</i>								G5	N5	S5	S2	S3
C2	x	M	<i>Fyto alba</i>								G5	N5	S4	S3	S5

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of CC
					NM	OK	TX	NM	OK	TX	NM	OK	TX	
	<i>Vermivora virginiae</i>	Virginia's Warbler	G5	N5	S4	S1	S3							
	<i>Vireo bellii</i>	Bell's Vireo	G5	N3	S2	S3	S3		C2		x	x	L	x
	<i>Vireo gilvus</i>	Warbling Vireo	G5	N5	S5	S4	S3						L	
	<i>Zenaida macroura</i>	Mourning Dove	G5	N5	S5	S5	S5				x		L	
	<i>Zonotrichia querula</i>	Harris's Sparrow	G5	N5	S3	S5	S4					x	L	

Fish

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of CC
					NM	OK	TX	NM	OK	TX	NM	OK	TX	
	<i>Pimephales promelas</i>	Fathead Minnow	G5	N5	S5	S5	S5					x		
	<i>Platygobio gracilis</i>	Flathead Chub	G5	N5	S5	S5	S5							
	<i>Ammocetes</i>	Longnose Dace	G5	N5	S5	S5	S5							
Mammals														
	<i>Ambloplites americanus</i>	Whangbilly	G5	N5	S5	S5	S5							
	<i>Ambloplites pallidus</i>	Pallid Bat	G5	N5	S5	S5	S5							
	<i>Blestia</i>	Ringed	G5	N5	S5	S5	S5							
	<i>Caster canadensis</i>	American Beaver	G5	N5	S5	S5	S5							
	<i>Comipatus leucostictus</i>	White-backed Hoge-Sposed Skunk	G5	N5	S5	S5	S5							
	<i>Epiplois</i>	Least Shrew	G5	N5	S5	S5	S5							
	<i>Leptodon dorsatum</i>	North American Skunk	G5	N5	S5	S5	S5							
	<i>Leptodon dorsatum</i>	White-Bellied Skunk	G5	N5	S5	S5	S5							
	<i>Myotis</i>	Long-Tailed Weasel	G5	N5	S5	S5	S5							
	<i>Myotis</i>	Western Small-Eared Myotis Bat	G5	N5	S5	S5	S5							
	<i>Neotoma mexicana</i>	Western Wood Bat	G5	N5	S5	S5	S5							
	<i>Neotoma mexicana</i>	Gray Backed Desert Shrew	G5	N5	S5	S5	S5							
	<i>Onychomys leucogaster</i>	White-Tailed	G5	N5	S5	S5	S5							
	<i>Peromyscus maniculatus</i>	Southern Red-Necked Mouse	G5	N5	S5	S5	S5							
	<i>Peromyscus maniculatus</i>	White-Footed Mouse	G5	N5	S5	S5	S5							
	<i>Peromyscus maniculatus</i>	Florida White-footed Mouse	G5	N5	S5	S5	S5							
	<i>Peromyscus maniculatus</i>	Western White-footed Mouse	G5	N5	S5	S5	S5							
	<i>Speotytochus</i>	Red-Shouldered	G5	N5	S5	S5	S5							
	<i>Spilogale</i>	Western Spotted Skunk	G5	N5	S5	S5	S5							
	<i>Spilogale</i>	Eastern Spotted Skunk	G5	N5	S5	S5	S5							
	<i>Thomomys</i>	Canadian Three-Toed Bat	G5	N5	S5	S5	S5							
	<i>Thomomys</i>	California Chipmunk	G5	N5	S5	S5	S5							

