

**Chapter 4:**

**Ecological & Biological Diversity of the Coronado National Forest**

**In**

**Ecological and Biological Diversity of National Forests in Region 3**

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The Nature Conservancy**



SAVING THE LAST GREAT PLACES ON EARTH



## Table of Contents

List of Tables .....	4-2
List of Figures .....	4-4
Introduction.....	4-6
Results.....	4-7
I. Potential Natural Vegetation Types within the Coronado National Forest .....	4-7
II. Distribution and Condition of Grasslands .....	4-11
III. Riparian and Freshwater Systems and Species .....	4-13
IV. Plant and Animal Species Richness.....	4-18
V. Ecoregional Assessment Conservation Areas and Conservation Targets .....	4-27
Discussion .....	4-33
Systems Diversity .....	4-33
Grasslands .....	4-33
Riparian and Aquatic Species and Systems .....	4-35
Species Richness and Conservation Status .....	4-36
Relevance to Forest Planning.....	4-37
References.....	4-40
Appendix 4-A: Plants and animals of the Coronado National Forest. Refer to Chapter 2, section IV, for more information on how the data was generated for this table. Also, see information regarding the R3 Species data base at <a href="http://www.azconservation.org">www.azconservation.org</a> .....	4-42
Appendix 4-B. Conservation targets (n=216), by target type, that occur on one or more of 13 conservation areas that overlap the Coronado National Forest in Arizona and New Mexico....	4-74
Appendix 4-C. Conservation targets associated with conservation areas that overlap the Coronado National Forest in Arizona and New Mexico. ....	4-83

## List of Tables

Table 4-1. Approximate area (acres) and percent of total area of potential natural vegetation types on the Coronado National Forest. Areas were calculated using data from The Southwest Regional Gap Analysis Project (SWReGAP). SWReGAP land cover types were aggregated and converted to potential natural vegetation types. See Chapter 2 for more details on methods..... 4-9

Table 4-2. Acres of grasslands in four condition types occurring on five ranger districts on the Coronado National Forest in Arizona and New Mexico (from Schussman and Gori 2004). 4-11

Table 4-3. Number of stream miles with occurrences of ten native fishes on five ranger districts on the Coronado National Forest in Arizona based on the Arizona Freshwater Assessment (Turner and List, *In Prep*). Numbers in parentheses represent the current extent of each species based on review of current fish distributions by Coronado National Forest Resource Staff..... 4-14

Table 4-4. Number of perennial stream miles, number of stream miles with occurrences (1975 and later) of one or more native fish species, and number of native fish species with occurrences on five ranger districts on the Coronado National Forest in Arizona based on the Arizona Freshwater Assessment (Turner and List, *In Prep*). Values in parentheses represent the current number of fish species on each ranger district according to Coronado National Forest Resource Staff. .... 4-15

Table 4-5. Stream systems, number of native fish species with occurrences, and the total stream reach length with native fish occurrences for 16 stream systems with native fishes on the Coronado National Forest in Arizona. Values in parentheses represent the current number of native fish species and the miles of occupied habitat for each stream according to Coronado National Forest Resource Staff. .... 4-17

Table 4-6. Number of species by taxon on the Coronado that have special state status in Arizona and New Mexico. In Arizona, wildlife of conservation concern is assigned the status of Wildlife of Special Concern (WSC). Plants in Arizona are in different conservation status categories that include salvage restricted (SR) and highly safeguarded (HS). New Mexico plants and wildlife of conservation concern is designated as threatened or endangered... 4-19

Table 4-7. Threatened, endangered, candidate and proposed species, designated under the Federal Endangered Species Act of 1973, that currently inhabit the Coronado National Forest. The table includes common names that are recognized by NatureServe..... 4-20

Table 4-8. Number of species by taxon that inhabit the Coronado National Forest that are assigned the various global rankings by NatureServe. Eleven species are not included in this table as they do not have an assigned global rank. G1 = critically imperiled; G2 = imperiled; G3 = vulnerable; G4 = apparently secure; G5 = secure; GNR = not ranked; GU = unrankable; T = infraspecific taxon (subspecies or varieties). .... 4-21

Table 4-9. Number of species per taxon currently inhabiting the Coronado National Forest that are assigned to various subnational rankings in Arizona and New Mexico by their respective State Heritage Programs. Sixty-seven and 217 of the 759 species were not assigned a subnational conservation rank by the Arizona and New Mexico Heritage Programs, respectively. S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SH = possible extirpated; SX = presumed extirpated; SNA = not applicable; SNR = not ranked. .... 4-22

Table 4-10. Birds of Conservation Concern that occur on the Coronado National Forest. .... 4-25

Table 4-11. Bird species on the Partners in Flight Watch List that inhabit the Coronado National Forest..... 4-26

Table 4-12. Conservation areas (n=14) that overlap five ranger districts on the Coronado National Forest, acres of overlap, and the percentage of each conservation area overlapping the Coronado National Forest in Arizona and New Mexico..... 4-30

Table 4-13. Extent of overlap between ecoregional conservation areas and five ranger districts on the Coronado National Forest in Arizona and New Mexico..... 4-30

Table 4-14. Number of conservation targets associated with aquatic/riparian and terrestrial habitats for 13 conservation areas that overlap the Coronado National Forest in Arizona and New Mexico..... 4-31

Table 4-15. Overlap between conservation areas and areas with special designations on the Coronado National Forest in Arizona and New Mexico..... 4-32

Table 4-16. Overlap between conservation areas and Management Areas on the Coronado National Forest in Arizona and New Mexico. .... 4-32

Table 4-17. Conservation targets (n=16) associated with the Dragoon Mountains conservation area in Arizona. .... 4-39

## List of Figures

- Figure 4-1. Distribution of potential natural vegetation types on the Coronado National Forest. This map was created using data from the Southwest Regional Gap Analysis Project (SWReGAP; U.S. Geological Survey National Gap Analysis Program. 2004). SWReGAP vegetation types were aggregated and converted to potential natural vegetation types. See Chapter 2 for more information regarding methods used. SWReGAP data have not been accuracy tested and is based on satellite imagery. Therefore, SWReGAP may not be appropriate at fine spatial scales. .... 4-8
- Figure 4-2. Percentage of cover area of each potential natural vegetation type that occurs on the Coronado National Forest in relation to all other Region 3 National Forests combined. Analysis was conducted using data from the Southwest Regional Gap Analysis Project (SWReGAP). .... 4-10
- Figure 4-3. Grassland types, based on condition, on five ranger districts on the Coronado National Forest in Arizona and New Mexico (from Schussman and Gori 2004, Gori and Enquist 2003). .... 4-12
- Figure 4-4. Number of stream miles with varying native fish species richness based on occurrences from 1975 and later for five districts on the Coronado National Forest, Arizona. .... 4-15
- Figure 4-5. Perennial stream reaches with varying numbers of native fish species with occurrences on five ranger districts on the Coronado National Forest in Arizona. .... 4-16
- Figure 4-6. Number of species, by taxa, that inhabit the Coronado National Forest based on data from the R3 Species Database. This database includes all known terrestrial vertebrates and native fishes, but only known plants, crustaceans, insects and snails of management concern. Because of the limitations of the R3 Species Database, the numbers reported in these results are likely conservative. .... 4-18
- Figure 4-7. The number of federally listed endangered and threatened species by taxa (in orange) and potential species-of-concern (in blue) that currently inhabit the Coronado National Forest. Endangered and threatened conservation status is designated by the US Fish and Wildlife Service. Species that have a NatureServe global conservation rank of G1, G2, G3, T1, T2, or T3 and are not listed as federally endangered or threatened are considered potential species-of-concern according to the published Forest Service draft directives (70 Fed. Reg. 14637). Species that are a candidate or proposed for federal listing may also be considered for species-of-concern status. .... 4-23
- Figure 4-8. The number of potential species-of-interest by taxa that currently inhabit the Coronado National Forest. Species were considered potential species-of-interest if they fell into one or more of the following categories: special state conservation status (WSC, HS, and SR in Arizona or threatened or endangered in New Mexico); on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list; and NatureServe subnational conservation rank of S1 or S2. These are the criteria listed in

the published Forest Service draft directives (70 Fed. Reg. 14637) for determining species-of-interest. Species that were federally endangered or threatened, or that were determined to be potential species-of concern were not included as potential species-of-interest..... 4-24

Figure 4-9. Conservation areas (N=14) that overlap the Coronado National Forest in Arizona and New Mexico..... 4-29

Figure 4-10. Number of conservation targets, by type, that occur on 13 conservation areas overlapping the Coronado National Forest in Arizona and New Mexico..... 4-31

## Introduction

The Coronado National Forest is one of 11 National Forests within U.S. Forest Service (USFS) Southwestern Region (Region 3). This Forest is located in southeastern Arizona and extreme southwestern New Mexico. The Coronado National Forest encompasses approximately 1,717,800 acres (695,169 hectares) which comprises approximately eight percent of the total area of Region 3 Forests.

The extreme southeastern portions of Arizona and southwestern New Mexico are home to mountain ranges where the Sierra Madre Occidental of Mexico and the Rocky Mountains converge. These mountains, where sub-tropical and tropical origins intersect, are also known as part of the Sky Island archipelago. Here, the desert floor rises approximately 7,720 ft. (2,353 m) to forested mountains where five “life-zones” (environments that are characterized by particular groupings of plants and animals) occur: the Lower Sonoran, Upper Sonoran, Transition, Canadian, and Hudsonian. As a result, the Coronado National Forest exhibits an impressive diversity of ecosystems that provide habitat for myriad plant and animal species. Plant and animal diversity is relatively high in this area due to the geographic mixing of species of northern and southern origins. Furthermore, distinct species have evolved in the Sky Islands due to the isolation of the forested mountainous regions where the ‘desert sea’ acts as a barrier for movement and gene flow. Consequently, many of Coronado’s mountain ranges harbor numerous endemic and rare species.

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 Coronado National Forest and highlight information that may be pertinent to forest planning. Information from five assessments was synthesized for the Coronado National Forest, including:

- Distribution and extent of potential natural vegetation types (PNVTs)
- Distribution and condition of grassland systems
- Distribution of native fish species
- Conservation status of plant and animal species
- 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. A summary and analysis of these assessments across major landowners and National Forests in Region 3 is provided in Chapter 3.

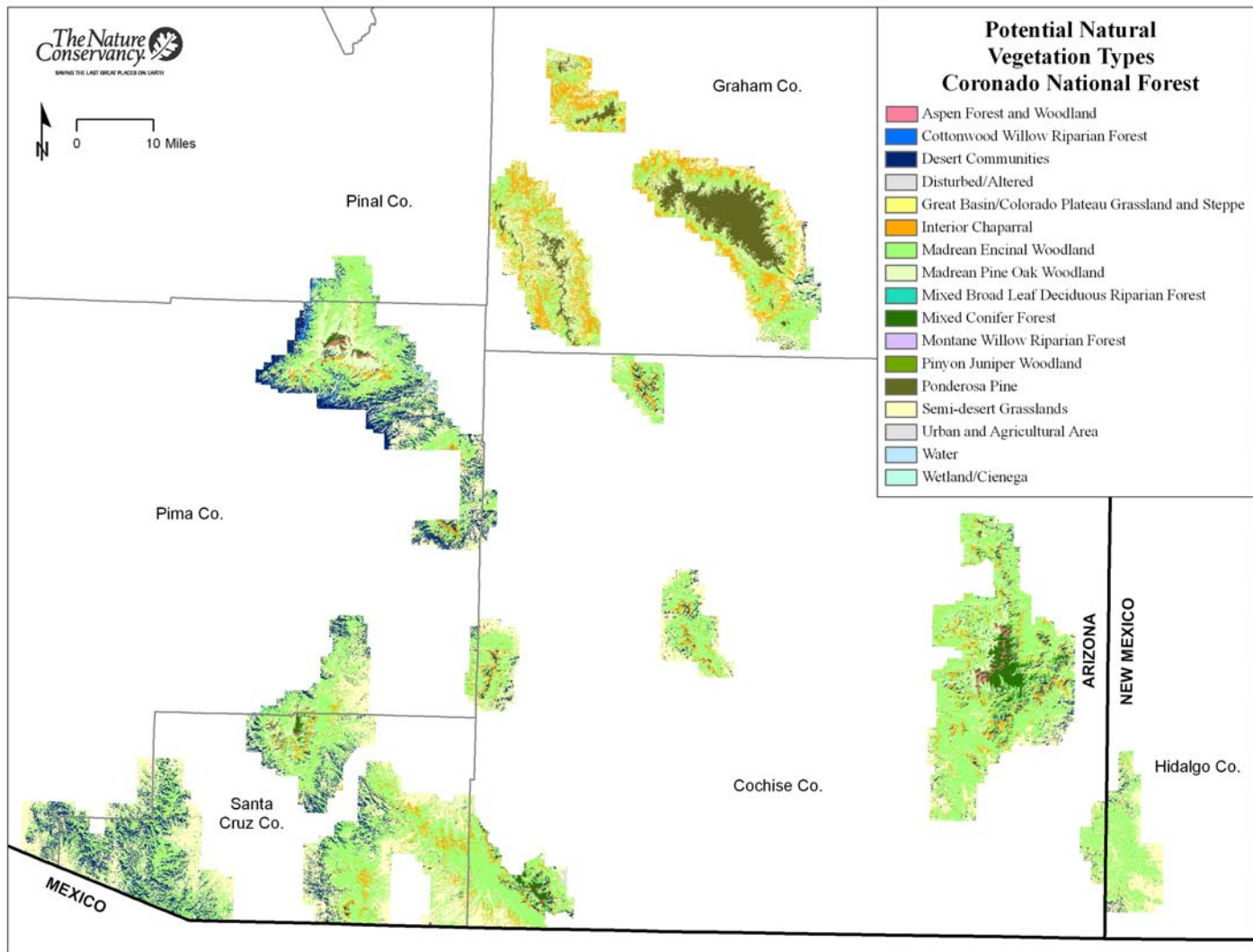


## Results

### *I. Potential Natural Vegetation Types within the Coronado National Forest*

Information from the Southwest Regional Gap Analysis Project (SWReGAP; USGS National Gap Analysis Program 2004) was used to characterize the extent of potential natural vegetation types (PNVTs) on the Coronado National Forest. PNVTs represent the climax vegetation type that would dominate a site under natural disturbance regimes and biological processes. PNVTs were used to summarize vegetation for this analysis because of their relevance to the characterizations of historic range of variability and vegetation models being developed for PNVTs in preparation for forest planning. For this analysis, the extent and proportion of each PNVT on the Coronado was summarized, as well as the proportion of each PNVT within Region 3 that occurs on the Coronado. More detailed information on the data and methods used in this analysis can be found in Chapter 2, and information comparing PNVTs on the Coronado to other Forests and landowners within Region 3 is available in Chapter 3.

Sixteen PNVTs were identified on the Coronado National Forest (Table 4-1, Figure 4-1). (For a detailed description of each PNVT see Appendix 2-B in Chapter 2). Desert communities, interior chaparral, Madrean encinal woodlands, Madrean pine-oak woodlands, and semi-desert grasslands make up approximately 93% of the total area of the Coronado National Forest (Table 4-1). Of this 93%, madrean encinal woodlands accounts for approximately 42%. In contrast, the combined area of aspen forest and woodland, cottonwood willow riparian forests, Great Basin/Colorado Plateau grassland and steppe, mixed broadleaf deciduous riparian forest, mixed conifer forest, montane willow riparian forest, pinyon-juniper woodland, and water comprises less than four percent of the total area of the Coronado National Forest. These results are based on data from the Southwest Regional GAP Analysis Program (SWReGAP), which has not been accuracy tested. Furthermore, SWReGAP data is based on satellite imagery that may not be appropriate at small spatial scales. For example, it is well known that spruce-fir forest exists on the Coronado National Forest; however, this PNVT was not detected in the SWReGAP data and thus is not listed in Table 4-1. This is likely due to the small area that spruce-fir forest occupies on the Forest. Furthermore, it is likely that the small portion (0.8%) of Great Basin/Colorado Plateau grassland and steppe identified in this analysis is an artifact of inaccuracies in the SWReGAP data.



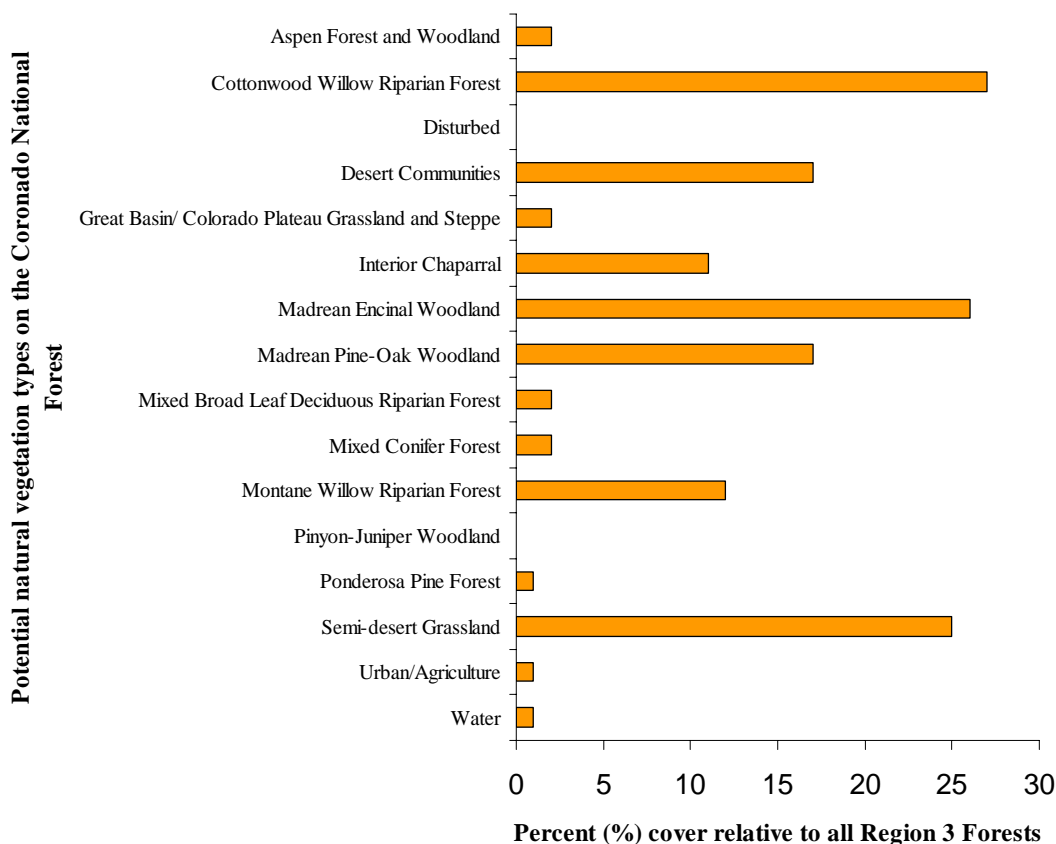
**Figure 4-1.** Distribution of potential natural vegetation types on the Coronado National Forest. This map was created using data from the Southwest Regional Gap Analysis Project (SWReGAP; U.S. Geological Survey National Gap Analysis Program, 2004). SWReGAP vegetation types were aggregated and converted to potential natural vegetation types. See Chapter 2 for more information regarding methods used. SWReGAP data have not been accuracy tested and is based on satellite imagery. Therefore, SWReGAP may not be appropriate at fine spatial scales.

**Table 4-1.** Approximate area (acres) and percent of total area of potential natural vegetation types on the Coronado National Forest. Areas were calculated using data from The Southwest Regional Gap Analysis Project (SWReGAP). SWReGAP land cover types were aggregated and converted to potential natural vegetation types. See Chapter 2 for more details on methods.

<b>Potential Natural Vegetation Type</b>	<b>Total Area (acres)</b>	<b>Percent of Total Area (%)</b>
Aspen Forest and Woodland	6,600	0.4
Cottonwood Willow Riparian Forests	5,300	0.3
Desert Communities	173,800	10.1
Disturbed/Altered (quarries and mines)	200	<0.1
Great Basin/ Colorado Plateau Grassland and Steppe	13,900	0.8
Interior Chaparral	151,400	8.8
Madrean Encinal Woodland	723,900	42.1
Madrean Pine-Oak Woodland	139,200	8.1
Mixed Broadleaf Deciduous Riparian Forest	800	<0.1
Mixed Conifer Forest	26,800	1.6
Montane Willow Riparian Forest	3,600	0.2
Pinyon-juniper Woodland	100	<0.1
Ponderosa Pine Forest	65,400	3.8
Semi-desert Grassland	406,300	23.7
Urban and Agricultural Area	300	<0.1
Water (open water)	200	<0.1
<b>Total</b>	<b>1,717,800</b>	

The Coronado National Forest comprises approximately eight percent of the total area of Region 3 National Forests, but manages for large percentages of certain PNVTs across the Region. For example, the largest proportion of all Madrean encinal woodlands (approximately 26%) on Region 3 National Forests is found on the Coronado National Forest (Figure 4-2). In addition, the Coronado manages 27% of the cottonwood willow riparian forests, 25% of semi-desert grasslands, approximately 17% of desert communities and Madrean pine-oak, 12% of montane willow riparian forests, and 11% of interior chaparral found over all Region 3 Forest lands.

Furthermore, the Coronado National Forest manages large percentages of certain PNVTs across the many landownership entities throughout Arizona and New Mexico. For example, the Coronado manages the second largest portion (11%) of Madrean encinal woodlands relative to other major land managers throughout Arizona and New Mexico. The largest proportion of Madrean encinal woodlands (19%) in Arizona and New Mexico is managed by private landowners, while state lands (9%) manage the third largest proportion of this PNVT. Refer to Chapter 3 (Tables 3-1 and 3-2) for more information regarding the proportion of each PNVT found on the Coronado National Forest that is managed by other landowners in Arizona and New Mexico.



**Figure 4-2.** Percentage of cover area of each potential natural vegetation type that occurs on the Coronado National Forest in relation to all other Region 3 National Forests combined. Analysis was conducted using data from the Southwest Regional Gap Analysis Project (SWReGAP). For information about the limitations of SWReGAP data see Chapter 2.

## II. Distribution and Condition of Grasslands

The Arizona Statewide Grassland Assessment (Schussman and Gori 2004, Gori and Enquist 2003; available at <http://www.azconservation.org>) was used to identify the extent, distribution, and condition of former and current grasslands on the Coronado National Forest. This statewide assessment (which also includes the portions of southwest New Mexico and Mexico that are within the Apache-Highlands Ecoregion; Figure 2-1 in Chapter 2) was developed through a combination of expert-based mapping and intensive, quantitative field sampling to verify and improve accuracy. Grassland condition was assessed and assigned to condition classes based on native/non-native grass dominance and cover, shrub cover, and erosion severity. For the purposes of this analysis, condition classes were aggregated into five grassland condition types (Table 2-1 in Chapter 2): open native, restorable native, non-native, former, and transitional grasslands. More detailed information on the data and methods used in this analysis can be found in Chapter 2, and information comparing the extent and distribution of grasslands on the Coronado to other forests and landowners within Region 3 is available in Chapter 3.