Taxa	Scientific Name	Common Name	G-rank	N-rank	S-rank			State Listing			State CWCS			Birds of CC
					NM	OK	TX	NM	OK	TX	NM	OK	TX	
	<i>Taxidea taxus</i>	American Badger	G5	N5	S4	S4	S5						M	
	<i>Ursus americanus</i>	Black Bear	G5	N5	S4	S1	S3				x		M	
Plants														
	<i>Coryphantha vivipara</i>		G5	N4		S2	SNR							
	<i>Echinocereus reichenbachii</i>	Reichenbach Hedgehog Cactus	G5	NR		S2	SNR							
Reptiles														
	<i>Crotalus atrox</i>	Western Diamondback Rattlesnake	G5	N5	S5	S4	S5				x	x		
	<i>Crotaphytus collaris</i>	Collared Lizard	G5	N5	S5	S4	S5				x			
	<i>Holbrookia maculata</i>	Lesser Earless Lizard	G5	N5	S5	S4	S5		C2			x		
	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	G4	N4	S5	S2	S4		C2			x	H	
	<i>Phrynosoma modestum</i>	Roundtail Horned Lizard	G5	N5	S5	S1	S5		C2					
	<i>Terrapene ornata</i>	Western Box Turtle	G5	N5	S4	S5	S5				x		H	
	<i>Thamnophis elegans</i>	Western Terrestrial Garter Snake	G5	N5	S5	S1								
	<i>Thamnophis proximus</i>	Western Ribbon Snake	G5	N5	S3	S5	S5	T						

Summary—Nearly one-half of all species on the National Grasslands of the Cibola National Forests were identified as falling within categories defined by the USFS planning directives. While only 5.1% were identified as potential species-of-concern, over 40% were identified as potential species of interest. In addition to the criteria used to define these categories, the R3 Species Database includes additional conservation status information, such as species listed on the Region 3 Sensitive Species List and birds on the Partner’s in Flight (PIF) Watch List. Its noteworthy that all species on the Region 3 Sensitive Species List that inhabit the National Grasslands were captured within the categories defined by the directives, and only two species (white-throated swift and rufous hummingbird) out of 15 on the PIF Watch List were not captured.

Table 5-5. Number of species identified as endangered and threatened, species-of-concern, species-of-interest, or no category for the National Grasslands of the Cibola National Forest based on information in the R3 Species Database.

	Endangered and Threatened		Species-of- Concern		Species-of- Interest		No Category		Total
	#	%	#	%	#	%	#	%	
Amphibians	0	0.0	0	0.0	3	25.0	9	75.0	12
Birds	2	0.9	4	1.9	95	45.0	110	52.1	211
Fish	1	6.7	0	0.0	3	20.0	11	73.3	15
Insects	0	0.0	3	100.0	0	0.0	0	0.0	3
Mammals	0	0.0	3	4.8	24	38.7	35	56.5	62
Plants	0	0.0	5	62.5	2	25.0	1	12.5	8
Reptiles	0	0.0	2	9.5	9	38.1	11	52.4	21
Total	3	0.9	17	5.1	135	40.6	177	53.2	332

III. Ecoregional Assessment Conservation Areas and Conservation Targets

Ecoregional assessments are science-based efforts to identify the minimum set of areas (conservation areas) on the landscape that are necessary to maintain the biological diversity of the ecoregion. The ecoregional assessment process includes the identification of conservation targets (including species, ecological systems, and important biological features) that represent the biological diversity within the ecoregion. Conservation goals (including distribution, size and minimum number of viable occurrences) are established for each conservation target within the ecoregion. An iterative process is then used to identify a suite of conservation areas that most efficiently meets the conservation goals for all conservation targets within the ecoregion. A more detailed explanation of the ecoregional assessment process is provided in Chapter 2.

For this report, the results of the Southern Shortgrass Prairie ecoregional assessment (The Nature Conservancy 2005) were used to identify the extent and distribution of overlap between conservation areas and each National Grassland. The conservation targets associated with each

overlapping conservation area were also identified. In addition, overlap between conservation areas and roadless areas on the Kiowa/Rita Blanca National Grasslands was assessed. As the draft version of the Southern Shortgrass Prairie ecoregional assessment used for this analysis only includes terrestrial targets and conservation areas, aquatic targets are not included in these results.

Nine distinct conservation areas from the Southern Shortgrass Prairie Ecoregional Assessment overlap the Kiowa/Rita Blanca and Black Kettle National Grasslands (Figure 5-4, Table 5-6), totaling 163,500 acres, or 14.8% of the National Grasslands. Approximately 25% of the Black Kettle and 12% of the Kiowa/Rita Blanca Grasslands are overlapped by conservation areas. Large proportions of the Rita Blanca Alkaline Lakes (100%), Black Kettle (49.7%), and Canadian River Gorge (22.0%) conservation areas overlap the National Grasslands. The Canadian River Gorge conservation area overlaps all 7,500 acres of roadless area that occurs on the Kiowa/Rita Blanca National Grasslands.

Conservation targets were summarized for all nine conservation areas that overlap the National Grasslands. A total of 30 conservation targets occur within these conservation areas (Figure 5-5). Of these, 13 (43.3%) are coarse filter targets (ecological systems or features), while 17 (56.7%) are individual species. A complete listing of all conservation targets by taxonomic group for the Kiowa/Rita Blanca and the Black Kettle National Grasslands is provided in Appendix 5-B and conservation targets for each conservation area are provided in Appendix 5-C.

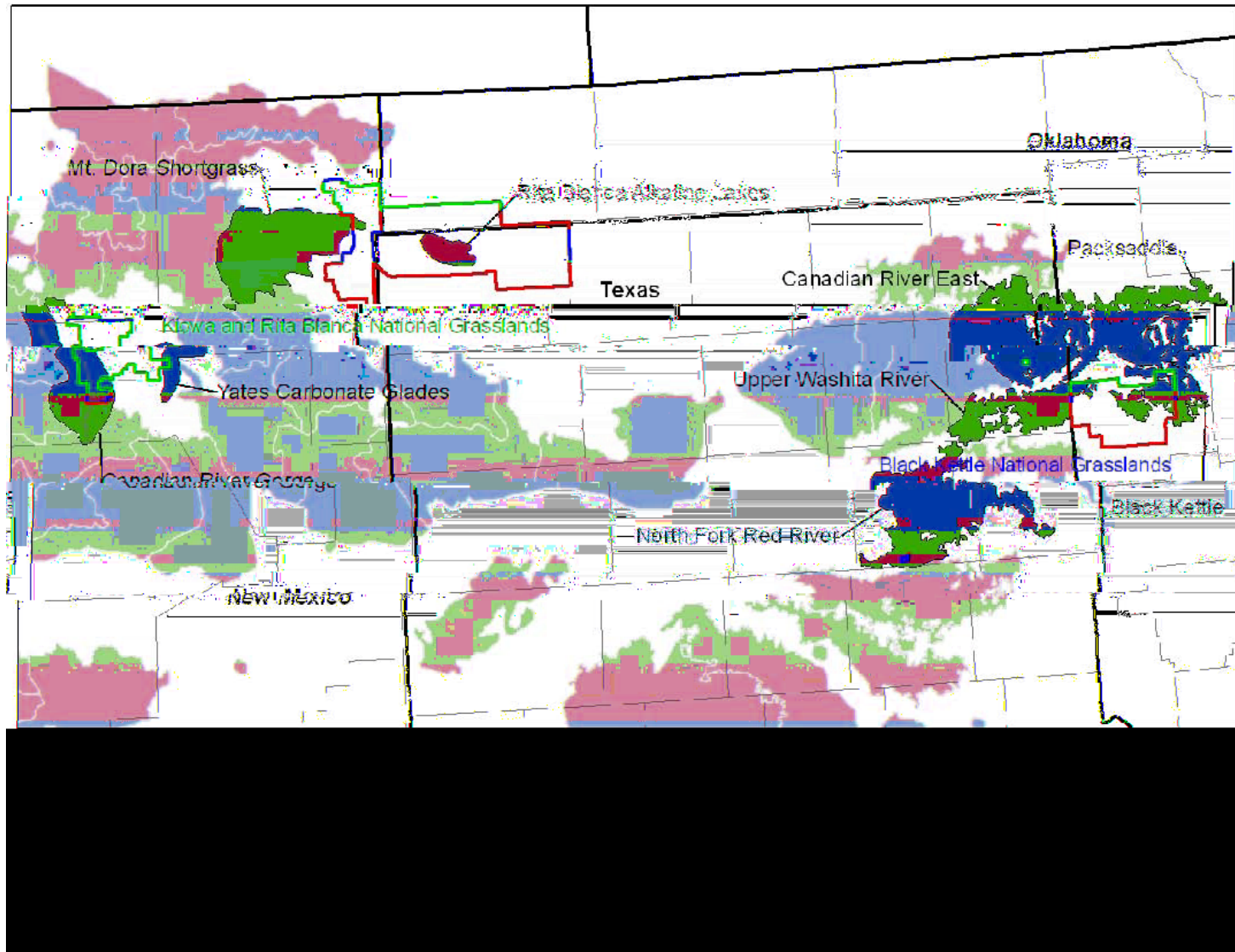


Figure 5-4. Conservation areas (N=9) that overlap the Kiowa/Rita Blanca and Black Kettle National Grasslands of the Cibola National Forest in New Mexico, Oklahoma, and Texas.

Table 5-6. Conservation areas (N=9) that overlap the Kiowa/Rita Blanca and Black Kettle National Grasslands of the Cibola National Forest in New Mexico, Oklahoma, and Texas.

Conservation Area	National Grassland ^a	Overlap (Acres)	% of Conservation Area	Number of Conservation Targets
Black Kettle	BK	57,100	49.7	3
Canadian River East	BL	600	0.2	7
Canadian River Gorge	KRB	48,900	22.0	10
Mt. Dora Shortgrass	KRB	4,500	1.3	11
North Fork Red River	BK	1,400	0.4	8
Packsaddle	BK	2,600	0.7	6
Rita Blanca Alkaline Lakes	KRB	45,800	100.0	14
Upper Washita River	BK	11,800	7.2	7
Yates Carbonate Glades	KRB	2,700	6.0	2

^aKRB = Kiowa and Rita Blanca, BK = Black Kettle

Table 5-7. Extent of overlap between nine ecoregional conservation areas on the Kiowa/Rita Blanca and Black Kettle National Grasslands in New Mexico, Oklahoma, and Texas.

District	Number of Conservation Areas	Overlap (Acres)	% of District
Black Kettle National Grasslands	5	61,700	25.2
Kiowa and Rita Blanca National Grasslands	4	101,800	11.8
National Grasslands Total	9	163,500	14.8