The Arizona Grassland Assessment identified approximately 757,100 acres of extant and former grassland lands on the Coronado (Table 4-2), representing 42.6% of the Forest. This is the largest extent and proportion of land in grasslands for any National Forest in Arizona. Overall, the Coronado manages 35.5% of all grasslands, 52.4% of open native grasslands, and 29.8% of restorable grasslands that occur on National Forests in Arizona. The majority (68.9%) of grasslands on the Coronado are either in the open native or restorable native types, with the remainder in non-native or former grassland types (Table 4-2).

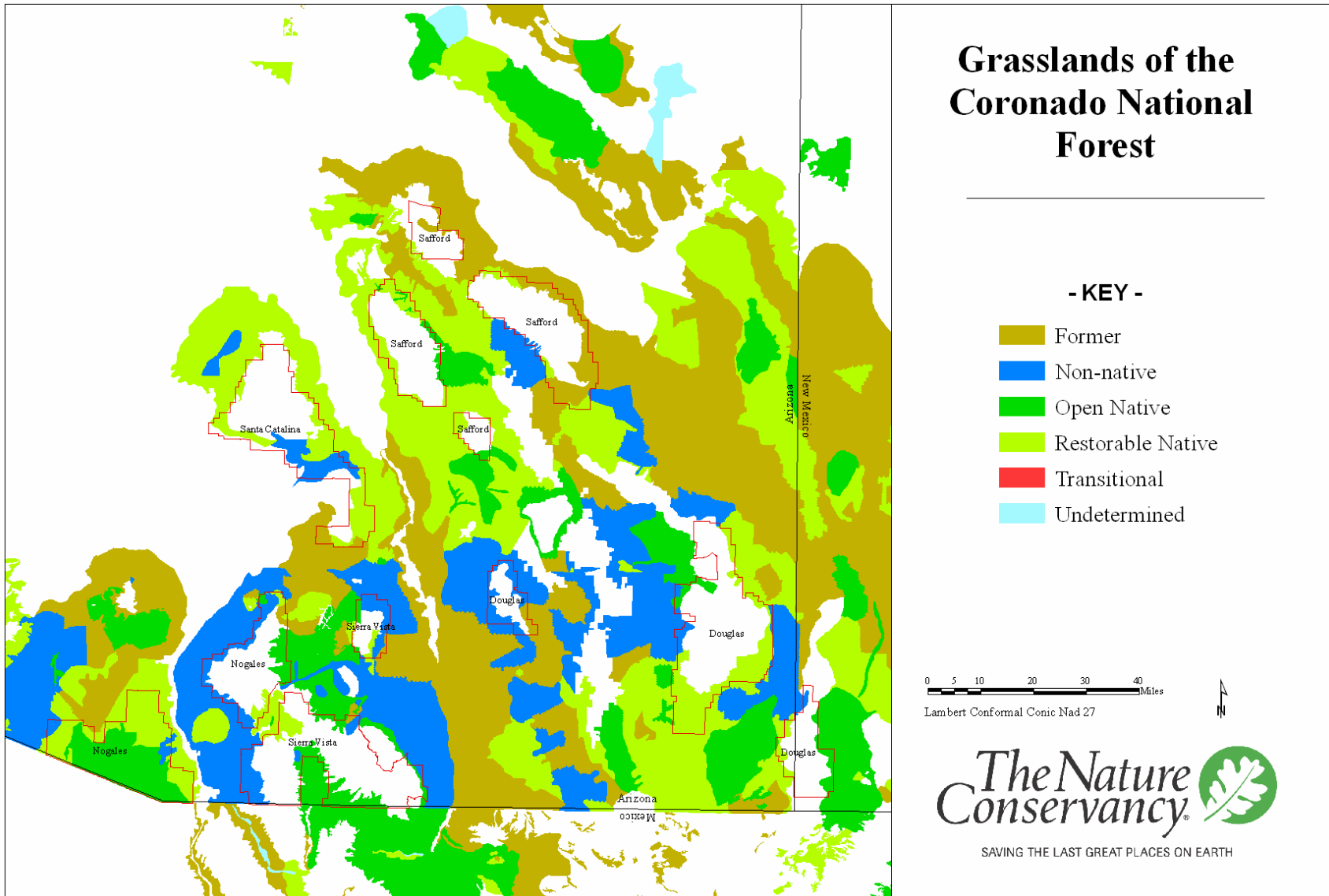
Grasslands on the Coronado are distributed relatively evenly across ranger districts (Figure 4-3), ranging from just under 15% of grasslands occurring on the Santa Catalina and Sierra Vista Districts to nearly 35% of grasslands occurring on the Nogales District (Table 4-2). A significant portion (75.0%) of the Nogales District was identified as extant or former grasslands, while approximately one-quarter to one-half (Douglas – 35.6%, Safford – 28.9%, Santa Catalina – 42.5%, Sierra Vista – 33.9%) of the remaining districts were identified as grasslands.

**Table 4-2.** Acres of grasslands in four condition types occurring on five ranger districts on the Coronado National Forest in Arizona and New Mexico (from Schussman and Gori 2004).

District	Grassland Type									
	Open Native		Restorable Native		Non-native		Former		Total	
	Acres	% <sup>a</sup>	Acres	% <sup>a</sup>	Acres	% <sup>a</sup>	Acres	% <sup>a</sup>	Acres	% <sup>b</sup>
Douglas	20,500	13.3	94,100	60.9	35,000	22.6	5,000	3.2	154600	20.4
Nogales	127,800	48.4	93,300	35.3	39,000	14.8	4,000	1.5	264100	34.9
Safford	9,500	8.0	47,800	40.2	3,900	3.3	57,600	48.5	118800	15.7
Santa Catalina	0	0.0	69,000	62.6	33,100	30.0	8,200	7.4	110300	14.6
Sierra Vista	43,100	39.4	17,100	15.6	46,300	42.4	2,800	2.6	109300	14.4
<b>Total</b>	<b>200,900</b>	<b>26.5</b>	<b>321,300</b>	<b>42.4</b>	<b>157,300</b>	<b>20.8</b>	<b>77,600</b>	<b>10.2</b>	<b>757100</b>	<b>100.0</b>

<sup>a</sup> Percent of grasslands on ranger district in grassland condition type

<sup>b</sup> Percent of grasslands on Coronado NF on each ranger district



**Figure 4-3.** Grassland types, based on condition, on five ranger districts on the Coronado National Forest in Arizona and New Mexico (from Schussman and Gori 2004, Gori and Enquist 2003).

### *III. Riparian and Freshwater Systems and Species*

The Arizona Statewide Freshwater Assessment (Turner and List, *In Prep*; available at [www.azconservation.org](http://www.azconservation.org)) was used to summarize the occurrence and distribution of stream reaches with native fishes across major landowners and National Forests in Arizona. This assessment was developed for use in regional planning and includes occurrence information (1975 and later) for 33 native fish species (Table 2-2 in Chapter 2) in streams across all of Arizona. This information was used to identify and summarize the occurrences of each native fish species on stream reaches within the Coronado National Forest and to summarize the number of native fish species with occurrences on stream reaches on the Forest. More detailed information on the data and methods used in this analysis can be found in Chapter 2, and information comparing the extent of native fish occurrences on the Coronado to other forests and landowners within Region 3 is available in Chapter 3.

According to the Arizona Freshwater assessment, ten native fish species have occurrences on one or more stream reaches on the Coronado (Table 4-3; see Table 2-2 for scientific names). Together, these ten species have occurrences on approximately 83 miles (55.0%) of the 151 miles of perennial streams that exist on the Coronado (Table 4-3). Overall, the Coronado accounts for 8.1% of the perennial streams and 6.5% of the stream reaches with native fish occurrences that exist on National Forests in Arizona. However, 100% of stream miles with occurrence for the Mexican stoneroller, Sonora chub, and Yaqui chub, and nearly 30% of stream reaches with occurrences of the Gila topminnow that occur on National Forest lands in Arizona are found on the Coronado.

Olden and Poff (2005) characterized the temporal trends in native fish distributions within the Lower Colorado River Basin, including seven of the 10 native fish species on the Coronado (not including the Mexican stoneroller, Sonora chub, and Yaqui chub). Five of the seven native fish species on the Coronado have undergone declines in distribution across the basin, including the Gila topminnow (36.8% decline), Apache trout (26.9% decline), speckled dace (16.5% decline), Gila chub (15.9% decline), and desert sucker (13.5% decline). Longfin dace and Sonora sucker have shown increases in distribution of 11.4% and 8.2%, respectively.

Seven species (70%) have occurrences on only one ranger district, including the three species that do not occur on any other National Forest lands in Arizona. The number of species with occurrences on each ranger district ranges from 1 to 4, while the length of stream reaches with occurrences of one or more species ranges from 4 miles on the Safford District to 26 miles on the Santa Catalina District (Table 4-4). Longfin dace, Gila topminnow, and Gila chub have the largest lengths of stream reaches with occurrences on the Coronado. Longfin dace is also the most widely distributed species, having occurrences on 4 of 5 districts.

Overall, 37 miles (44.6%) of stream reaches on the Coronado have occurrences of one native fish species, 44 miles (53.0%) have occurrences of two species, and 2 miles (2.4%) have occurrences of four species. Douglas, Santa Catalina, and Sierra Vista Districts, in particular, have significant stream length with occurrence of two or more native fish species (Figure 4-4).

According to the Freshwater Assessment, 16 stream systems on the Coronado (Table 4-5 and Figure 4-5) have occurrences of native fish species. O'Donnell Canyon Creek includes approximately two miles of stream with occurrences of four species. Other important streams, including Red Rock

Canyon Creek, Rucker Canyon Creek, and Sabino Canyon contain relatively large lengths with occurrences of two species.

According to review by Coronado National Forest Resource staff, current fish distribution differs somewhat from the contemporary occurrence information in the Freshwater Assessment, demonstrating the ongoing changes and dynamic nature of native fish distributions across the landscape. These changes are listed in parentheses in the accompanying tables. The results of the review indicate that the Sonora sucker does not currently occur on the Coronado, and that the number of stream miles occupied by the longfin dace and Gila topminnow have been reduced by 24.0% and 63.0% respectively. Additionally, several reaches with native fish occurrences in the Freshwater Assessment (Canada del Oro and Wakefield Canyon Creek) no longer have occupied habitat (Table 4-5), and the number of native fish species with occurring on the Nogales, Santa Catalina, and Sierra Vista Ranger Districts has decreased (Table 4-4).

**Table 4-3.** Number of stream miles with occurrences of ten native fishes on five ranger districts on the Coronado National Forest in Arizona based on the Arizona Freshwater Assessment (Turner and List, *In Prep*). Numbers in parentheses represent the current extent of each species based on review of current fish distributions by Coronado National Forest Resource Staff.

Species	Ranger District					Total
	Douglas	Nogales	Safford	Santa Catalina	Sierra Vista	
Longfin dace	17	6	0	12 (0)	15	50 (38)
Mexican stoneroller*	10	0	0	0	0	10
Desert sucker	0	2	0	0	0	2
Sonora sucker	0	0	0	0	2 (0)	2 (0)
Sonora chub*	0	9	0	0	0	9
Gila chub	0	0	0	14	2	16
Yaqui chub*	7	0	0	0	0	7
Apache trout	0	0	4	0	0	4
Gila topminnow	0	3 (0)	0	14 (0)	10	27 (10)
Speckled dace	6	0	0	0	0	6

\*Within National Forests in Arizona, this species occurs only on the Coronado.

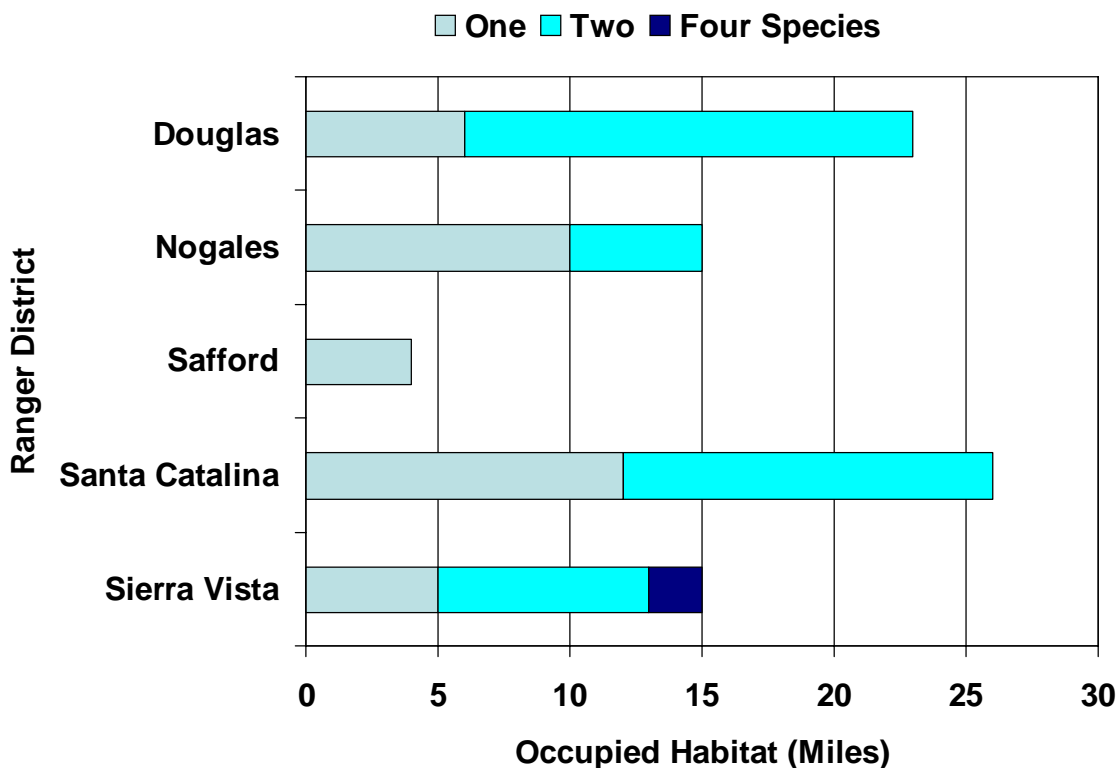


**Table 4-4.** Number of perennial stream miles, number of stream miles with occurrences (1975 and later) of one or more native fish species, and number of native fish species with occurrences on five ranger districts on the Coronado National Forest in Arizona based on the Arizona Freshwater Assessment (Turner and List, *In Prep*). Values in parentheses represent the current number of fish species on each ranger district according to Coronado National Forest Resource Staff.

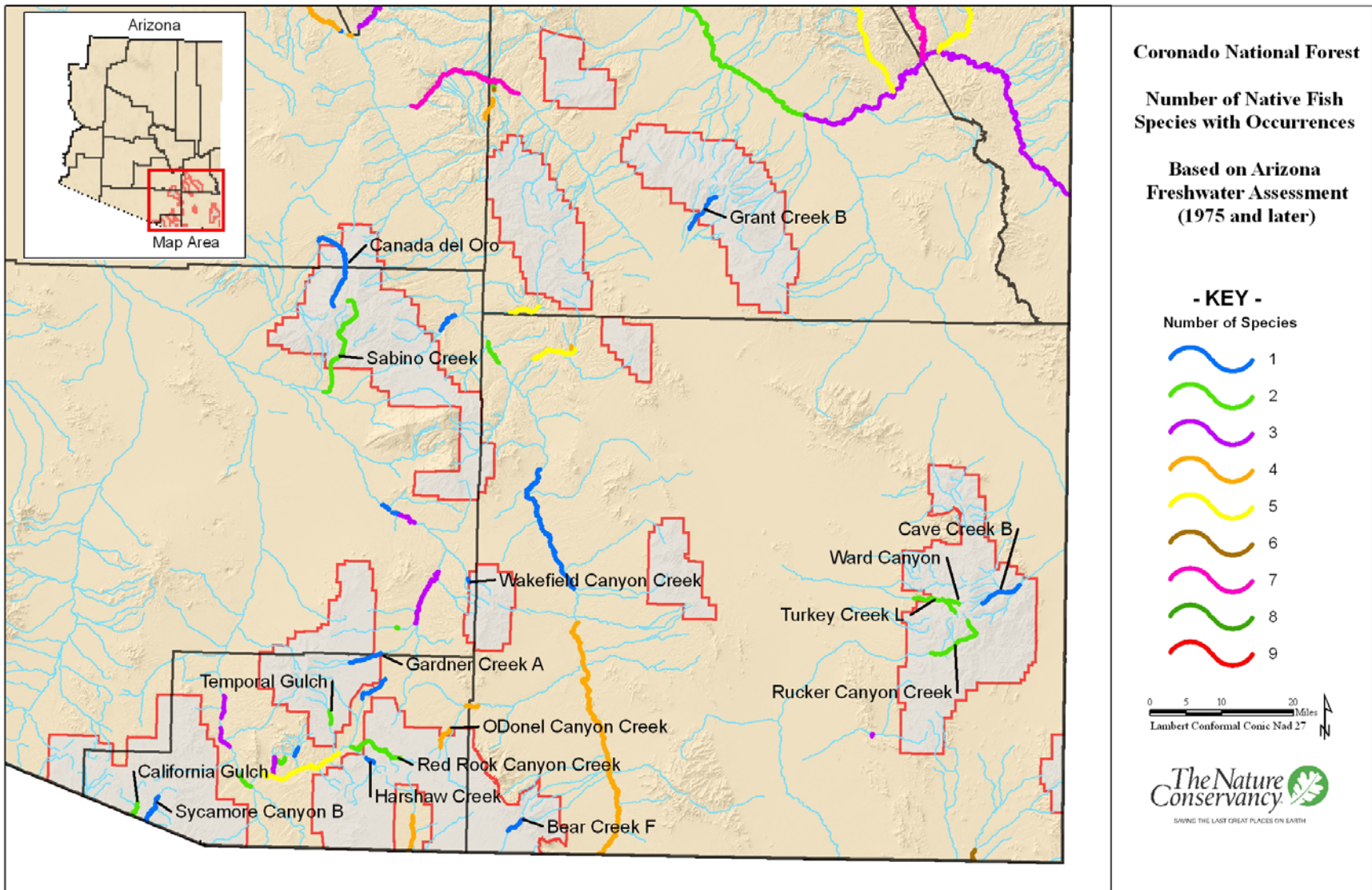
Ranger District	Perennial Flow (Miles)	Occupied Habitat (Miles)	Number of Native Fish Species
Douglas <sup>a</sup>	42	23	4
Nogales	15	15	4 (3)
Safford	43	4	1
Santa Catalina	27	26	3 (1)
Sierra Vista	24	15	4 (3)
Total	151	83	10 <sup>b</sup>

<sup>a</sup>Data do not exist for the portion of the Douglas Ranger District that lies in New Mexico.

<sup>b</sup>Total number of native fish species occupying habitat on the Coronado. Several species occur on multiple ranger districts.



**Figure 4-4.** Number of stream miles with varying native fish species richness based on occurrences from 1975 and later for five districts on the Coronado National Forest, Arizona.



**Figure 4-5.** Perennial stream reaches with varying numbers of native fish species with occurrences on five ranger districts on the Coronado National Forest in Arizona.

**Table 4-5.** Stream systems, number of native fish species with occurrences, and the total stream reach length with native fish occurrences for 16 stream systems with native fishes on the Coronado National Forest in Arizona. Values in parentheses represent the current number of native fish species and the miles of occupied habitat for each stream according to Coronado National Forest Resource Staff.

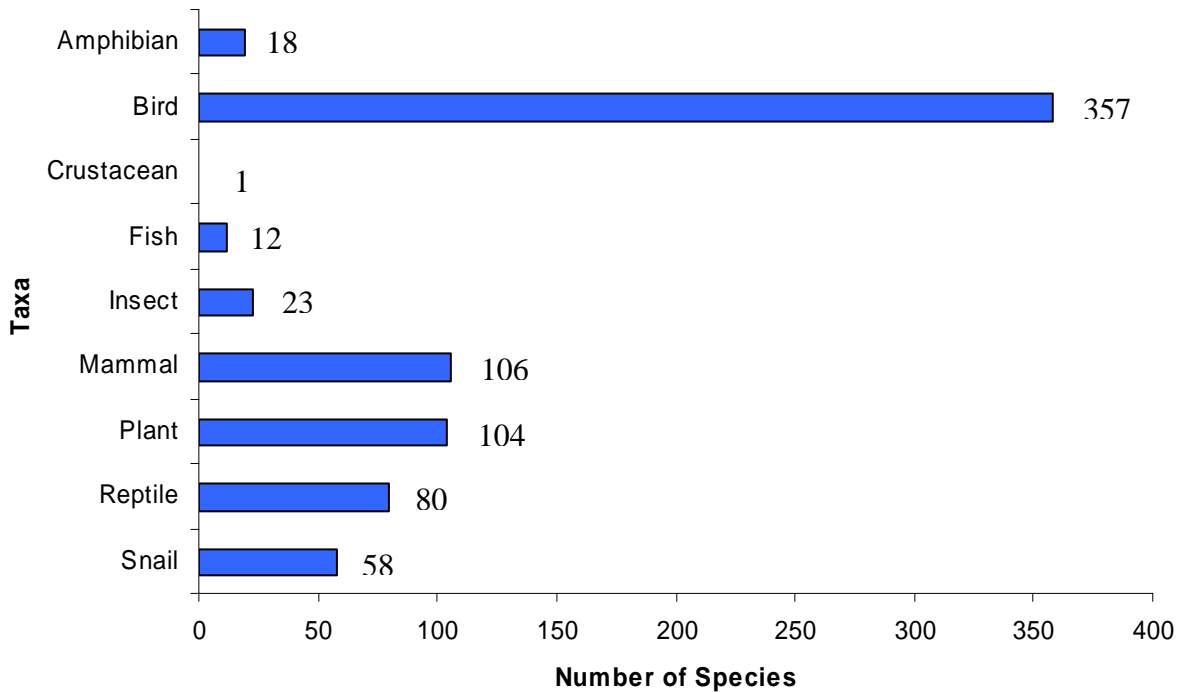
Stream Name	Number of Native Fish	
	Species	Occupied Habitat (miles)
Bear Creek F <sup>A</sup>	1	3
California Gulch	2 (1)	3
Canada del Oro	1 (0)	12 (0)
Cave Creek B	1	6
Gardner Creek A	1	4
Grant Creek B	1	4
Harshaw Creek	1	2
O'Donnell Canyon Creek	4 (3)	2
Red Rock Canyon Creek	2	8
Rucker Canyon Creek	2	10
Sabino Creek	2 (1)	14
Sycamore Canyon B	1	6
Temporal Gulch	2	2
Turkey Creek L	2	5
Wakefield Canyon Creek	1 (0)	< 1 (0)
Ward Canyon	2	2

<sup>A</sup>Letters following stream names differentiate multiple streams with identical names within Arizona.