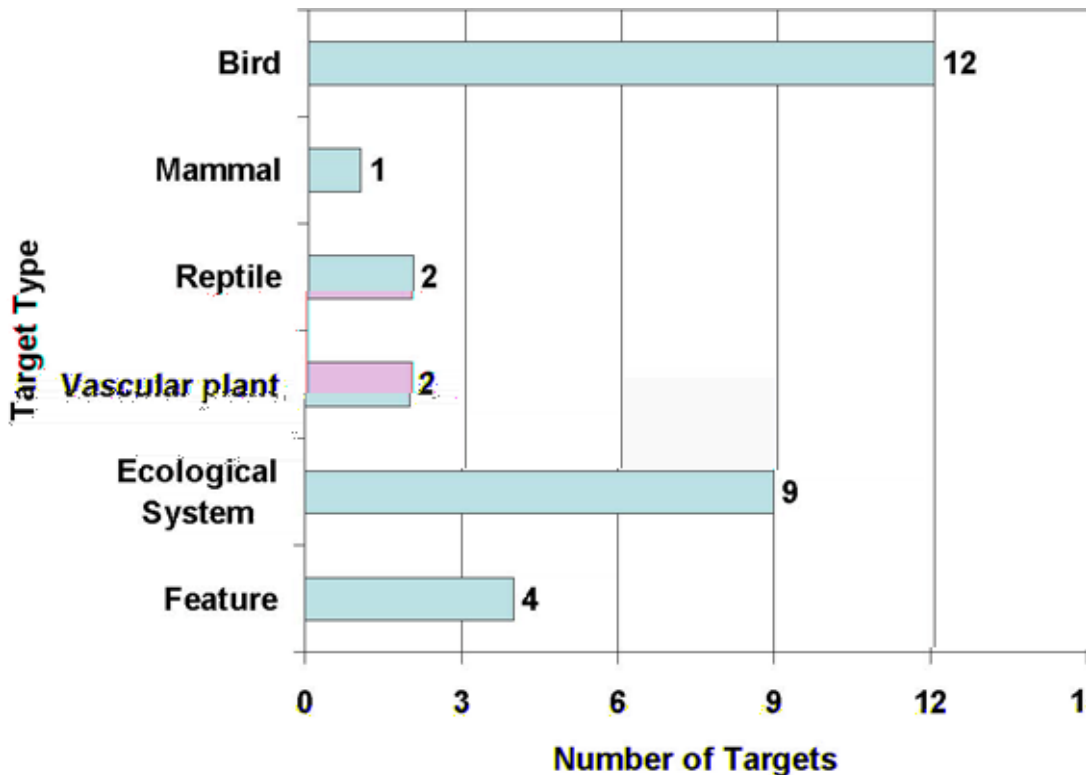


Figure 5-5. Number of conservation targets, by type, that occur on nine conservation areas overlapping the Kiowa/Rita Blanca and Black Kettle National Grasslands of the Cibola National Forest in New Mexico, Oklahoma, and Texas.

Discussion

Systems Diversity

The Black Kettle and Kiowa/Rita Blanca National Grasslands of the Cibola National Forest are largely dominated by Great Plains grasslands (73.8% and 85.3%, respectively; see Appendix 2-A for a description of this PNVF). A total of approximately 914,400 acres of Great Plains grasslands is shared between these National Grasslands. This represents the largest area of Great Plains grasslands within Region 3 Forest Service lands. Large proportions of the Black Kettle (17%) and Kiowa/Rita Blanca National Grasslands (12%) are also identified as urban or agriculture, although these areas occur almost exclusively on private lands that are interspersed with the Grasslands.

The maintenance of the Great Plains grasslands system is vital for sustaining the productivity and biodiversity of these areas. These grasslands support a myriad of vegetation assemblages and important wildlife species, many of which are of federal and state concern, such as the habitat for the Lesser prairie-chicken and the Black-tailed prairie dog. According to Texas Parks and Wildlife Department (2005), this system is

also home to the fastest declining bird populations on the continent. Black Kettle and Kiowa/Rita Blanca National Grasslands provide some of the most intact habitat of Great Plains grasslands in the area. Thus, the Black Kettle and Kiowa/Rita Blanca National Grasslands have the unique opportunity to maintain the biodiversity of these grasslands and their fauna across the region.

Species Richness and Conservation Status

The R3 Species Database includes conservation status information for 332 species that inhabit the National Grasslands. Because the database is not comprehensive for plants and invertebrates, this does not represent the overall diversity of the grasslands. However, the database does serve as a useful tool for identifying species that might, because of their conservation status, need to be addressed within forest planning. While only three species listed under the Endangered Species Act were identified, 17 species were identified as potential species-of-concern. Species-of-concern are those for which ‘management actions may be necessary to prevent listing under the Endangered Species Act’ according to forest planning directives. An additional 135 species were identified as potential species-of-interest, which, according to the directives, are species for which ‘management actions may be necessary or desirable to achieve ecological or other multiple-use objectives.’ Overall, a significant portion (>45%) of the species that inhabit the National Grasslands were identified as species that might need to be considered within forest planning. It is important to note that this was only an initial assessment based on information in the R3 Species Database, and the actual species to be considered will be based on additional information.

Maintaining healthy vegetation systems that serve as important habitat can be a critical first step in sustaining viable populations of these species on the these National Grasslands. The assessments in this report provide important information on the systems and locations on the Black Kettle and Kiowa/Rita Blanca National Grasslands that are important for maintaining system and species diversity. For instance, the analysis of PNVTs highlighted the important vegetation systems that occur on the Black Kettle and Kiowa/Rita Blanca National Grasslands, such as the Great Plains grasslands. The species richness and conservation assessment highlighted those species that may be important to consider within grassland planning. Conservation areas, identified through ecoregional assessments, identify and delineate areas on the landscape that provide the greatest opportunity for sustaining these systems and species.