#### IV. Plant and Animal Species Richness

The R3 Species Database was used to determine plant and animal species richness on the Coronado National Forest and to characterize the conservation status of these species. The R3 Species Database was created by combining several existing datasets into a single database that provides updated and consistent attributes for species that occur on Region 3 Forests, including taxonomy, NatureServe conservation status rankings, state and federal endangered species listings, and other pertinent conservation status rankings. The database includes all terrestrial and aquatic vertebrate species, and plant and invertebrate species that may be of conservation concern. More detailed information on the data and methods used for analysis in this section of the report can be found in Chapter 2. The complete list of species used in this analysis and their conservation status attributes is provided in Appendix 4-A.

*Species Richness* — According to the R3 Species Database, the Coronado National Forest is home to at least 759 species of plants and animals (Figure 4-6). This number is conservative, as the dataset used for this analysis only includes known plant and invertebrate species of management concern. Therefore, many plant and invertebrate species that inhabit the Coronado may be absent from these results. It is also important to note that the number and type of species inhabiting the Coronado National Forest likely changes over time.



**Figure 4-6.** Number of species, by taxa, that inhabit the Coronado National Forest based on data from the R3 Species Database. This database includes all known terrestrial and aquatic vertebrates, but only known plants, crustaceans, insects and snails of management concern. Because of the limitations of the R3 Species Database, the numbers reported in these results are likely conservative.

*Federally listed threatened, endangered, candidate and proposed species* — Twenty-one endangered, threatened, candidate or proposed species across eight taxa currently occur on the Coronado National Forest (Table 4-7). Of these, 11 are federally listed endangered species of four distinct taxonomic groups, seven are threatened species representing four unique taxa, two are candidate species of two distinct taxa, and one is a proposed endangered species.

*Arizona and New Mexico state conservation status* — A total of 110 species of special state conservation status in Arizona and/or New Mexico are found on the Coronado National Forest. Refer to Appendix A for a complete list of those species. Table 4-6 provides a breakdown of those species with state conservation status by taxonomic groupings.

**Table 4-6.** Number of species by taxon on the Coronado that have special state status in Arizona and New Mexico. In Arizona, wildlife of conservation concern is assigned the status of Wildlife of Special Concern (WSC). Plants in Arizona are in different conservation status categories that include salvage restricted (SR) and highly safeguarded (HS). New Mexico plants and wildlife of conservation concern is designated as threatened or endangered.

Taxa	HS	SR	WSC	Endangered	Threatened	HS and Endangered	WSC and Endangered	WSC and Threatened
Amphibian	0	0	6	2	1	0	2	0
Bird	0	0	32	6	17	0	3	5
Fish	0	0	8	2	1	0	2	1
Mammal	0	0	9	3	3	0	1	2
Plant	11	14	0	1	0	1	0	0
Reptile	0	0	6	3	3	0	1	0
Snail	0	0	0	1	0	0	0	0

*NatureServe global conservation status rankings* — Eleven species of 759 (approximately 2%) were not included in the analysis because they were not assigned a NatureServe global conservation rank. Results show that approximately 70% of these species were ranked as G4, G5, T4 or T5 species (Table 4-8). These are species whose populations are considered ‘apparently secure’ or ‘secure’, respectively. Twenty-seven percent of the species were ranked with a global conservation status of G1, G2, G3, T1, T2 or T3, which warrants conservation concern. The remaining 3% were GNR, GU, TNR, or TU ranked species. Global conservation status ranking for all 748 species identified as inhabiting the Coronado National Forest are provided in Appendix 4-A.

*NatureServe subnational conservation status ranking.* — Of the 759 species that were analyzed for the Coronado National Forest, 692 had assigned subnational conservation status ranks (S-ranks) by Arizona and 542 species had S-ranks from New Mexico. Of the Arizona state-ranked species, 41% of the species were considered secure or apparently secure. Similarly, 41% of the species had rankings that merit conservation concern on a state or more local scale (S1, S2, S3, SH). The remaining 16% were ranked SNA or SNR. Of the 542 species with an S-rank from New Mexico, 60% of the species are considered secure or apparently secure, while 34% are of local or state level conservation concern (S1, S2, S3, SH). Table 4-9 shows the number of species assigned the various S-ranks in Arizona and New Mexico. See Appendix 4-A for the complete list of species with their associated S-ranks.

**Table 4-7.** Threatened, endangered, candidate and proposed species, designated under the Federal Endangered Species Act of 1973, that currently inhabit the Coronado National Forest. The table includes common names that are recognized by NatureServe.

	<b>Endangered</b>	<b>Threatened</b>	<b>Candidate</b>	<b>Proposed</b>
<b>AMPHIBIAN</b>	Sonoran tiger salamander	Chiricahua leopard frog		
<b>BIRD</b>		Bald eagle Mexican spotted owl		
<b>FISH</b>	Desert pupfish Gila topminnow Gila trout Yaqui chub	Apache trout Sonora chub		Gila chub
<b>INSECT</b>			Stephan's heterelmis riffle beetle	
<b>MAMMAL</b>	Jaguar Lesser long-nosed bat Mexican long-nosed bat Mount Graham red squirrel			
<b>PLANT</b>	Canelo Hills ladies' tresses orchid Pima pineapple cactus			
<b>REPTILE</b>		Deset tortoise New Mexican ridgenose rattlesnake		
<b>SNAIL</b>			Huachuca springsnail	

**Table 4-8.** Number of species by taxon that inhabit the Coronado National Forest that are assigned the various global rankings by NatureServe. Eleven species are not included in this table as they do not have an assigned global rank. G1 = critically imperiled; G2 = imperiled; G3 = vulnerable; G4 = apparently secure; G5 = secure; GNR = not ranked; GU = unrankable; T = infraspecific taxon (subspecies or varieties).

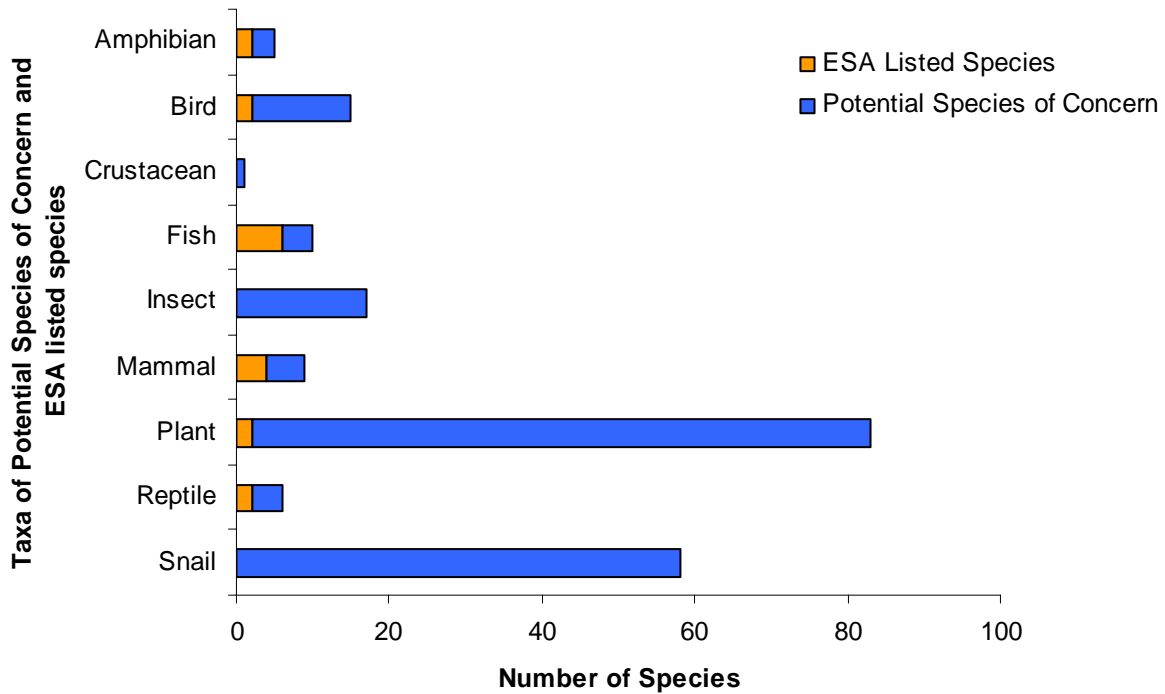
Global Ranking	Amphibian	Bird	Crustacean	Fish	Insect	Mammal	Plant	Reptile	Snail	Total
G1	1	0	0	2	3	0	15	1	27	49
G2	0	2	1	2	5	0	24	0	21	55
G3	2	4	0	4	6	5	28	0	8	57
G4	2	26	0	1	4	11	11	9	0	64
G5	11	303	0	1	0	73	5	56	0	449
GNR	0	0	0	0	1	0	2	0	0	3
GU	0	0	0	0	0	0	1	0	0	1
T1	1	0	0	0	0	1	2	1	2	7
T2	0	2	0	0	1	0	8	0	0	11
T3	1	6	0	2	2	3	6	3	0	23
T4	0	3	0	0	0	3	0	4	0	10
T5	1	2	0	0	0	2	1	6	0	12
TNR	0	2	0	0	0	1	0	0	0	3
TU	0	4	0	0	0	0	0	0	0	4

**Table 4-9.** Number of species per taxon currently inhabiting the Coronado National Forest that are assigned to various subnational rankings in Arizona and New Mexico by their respective State Heritage Programs. Sixty-seven and 217 of the 759 species were not assigned a subnational conservation rank by the Arizona and New Mexico Heritage Programs, respectively. S1 = critically imperiled; S2 = imperiled; S3 = vulnerable; S4 = apparently secure; S5 = secure; SH = possible extirpated; SX = presumed extirpated; SNA = not applicable; SNR = not ranked.

	Amphibian		Bird		Crustacean		Fish		Insect		Mammal		Plant		Reptile		Snail	
	AZ	NM	AZ	NM	AZ	NM	AZ	NM	AZ	NM	AZ	NM	AZ	NM	AZ	NM	AZ	NM
S1	3	3	38	34	1	0	4	2	1	0	4	12	43	4	4	4	5	4
S2	0	1	29	28	0	0	2	2	6	0	10	14	27	8	8	2	3	1
S3	4	1	40	36	0	0	5	1	2	0	15	5	12	5	13	12	0	0
S4	2	2	48	126	0	0	0	0	0	0	20	20	0	0	9	10	0	0
S5	8	7	120	99	0	0	0	0	0	0	41	32	0	0	39	31	0	0
SH	0	0	1	2	0	0	1	0	1	0	0	0	2	1	0	0	0	0
SX	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SNA	1	1	27	4	0	0	0	1	0	0	2	2	0	0	0	0	0	0
SNR	0	0	8	0	0	0	0	0	12	9	1	0	17	10	3	1	13	4

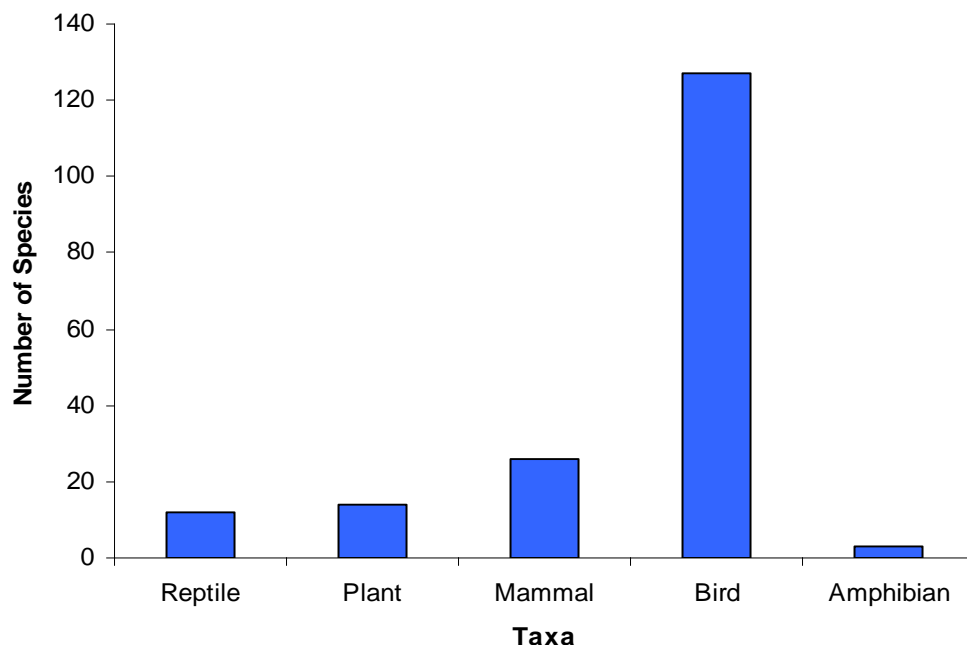


*Potential species-of-concern* — Results indicate 186 potential species-of-concern representing nine distinct taxonomic groups inhabit the Coronado National Forest. Plants comprise the largest number of species of potential species-of-concern, approximately 44%. Snails (31%) and insects (9%) are the second and third largest taxonomic group, respectively. Birds constitute 7% of the potential species-of-concern, mammals 3%, reptiles, amphibians and fish 2%, and crustaceans less than 1% (Figure 4-7). Appendix 4-A lists the species that inhabit the Coronado and highlights those that were determined potential species-of-concern.



**Figure 4-7.** The number of federally listed endangered and threatened species by taxa (in orange) and potential species-of-concern (in blue) that currently inhabit the Coronado National Forest. Endangered and threatened conservation status is designated by the US Fish and Wildlife Service. Species that have a NatureServe global conservation rank of G1, G2, G3, T1, T2, or T3 and are not listed as federally endangered or threatened are considered potential species-of-concern according to the published Forest Service draft directives (70 Fed. Reg. 14637). Species that are a candidate or proposed for federal listing may also be considered for species-of-concern status.

*Potential species-of-interest* — A total of 182 potential species-of-interest (See Chapter 2 for discussion of criteria used) occur on the Coronado National Forest. Birds make up the largest proportion (70%) of potential species-of-interest. Mammals comprise 14% of the total, plants 8%, reptiles 7%, and amphibians approximately 2%. Figure 4-8 illustrates the number of species in each taxonomic group that are potential species-of-interest for the Coronado National Forest. Appendix 4-A lists species that were identified as potential species-of-interest on the Coronado National Forest.



**Figure 4-8.** The number of potential species-of-interest by taxa that currently inhabit the Coronado National Forest. Species were considered potential species-of-interest if they fell into one or more of the following categories: special state conservation status (WSC, HS, and SR in Arizona or threatened or endangered in New Mexico); on the U.S. Fish and Wildlife Service Birds of Conservation Concern National Priority list; and NatureServe subnational conservation rank of S1 or S2. These are the criteria listed in the published Forest Service draft directives (70 Fed. Reg. 14637) for determining species-of-interest. Species that were federally endangered or threatened, or that were determined to be potential species-of-concern were not included as potential species-of-interest.

*Birds of Conservation Concern* — Of the 361 bird species on the Coronado National Forest, 42 (approximately 12%) are listed by the U.S. Fish and Wildlife Service as a Bird of Conservation Concern. In all, the U.S. Fish and Wildlife Service lists 131 species of Birds of Conservation Concern, and 32% of these inhabit the Coronado. This includes all bird species listed in Table 4-10. Thirteen of these species (31%) have special conservation status under the state of Arizona (WSC) or New Mexico (threatened or endangered).

**Table 4-10.** Birds of Conservation Concern that occur on the Coronado National Forest.

<p><b>Diurnal Raptors</b>            American peregrine falcon            Common black-hawk            Ferruginous hawk            Northern harrier</p>	<p><b>Tyrant Flycatchers</b>            Buff-breasted flycatcher            Greater peewee            Northern beardless tyrannulet            Rose-throated becard</p>
<p><b>Gruiformes – Coots, Cranes, Limpkin, Moorhens, and Rails</b>            Yellow rail</p>	<p><b>Shrikes and Vireos</b>            Arizona Bell’s Vireo            Gray vireo            Loggerhead shrike</p>
<p><b>Shorebirds</b>            Long-billed curlew            Mountain plover            Stilt sandpiper</p>	<p><b>Mimids – Catbirds, Mockingbirds and Thrashers</b>            Bendire’s thrasher            Crissal thrasher</p>
<p><b>Owls</b>            Burrowing owl            Elf owl            Flammulated owl            Whiskered screech owl</p>	<p><b>Pipits</b>            Sprague’s pipit</p>
<p><b>Hummingbirds</b>            Lucifer hummingbird            Broad-billed hummingbird</p>	<p><b>Wood Warblers</b>            Black-throated gray warbler            Grace’s warbler            Kentucky warbler            Louisiana waterthrush            Olive warbler            Prothonotary warbler            Red-faced warbler            Worm-eating warbler</p>
<p><b>Trogons</b>            Elegant trogon</p>	
<p><b>Woodpeckers</b>            Arizona woodpecker            Lewis’s woodpecker</p>	<p><b>Emberizine Sparrows and Allies</b>            Baird’s sparrow            Black-chinned sparrow            Botteri’s sparrow            Cassin’s sparrow            Lark bunting            Rufous-winged sparrow</p>

*Partners in Flight Watch List* — Currently 100 species are on the Partners in Flight Watch List, of which 41 (41%) can be found on the Coronado National Forest. This comprises 11% of the 361 bird species that inhabit the Coronado. Sixteen of these are also on the U.S. Fish and Wildlife Service Birds of Conservation Concern list.

**Table 4-11.** Bird species on the Partners in Flight Watch List that inhabit the Coronado National Forest.

<b>Diurnal Raptors</b> Swainson’s hawk	<b>Shrikes and Vireos</b> Gray vireo
<b>Upland Game Birds</b> Montezuma quail Scaled quail	<b>Jays, Crows, and Allies</b> Pinyon jay
<b>Pigeons and Doves</b> Band-tailed pigeon	<b>Mimids – Mockingbirds and Thrashers</b> Bendire’s thrasher
<b>Owls</b> Elf owl Flammulated owl Short-eared owl	<b>Pipits</b> Sprague’s pipit
<b>Goatsuckers and Swifts</b> Black swift White-throated swift	<b>Wood Warblers</b> Grace’s warbler Hermit warbler Kentucky warbler Prothonotary warbler Red-faced warbler Virginia’s warbler Worm-eating warbler
<b>Hummingbirds</b> Allen’s hummingbird Calliope hummingbird Costa’a hummingbird Rufous hummingbird	<b>Emberizine Sparrows and Allies</b> Abert’s towhee Baird’s sparrow Black-chinned sparrow Brewer’s sparrow Harris’s sparrow Mccown’s longspur Painted bunting Rufous-winged sparrow Varied bunting Dicksissel
<b>Trogons</b> Elegant trogon	
<b>Woodpeckers</b> Arizona woodpecker Lewis’s woodpecker	
<b>Tyrant Flycatchers</b> Olive-sided flycatcher Thick-billed kingbird Willow flycatcher	<b>Finches and Old World Sparrows</b> Lawrence’s goldfinch

*Extirpated Species* – Some species are known to have inhabited the Coronado National Forest, but have since been extirpated. While the cause of extirpation for each species may not be fully understood, it is well accepted that major threats to species' existence can include loss or alteration of habitat, competition and/or predation by non-native species and poaching. Extirpated species of the Coronado National Forest include but are not limited to: Mexican wolf (*Canis lupus*), black-tailed prairie dog (*Cynomys ludovicianus*), grizzly bear (*Ursus arctos*), Gould's wild turkey (*Meleagris gallopovo mexicana*), Sonora sucker (*Castostomus insignis*), and the Tarahumara frog (*Rana tarahumarae*).

#### V. *Ecoregional Assessment Conservation Areas and Conservation Targets*

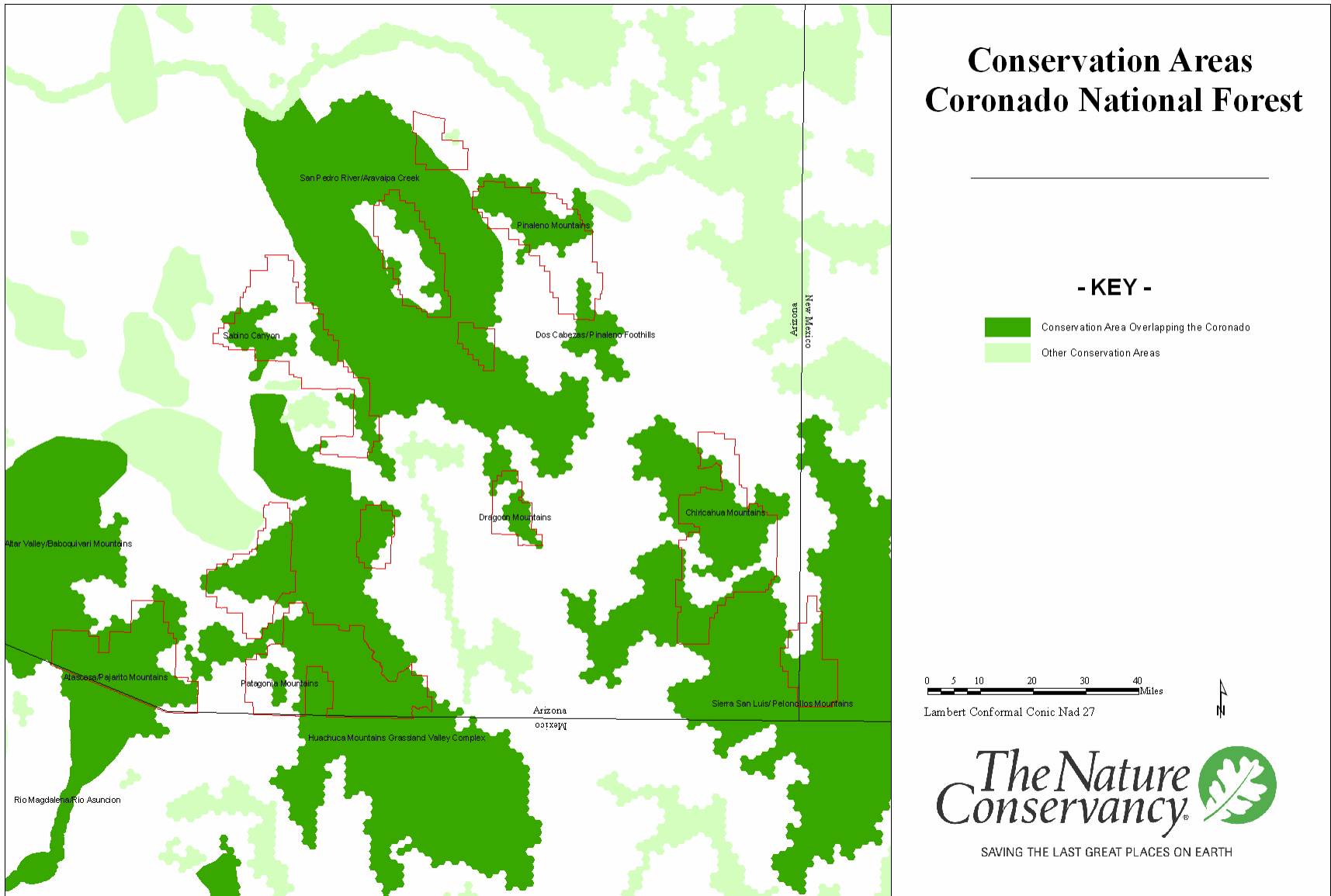
Ecoregional assessments are science-based efforts to identify the minimum set of areas (conservation areas) on the landscape that are necessary to maintain the biological diversity of the ecoregion. The ecoregional assessment process includes the identification of conservation targets (including species, 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 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 these ecoregional analyses were used to identify the extent and distribution of overlap between conservation areas and ranger districts, management areas, roadless areas, and wilderness areas on the Coronado National Forest. The conservation targets associated with each overlapping conservation areas were also identified.

Fourteen individual conservation areas from ecoregional assessments overlap the Coronado (Figure 4-9, Table 4-12), totaling 1,115,500 acres, or 62.7% of the Forest. Of other Forests in Region 3, only the Coconino National Forest has a higher degree (69.1%) of overlap. Conservation area overlap on individual districts ranged from 35.9% on the Santa Catalina to 77.4% on the Sierra Vista (Table 4-1). Overall, 17.0% of the total area of these 14 conservation areas overlaps the Coronado. For six of the 14 overlapping conservation areas, more than half of the conservation area overlaps the Coronado (Table 4-12).

Over one-half (57.1%) of the area of the Coronado National Forest overlapped by conservation areas does not have specific land use designations (Table 4-15), while approximately 20% is roadless area and 17.5% is wilderness area. While approximately 62.7% of the Coronado is overlapped by conservation areas, a higher percentage of special areas (99.4%), areas with no designation (66.9%), and roadless/special areas are overlapped. A smaller percentage of wilderness areas (57.8%) and roadless areas (55.9%) on the Coronado are overlapped by conservation areas. Nearly two-thirds (63.6%) of the area overlapped by conservation areas on the Coronado National Forest are in Management Area 4 (Table 4-16), while approximately 20% is in Management Area 9.

Conservation targets were summarized only for 13 conservation areas that overlap with the Coronado National Forest. The East Tucson Riparian Conservation Area was not included because only a very small area and proportion of the conservation overlapped the Forest. A total of 216 conservation

targets occur within these conservation areas (Table 4-14, Figure 4-10). Twenty-three of these targets (10.6%) are ecological systems, communities or features, while 193 (89.4%) are individual species. Seventy-five (34.7%) targets are associated with riparian and aquatic systems. A complete listing of all conservation targets by taxonomic group for the Coronado is provided in Appendix 4-B and conservation targets for each conservation area are provided in Appendix 4-C.



**Figure 4-9.** Conservation areas (N=14) that overlap the Coronado National Forest in Arizona and New Mexico.

**Table 4-12.** Conservation areas (n=14) that overlap five ranger districts on the Coronado National Forest, acres of overlap, and the percentage of each conservation area overlapping the Coronado National Forest in Arizona and New Mexico.

Conservation Area	Districts <sup>a</sup>	Overlap (Acres)	% of Conservation Area
Altar Valley/Baboquivari Mountains	N	13,600	2.5
Atascosa/Pajarito Mountains	N	166,100	51.3
Chiricahua Mountains	D	136,000	51.2
Dos Cabezas/ Pinaleno Foothills	S	13,200	19.4
Dragoon Mountains	D	24,200	93.3
East Tucson Riparian	SC	100	1.3
Huachuca Mountains Grassland Valley Complex	N,SC,SV	325,800	21.7
Patagonia Mountains	SV	13,600	100.0
Pinaleno Mountains	S	93,800	78.0
Rio Magdalena/Rio Asuncion	N	2,400	0.7
Sabino Canyon	SC	49,300	85.2
San Pedro River/Aravaipa Creek	D,S,SC	153,400	10.8
Santa Teresa Mountains	S	700	20.1
Sierra San Luis/ Peloncillo Mountains	D	123,200	6.6

<sup>a</sup>D= Douglas, N = Nogales, S = Safford, SC = Santa Catalina, SV = Sierra Vista

**Table 4-13.** Extent of overlap between ecoregional conservation areas and five ranger districts on the Coronado National Forest in Arizona and New Mexico.

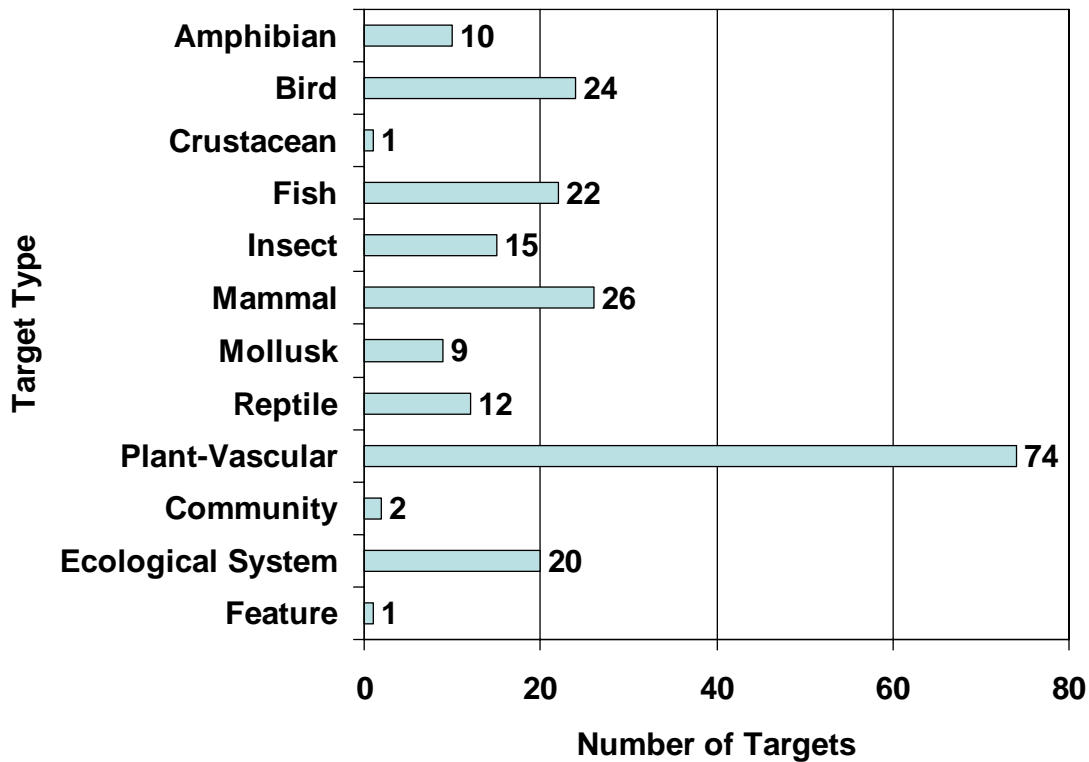
District	Number of Conservation Areas	Overlap (Acres)	Percent of District
Douglas	4	290,400	66.9
Nogales	5	271,100	77.0
Safford	4	211,800	51.5
Santa Catalina	4	93,200	35.9
Sierra Vista	2	249,000	77.4
Coronado N.F Total	14 <sup>a</sup>	1,115,500	62.7

<sup>a</sup>Several conservation areas overlap more than one district on the Coronado.



**Table 4-14.** Number of conservation targets associated with aquatic/riparian and terrestrial habitats for 13 conservation areas that overlap the Coronado National Forest in Arizona and New Mexico.

Conservation Area	Habitat		Total
	Aquatic/ Riparian	Terrestrial	
Altar Valley/Baboquivari Mountains	3	13	16
Atascosa/Pajarito Mountains	22	42	64
Chiricahua Mountains	18	44	62
Dos Cabezas/ Pinaleno Foothills	0	10	10
Dragoon Mountains	3	13	16
Huachuca Mountains Grassland Valley Complex	48	78	126
Patagonia Mountains	1	11	12
Pinaleno Mountains	8	27	35
Rio Magdalena/Rio Asuncion	11	6	17
Sabino Canyon	3	3	6
San Pedro River/Aravaipa Creek	39	41	80
Santa Teresa Mountains	0	7	7
Sierra San Luis/ Peloncillos Mountains	29	42	71



**Figure 4-10.** Number of conservation targets, by type, that occur on 13 conservation areas overlapping the Coronado National Forest in Arizona and New Mexico.

**Table 4-15.** Overlap between conservation areas and areas with special designations on the Coronado National Forest in Arizona and New Mexico.

Designation	Acres within Conservation Areas	% of Conservation Areas	% of Designated Areas
Wilderness Areas	195,100	17.5	57.8
Roadless Areas	231,800	20.8	55.9
Roadless/Special Area	46,000	4.1	66.4
Special Area	6,200	0.6	99.4
No Designation	637,200	57.1	66.9

**Table 4-16.** Overlap between conservation areas and Management Areas on the Coronado National Forest in Arizona and New Mexico.

Management Area	Acres within Conservation Areas	% of Conservation Areas	% of Management Areas
Visual Resources and Semi-Primitive Dispersed Recreation (1)	68,000	6.1	61.0
Dispersed Recreation and Timber Harvest (2)	25,900	2.3	70.9
Dispersed Recreation (3)	19,700	1.8	94.4
Livestock Grazing (Level D), Game Habitat and Fuel Wood Harvest (4)	711,200	63.6	62.3
Unique Resources (Including Riparian Areas) (7)	51,300	4.6	63.6
Research Natural Area / Wilderness (8)	5,200	0.5	75.3
Wilderness (9)	230,900	20.6	58.8
Zoological-Botanical Areas (14)	4,000	0.4	100.0
Wild Chili Botanical Area (15)	2,800	0.3	100.0

## Discussion

### *Systems Diversity*

The Coronado National Forest harbors 16 PNVTs, many of which are of significant biodiversity importance. For example, the Madrean pine-oak system on the Coronado National Forest supports several species that are unique to this Forest, and have limited distribution in the Southwest, such as: the whiskered screech owl (*Megascops trichopsis*), white-eared hummingbird (*Hylocharis leucotis borealis*), elegant trogon (*Trogon elegans*), and the Huachuca giant skipper (*Agathymus evansi*). Recently, the Madrean pine-oak woodland system was added to a list of global conservation “hotspots” by Conservation International (Conservation International 2005). These hotspots represent vegetation systems that are rich in biodiversity (at least 1,500 plant species) and have experienced at least a 70% loss in total area. The Madrean pine-oak woodland system spans 178,095 square miles and harbors approximately 3,975 flowering plant species throughout its range. This system remains intact within less than 20% of the area of its historical range (Conservation International 2005). Although it is not clear if the historical range of Madrean pine-oak woodland is currently diminishing on the Coronado, fire is an important natural disturbance that has been excluded on the Forest for some time. In order to maintain important biological processes, Madrean pine-oak woodlands depend upon low-intensity frequent fires. Madrean pine-oak woodlands comprise approximately 8% of the total area on the Coronado National Forest.

Madrean encinal woodlands span approximately 42% of the Coronado National Forest. The 723,900 acres on the Coronado represents 26% of all Madrean encinal woodlands on all Region 3 National Forests and 19% throughout Arizona and New Mexico. Refer to Chapter 3 for more information regarding how the PNVTs found on the Coronado relate to other R3 Forests and landowners in Arizona and New Mexico. Like Madrean pine-oak woodlands, Madrean encinal woodlands depend upon low intensity frequent fires that ensure healthy biological processes. Several unique and limited species of the Coronado inhabit Madrean encinal woodlands including: violet-crowned hummingbird (*Amazilia violiceps*), Scudder's duskywing butterfly (*Erynnis scudderi*), ursine giant skipper (*Megathymus ursus ursus*) and the Arizona water penny beetle (*Psephenus arizonensis*).

### *Grasslands*

Grasslands are an important ecosystem on the Coronado, both in terms of the overall area they encompass as well as the diversity they support. Nearly 24% of the Coronado National Forest is semi-desert grasslands, of which the Nogales, Sierra Vista, and Douglas Ranger Districts manage almost three quarters. In addition, the Coronado National Forest is responsible for one-quarter of all semi-desert grasslands in all of Region 3 Forests. Finch (2004) described the grasslands on the Coronado as Desert and Great Basin Grasslands. Desert grasslands (also referred to as semi-desert grasslands) occur at low elevations adjacent to the Sonoran Desert. Typical grass species include black grama (*Bouteloua eripoda*), tobasa (*Pleuraphis mutica*), creosote bush (*Larrea tridentate*) and velvet mesquite (*Prosopis glandulosa var. torreyana*). Great Basin grasslands occur at higher elevations and often mix with juniper and savanna systems. Typical grass

species include blue grama (*Bouteloua gracilis*), Indian ricegrass (*Achnatherum humenoides*), and sideoats grama (*Bouteloua curtipendula*).

Grasslands in the Southwest typically maintain high levels of diversity for both plants and animals. In part, this is a result of the blending of several biogeographical regions (Parmenter and others 1995) and the resultant mixing of species from northern and southern regions. Also, southwestern grasslands tend to lie adjacent to other habitat types and along with grassland-specialist species, are used by generalist species from adjacent habitats (Parmenter and Van Devender 1995). This is particularly true on the Coronado, where altitudinal gradients lead to a blending of low and mid-elevation communities. Notably high diversity of many widespread animal groups, including invertebrates (grasshoppers, termites, ants) and vertebrates (rodents) are associated with southwestern grasslands. The richness of these species found on southwestern grasslands is tied to the species composition, habitat structure, and productivity of the plant community (Arenz and Joern 1996, Lawton 1983). Changes in the structure and function of grassland systems have been noted as the primary cause of the loss of native diversity within grasslands (Stacy 1995). Finch (2004) identified and summarized the major threats to grassland biodiversity as the loss of natural fire cycles, overgrazing by livestock, prairie dog eradication, exotic grasses, shrub encroachment, and habitat fragmentation.

The Arizona Statewide Grasslands Assessment documented many of these factors as threats to grasslands on the Coronado National Forest. However, significant areas (26.5%) of open native grasslands continue to exist on the Coronado. The Nogales District, in particular, has a large (110,300 acres) contiguous area of open native grassland, which is the largest of any on National Forest lands in Arizona. Additionally, a substantial area (84,500 acres) of restorable grassland lies adjacent, allowing a unique opportunity to restore and maintain a significant area of grassland. Maintaining grasslands at sufficient scales is vital for supporting grassland-dependent species, as habitat fragmentation may have detrimental effects on grassland biodiversity (Finch 2004).

Overall, over 321,000 acres (42.4%) of grasslands on the Coronado are shrub invaded. A key characteristic of shrub invaded grasslands is its restoration potential, and significant restoration potential exists on all ranger districts on the Coronado. The Douglas, Nogales, and Santa Catalina Districts, in particular, have significant acres of restorable grasslands. If all restorable grasslands on the Coronado were restored to open native condition, nearly 70% of grasslands on the Coronado could be maintained in this condition. Increases in shrub cover within grasslands can significantly affect species richness. While the diversity of some groups, such as birds, may actually increase due to increased vertical structure associated with shrubs or trees (Knopf and Scott 1990) these change are generally associated with increases in habitat generalists and a sharp decline in grassland specialists (Knopf 1992).

The potential to restore shrub-invaded grasslands is affected by a complex web of interacting physical and biological factors that include climate, topography, grazing, introduced/invasive species, and fire. Shrub cover can be reduced with prescribed burns when sufficient fuels are present to carry a fire of adequate intensity (Brunson and others 2001). Often, the fuels required to allow fires of adequate intensity to achieve this goal are lacking, and areas must be rested from grazing to allow fuels to accumulate. The number of growing seasons of rest needed to

accumulate these fuels varies from site to site. Schussman and Gori (2004) estimated that 44% of sites in Arizona could be burned with three growing seasons or less of rest, while the remainder of grasslands would need longer periods of rest.

According to the Arizona Grasslands Assessment, grasslands that have exceeded a threshold of 35% shrub cover have undergone a type conversion from grassland to shrubland. Statewide, nearly 22% of historic grasslands have been lost while on the Coronado, just over 10% of historic grasslands have been converted to shrublands. A predominance of this former grassland area occurs on the Safford District. Even given long periods (50 years) of grazing rest (Hennessey and others 1983), it is unlikely that these former grasslands can be restored to open native conditions. While increases in perennial grass cover may occur (Valone and others. 2002) at certain sites based upon soil type, erosion and shrub species composition, it is unlikely that these sites will accumulate sufficient fine fuels to carry a fire intense enough to reduce shrub cover.

The spread of non-native perennial grasses has substantially reduced the occurrence of native grasslands in Arizona. Statewide, non-native grasslands comprise 9% of current grasslands, primarily due to the spread of Boer lovegrass (*Eragrostis chlorodelas*) and Lehmann lovegrass (*Eragrostis lehmanniana*) in southeastern Arizona. Over 157,000 acres (20.8% of all Coronado grasslands) of non-native grasslands occur on the Coronado. This conversion to dominance by non-native species can result in significant negative impacts to grassland-dependent organisms. Bock and others (1986), for example, documented that 26 species including plants, birds, rodents, and grasshoppers, were less abundant in grasslands dominated by lovegrasses compared to native grasslands.

#### *Riparian and Aquatic Species and Systems*

Riparian forests and woodlands along with other freshwater systems are also an integral part of the biodiversity on the Coronado and throughout Arizona and New Mexico. Although the area represented by riparian forests and woodlands on the Coronado National Forest appears small (0.5% of the Forest) it represents 16% of riparian forests and woodlands on Region 3 lands. Like other systems on the Coronado, riparian and freshwater systems in the Southwest have experienced significant losses and degradation (Arizona State Parks 1988). Much of this has been attributed to human practices such as livestock grazing, logging, road construction, and diversions of water channels. These activities have resulted in stream bank erosion, loss of native species, proliferations of non-native species and loss of organisms that depend upon riparian habitats (Brookshire and others 1996).

Analysis of the Arizona Freshwater Assessment showed that ten species of native fishes currently occupy 54.9% of the available perennial stream habitat on the Coronado. Three of these species are unique to the Coronado within Region 3. Overall the number of native fish species with occurrences on stream reaches on the Coronado ranges from one to four species, with over half of these reaches having occurrences of two or more species. Based on Olden and Poff (2005) and the comparison of current native fish distributions to contemporary occurrence information in the Freshwater Assessment, it is evident that native fish distributions within the

Lower Colorado watershed and throughout the Southwest are dynamic, with the distribution of most native fishes declining. Interestingly, Olden and Poff (2005) found a significant relationship between distributional declines and probability of local extirpation for native fish species. Five (Gila topminnow, Apache trout, speckled dace, gila chub, and desert sucker) of seven native fish species on the Coronado addressed by Olden and Poff (2005) were determined to have declining distributions. The decline in populations throughout the lower Colorado watershed for these five species suggest an increased probability of expiration from the Forest. The Freshwater Assessment clearly identifies areas on the Coronado with occurrences of these native fish. Within a forest planning context, it may be important to consider the uses and activities that occur within these areas to assess their compatibility with maintaining the distribution and populations of native fish on the Coronado.

Many aquatic and riparian conservation targets were also identified on the Coronado by the ecoregional assessments conducted in Region 3, representing over one-third of all targets on the Coronado. As is the case generally with conservation targets on the Coronado, this suite of aquatic and riparian targets is relatively distinct from those found on other National Forests. A major goal of ecoregional assessments is to determine the magnitude and distribution of areas on the landscape necessary to maintain the biodiversity of the region. These areas are generated independent of geo-political boundaries and provide a perspective on biodiversity conservation at a large scale. From this perspective, these results indicate the Coronado includes an important and distinct component of the aquatic and riparian diversity that exists within Region 3.

#### *Species Richness and Conservation Status*

In addition to the native fishes that occur on the Forest, the Coronado is unique among Southwestern Region National Forests due to the rich diversity of plant and terrestrial animal species of sub-tropical or temperate origins. According to the R3 species database, at least 759 terrestrial and aquatic vertebrate species, and plants and invertebrates of conservation concern occur on the Coronado National Forest.

The Coronado is also responsible for managing many of the species of conservation concern on Region 3 Forests. For example, the Coronado manages for 21 federally endangered, threatened, candidate or proposed species. Furthermore, the Coronado manages 110 species with special state conservation status; 202 species with NatureServe global rankings that warrant conservation concern; 186 potential species-of-concern; 182 potential species-of-interest; 41 bird species on the Partners in Flight Watch List; and 42 Birds of Conservation Concern.

A large proportion of the Coronado overlaps with conservation areas identified within ecoregional assessments, including significant portions of all five ranger districts. Just as importantly, a majority of many of the conservation areas falls within the Coronado. For its size, the Coronado has the opportunity to affect a disproportionate number of conservation targets within the Southwest. Over 35% of targets that occur on Region 3 lands occur on the Coronado. More importantly, the suite of conservation targets that occur on the Coronado is distinct from that of other National Forests. For instance, over 65% of these targets on the Coronado do not occur anywhere else in Region 3 and nearly a quarter of conservation targets on Forest lands in Region 3 occur only on the Coronado. From the large-scale perspective provided by the

ecoregional assessments, this distinct suite of targets demonstrates the unique combinations of species, systems, and ecological functions that exist on the Coronado. The specific locations where conservation areas overlap the Coronado describe important places for the conservation of ecosystem and species diversity on the Forest and within the region. These areas of overlap represent the most viable locations on the Coronado for sustaining this distinct suite of species, ecological systems, and biological process that exist on the Coronado National Forest.

### *Relevance to Forest Planning*

This analysis of existing regional assessment information identifies important biological and ecological characteristics of the Coronado National Forest. 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 regulation, both in terms of ecosystem and species diversity. It may be also be useful in understanding the current condition of ecological resources on the Coronado, 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 variety of systems that occur on the Coronado, and identifies several systems (and their associated species diversity) for which the Coronado has disproportionate responsibility within the context of Region 3, such as the Madrean encinal woodlands. This analysis also demonstrates the importance of grasslands as a system that supports substantial diversity on the Coronado. According to the Arizona Grasslands Assessment, the Coronado has over one-third of the grasslands on National Forests in Arizona, including the largest contiguous stand of open native grasslands within Arizona National Forests. The maintenance of these open native grassland areas, including the ecological functions that support them, may serve as a starting point for developing desired conditions that incorporate the ecosystem and species diversity components of sustainability.

Along with ecosystems, these results demonstrate the diversity of species that occur on the Coronado. The identification of a large suite of potential species-of-concern and species-of-interest suggests that there are many species whose viability may need to be addressed beyond just providing for healthy ecosystems. The specific needs of these species, as well as their distribution at National Forest and 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 its boundaries.