The Kiowa/Rita Blanca and Black Kettle Grasslands are overlapped by nine different conservation areas. These conservation areas include 30 conservation targets, including 17 individual species and 13 ecological systems and features. The specific locations where conservation areas overlap the National Grasslands highlight important places for the conservation of ecosystem and species diversity on the Grasslands and within the region. These areas of overlap represent the most viable locations on the Grasslands for sustaining the suite of species, ecological systems, and biological processes that are represented by the conservation targets associated with each conservation area that overlaps the National Grasslands. Interestingly, several potential species-of-concern and

species-of-interest occur as targets within these conservation areas, which emphasizes the importance of these conservation areas in sustaining these species and the need to prioritize them in planning for ecological sustainability.

Relevance to Forest Planning

This analysis of existing regional assessment information identifies important biological and ecological characteristics of the Kiowa/Rita Blanca and Black Kettle National Grasslands. This information serves as an important baseline for addressing the ecological sustainability component of the forest plan process under the new National Forest Management Act planning regulations, both in terms of ecosystem and species diversity. It may be also be useful in understanding the current condition of ecological resources on these National Grasslands, identifying ecological characteristics that may be useful in defining desired future conditions, and identifying changes in management necessary to sustain biodiversity. For example, the analysis of ecosystem data demonstrates the importance of Great Plains Grasslands. Along with ecosystems, these results demonstrate the diversity of species that occur on the National Grasslands. The identification of a suite of potential species-of-concern and species-of-interest suggests there are many species whose habitat needs and viability under possible ecosystem and species management scenarios may need to be addressed. The specific needs of these species, as well as their distribution at regional scales, may need to be considered to sustain them.

Ecoregional assessments provide a strategic, regional perspective on maintaining biodiversity at large, ecoregional scales that may be useful in forest planning. The suite of conservation areas identified in the ecoregional assessments represents the minimum area on the landscape needed to maintain the region's biodiversity and may serve as priority areas for considering the impacts of management on ecological sustainability. Used within a forest planning context, consideration of conservation areas incorporates, by default, a regional perspective on ecological sustainability and demonstrates consideration of sustainability issues at scales beyond forest boundaries. Within the forest planning framework, it may be useful to evaluate currently allowed land uses and activities within conservation areas and determine associated impacts to biodiversity, and identify changes that may be needed to achieve sustainability within these areas.

It is important to note that conservation areas do not imply the need for special protections or blanket restriction of activities. Rather, conservation areas can be viewed as priority areas, based on the large scale perspective of ecoregional assessments, for assessing the impacts of ongoing or planned uses and activities in regards to their compatibility with sustaining biodiversity at regional scales. To aid in these planning efforts, each conservation area has associated with it a suite of conservation targets (species, vegetation communities, ecological systems, and features) that are representative of the biodiversity in that area. Evaluation of the environmental and ecological needs of these conservation targets, including both the habitats and ecological processes that support them, as well as identifying threats to their sustainability can be used to assess the compatibility of ongoing or planned uses or activities in these areas.

For example, the Rita Blanca Alkaline Lakes conservation area encompasses 45,800 acres within the Kiowa/Rita Blanca National Grasslands. Fourteen conservation targets, including six birds, one mammal, three ecological systems, and three features are associated with the Rita Blanca Alkaline Lakes conservation area (see Appendix 5-C). These targets can be used as a tool to assess the compatibility of current or planned activities within the conservation area with sustainability goals. For example, it may be useful to evaluate current conditions of the Great Plains Shortgrass Prairies, Southern Great Plains Deep Sand, Shrublands, and Southern Great Plains Mesquite Woodlands and Shrublands ecological systems within this conservation area relative to the historic range of variability and, if necessary, identify potential changes in management that may move these systems to within historic ranges. Similarly, by identifying the ecological needs of species conservation targets and threats to their sustainability, the compatibility of current activities can be assessed. For instance, threats facing many of the avian conservation targets within Rita Blanca Alkaline Lakes conservation area may include overgrazing, intensive agriculture, conversion of grasslands to agriculture, and the declining distribution of prairie dog towns. It may be useful to evaluate management prescriptions within the conservation area and if necessary, identify changes in allowed activities or uses that may reduce or mitigate these threats.

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