Within the forest planning context, it may be useful to evaluate currently allowable land uses and activities within conservation areas and determine associated impacts to biodiversity. A synthesis of conservation area overlap with current Management Areas and areas with special

designations (e.g. wilderness areas, research natural areas) on the Coronado demonstrates the wide variety of current management emphases and activities that occur within conservation areas. While the largest proportion of conservation area overlap falls on areas with no special designations, significant areas of wilderness and roadless areas also occur. Interestingly, nearly two-thirds of conservation area overlap occurs within Management Area 4, a multiple use management area that emphasizes sustained harvest of forage and fuel wood, along with consideration for game and non-game wildlife habitats, visual quality, and cultural resources. It is apparent that achieving biodiversity sustainability on the Coronado cannot be accomplished entirely within existing designated special areas, and must be accomplished within the varied uses and activities that occur on the Forest. In addition, for forest planning purposes, it may be useful to determine the compatibility of forest management and uses within conservation areas with desired biodiversity goals, 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 systems, and ecological 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 Dragoon Mountains conservation area encompasses 25,900 acres, of which approximately 24,200 acres overlap the Douglas district of the Coronado National Forest. Approximately one-third of this conservation area is roadless area, while the rest has no special designations. Approximately 20,700 acres (85.6%) of the conservation area is within Management Area 4 (Livestock Grazing (Level D), Game Habitat and Fuel wood Harvest), 3000 acres (12.4%) are in Management Area 1 (Visual Resources and Semi-Primitive Dispersed Recreation), with the remainder in Management Areas 3 (Dispersed Recreation) and 7 (Unique Resources, including Riparian Areas).

Sixteen conservation targets, including four ecological systems and 12 species (Table 4-17), are associated with the Dragoon Mountains conservation area. 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 condition of the ecological system targets within the conservation area relative to 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 example, several common threats facing targets within the Dragoon Mountains conservation area include human disturbance (e.g. bat roosting areas, peregrine falcon nest sites), livestock grazing (e.g. overgrazing of scaled quail habitat, trampling of riparian/aquatic areas), and invasive species (e.g. lovegrasses). It may be useful to evaluate current designations and management



prescriptions within the conservation area and if necessary, identify changes in allowed activities or uses that may reduce or mitigate these threats.

**Table 4-17.** Conservation targets (n=16) associated with the Dragoon Mountains conservation area in Arizona.

Taxonomic Group	Scientific Name	Common Name	Global Rank	ESA Status
Ecological system		Apachean Grassland and Savanna Condition Class D Chihuahuan Desert Scrub Madrean Encinal Madrean Oak-Pine Woodland		
Amphibian	<i>Rana chiricahuensis</i>	Chiricahua leopard frog	G3	LT
Bird	<i>Callipepla squamata</i>	Scaled quail	G5	
	<i>Falco peregrinus anatum</i>	American peregrine falcon	G3	
	<i>Leptonycteris curasoae</i>	Lesser long-nosed bat	G3	LE
Mammal	<i>Myotis thysanodes</i>	Fringed myotis	G4	
	<i>Plecotus townsendii pallescens</i>	Pale Townsend's big eared bat	G4	
	<i>Ursus americanus</i>	Black bear	G5	
Vascular plant	<i>Carex ultra</i>	Arizona giant sedge	G3	
	<i>Graptopetalum bartramii</i>	Batram stonecrop	G3	
	<i>Hedeoma dentatum</i>	Mock pennyroyal	G3	
	<i>Lupinus Lemmonii</i>	Lemmon's lupine	G1	
	<i>Penstemon discolor</i>	Catalina beardtongue	G2	

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**Appendix 4-A:** Plants and animals of the Coronado National Forest\*. Refer to Chapter 2, section IV, for more information on how the data was generated for this table. Also, see information regarding the R3 Species data base at [www.azconservation.org](http://www.azconservation.org).

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Ambystoma tigrinum</i>	Tiger Salamander	G5	S5	S5					
<i>Ambystoma tigrinum stebbinsi</i>	Sonoran Tiger Salamander	T1	S1S2		E	WSC			
<i>Bufo alvarius</i>	Colorado River Toad	G5	S5	S2			T		
<i>Bufo cognatus</i>	Great Plains Toad	G5	S5	S5					
<i>Bufo debilis insidiosus</i>	Western Green Toad	T5	S3	S4					
<i>Bufo punctatus</i>	Red-Spotted Toad	G5	S5	S5					
<i>Bufo woodhousii</i>	Woodhouse's Toad	G5	S5	S5					
<i>Eleutherodactylus augusti cactorum</i>	Western Barking Frog	T3	S1			WSC			
<i>Gastrophryne olivacea</i>	Great Plains Narrowmouth Toad	G5	S3	S1		WSC	E		
<i>Hyla arenicolor</i>	Canyon Treefrog	G5	S5	S4					
<i>Hyla wrightorum</i>	Mountain Treefrog	G4	S4	S3					
<i>Rana catesbeiana</i>	Bullfrog	G5	SNA	SNA					
<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	G3	S3	S1	T	WSC			
<i>Rana subaquavocalis</i>	Ramsey Canyon Leopard Frog	G1	S1						
<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	G4	S4	S1		WSC	E		
<i>Scaphiopus couchii</i>	Couch's Spadefoot	G5	S5	S5					
<i>Spea bombifrons</i>	Plains Spadefoot	G5	S3	S5					
<i>Spea multiplicata</i>	New Mexico Spadefoot	G5	S5	S5					
<i>Accipiter cooperii</i>	Cooper's Hawk	G5	S4	S4B S4N					
<i>Accipiter gentilis</i>	Northern Goshawk	G5	S3	S2B S2N		WSC			
<i>Accipiter gentilis apache</i>	Apache Northern Goshawk	T3	S1S2			WSC			
<i>Accipiter striatus velox</i>	Sharp-Shinned Hawk	T5							
<i>Aechmophorus clarkii</i>	Clark's Grebe	G5	S3	S4B S5N		WSC			

\* Note: Scientific and common names recognized by NatureServe are used, unless highlighted in bold.

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Aechmophorus occidentalis</i>	Western Grebe	G5	S3	S4B S5N					
<i>Aegolius acadicus acadicus</i>	Northern Saw-Whet Owl	TU							
<i>Aeronautes saxatalis</i>	White-Throated Swift	G5	S5	S4B S4N					x
<i>Agelaius phoeniceus</i>	Red-Winged Blackbird	G5	S5	S5B S5N					
<i>Aimophila botterii arizonae</i>	Botteri's Sparrow	T4						x	
<i>Aimophila carpalis</i>	Rufous-Winged Sparrow	G4	S3					x	x
<i>Aimophila cassinii</i>	Cassin's Sparrow	G5	S4	S5B S5N				x	
<i>Aimophila ruficeps</i>	Rufous-Crowned Sparrow	G5	S4	S5B S5N					
<i>Amazilia violiceps</i>	Violet-Crowned Hummingbird	G5	S3	S1B S1N		WSC	T		
<i>Ammodramus bairdii</i>	Baird's Sparrow	G4	S2N	S2N		WSC	T	x	x
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	G5	S3	S3B S4N					
<i>Ammodramus savannarum ammolegus</i>	Arizona Grasshopper Sparrow	TU	S2	S1B S1N					
<i>Amphispiza belli</i>	Sage Sparrow	G5	S4	S4B S4N				x	
<i>Amphispiza bilineata</i>	Black-Throated Sparrow	G5	S5	S5B S5N					
<i>Anas acuta</i>	Northern Pintail	G5	S2B S5N	S4B S5N					
<i>Anas crecca</i>	Green-Winged Teal	G5	S3B S5N	S4B S5N					
<i>Anas cyanoptera</i>	Cinnamon Teal	G5	S5	S4B S5N					
<i>Anas platyrhynchos</i>	Mallard	G5	S5	S5B S5N					
<i>Anas strepera</i>	Gadwall	G5	S5	S4B S5N					
<i>Anthus rubescens</i>	American Pipit	G5	S2B S5N	S4B S5N					
<i>Anthus spragueii</i>	Sprague's Pipit	G4	S2N	S2N		WSC		x	x

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Aphelocoma californica</i>	Western Scrub-Jay	G5	S5	S5B S5N					
<i>Aphelocoma ultramarina</i>	Mexican Jay	G5	S5	S4B S4N					
<i>Aquila chrysaetos</i>	Golden Eagle	G5	S4	S4B S4N					
<i>Archilochus alexandri</i>	Black-Chinned Hummingbird	G5	S5	S5B S5N					
<i>Ardea alba egretta</i>	Great Egret	TNR				WSC			
<i>Ardea herodias</i>	Great Blue Heron	G5	S5	S4B S5N					
<i>Asio flammeus</i>	Short-Eared Owl	G5	SNR	S2N					x
<i>Asio otus</i>	Long-Eared Owl	G5	S2B S3S4N	S4B S4N					
<i>Athene cunicularia hypugaea</i>	Burrowing Owl	T4	S3	S4B S4N				x	
<i>Auriparus flaviceps</i>	Verdin	G5	S5	S4B S4N					
<i>Aythya affinis</i>	Lesser Scaup Duck	G5	S5N	S4B S5N					
<i>Aythya americana</i>	Redhead	G5	S4	S4B S5N					
<i>Aythya valisineria</i>	Canvasback Duck	G5	S1B S4N	S4B S4N					
<i>Baeolophus ridgwayi</i>	Juniper Titmouse	G5	S5	S5B					
<i>Baeolophus wollweberi</i>	Bridled Titmouse	G5	S4	S4B S4N					
<i>Bombycilla cedrorum</i>	Cedar Waxwing	G5	S3S4N	S5N					
<i>Botaurus lentiginosus</i>	American Bittern	G4	S1S2	S3B S4N		WSC			
<i>Branta canadensis</i>	Canada Goose	G5	S4N	S4B S5N					
<i>Bubo virginianus</i>	Great-Horned Owl	G5	S5	S5B S5N					
<i>Bubulcus ibis</i>	Cattle Egret	G5	S1B S4N	S3B S4N					
<i>Bucephala albeola</i>	Bufflehead	G5	S5N	S5N					

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Bucephala clangula</i>	Common Goldeneye	G5	S5N	S5N					
<i>Buteo albonotatus</i>	Zone-Tailed Hawk	G4	S4	S3B S3N					
<i>Buteo jamaicensis</i>	Red-Tailed Hawk	G5	S5	S5B S5N					
<i>Buteo lagopus</i>	Rough-Legged Hawk	G5	SNRN	S4N					
<i>Buteo nitidus maxima</i>	Northern Gray Hawk	T3	S3	S1N		WSC			
<i>Buteo regalis</i>	Ferruginous Hawk	G4	S2B S4N	S2B S4N		WSC		x	
<i>Buteo swainsoni</i>	Swainson's Hawk	G5	S3	S4B S4N					x
<i>Buteogallus anthracinus</i>	Common Black-Hawk	G4	S3	S2B S3N		WSC	T	x	
<i>Butorides virescens</i>	Green Heron	G5	S4	S4B S4N					
<i>Calamospiza melanocorys</i>	Lark Bunting	G5	S1B S5N	S4B S5N				x	
<i>Calcarius mccownii</i>	Mccown's Longspur	G4	S2N	S4N					x
<i>Calcarius ornatus</i>	Chestnut-Collared Longspur	G5	S3N	S5N					
<i>Calidris alba</i>	Sanderling	G5	SNA	S4N					
<i>Calidris alpina</i>	Dunlin	G5	S2N	S4N					
<i>Calidris bairdii</i>	Baird's Sandpiper	G5	SNA	S4N					
<i>Calidris himantopus</i>	Stilt Sandpiper	G5		S4N				x	
<i>Calidris melanotos</i>	Pectoral Sandpiper	G5	SNA	S4N					
<i>Calidris minutilla</i>	Least Sandpiper	G5	S5N	S4N					
<i>Calidris pusilla</i>	Semipalmated Sandpiper	G5		S3N					
<i>Callipepla gambelii</i>	Gambel's Quail	G5	S5	S5B S5N					
<i>Callipepla squamata</i>	Scaled Quail	G5	S5	S5B S5N					x
<i>Calothorax lucifer</i>	Lucifer Hummingbird	G4	S2	S1B S1N			T	x	
<i>Calypte anna</i>	Anna's Hummingbird	G5	S5	S3N					

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<i>Calypte costae</i>	Costa's Hummingbird	G5	S5	S1B S1N			T		x
<i>Camptostoma imberbe</i>	Northern Beardless Tyrannulet	G5	S4	S1B S1N			E	x	
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren	G5	S5	S5B S5N					
<i>Caprimulgus ridgwayi</i>	Buff Colored Nightjar	G5	S2S3	S1B S1N			E		
<i>Caprimulgus vociferus</i>	Whip-Poor-Will	G5	S4	S4B S4N					
<i>Caracara cheriway</i>	Crested Caracara	G5	S1S2	SXB SNAN		WSC			
<i>Cardellina rubrifrons</i>	Red-Faced Warbler	G5	S4	S4B S4N				x	x
<i>Cardinalis cardinalis</i>	Northern Cardinal	G5	S5	S5B S5N					
<i>Cardinalis sinuatus</i>	Pyrrhuloxia	G5	S5	S5B S5N					
<i>Carduelis lawrencei</i>	Lawrence's Goldfinch	G3	SNR	S3N					x
<i>Carduelis pinus</i>	Pine Siskin	G5	S5	S5B S5N					
<i>Carduelis psaltria</i>	Lesser Goldfinch	G5	S5	S5B S5N					
<i>Carduelis tristis</i>	American Goldfinch	G5	S1B S5N	S4B S5N					
<i>Carpodacus cassinii</i>	Cassin's Finch	G5	S4	S4B S5N					
<i>Carpodacus mexicanus</i>	House Finch	G5	S5	S5B S5N					
<i>Carpodacus purpureus</i>	Purple Finch	G5	S1S2N	S2N					
<i>Cathartes aura</i>	Turkey Vulture	G5	S5	S5B S5N					
<i>Catharus fuscescens</i>	Veery	G5	S1	S1B S1N		WSC			
<i>Catharus guttatus</i>	Hermit Thrush	G5	S5	S5B S5N					
<i>Catharus ustulatus</i>	Swainson's Thrush	G5	S1	S3B S4N					



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<i>Catherpes mexicanus</i>	Canyon Wren	G5	S5	S5B S5N					
<i>Catoptrophorus semipalmatus</i>	Willet	G5	SNA	S4N					
<i>Certhia americana</i>	Brown Creeper	G5	S5	S5B S5N					
<i>Ceryle alcyon</i>	Belted Kingfisher	G5	S2B S5N	S4B S4N		WSC			
<i>Chaetura pelagica</i>	Chimney Swift	G5		S1B S4N					
<i>Chaetura vauxi</i>	Vaux's Swift	G5	SNA						
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	T3	S1	S3B S3N		WSC			
<i>Charadrius montanus</i>	Mountain Plover	G2	S1B S2N	S2B S4N				x	
<i>Charadrius semipalmatus</i>	Semipalmated Plover	G5	SNA	S4N					
<i>Chen caerulescens</i>	Snow Goose	G5	S3N	S5N					
<i>Chen rossii</i>	Ross's Goose	G4	S2N	S4N					
<i>Chlidonias niger</i>	Black Tern	G4	SNA	S4N					
<i>Chloroceryle americana</i>	Green Kingfisher	G5	S2						
<i>Chondestes grammacus</i>	Lark Sparrow	G5	S5	S5B S4N					
<i>Chordeiles acutipennis</i>	Lesser Nighthawk	G5	S5	S5B S5N					
<i>Chordeiles minor</i>	Common Nighthawk	G5	S5	S5B S5N					
<i>Cinclus mexicanus</i>	American Dipper	G5	S3	S4B S4N					
<i>Circus cyaneus</i>	Northern Harrier	G5	S1S2B S5N	S2B S5N				x	
<i>Cistothorus palustris</i>	Marsh Wren	G5	S2B S3S4N	S1B S5N					
<i>Coccythraustes vespertinus</i>	Evening Grosbeak	G5	S3	S4B S4N					
<i>Colaptes auratus</i>	Northern Flicker	G5	S5	S5B S5N					
<i>Columba livia</i>	Rock Dove	G5	SNA	SNA					

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<i>Columbina inca</i>	Inca Dove	G5	S5	S4B S4N					
<i>Columbina passerina</i>	Common Ground-Dove	G5	S4	S1B S1N			E		
<i>Contopus cooperi</i>	Olive-Sided Flycatcher	G4	S4	S4B S4N					x
<i>Contopus pertinax</i>	Greater Pewee	G5	S4	S3B S3N				x	
<i>Contopus sordidulus</i>	Western Wood-Pewee	G5	S5	S5B S5N					
<i>Coragyps atratus</i>	Black Vulture	G5	S1S2						
<i>Corvus corax</i>	Common Raven	G5	S5	S5B S5N					
<i>Corvus cryptoleucus</i>	Chihuahuan Raven	G5	S4	S5B S5N					
<i>Cyanocitta cristata</i>	Blue Jay	G5		S4B S4N					
<i>Cyanocitta stelleri</i>	Steller's Jay	G5	S5	S5B S5N					
<i>Cygnus columbianus</i>	Tundra Swan	G5	S1N	S4N					
<i>Cynanthus latirostris magicus</i>	Broad-Billed Hummingbird	TU					T	x	
<i>Cypseloides niger</i>	Black Swift	G4		S1B S2N					x
<i>Cyrtonyx montezumae</i>	Montezuma Quail	G4	S4	S3B S3N					x
<i>Dendrocygna autumnalis</i>	Black-Bellied Whistling Duck	G5	S3	S3		WSC			
<i>Dendroica caerulescens</i>	Black-Throated Blue Warbler	G5		S3N					
<i>Dendroica coronata</i>	Yellow-Rumped Warbler	G5	S5	S5B S5N					
<i>Dendroica graciae</i>	Grace's Warbler	G5	S5	S5B S5N				x	x
<i>Dendroica magnolia</i>	Magnolia Warbler	G5		S2N					
<i>Dendroica nigrescens</i>	Black-Throated Gray Warbler	G5	S5	S4B S4N				x	
<i>Dendroica occidentalis</i>	Hermit Warbler	G4	SNA	S3N					x
<i>Dendroica palmarum</i>	Palm Warbler	G5		S3N					

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<i>Dendroica pensylvanica</i>	Chestnut-Sided Warbler	G5	S1N	S3N					
<i>Dendroica petechia</i>	Yellow Warbler	G5	S4	S4B S5N					
<i>Dendroica pinus</i>	Pine Warbler	G5		S1N					
<i>Dendroica townsendi</i>	Townsend's Warbler	G5	SNA	S4N					
<i>Dendroica virens</i>	Black-Throated Green Warbler	G5		S3N					
<i>Dumetella carolinensis</i>	Gray Catbird	G5	S1	S4B S4N		WSC			
<i>Egretta caerulea</i>	Little Blue Heron	G5		S2B S4N					
<i>Egretta thula</i>	Snowy Egret	G5	S1B S4N	S4B S4N		WSC			
<i>Elanus leucurus</i>	White-Tailed Kite	G5	S2B S2S3N	S2N					
<i>Empidonax difficilis</i>	Pacific-Slope Flycatcher	G5	SNA						
<i>Empidonax fulvifrons</i>	Buff-Breasted Flycatcher	G5	S1	SHB		WSC		x	
<i>Empidonax fulvifrons pygmaeus</i>	Northern Buff-breasted Flycatcher	T5	S1						
<i>Empidonax hammondi</i>	Hammond's Flycatcher	G5	S1B S2S3N	S4B S4N					
<i>Empidonax minimus</i>	Least Flycatcher	G5		S2N					
<i>Empidonax oberholseri</i>	Dusky Flycatcher	G5	S4	S4B S4N					
<i>Empidonax occidentalis</i>	Cordilleran Flycatcher	G5		S5B S5N					
<i>Empidonax traillii</i>	Willow Flycatcher	G5	S1	S4N		WSC			x
<i>Empidonax wrightii</i>	Gray Flycatcher	G5	S5	S4B S4N					
<i>Eremophila alpestris</i>	Horned Lark	G5	S5	S5B S5N					
<i>Eugenes fulgens</i>	Magnificent Hummingbird	G5	S4	S4B S4N					
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	G5	S5	S5B S5N					
<i>Euptilotis neoxenus</i>	Eared Quetzal	G3	SNR						
<i>Falco columbarius</i>	Merlin	G5	SNRN	S4N					

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<i>Falco femoralis septentrionalis</i>	Aplomado Falcon	T2	SH	SHB S1N		WSC	E		
<i>Falco mexicanus</i>	Prairie Falcon	G5	S4	S4B S4N					
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	T3	S4	S2B S3N		WSC	T	x	
<i>Falco sparverius</i>	American Kestrel	G5	S5	S5B S5N					
<i>Gavia immer</i>	Common Loon	G5	S2N	S4N					
<i>Geococcyx californianus</i>	Greater Roadrunner	G5	S5	S5B S5N					
<i>Geothlypis trichas</i>	Common Yellowthroat	G5	S4	S4B S4N					
<i>Grus canadensis</i>	Sandhill Crane	G5	S3N	S4N					
<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay	G5	S5	S5B S5N					x
<i>Haliaeetus leucocephalus</i>	Bald Eagle	G4	S2S3B S4N	S1B S3N	T	WSC	T		
<b><i>Helimaster constantii</i></b>									
<i>Helmitheros vermivorus</i>	Worm-Eating Warbler	G5		S2N				x	x
<i>Himantopus mexicanus</i>	Black-Necked Stilt	G5	S2	S4B S4N					
<i>Hirundo rustica</i>	Barn Swallow	G5	S5	S5B S5N					
<i>Hylocharis leucotis borealis</i>	White-Eared Hummingbird	TNR					T		
<i>Icteria virens</i>	Yellow-Breasted Chat	G5	S4	S4B S4N					
<i>Icterus bullockii</i>	Bullock's Oriole	G5	SNRB	S5B					
<i>Icterus cucullatus</i>	Hooded Oriole	G5	S5	S4B S4N					
<i>Icterus galbula</i>	Baltimore Oriole	G5		S1N					
<i>Icterus parisorum</i>	Scott's Oriole	G5	S5	S5B S5N					
<i>Icterus spurius</i>	Orchard Oriole	G5		S3B S3N					
<i>Ixobrychus exilis</i>	Least Bittern	G5	S3	S3B		WSC			

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				S3N					
<i>Ixobrychus exilis hesperis</i>	Western Least Bittern	T3	S3						
<i>Ixoreus naevius</i>	Varied Thrush	G5	S1N	S2N					
<i>Junco hyemalis</i>	Dark-Eyed Junco	G5	S5	S5B S5N					
<i>Junco phaeonotus</i>	Yellow-Eyed Junco	G5	S3	S2B S2N			T		
<i>Lampornis clemenciae</i>	Blue-Throated Hummingbird	G5	S4	S2B S2N					
<i>Lanius ludovicianus</i>	Loggerhead Shrike	G4	S4	S4B S4N				x	
<i>Larus californicus</i>	California Gull	G5	S3N	S2B S4N					
<i>Larus delawarensis</i>	Ring-Billed Gull	G5	S5N	S5N					
<i>Larus philadelphia</i>	Bonaparte's Gull	G5	SNA	S4N					
<i>Larus pipixcan</i>	Franklin's Gull	G4	SNA	S4N					
<i>Limnodromus griseus</i>	Short-Billed Dowitcher	G5	SNA	S3N					
<i>Limosa fedoa</i>	Marbled Godwit	G5	SNA	S4N					
<i>Lophodytes cucullatus</i>	Hooded Merganser	G5	S2N	S1B S4N					
<i>Loxia curvirostra</i>	Red Crossbill	G5	S4	S4B S4N					
<i>Megascops kennicottii</i>	Western Screech Owl	G5	S5	S4B S4N					
<i>Megascops trichopsis</i>	Whiskered Screech Owl	G5	S5	S1B S1N			T	x	
<i>Melanerpes lewis</i>	Lewis's Woodpecker	G4	S4	S5B S5N				x	x
<i>Melanerpes uropygialis</i>	Gila Woodpecker	G5	S5	S2B S2N			T		
<i>Meleagris gallopavo</i>	Wild Turkey	G5	S5	S5B S5N			T		
<i>Meleagris gallopavo merriami</i>	Merriam's Turkey	TU	S5						
<i>Melospiza georgiana</i>	Swamp Sparrow	G5	S2S3N	S4N					
<i>Melospiza lincolni</i>	Lincoln's Sparrow	G5	S3B	S4B					

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			S5N	S5N					
<i>Melospiza melodia</i>	Song Sparrow	G5	S5	S4B S5N					
<i>Mergus merganser</i>	Common Merganser Duck	G5	S3S4	S3B S5N					
<i>Micrathene whitneyi</i>	Elf Owl	G5	S5	S4B S4N				x	x
<i>Mimus polyglottos</i>	Northern Mockingbird	G5	S5	S5B S5N					
<i>Mniotilta varia</i>	Black-And-White Warbler	G5	S1B S1N	S4N					
<i>Molothrus aeneus</i>	Bronzed Cowbird	G5	S5	S4B S4N					
<i>Molothrus ater</i>	Brown-Headed Cowbird	G5	S5	S5B S5N					
<i>Myadestes townsendi</i>	Townsend's Solitaire	G5	S5	S5B S5N					
<i>Myiarchus cinerascens</i>	Ash-Throated Flycatcher	G5	S5	S5B S5N					
<i>Myiarchus tuberculifer</i>	Dusky-Capped Flycatcher	G5	S4	S3B S4N					
<i>Myiarchus tyrannulus</i>	Brown-Crested Flycatcher	G5	S4	S4B S4N					
<b><i>Myioborus miniatus</i></b>									
<i>Myioborus pictus</i>	Painted Redstart	G5	S4	S4B S4N					
<i>Myiodynastes luteiventris</i>	Sulphur-Bellied Flycatcher	G5	S3	S1N					
<i>Nucifraga columbiana</i>	Clark's Nutcracker	G5	S5	S4B S4N					
<i>Numenius americanus</i>	Long-Billed Curlew	G5	S1B S3S4N	S4B				x	
<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	G5	S3	S4B S4N					
<i>Oporornis tolmiei</i>	Macgillivray's Warbler	G5	S4	S5B S5N					
<i>Oreoscoptes montanus</i>	Sage Thrasher	G5	S5	S4B S5N					
<i>Otus flammeolus</i>	Flammulated Owl	G4	S4	S4B				x	x

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				S4N					
<i>Pachyramphus aglaiae</i>	Rose-Throated Becard	G4	S1			WSC		x	
<i>Pandion haliaetus</i>	Osprey	G5	S2B S4N	S1B S4N		WSC			
<i>Parabuteo unicinctus</i>	Harris's Hawk	G5	S5	S3B S3N					
<i>Parula americana</i>	Northern Parula	G5		S3N					
<i>Passer domesticus</i>	House Sparrow	G5	SNA	SNA					
<i>Passerculus sandwichensis</i>	Savannah Sparrow	G5	S5	S3B S5N					
<i>Passerella iliaca</i>	Fox Sparrow	G5	S2N	S4N					
<i>Passerina amoena</i>	Lazuli Bunting	G5	S4	S5B S5N					
<i>Passerina caerulea</i>	Blue Grosbeak	G5	S5	S5B S5N					
<i>Passerina ciris</i>	Painted Bunting	G5		S4B					x
<i>Passerina cyanea</i>	Indigo Bunting	G5	S3	S5B S5N					
<i>Passerina versicolor</i>	Varied Bunting	G5	S3	S1B S1N			T		x
<i>Patagioenas fasciata</i>	Band-Tailed Pigeon	G4	S5	S4B S4N					x
<i>Pelecanus erythrorhynchos</i>	American White Pelican	G3	S3N	S3N					
<i>Perisoreus canadensis</i>	Gray Jay	G5	S2	S4B S4N					
<i>Petrochelidon fulva</i>	Cave Swallow	G5		S3B S3N					
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	G5	S5	S5B S5N					
<i>Peucedramus taeniatus</i>	Olive Warbler	G5	S4	S4B S4N				x	
<i>Phainopepla nitens</i>	Phainopepla	G5	S5	S4B S4N					
<i>Phalacrocorax brasilianus</i>	Neotropic Cormorant	G5	S1N	S3B S4N			T		
<i>Phalaenoptilus nuttallii</i>	Common Poorwill	G5	S5	S5B					

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				S5N					
<i>Phalaropus lobatus</i>	Red-Necked Phalarope	G4	SNA	S4N					
<i>Phalaropus tricolor</i>	Wilson's Phalarope	G5	S1B S5N	S1B S5N					
<i>Phasianus colchicus</i>	Ring-Necked Pheasant	G5	SNA	SNA					
<i>Pheucticus ludovicianus</i>	Rose-Breasted Grosbeak	G5		S4N					
<i>Pheucticus melanocephalus</i>	Black-Headed Grosbeak	G5	S5	S5B S5N					
<i>Picoides arizonae</i>	Arizona Woodpecker	G5	S3	S2B S2N				x	x
<i>Picoides pubescens</i>	Downy Woodpecker	G5	S4	S5B S5N					
<i>Picoides scalaris</i>	Ladder-Backed Woodpecker	G5	S5	S5B S5N					
<i>Pipilo aberti</i>	Abert's Towhee	G3	S3	S1B S1N			T		x
<i>Pipilo chlorurus</i>	Green-Tailed Towhee	G5	S3B S4N	S4B S4N					
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	G5							
<i>Pipilo fuscus</i>	Canyon Towhee	G5	S5	S5B S5N					
<i>Pipilo maculatus</i>	Spotted Towhee	G5	S5	S5B S5N					
<i>Piranga flava</i>	Hepatic Tanager	G5	S4	S5B S5N					
<i>Piranga ludoviciana</i>	Western Tanager	G5	S5	S5B S5N					
<i>Piranga rubra</i>	Summer Tanager	G5	S4	S5B S5N					
<i>Plegadis chihi</i>	White-Faced Ibis	G5	SNRB S2S3N	S1B S4N					
<i>Pluvialis squatarola</i>	Black-Bellied Plover	G5	SNA	S4N					
<i>Podiceps nigricollis</i>	Eared Grebe	G5	S3B S5N	S4B S5N					
<i>Podilymbus podiceps</i>	Pied-Billed Grebe	G5	S5	S5B S5N					



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<i>Poecile gambeli</i>	Mountain Chickadee	G5	S5	S5B S5N					
<i>Poecile sclateri</i>	Mexican Chickadee	G5	S3	S1B S1N					
<i>Polioptila caerulea</i>	Blue-Gray Gnatcatcher	G5	S5	S4B S4N					
<i>Polioptila melanura</i>	Black-Tailed Gnatcatcher	G5	S5	S3B S3N					
<i>Poocetes gramineus</i>	Vesper Sparrow	G5	S5	S5B S4N					
<i>Porzana carolina</i>	Sora	G5	S4	S4B S4N					
<i>Progne subis</i>	Purple Martin	G5	S4	S4B S4N					
<i>Protonotaria citrea</i>	Prothonotary Warbler	G5		S2N				x	x
<i>Psaltriparus minimus</i>	Bushtit	G5	S5	S5B S5N					
<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	G5	S5	S4B S4N					
<i>Quiscalus mexicanus</i>	Great-Tailed Grackle	G5	S5	S5B S5N					
<i>Recurvirostra americana</i>	American Avocet	G5	S2	S4B S4N					
<i>Regulus calendula</i>	Ruby-Crowned Kinglet	G5	S5	S5B S5N					
<i>Regulus satrapa</i>	Golden-Crowned Kinglet	G5	S3	S4B S4N					
<i>Rhynchopsitta pachyrhyncha</i>	Thicket-Billed Parrot	G2				WSC			
<b><i>Ridgwayia pinicola</i></b>									
<i>Riparia riparia</i>	Bank Swallow	G5	SNR	S4B S5N					
<i>Salpinctes obsoletus</i>	Rock Wren	G5	S5	S5B S5N					
<i>Sayornis nigricans</i>	Black Phoebe	G5	S5	S5B S5N					
<i>Sayornis phoebe</i>	Eastern Phoebe	G5	S1N	S3B S4N					
<i>Sayornis saya</i>	Say's Phoebe	G5	S5	S5B					

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
				S4N					
<i>Seiurus aurocapilla</i>	Ovenbird	G5		S3N					
<i>Seiurus noveboracensis</i>	Northern Waterthrush	G5	SNA	S4N					
<i>Selasphorus platycercus</i>	Broad-Tailed Hummingbird	G5	S5	S4B S4N					
<i>Selasphorus rufus</i>	Rufous Hummingbird	G5	SNA	S5N					x
<i>Selasphorus sasin</i>	Allen's Hummingbird	G5	SNA						x
<i>Setophaga ruticilla</i>	American Redstart	G5	S1	S4N		WSC			
<i>Sialia currucoides</i>	Mountain Bluebird	G5	S5	S5B S5N					
<i>Sialia mexicana</i>	Western Bluebird	G5	S5	S5B S5N					
<i>Sialia sialis</i>	Eastern Bluebird	G5	S4	S1B S5N					
<i>Sitta canadensis</i>	Red-Breasted Nuthatch	G5	S4	S4B S4N					
<i>Sitta carolinensis</i>	White-Breasted Nuthatch	G5	S5	S5B S5N					
<i>Sitta pygmaea</i>	Pygmy Nuthatch	G5	S5	S5B S5N					
<i>Sphyrapicus nuchalis</i>	Red-Naped Sapsucker	G5	S4	S5B S5N					
<i>Sphyrapicus varius</i>	Yellow-Bellied Sapsucker	G5	S1N	S4N					
<i>Spiza americana</i>	Dickcissel	G5		S1B S4N					x
<i>Spizella atrogularis</i>	Black-Chinned Sparrow	G5	S5	S4B S4N			x		x
<i>Spizella breweri</i>	Brewer's Sparrow	G5	S5	S3B S4N					x
<i>Spizella pallida</i>	Clay-Colored Sparrow	G5	S1N	S4N					
<i>Spizella passerina</i>	Chipping Sparrow	G5	S5	S5B S5N					
<i>Stelgidopteryx serripennis</i>	Northern Rough-Winged Swallow	G5	S5	S4B S5N					
<i>Stellula calliope</i>	Calliope Hummingbird	G5	SNA	S4N					x

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<i>Sterna antillarum athalassos</i>	Interior Least Tern	T2		S1B S2N					
<i>Sterna forsteri</i>	Forster's Tern	G5	S2N	S1B S5N					
<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	T3	S3S4	S2B S2N	T	WSC			
<i>Sturnella magna</i>	Eastern Meadowlark	G5	S5	S5B S5N					
<i>Sturnella neglecta</i>	Western Meadowlark	G5	S5	S5B S5N					
<i>Sturnus vulgaris</i>	European Starling	G5	SNA	SNA					
<i>Tachycineta bicolor</i>	Tree Swallow	G5	S3	S4B S4N					
<i>Tachycineta thalassina</i>	Violet-Green Swallow	G5	S5	S5B S5N					
<i>Thryomanes bewickii</i>	Bewick's Wren	G5	S5	S5B S5N					
<i>Toxostoma bendirei</i>	Bendire's Thrasher	G4	S4	S4B S4N				x	x
<i>Toxostoma crissale</i>	Crissal Thrasher	G5	S5	S5B S5N				x	
<i>Toxostoma curvirostre</i>	Curve-Billed Thrasher	G5	S5	S5B S5N					
<i>Toxostoma rufum</i>	Brown Thrasher	G5	S1N	S4N					
<i>Tringa flavipes</i>	Lesser Yellowlegs	G5	SNA	S5N					
<i>Troglodytes aedon</i>	House Wren	G5	S5	S5B S5N					
<i>Troglodytes troglodytes</i>	Winter Wren	G5	S2S3N	S3N					
<i>Trogon elegans</i>	Elegant Trogon	G5	S3	S1B S1N		WSC	E	x	x
<i>Turdus migratorius</i>	American Robin	G5	S5	S5B S5N					
<i>Turdus rufopalliatus</i>	Rufous-Backed Robin	G5		S1N					
<i>Tyrannus crassirostris</i>	Thick-Billed Kingbird	G5	S2	S1B S1N		WSC	E		x
<i>Tyrannus melancholicus</i>	Tropical Kingbird	G5	S3			WSC			

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<i>Tyrannus tyrannus</i>	Eastern Kingbird	G5		S4B S4N					
<i>Tyrannus verticalis</i>	Western Kingbird	G5	S5	S5B S5N					
<i>Tyrannus vociferans</i>	Cassin's Kingbird	G5	S5	S5B S5N					
<i>Tyto alba</i>	Barn Owl	G5	S5	S4B S4N					
<i>Vermivora celata</i>	Orange-Crowned Warbler	G5	S3B S5N	S4B S5N					
<i>Vermivora luciae</i>	Lucy's Warbler	G5	S5	S4B S4N					
<i>Vermivora ruficapilla</i>	Nashville Warbler	G5	SNA	S4N					
<i>Vermivora virginiae</i>	Virginia's Warbler	G5	S5	S4B S4N					x
<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo	T4	S4	S2B S2N				x	
<i>Vireo flavifrons</i>	Yellow-Throated Vireo	G5		S2N					
<i>Vireo flavoviridis</i>	Yellow-Green Vireo	G5							
<i>Vireo gilvus</i>	Warbling Vireo	G5	S5	S5B S5N					
<i>Vireo huttoni</i>	Hutton's Vireo	G5	S5	S4B S4N					
<i>Vireo olivaceus</i>	Red-Eyed Vireo	G5		S3N					
<i>Vireo philadelphicus</i>	Philadelphia Vireo	G5		S2N					
<i>Vireo plumbeus</i>	Plumbeus Vireo	G5	S5	S5B S5N					
<i>Vireo vicinior</i>	Gray Vireo	G4	S4	S4B S3N			T	x	x
<i>Wilsonia citrina</i>	Hooded Warbler	G5		S2N					
<i>Wilsonia pusilla</i>	Wilson's Warbler	G5	SNA	S4B S5N					
<i>Xanthocephalus xanthocephalus</i>	Yellow-Headed Blackbird	G5	S5	S4B S5N					
<i>Zenaida asiatica</i>	White-Winged Dove	G5	S5	S4B S4N					

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<i>Zenaida macroura</i>	Mourning Dove	G5	S5	S5B S5N					
<i>Zonotrichia albicollis</i>	White-Throated Sparrow	G5	S2S3N	S4N					
<i>Zonotrichia atricapilla</i>	Golden-Crowned Sparrow	G5	S1S2N	S3N					
<i>Zonotrichia leucophrys</i>	White-Crowned Sparrow	G5	S1B S5N	S5B S5N					
<i>Zonotrichia querula</i>	Harris's Sparrow	G5	S1N	S3N					x
<i>Stygobromus arizonensis</i>	Arizona Cave Amphipod	G2	S1?						
<i>Campostoma ornatum</i>	Mexican Stoneroller	G3	S1			WSC			
<i>Catostomus clarki</i>	Desert Sucker	G3	S3S4	S2					
<i>Catostomus insignis</i>	Sonora Sucker	G3	S3	S2					
<i>Cyprinodon macularius</i>	Desert Pupfish	G1	S1		E	WSC			
<i>Gila ditaenia</i>	Sonora Chub	G2	S1		T	WSC			
<i>Gila intermedia</i>	Gila Chub	G2	S2	S1	PE	WSC	E		
<i>Gila purpurea</i>	Yaqui Chub	G1	S1		E	WSC			
<i>Oncorhynchus gilae</i>	Gila Trout	G3	SH	S1	E	WSC	T		
<i>Oncorhynchus gilae apache</i>	Apache Trout Intraspecific.	T3	S3		T	WSC			
<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow Intraspecific.	T3	S2		E	WSC	T		
<i>Rhinichthys chrysogaster</i>	Longfin Dace	G4	S3S4	SNA					
<i>Rhinichthys osculus</i>	Speckled Dace	G5	S3S4	S3					
<i>Agathon arizonicus</i>		G1	SNR						
<i>Agathymus aryxna</i>	Arizona Giant Skipper	G4	SNR	SNR					
<i>Agathymus evansi</i>	Huachuca Giant Skipper	G2	SNR						
<i>Agathymus polingi</i>	Poling's Giant Skipper	G4	SNR	SNR					
<i>Amblycheila baroni</i>	Montane Giant Tiger Beetle	G3	S3						
<b><i>Anthocharis pima</i></b>									
<i>Argia sabino</i>	Sabino Dancer	G1	SNR						
<i>Atrytonopsis cestus</i>	Cestus Skipper	G3	SNR						

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<i>Calephelis arizonensis</i>	Arizona Metalmark	G3	S2	SNR					
<i>Chlorochroa rita</i>	Santa Rita Mtns Chlorochroan Bug	GNR	SNR						
<i>Cicindela hornii</i>	Horn's Tiger Beetle	G3	S3	SNR					
<i>Cymbiodyta arizonica</i>	Arizona Cymbiodytan Water Scavenger Beetle	G2	S2?						
<i>Erynnis scudderi</i>	Scudder's Duskywing Butterfly	G4	SNR						
<i>Eumorsea pinaleno</i>	Pinaleno Monkey Grasshopper	G2	S1S3						
<i>Heterelmis stephani</i>	Stephan's Heterelmis Riffle Beetle	G1	S2?		C				
<i>Limenitis archippus obsoleta</i>	Arizona Viceroy	T3	SNR	SNR					
<i>Megathymus ursus</i>	Ursine Giant Skipper	G4	SNR	SNR					
<i>Megathymus ursus ursus</i>	Ursine Giant Skipper	T3	SNR	SNR					
<i>Neophasia terlooii</i>	Chiricahua White	G3	S2?	SNR					
<i>Piruna polingii</i>	Four-Spotted Skipperling	G3	SNR	SNR					
<i>Psephenus arizonensis</i>	Arizona Water Penny Beetle	G2	S2?						
<i>Psephenus montanus</i>	White Mountains Water Penny Beetle	G2	S2?						
<i>Speyeria nokomis coerulescens</i>	Bluish Fritillary	T2	SH						
<i>Ammospermophilus harrisii</i>	Harris' Antelope Squirrel	G5	S5	S2					
<i>Antilocapra americana mexicana</i>	Chihuahuan Pronghorn	T4	SNR			WSC			
<i>Antrozous pallidus</i>	Pallid Bat	G5	S4S5	S5					
<i>Baiomys taylori</i>	Northern Pygmy Mouse	G4	S2S3	S2					
<i>Bassariscus astutus</i>	Ringtail	G5	S5	S4					
<i>Canis latrans</i>	Coyote	G5	S5	S5					
<i>Chaetodipus baileyi</i>	Bailey's Pocket Mouse	G5	S5	S2					
<i>Chaetodipus formosus</i>	Long-Tailed Pocket Mouse	G5	S5						
<i>Chaetodipus hispidus</i>	Hispid Pocket Mouse	G5	S5	S5					
<i>Chaetodipus intermedius intermedius</i>	Rock Pocket Mouse	T5	S5						
<i>Chaetodipus nelsoni</i>	Nelson's Pocket Mouse	G5							

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<i>Chaetodipus penicillatus</i>	Desert Pocket Mouse	G5	S5	S4					
<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	G4	S2	S1		WSC			
<i>Conepatus leuconotus</i>	White-backed Hog-Nosed Skunk	G4	S4	S2S3					
<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	G4	S3	S3					
<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	T4	S3S4	S3					
<i>Dipodomys merriami</i>	Merriam's Kangaroo Rat	G5	S5	S5					
<i>Dipodomys ordii</i>	Ord's Kangaroo Rat	G5	S5	S5					
<i>Eptesicus fuscus</i>	Big Brown Bat	G5	S4S5	S5					
<i>Erethizon dorsatum</i>	North American Porcupine	G5	S4S5	S5					
<i>Eumops perotis californicus</i>	Greater Western Mastiff Bat	T4	S1S2						
<i>Idionycteris phyllotis</i>	Allen's Big-Eared Bat	G3	S2S3	S2					
<i>Lasionycteris noctivagans</i>	Silver-Haired Bat	G5	S3S4	S5					
<i>Lasiurus blossevillii</i>	Western Red Bat	G5	S2	S2		WSC			
<i>Lasiurus borealis</i>	Eastern Red Bat	G5							
<i>Lasiurus cinereus</i>	Hoary Bat	G5	S4	S3N					
<i>Lasiurus xanthinus</i>	Western Yellow Bat	G5	S1	S1		WSC	T		
<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	T3	S2	S1	E	WSC	T		
<i>Leptonycteris nivalis</i>	Mexican Long-Nosed Bat	G3		S1	E		E		
<i>Lepus alleni</i>	Antelope Jackrabbit	G5	S4						
<i>Lepus californicus</i>	Black-Tailed Jack Rabbit	G5	S5	S5					
<i>Lynx rufus</i>	Bobcat	G5	S5	S4					
<i>Macrotus californicus</i>	California Leaf-Nosed Bat	G4	S3S4			WSC			
<i>Mephitis macroura</i>	Hooded Skunk	G5	S4	S2					
<i>Mephitis mephitis</i>	Striped Skunk	G5	S5	S5					
<i>Microtus longicaudus</i>	Long-Tailed Vole	G5	S4	S4					
<i>Microtus longicaudus leucophaeus</i>	White-Bellied Long-Tailed Vole	T3	S3						
<i>Mormoops megalophylla</i>	Ghost-Faced Bat	G4							

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<i>Mus musculus</i>	House Mouse	G5	SNA	SNA					
<i>Mustela frenata</i>	Long-Tailed Weasel	G5	S3	S4					
<i>Myotis auriculus</i>	Southwestern Myotis	G5	S3	S4					
<i>Myotis californicus</i>	California Myotis Bat	G5	S4S5	S5					
<i>Myotis ciliolabrum</i>	Western Small-Footed Myotis Bat	G5	S3	S5					
<b><i>Myotis ciliolabrum melanorhinus</i></b>									
<i>Myotis occultus</i>	Occult Little Brn. Myotis Bat	G3	S3	S3					
<i>Myotis thysanodes</i>	Fringed Myotis Bat	G4	S3S4	S5					
<b><i>Myotis thysanodes thysanodes</i></b>									
<i>Myotis velifer</i>	Cave Myotis Bat	G5	S4	S4					
<b><i>Myotis volans interior</i></b>									
<i>Myotis yumanensis</i>	Yuma Myotis Bat	G5	S3S4	S5					
<b><i>Myotis yumanensis yumanensis</i></b>									
<i>Nasua narica</i>	White-Nosed Coati	G5	S4	S2					
<i>Neotoma albigula</i>	Western White-Throated Woodrat	G5	S5	S5					
<i>Neotoma mexicana</i>	Mexican Wood Rat	G5	S5	S5					
<i>Notiosorex crawfordi</i>	Crawford's Desert Shrew	G5	S4S5	S4					
<i>Nyctinomops femorosaccus</i>	Pocketed Free-Tailed Bat	G4	S2S3	S1					
<i>Nyctinomops macrotis</i>	Big Free-Tailed Bat	G5	S2S3	S2					
<i>Odocoileus hemionus</i>	Mule Deer	G5	S5	S5					
<i>Odocoileus virginianus</i>	White-Tailed Deer	G5	S5	S4					
<i>Onychomys leucogaster</i>	Northern Grasshopper Mouse	G5	S5	S5					
<i>Onychomys torridus</i>	Southern Grasshopper Mouse	G5	S5	S4					
<i>Ovis canadensis</i>	Desert Bighorn Sheep	G4	S4	S1			E		
<i>Panthera onca</i>	Jaguar	G3	S1	S1	E	WSC			
<i>Pecari tajacu</i>	Collared Peccary	G5	S5	S2					
<i>Perognathus flavus</i>	Silky Pocket Mouse	G5	S5	S5					



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<i>Peromyscus boylii</i>	Brush Mouse	G5	S5	S5					
<i>Peromyscus eremicus</i>	Cactus Mouse	G5	S5	S5					
<i>Peromyscus leucopus</i>	White-Footed Mouse	G5	S5	S5					
<i>Peromyscus maniculatus</i>	Deer Mouse	G5	S5	S5					
<i>Peromyscus merriami</i>	Mesquite Mouse	G5	S2						
<i>Peromyscus nasutus</i>	Northern Rock Mouse	G5	S3	S4					
<i>Peromyscus pectoralis</i>	White-Ankled Mouse	G5		S1					
<i>Peromyscus truei</i>	Pinyon Mouse	G5	S5	S5					
<i>Pipistrellus hesperus</i>	Western Pipistrelle	G5	S5	S5					
<i>Procyon lotor</i>	Northern Raccoon	G5	S4	S4					
<i>Puma concolor</i>	Puma	G5	S4	S3?					
<i>Rattus rattus</i>	Black Rat	G5	SNA	SNA					
<i>Reithrodontomys fulvescens</i>	Fulvous Harvest Mouse	G5	S4	S1					
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse	G5	S5	S5					
<i>Reithrodontomys montanus</i>	Plains Harvest Mouse	G5	S2	S4					
<i>Sciurus aberti</i>	Abert's Squirrel	G5	S5	S4					
<i>Sciurus arizonensis</i>	Arizona Gray Squirrel	G4	S4	S2					
<b><i>Sciurus arizonensis catalinae</i></b>									
<i>Sigmodon arizonae</i>	Arizona Cotton Rat	G5	S4	S1					
<i>Sigmodon hispidus</i>	Hispid Cotton Rat	G5	S5	S5					
<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	G4	S3S4	S2					
<i>Sorex arizonae</i>	Arizona Shrew	G3	S2S3	S1		WSC	E		
<i>Sorex monticolus</i>	Montane Shrew	G5	S4	S4					
<i>Spermophilus spilosoma</i>	Spotted Ground Squirrel	G5	S4	S5					
<i>Spermophilus tereticaudus</i>	Round-Tailed Ground Squirrel	G5	S5						
<i>Spermophilus variegatus</i>	Rock Squirrel	G5	S5	S5					
<i>Spilogale gracilis</i>	Western Spotted Skunk	G5	S5	S4					

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<i>Sylvilagus audubonii</i>	Desert Cottontail	G5	S5	S5					
<i>Sylvilagus floridanus</i>	Eastern Cottontail	G5	S5	S4					
<i>Tadarida brasiliensis</i>	Brazilian Free-Tailed Bat	G5	S3S4	S2					
<b><i>Tadarida brasiliensis mexicana</i></b>									
<i>Tamias dorsalis</i>	Cliff Chipmunk	G5	S5	S4					
<i>Tamiasciurus hudsonicus</i>	Red Squirrel	G5	S5	S5					
<i>Tamiasciurus hudsonicus grahamensis</i>	Mount Graham Red Squirrel	T1	S1		E	WSC			
<i>Taxidea taxus</i>	American Badger	G5	S5	S4					
<b><i>Thomomys bottae grahamensis</i></b>									
<i>Thomomys bottae mearnsi</i>	Graham Mountain Pocket Gopher	T5	S5	S2					
<i>Thomomys umbrinus emotus</i>	Southern Pocket Gopher	TNR		S1					
<i>Thomomys umbrinus intermedius</i>	Southern Pocket Gopher	T3	S3				T		
<i>Urocyon cinereoargenteus</i>	Gray Fox	G5	S5	S5					
<i>Ursus americanus</i>	Black Bear	G5	S5	S4					
<i>Abutilon parishii</i>	Parish's Abutilon	G2	S2			SR			
<i>Acacia farnesiana</i>	Sweet Acacia	G5	S1						
<i>Aconitum infectum</i>	Arizona Monkshod	G1	SNR						
<i>Agave parviflora ssp. parviflora</i>		T3	S3			HS			
<i>Agave schottii var. treleasei</i>	Schott Agave	T1	S1			HS			
<i>Allium glandulosum</i>	Gland Onion	G4	SNR	SNR		SR			
<i>Allium gooddingii</i>	Goodding's Onion	G4	S3S4	S1		HS	E		
<i>Amoreuxia gonzalezii</i>	Santa Rita Yellowshow	G1	S1			HS			
<i>Amsonia grandiflora</i>	Arizona Slimpod	G2	S2						
<i>Arabis tricornuta</i>	Rincon Mountain Rockcress	G1	S1?						
<i>Asclepias lemmonii</i>	Lemmon's Milkweed	G4	S2						
<i>Asclepias uncialis ssp. uncialis</i>		T2	SNR	S2					
<i>Astragalus cobrensis var. maguirei</i>	A Milkvetch	T2	S1	S2		SR			

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<i>Astragalus hypoxylus</i>	Huachuca Milkvetch	G1	S1			SR			
<i>Ayenia truncata</i>		GNR	S1						
<i>Browallia eludens</i>	Elusive New Browallia Species	G2	S1						
<i>Capsicum annuum var. glabriusculum</i>		T5	S2						
<i>Carex chihuahuensis</i>	A Sedge	G3	S2S3						
<i>Carex ultra</i>	Cochise Sedge	G3	S2	S3?					
<i>Castilleja nervata</i>		G3	S1						
<i>Chamaesyce gracillima</i>	Mexican broomspurge	G4	S3						
<i>Choisya dumosa var. mollis</i>	Soft Mexican Orange	T2	S2						
<i>Cirsium rusbyi</i>	Rusby's Thistle	G1	SNR						
<i>Conioselinum mexicanum</i>	Mexican Hemlock Parsley	G2	S1						
<i>Coryphantha recurvata</i>	Recurved Corycactus	G3	S3			HS			
<i>Coryphantha scheeri var. robustispina</i>	Pima Pineapple Cactus	T2	S2		E	HS			
<i>Coursetia glabella</i>		G3	S1						
<i>Cynanchum arizonicum</i>	Arizona swallow-wort	G3	SNR	S2?					
<i>Cynanchum wigginsii</i>	Narrowleaf Or Wiggin's Swallow Wort	G3	S1S2						
<i>Dalea tentaculoides</i>	Gentry's Indigo Bush	G1	S1			HS			
<i>Desmodium metcalfei</i>	Metcalf's Tick-Trefoil	G3	SNR	S3?					
<i>Draba standleyi</i>	Standley's Whitlowgrass	G2	S2S3	S2					
<i>Erigeron arisolius</i>		G2	S2	SNR					
<i>Erigeron heliographis</i>		G1	S1						
<i>Erigeron kuschei</i>	A Fleabane	G1	S1			SR			
<i>Erigeron scopulinus</i>	Winn Falls Fleabane	G3	S1	S3?					
<i>Eryngium phyteumae</i>	Huachuca Mountain Coyote Thistle	G2	SNR						
<i>Escobaria orcuttii</i>		G3	SNR	S3					
<i>Eupatorium bigelovii</i>	Bigelow Thoroughwort	G2	S1						
<i>Gentianella wislizeni</i>	Chiricahua Gentian	G2	S1			SR			

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Graptopetalum bartramii</i>	Patagonia Mountain Leather-Petal	G3	S3			SR			
<i>Hackelia ursina</i>	Chihuahuam Stickseed	G3	S2	SNR					
<i>Hedeoma costata</i>		G5	S1	SNR					
<i>Hedeoma dentata</i>	Arizona False Pennyroyal	G3	S3	SNR					
<i>Hermannia pauciflora</i>	Santa Catalina Burstwort	G2	S1						
<i>Heterotheca rutteri</i>	Rutter's Golden-Aster	G2	S2						
<i>Heuchera glomerulata</i>	Chiricahua Mountain Allum-Root	G3	S3	S1					
<i>Hexalectris revoluta</i>	Chisos Coral-Root	G1	S1						
<i>Hexalectris spicata</i> var. <i>arizonica</i>		T3	SNR	SNR					
<i>Hexalectris warnockii</i>	Purple-Spike Coralroot	G2	S1			HS			
<i>Hieracium pringlei</i>	Pringle's Hawkweed	G2	S1	S2					
<i>Hieracium rusbyi</i>	Rusby's Hawkweed	G2	S1	SNR					
<i>Hymenoxys ambigens</i> var. <i>neomexicana</i>		T2		S2?					
<i>Ipomoea plummerae</i> var. <i>cuneifolia</i>		T3	S3	SNR					
<i>Ipomoea tenuiloba</i> var. <i>lemmonii</i>	Lemmon's Morning Glory	T3	SNR						
<i>Ipomoea thurberi</i>	Thurber's Morning Glory	G3	S1						
<i>Laennecia eriophylla</i>		G3	S2						
<i>Lilium parryi</i>	Lemon Lily	G3	S2			SR			
<i>Limosella pubiflora</i>	Chiricahua Mudwort	GU	SX	SH					
<i>Lotus alamosanus</i>	Sonoran Trefoil	G3	S1						
<i>Lupinus huachucanus</i>	Huachuca Mountain Lupine	G2	S2						
<i>Lupinus lemmonii</i>	Lemmon's Lupine	G1	SU						
<i>Malaxis porphyrea</i>	Cochise Adder's-Mouth Orchid	G4	S2	SNR					
<i>Mammillaria mainiae</i>	Main's Nipple Cactus	G3	S1			SR			
<i>Manihot davisiae</i>	Arizona Manihot	G4	S2						
<b><i>Margaranthus lemmonii</i></b>									
<i>Marina diffusa</i>	Spreading Marina	G5	S1						

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<i>Matelea balbisii</i>	Balbis' Milkvine	G2	SH						
<i>Matelea cordifolia</i>	Sonora Milkvine	G4	S1						
<i>Muhlenbergia elongata</i>		G4	SNR						
<i>Muhlenbergia palmeri</i>		GNR	SNR						
<i>Packera neomexicana</i> var. <i>toumeyi</i>	Toumey Groundsel	T2	S2						
<i>Paspalum virletii</i>	Virlet Paspalum	G3	S1						
<i>Passiflora foetida</i>	Scarlett Fruit Passionflower	G5	S2						
<i>Pectis imberbis</i>	Beardless Chinch Weed	G3	S1						
<i>Pediomelum pentaphyllum</i>	Chihuahua Scurf-Pea	G1	SH	S1					
<i>Penstemon discolor</i>	A Beardtongue	G2	S2				HS		
<i>Penstemon ramosus</i>	Branching Penstemon	G3	S1	S3?					
<i>Penstemon superbus</i>	Superb Beardtongue	G3	S2?	S2					
<i>Perityle cochisensis</i>	Cochise Rockdaisy	G1	S1S2					SR	
<i>Phaseolus supinus</i>	Supine Bean	G2	S1					SR	
<i>Physalis latiphysa</i>	Broadleaf Ground Cherry	G1	S1						
<i>Polemonium foliosissimum</i> var. <i>flavum</i>	Anway	T3	S2	SNR					
<i>Polemonium pauciflorum</i> ssp. <i>hinckleyi</i>	Hinckley Jacob's Ladder	T2	S1						
<i>Potentilla albiflora</i>	White-Flowered Cinquefoil	G2	SNR						
<i>Psilactis gentryi</i>	Gentry's Bare Ray Aster	G3	S1						
<i>Roldana hartwegii</i>	Hartweg's Groundsel	G4	SNR						
<i>Salvia amissa</i>	Catalina Mountain Sage	G2	S2						
<i>Samolus vagans</i>	Chiricahua Mountain Brookweed	G2	SNR						
<i>Sclerocactus erectocentrus</i> var. <i>1</i>		T1	S1						
<i>Senecio multidentatus</i> var. <i>huachucanus</i>	Huachuca Groundsel	T2	S2				HS		
<i>Sisyrinchium cernuum</i>	Nodding Blue-Eyed Grass	G5	S2						
<i>Solanum lumholtzianum</i>	Sonoran Nightshade	G3	S3						
<i>Spiranthes delitescens</i>	Canelo Hills Ladies' Tresses Orchid	G1	S1		E		HS		

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<i>Stellaria porsildii</i>	Porsild's Starwort	G1	S1	S1					
<i>Stevia lemmonii</i>	Lemmon's Stevia	G3	SNR						
<i>Symphotrichum potosinum</i>		G2	S1						
<i>Talinum humile</i>	Pinos Altos Mountains Flame Flower	G2	S1	S2		SR			
<i>Talinum marginatum</i>	Tepic Flame Flower	G2	S1			SR			
<i>Tephrosia thurberi</i>	Thurber's Hoary Pea	G4	S3						
<i>Thelypteris puberula var. sonorensis</i>	Aravaipa Woodfern	T3	S2						
<i>Tragia laciniata</i>	Sonoita Noseburn	G3	S3?						
<i>Tumamoca macdougalii</i>	Tumamoc Globeberry	G4	S3			SR			
<i>Viola umbraticola</i>	Ponderosa Violet	G3	S2?						
<i>Arizona elegans</i>	Glossy Snake	G5	S5	S5					
<i>Aspidoscelis arizonae</i>	Arizona Striped Whiptail	G1	S1S2						
<i>Aspidoscelis burti stictogrammus</i>	Giant Spotted Whiptail	T3	S3						
<i>Aspidoscelis exsanguis</i>	Chihuahuan Spotted Whiptail	G5	S3	S5					
<i>Aspidoscelis flagellicauda</i>	Gila Spotted Whiptail	G4	S4	S3					
<i>Aspidoscelis inornata</i>	Little Striped Whiptail	G5		S5					
<i>Aspidoscelis sonorae</i>	Sonoran Spotted Whiptail	G5	S5	S3					
<i>Aspidoscelis tigris</i>	Western Whiptail	G5	S5	S3					
<i>Aspidoscelis uniparens</i>	Desert Grassland Whiptail	G5	S5	S5					
<i>Callisaurus draconoides</i>	Zebratail Lizard	G5	S5	S3					
<i>Coleonyx variegatus</i>	Western Banded Gecko	G5	S5	S3					
<i>Cophosaurus texanus</i>	Greater Earless Lizard	G5	S5	S5					
<i>Crotalus atrox</i>	Western Diamondback Rattlesnake	G5	S5	S5					
<i>Crotalus lepidus klauberi</i>	Banded Rock Rattlesnake	T5	S3S4	S2					
<i>Crotalus molossus</i>	Blacktail Rattlesnake	G5	S5	S5					
<i>Crotalus pricei</i>	Twin-Spotted Rattlesnake	G5	S3						
<i>Crotalus scutulatus</i>	Mojave Rattlesnake	G5	S5	S3					

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Crotalus tigris</i>	Tiger Rattlesnake	G5	S5						
<i>Crotalus viridis</i>	Western Rattlesnake	G5	S5	S5					
<i>Crotalus viridis cerberus</i>	Arizona Black Rattlesnake	T5	S5						
<i>Crotalus willardi obscurus</i>	New Mexican Ridgenose Rattlesnake	T1	S1	S1	T		E		
<i>Crotalus willardi willardi</i>	Arizona Ridge-Nosed Rattlesnake	T3	S3			WSC			
<i>Crotaphytus collaris</i>	Collared Lizard	G5	S5	S5					
<i>Diadophis punctatus</i>	Ringneck Snake	G5	S4	S4					
<i>Elgaria kingii nobilis</i>	Arizona Alligator Lizard	T4	SNR						
<i>Eumeces callicephalus</i>	Mountain Skink	G5	S2	S1			T		
<i>Eumeces obsoletus</i>	Great Plains Skink	G5	S5	S5					
<i>Gambelia wislizenii</i>	Longnose Leopard Lizard	G5	S5	S5					
<i>Gopherus agassizii</i>	Desert Tortoise	G4	S4		T	WSC			
<i>Gyalopion canum</i>	Western Hooknose Snake	G5	S3	S4					
<i>Gyalopion quadrangulare</i>	Desert Hooknose Snake	G4	S1S2			WSC			
<i>Heloderma suspectum</i>	Gila Monster	G4	S4	S3					
<i>Heloderma suspectum suspectum</i>	Reticulate Gila Monster	T4	S4						
<i>Heterodon nasicus</i>	Western Hognose Snake	G5	S3	S5					
<i>Holbrookia elegans thermophila</i>	Sonoran Earless Lizard	T4	SNR			WSC			
<i>Holbrookia maculata</i>	Lesser Earless Lizard	G5	S5	S5					
<i>Hypsiglena torquata</i>	Night Snake	G5	S5	S5					
<i>Kinosternon sonoriense</i>	Sonoran Mud Turtle	G4	S4	S3					
<i>Lampropeltis getula</i>	Common Kingsnake	G5	S5	S5					
<i>Lampropeltis pyromelana</i>	Sonoran Mountain Kingsnake	G5	S4	S3					
<i>Lampropeltis triangulum</i>	Milk Snake	G5	S2	S4					
<i>Leptotyphlops dulcis</i>	Texas Threadsnake	G5	S2	S4					
<i>Leptotyphlops humilis segregus</i>	Trans-Pecos Blind Snake	T5	SNR						
<i>Masticophis bilineatus</i>	Sonoran Whipsnake	G5	S5	S3					

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Masticophis flagellum</i>	Coachwhip	G5	S5	S5					
<i>Masticophis taeniatus</i>	Striped Whipsnake	G5	S4	S5					
<i>Micruroides euryxanthus</i>	Arizona Coral Snake	G5	S5	S3					
<i>Oxybelis aeneus</i>	Mexican Vine Snake	G5	S2			WSC			
<i>Phrynosoma cornutum</i>	Texas Horned Lizard	G4	S3S4	S5					
<i>Phrynosoma hernandesi</i>	Short-Horned Lizard	G5	S2	S5					
<i>Phrynosoma modestum</i>	Roundtail Horned Lizard	G5	S3	S5					
<i>Phrynosoma solare</i>	Regal Horned Lizard	G5	S5	SNR					
<i>Phyllorhynchus browni browni</i>	Pima Leafnose Snake	T5	S5						
<i>Phyllorhynchus decurtatus</i>	Spotted Leaf-Nose Snake	G5	S5						
<i>Pituophis catenifer</i>	Gopher Snake	G5	S5	S5					
<i>Rhinocheilus lecontei</i>	Longnose Snake	G5	S5	S5					
<i>Salvadora grahamiae</i>	Mountain Patchnose Snake	G5	S4	S5					
<i>Salvadora hexalepis</i>	Western Patchnose Snake	G5	S5						
<i>Sceloporus clarkii</i>	Clark's Spiny Lizard	G5	S5	S4					
<i>Sceloporus consobrinus</i>	Southern Prairie Lizard	T5							
<i>Sceloporus jarrovii</i>	Yarrow's Spiny Lizard	G5	S5	S4					
<i>Sceloporus magister</i>	Desert Spiny Lizard	G5	S5	S5					
<i>Sceloporus poinsettii</i>	Crevice Spiny Lizard	G5		S5					
<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	G4	S2S3	S1			T		
<i>Sceloporus tristichus</i>	Southern Plateau Lizard	T5							
<i>Sceloporus virgatus</i>	Striped Plateau Lizard	G4	S3	S3					
<i>Senticolis triaspis intermedia</i>	Green Rat Snake	T4	S3				T		
<i>Sonora semiannulata</i>	Ground Snake	G5	S5	S5					
<i>Tantilla hobartsmithi</i>	Southwestern Black-Headed Snake	G5	S5	S4					
<i>Tantilla nigriceps</i>	Plains Black-Headed Snake	G5	S3	S5					
<i>Tantilla wilcoxi</i>	Chihuahuan Black-headed Snake	G5	S1	S2					



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<i>Tantilla yaquia</i>	Yaqui Black-headed Snake	G4	S2	S1					
<i>Terrapene ornata</i>	Western Box Turtle	G5	S3S4	S4					
<i>Thamnophis cyrtopsis</i>	Western Blackneck Garter Snake	G5	S5	S5					
<i>Thamnophis elegans</i>	Western Terrestrial Garter Snake	G5	S5?	S5					
<i>Thamnophis eques megalops</i>	Mexican Garter Snake	T3	S2S3			WSC	E		
<i>Thamnophis marcianus</i>	Checkered Garter Snake	G5	S5?	S4					
<i>Trimorphodon biscutatus</i>	Western Lyre Snake	G5	S5	S4					
<i>Urosaurus ornatus</i>	Tree Lizard	G5	S5	S5					
<i>Uta stansburiana</i>	Side-Blotched Lizard	G5	S5	S5					
<i>Ashmunella angulata</i>	Angulate Woodlandsnail	G2	SNR						
<i>Ashmunella chiricahuana</i>	Cave Creek Woodlandsnail	G1	SNR						
<i>Ashmunella esuritor</i>	Barfoot Woodlandsnail	G1	SNR						
<i>Ashmunella ferrissi</i>	Reed's Mountain Woodlandsnail	G1	SNR						
<i>Ashmunella lenticula</i>	Horseshoe Canyon Woodlandsnail	G1	S1						
<i>Ashmunella lepiderma</i>	Whitetail Woodlandsnail	G1	SNR						
<i>Ashmunella levettei</i>	Huachuca Woodlandsnail	G1	SNR	SNR					
<i>Ashmunella proxima</i>	Chiricahua Woodlandsnail	G2	SNR						
<i>Ashmunella varicifera</i>	Miller Canyon Woodlandsnail	G2	SNR						
<i>Gastrocopta dalliana dalliana</i>	Shortneck Snaggleteoth	T1		S1?			E		
<i>Gastrocopta prototypus</i>	Sonoran Snaggleteoth	G1	SNR	SNR					
<i>Holospira arizonensis</i>	Arizona Holospira	G2	SNR						
<i>Holospira campestris</i>	A Holospira	G3Q	SNR						
<i>Holospira chiricahuana</i>	Cave Creek Holospira	G2	SNR						
<i>Holospira cionella</i>	A Holospira	G3Q	SNR						
<i>Holospira danielsi</i>	Strongrib Holospira	G3	SNR						
<i>Holospira ferrissi</i>	Stocky Holospira	G2	SNR						
<i>Holospira millestriata</i>	A Holospira	G1Q	SNR						

NatureServe Scientific Name	NatureServe Common Name	G- rank	AZ S-rank	NM S-rank	ESA status	AZ state status	NM state status	Birds of Conserv. Concern	Partners in Flight Watch List
<i>Holospira montivaga</i>	Vagabond Holospira	G2	SNR	S2					
<i>Holospira sherbrookei</i>	Silver Creek Holospira	G1	SNR						
<i>Holospira whetstonensis</i>	Whetstone Holospira	G1	SNR	SNR					
<i>Oreohelix barbata</i>	Bearded Mountainsnail	G1	SNR	S1					
<i>Oreohelix concentrata</i>	Huachuca Mountainsnail	G2	SNR						
<i>Oreohelix grahamensis</i>	Pinaleno Mountainsnail	G2	S2						
<i>Pallifera pilsbryi</i>	Arizona Mantleslug	G2	SNR						
<i>Pyrgulopsis thompsoni</i>	Huachuca Springsnail	G2	S2		C				
<i>Radiocentrum chiricahuana</i>	Chiricahua Mountainsnail	G2	SNR						
<i>Radiocentrum clappi</i>	Cave Creek Mountainsnail	G2	SNR						
<i>Radiodiscus millicostatus</i>	Ribbed Pinwheel	G3	SNR	SNR					
<i>Sonorella apache</i>	Apache Talussnail	G1	SNR						
<i>Sonorella bagnarai</i>	Rincon Talussnail	G1	SNR						
<i>Sonorella bequaerti</i>	Happy Valley Talussnail	G2	SNR						
<i>Sonorella binneyi</i>	Horseshoe Canyon	G1	SNR						
<i>Sonorella bowiensis</i>	Quartzite Hill Talussnail	G1	SNR						
<i>Sonorella christenseni</i>	Clark Peak Talussnail	G1	S1S2						
<i>Sonorella clappi</i>	Madrea Talussnail	G1	SNR						
<i>Sonorella dalli</i>	Garden Canyon Talussnail	G1	SNR						
<i>Sonorella danielsi</i>	Bear Canyon Talussnail	G3	SNR						
<i>Sonorella dragoonensis</i>	Stronghold Canyon Talussnail	G1	SNR						
<i>Sonorella ferrissi</i>	Dragoon Talussnail	G1	SNR						
<i>Sonorella galiuensis</i>	Galiuro Talussnail	G2	SNR						
<i>Sonorella grahamensis</i>	Pinaleno Talussnail	G1	S1						
<i>Sonorella granulatissima</i>	Ramsey Canyon Talussnail	G3	SNR						
<i>Sonorella hachitana peloncillensis</i>		T1		S1					
<i>Sonorella imitator</i>	Mimic Talussnail	G2	S2						

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<i>Sonorella insignis</i>	Whetstone Talussnail	G1	SNR						
<i>Sonorella macrophallus</i>	Wet Canyon Talussnail	G1	S1						
<i>Sonorella macrophallus</i>	Wet Canyon Talussnail	G1	S1						
<i>Sonorella magdalenensis</i>	Sonoran Talussnail	G2	SNR						
<i>Sonorella micra</i>	Pygmy Sonorella	G1	SNR						
<i>Sonorella neglecta</i>	Portal Talussnail	G1	SNR						
<i>Sonorella odorata</i>	Pungent Talussnail	G2	SNR						
<i>Sonorella optata</i>	Big Emigrant Talussnail	G2	SNR						
<i>Sonorella rinconensis</i>	Posta Quemada Talussnail	G2	SNR						
<i>Sonorella santaritana</i>	Agua Caliente Talussnail	G3	SNR						
<i>Sonorella tryoniana</i>	Sanford Talussnail	G1	SNR						
<i>Sonorella virilis</i>	Chiricahua Talussnail	G2	SNR						
<i>Vertigo hinkleyi</i>	Heart Vertigo	G3	SNR	S1					

**Appendix 4-B.** Conservation targets (n=216), by target type, that occur on one or more of 13 conservation areas that overlap the Coronado National Forest in Arizona and New Mexico.

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<b>Amphibians</b>				
<i>Ambystoma tigrinum stebbinsi</i>	Sonoran Tiger Salamander	Aquatic/Riparian	1	6
<i>Eleutherodactylus augusti cactorum</i>	Western Barking Frog	Aquatic/Riparian	2	2, 6
<i>Gastrophryne olivacea</i>	Great Plains Narrowmouth Toad	Aquatic/Riparian	1	2
<i>Hyla eximia</i>	Mountain Treefrog	Aquatic/Riparian	1	6
<i>Rana blairi</i>	Plains Leopard Frog	Aquatic/Riparian	3	3, 11, 12
<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	7	1, 2, 3, 5, 6, 11, 12
<i>Rana pipiens</i>	Northern Leopard Frog	Aquatic/Riparian	1	6
<i>Rana subaquavocalis</i>	Ramsey Canyon Leopard Frog	Aquatic/Riparian	1	6
<i>Rana tarahumarae</i>	Tarahumara Frog	Aquatic/Riparian	1	2
<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	6	2, 6, 8, 10, 11, 12
<b>Birds</b>				
<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	6	3, 6, 7, 8, 11, 12
<i>Aimophila botterii</i>	Botteri's Sparrow	Terrestrial	3	2, 6, 12
<i>Aimophila carpalis</i>	Rufous-Winged Sparrow	Terrestrial	3	2, 6, 11
<i>Ammodramus bairdii</i>	Baird's Sparrow	Terrestrial	2	6, 12
<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	5	2, 6, 9, 11, 12
<i>Athene cunicularia hypugaea</i>	Burrowing Owl	Terrestrial	2	6, 11
<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	6	2, 3, 6, 7, 11, 12
<i>Buteogallus anthracinus</i>	Common Black-Hawk	Aquatic/Riparian	3	6, 11, 12
<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	8	1, 3, 4, 5, 6, 8, 11, 12
<i>Ceryle alcyon</i>	Belted Kingfisher	Aquatic/Riparian	2	6, 12
<i>Chloroceryle americana</i>	Green Kingfisher	Aquatic/Riparian	2	6, 12
<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	6	2, 3, 6, 9, 11, 12
<i>Colaptes chrysoides</i>	Gilded Flicker	Terrestrial	2	6, 11
<i>Cyrtonyx montezumae</i>	Montezuma Quail	Terrestrial	1	6

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Dendroica petechia</i>	Yellow Warbler	Aquatic/Riparian	2	9, 11
<i>Empidonax traillii extimus</i>	Southwest Willow Flycatcher	Aquatic/Riparian	4	2, 6, 9, 11
<i>Falco femoralis septentrionalis</i>	Aplomado Falcon	Terrestrial	2	6, 12
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	8	2, 3, 5, 6, 7, 8, 11, 13
<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	5	1, 2, 6, 10, 11
<i>Grus canadensis</i>	Sandhill Crane	Aquatic/Riparian	1	11
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Terrestrial	2	6, 12
<i>Pipilo aberti</i>	Abert's Towhee	Aquatic/Riparian	4	1, 6, 11, 12
<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	7	2, 3, 6, 7, 8, 11, 12
<i>Trogon elegans</i>	Elegant Trogon	Aquatic/Riparian	4	2, 3, 6, 12
<b>Crustaceans</b>				
<i>Stygobromus arizonensis</i>	Arizona Cave Amphipod	Subterranean	1	6
<b>Fish</b>				
<i>Agosia chrysogaster</i>	Longfin Dace	Aquatic/Riparian	5	2, 3, 6, 11, 12
<i>Agosia sp.</i>	Agosia sp.	Aquatic/Riparian	1	9
<i>Campostoma ornatum</i>	Mexican Stoneroller	Aquatic/Riparian	2	3, 12
<i>Catostomus bernardini</i>	Yaqui Sucker	Aquatic/Riparian	1	12
<i>Catostomus clarki</i>	Desert Sucker	Aquatic/Riparian	2	6, 11
<i>Catostomus insignis</i>	Sonora Sucker	Aquatic/Riparian	3	2, 6, 11
<i>Catostomus wigginsii</i>	Matalote Opata	Aquatic/Riparian	1	6
<i>Cyprinella formosa</i>	Beautiful Shiner	Aquatic/Riparian	1	12
<i>Cyprinodon macularius</i>	Desert Pupfish	Aquatic/Riparian	1	6
<i>Cyprinodon macularius macularius</i>	Desert Pupfish	Aquatic/Riparian	2	6, 11
<i>Gila ditaenia</i>	Sonora Chub	Aquatic/Riparian	2	2, 9
<i>Gila intermedia</i>	Gila Chub	Aquatic/Riparian	4	6, 10, 11, 12
<i>Gila purpurea</i>	Yaqui Chub	Aquatic/Riparian	2	3, 12
<i>Gila robusta</i>	Roundtail Chub	Aquatic/Riparian	2	11, 12
<i>Gila sp.</i>	Gila sp.	Aquatic/Riparian	1	9

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Ictalurus pricei</i>	Yaqui Catfish	Aquatic/Riparian	1	12
<i>Meda fulgida</i>	Spikedace	Aquatic/Riparian	1	11
<i>Oncorhynchus apache</i>	Apache Trout Intraspecific.	Aquatic/Riparian	1	8
<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow Intraspecific.	Aquatic/Riparian	3	2, 6, 9
<i>Poeciliopsis occidentalis sonoriensis</i>	Yaqui Topminnow Intraspecific.	Aquatic/Riparian	1	12
<i>Rhinichthys cobitis</i>	Loach Minnow	Aquatic/Riparian	1	11
<i>Rhinichthys osculus</i>	Speckled Dace	Aquatic/Riparian	2	6, 11
<b>Insects</b>				
<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	5	2, 3, 6, 8, 11
<i>Adopaeoides prittwitzii</i>	Sunrise Skipper	Aquatic/Riparian	1	6
<i>Agathymus evansi</i>	Huachuca Giant Skipper	Terrestrial	1	6
<i>Amblyscirtes elissa</i>	Elissa Roadside-skipper	Terrestrial	1	2
<i>Amblyscirtes texanae</i>	Texas Roadside-skipper	Terrestrial	1	11
<i>Ancyloxypha arene</i>	Tropical Least Skipper	Aquatic/Riparian	1	6
<i>Ascia howarthi</i>	Howard's White	Terrestrial	1	9
<i>Atrytonopsis cestus</i>	Cestus Skipper	Aquatic/Riparian	2	2, 11
<i>Calephelis arizonensis</i>	Arizona Metalmark	Aquatic/Riparian	2	2, 6
<i>Chioides catillus albofasciatus</i>	White-striped Longtail	Terrestrial	1	11
<i>Cicindela oregona maricopa</i>	Maricopa Tiger Beetle	Aquatic/Riparian	1	11
<i>Eumorsea pinaleno</i>	Pinaleno Monkey Grasshopper	Terrestrial	1	8
<i>Heliopetes lavianus</i>	Laviana Skipper	Terrestrial	1	2
<i>Heterelmis stephani</i>	Stephan's Heterelmis Riffle Beetle	Aquatic/Riparian	1	6
<i>Psephenus arizonensis</i>	Arizona Water Penny Beetle	Aquatic/Riparian	1	3
<b>Mammals</b>				
<i>Antilocapra americana</i>	Pronghorn	Terrestrial	4	2, 6, 11, 12
<i>Antilocapra americana sonoriensis</i>	Sonoran Pronghorn	Terrestrial	1	2
<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	Terrestrial	3	2, 6, 11
<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	Terrestrial	4	2, 3, 5, 6

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Cynomys ludovicianus</i>	Black-Tailed Prairie Dog	Terrestrial	2	6, 12
<i>Eumops perotis californicus</i>	Greater Western Mastiff Bat	Terrestrial	1	11
<i>Idionycteris phyllotis</i>	Allen's Big-Eared Bat	Terrestrial	2	3, 11
<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	Terrestrial	5	3, 5, 6, 11, 12
<i>Lepus callotis</i>	White-sided Jackrabbit	Terrestrial	1	12
<i>Macrotus californicus</i>	California Leaf-Nosed Bat	Terrestrial	2	6, 11
<i>Myotis ciliolabrum</i>	Western Small-Footed Myotis Bat	Terrestrial	2	3, 6
<i>Myotis thysanodes</i>	Fringed Myotis Bat	Terrestrial	3	3, 5, 6
<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	5	2, 3, 6, 11, 12
<i>Myotis volans</i>	Long-legged Myotis	Terrestrial	1	3
<i>Nyctinomops macrotis</i>	Big Free-Tailed Bat	Terrestrial	1	3
<i>Panthera onca</i>	Jaguar	Terrestrial	4	1, 2, 6, 12
<i>Perognathus intermedius pinacate</i>	Rock Pocket Mouse	Terrestrial	1	1
<i>Peromyscus eremicus papagensis</i>	Pinacate Cactus Mouse	Terrestrial	1	1
<i>Peromyscus merriami</i>	Mesquite Mouse	Terrestrial	1	6
<i>Sciurus arizonensis</i>	Arizona Gray Squirrel	Terrestrial	3	6, 7, 11
<i>Sciurus nayaritensis chiricahuae</i>	Chiricahua Fox Squirrel	Terrestrial	1	3
<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	6	2, 4, 6, 7, 11, 12
<i>Sorex arizonae</i>	Arizona Shrew	Terrestrial	3	3, 6, 12
<i>Tamiasciurus hudsonicus grahamensis</i>	Mount Graham Red Squirrel	Terrestrial	1	8
<i>Thomomys umbrinus</i>	Southern Pocket Gopher	Terrestrial	1	12
<i>Ursus americanus</i>	Black Bear	Terrestrial	10	2, 3, 4, 5, 6, 7, 8, 11, 12, 13
<b>Mollusks</b>				
<i>Ashmunella animasensis</i>	Animas Peak Woodlandsnail	Terrestrial	1	12
<i>Oreohelix grahamensis</i>	Pinaleno Mountainsnail	Terrestrial	1	8
<i>Pyrgulopsis bernardina</i>	San Bernardino Springsnail	Aquatic/Riparian	1	12
<i>Pyrgulopsis thompsoni</i>	Huachuca Springsnail	Aquatic/Riparian	1	6
<i>Sonorella animasensis</i>	Animas Talussnail	Terrestrial	1	12
<i>Sonorella christenseni</i>	Clark Peak Talussnail	Terrestrial	1	8

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Sonorella grahamensis</i>	Pinaleno Talussnail	Terrestrial	1	8
<i>Sonorella imitator</i>	Mimic Talussnail	Terrestrial	1	8
<i>Sonorella macrophallus</i>	Wet Canyon Talussnail	Terrestrial	1	8
<b>Plants-Vascular</b>				
<i>Abutilon parishii</i>	Parish's Abutilon	Terrestrial	2	10, 11
<i>Abutilon thurberi</i>	Thurber Indian Mallow/Thurber Abutilon	Terrestrial	1	9
<i>Agave parviflora ssp flexiflora</i>	Maguey	Terrestrial	1	2
<i>Agave parviflora ssp parviflora</i>	Small-Flowered Agave/Santa Cruz striped agave	Terrestrial	2	2, 6
<i>Amoreuxia gonzalezii</i>	Santa Rita Yellowshow	Terrestrial	1	6
<i>Amsonia grandiflora</i>	Arizona Slimpod	Terrestrial	2	2, 6
<i>Amsonia kearneyana</i>	Kearney's Slimpod	Terrestrial	1	1
<i>Apacheria chiricahuensis</i>	Cliff Brittlebush/Chiricahua Rock Flower	Terrestrial	1	3
<i>Arabis tricornuta</i>	Rincon Mountain Rockcress	Terrestrial	2	3, 6
<i>Asclepias uncialis</i>	Greene Milkweed	Terrestrial	1	6
<i>Aster potosinus</i>	Lemmon's Aster	Aquatic/Riparian	1	6
<i>Astragalus cobrensis var. maguirei</i>	A Milkvetch	Terrestrial	2	3, 12
<i>Astragalus hypoxylus</i>	Huachuca Milkvetch	Terrestrial	2	6, 7
<i>Atriplex griffithsii</i>	Griffith's Saltbush	Terrestrial	1	11
<i>Browallia eludens</i>	Elusive New Browallia Species	Aquatic/Riparian	1	6
<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	6	2, 3, 5, 6, 11, 12
<i>Choisya mollis</i>	Soft Mexican Orange	Terrestrial	1	2
<i>Cleome multicaulis</i>	Many-stemmed Spider-flower/Playa Spider Plant	Terrestrial	1	12
<i>Coryphantha robbinsorum</i>	Cochise Pincushion Cactus	Terrestrial	1	12
<i>Coryphantha scheeri var. robustispina</i>	Pima Pineapple Cactus	Terrestrial	3	1, 2, 6
<i>Dalea tentaculoides</i>	Gentry's Indigo Bush	Terrestrial	2	1, 2
<i>Draba standleyi</i>	Standley's Whitlowgrass	Terrestrial	1	3
<i>Dryopteris patula var. rossii</i>	Mexican Shield Fern	Terrestrial	1	6
<i>Echinomastus erectocentrus var. erectocentrus</i>	Needle-spined Pineapple Cactus	Terrestrial	2	6, 11



Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Erigeron arisolius</i>	Erigeron arisolius	Terrestrial	3	2, 3, 6
<i>Erigeron heliographis</i>	Pinalenos Fleabane	Terrestrial	1	8
<i>Erigeron kuschei</i>	A Fleabane	Terrestrial	1	3
<i>Erigeron lemmonii</i>	Lemmon's Fleabane	Terrestrial	1	6
<i>Erigeron piscaticus</i>	Fish Creek Fleabane	Aquatic/Riparian	1	11
<i>Erigeron pringlei</i>	Pringle's Fleabane	Terrestrial	1	6
<i>Eupatorium bigelovii</i>	Bigelow Thoroughwort	Terrestrial	1	8
<i>Euphorbia macropus</i>	Woodland Spurge	Terrestrial	2	6, 7
<i>Fraxinus gooddingii</i>	Goodding's Ash	Terrestrial	1	2
<i>Gentianella wislizeni</i>	Chiricahua Gentian	Terrestrial	1	3
<i>Graptopetalum bartramii</i>	Patagonia Mountain Leather-Petal	Terrestrial	3	2, 5, 6
<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	5	2, 3, 5, 6, 11
<i>Heterotheca rutteri</i>	Rutter's Golden-Aster	Terrestrial	1	6
<i>Hexalectris revoluta</i>	Chisos Coral-Root	Terrestrial	1	6
<i>Hexalectris warnockii</i>	Purple-Spike Coralroot	Terrestrial	2	3, 6
<i>Hieracium pringlei</i>	Pringle's Hawkweed	Terrestrial	1	6
<i>Hieracium rusbyi</i>	Rusby's Hawkweed	Terrestrial	1	6
	Pinaleno Mountains Rubberweed/Pinaleno			
<i>Hymenoxys ambigens var. ambigens</i>	Mountain Plummera	Terrestrial	3	8, 12,13
<i>Laennecia eriophylla</i>	Cochise Marshail	Terrestrial	1	2
<i>Lilaeopsis schaffneriana var. recurva</i>	Affolter	Aquatic/Riparian	4	6, 9, 11, 12
<i>Lilium parryi</i>	Lemon Lily	Aquatic/Riparian	2	3, 6
<i>Lotus alamosanus</i>	Sonoran Trefoil	Terrestrial	1	2
<i>Lupinus huachucanus</i>	Huachuca Mountain Lupine	Terrestrial	1	6
<i>Lupinus lemmonii</i>	Lemmon's Lupine	Terrestrial	3	3, 5, 11
<i>Macropodium supinum</i>	Supine Bean	Terrestrial	2	2, 6
<i>Metastelma mexicanum</i>	Narrowleaf Or Wiggin's Swallow Wort	Terrestrial	2	2, 6
<i>Muhlenbergia dubioides</i>	Box Canyon Muhly	Terrestrial	2	6, 10
<i>Notholaena lemmonii</i>	Lemmon's Cloak-fern	Terrestrial	1	2
<i>Paspalum virletii</i>	Virlet Paspalum	Terrestrial	1	2

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Pectis imberbis</i>	Beardless Chinch Weed	Terrestrial	3	2, 6, 7
<i>Penstemon discolor</i>	A Beardtongue	Terrestrial	3	2, 5, 11
<i>Penstemon superbus</i>	Superb Beardtongue	Terrestrial	4	2, 6, 11, 12
<i>Perityle cochisensis</i>	Cochise Rockdaisy	Terrestrial	1	3
<i>Physalis latiphysa</i>	Broadleaf Ground Cherry	Terrestrial	3	2, 4, 12
<i>Polemonium pauciflorum ssp hinckleyi</i>	Hinckley Jacob's Ladder	Terrestrial	1	3
<i>Potentilla albiflora</i>	White-Flowered Cinquefoil	Terrestrial	1	8
<i>Psilactis gentryi</i>	Gentry's Bare Ray Aster	Aquatic/Riparian	1	6
<i>Puccinellia parishii</i>	Parish's Alkali Grass	Aquatic/Riparian	1	11
<i>Rumex orthoneurus</i>	Bloomer's Dock	Aquatic/Riparian	3	3, 6, 8
<i>Salvia amissa</i>	Catalina Mountain Sage	Aquatic/Riparian	1	11
<i>Samolus vagans</i>	Chiricahua Mountain Brookweed	Aquatic/Riparian	3	3, 6, 11
<i>Senecio hartwegii</i>	Hartweg's Groundsel/Huachuca groundsel	Terrestrial	1	2
<i>Senecio huachucanus</i>	Huachuca Groundsel	Terrestrial	2	3, 6
<i>Senecio neomexicanus var. toumeyii</i>	Toumey Groundsel	Terrestrial	1	3
<i>Spiranthes delitescens</i>	Canelo Hills Ladies' Tresses Orchid	Aquatic/Riparian	1	6
<i>Stellaria porsildii</i>	Porsild's Starwort	Terrestrial	1	3
<i>Talinum humile</i>	Pinos Altos Mountains Flame Flower	Terrestrial	1	6
<i>Talinum marginatum</i>	Tepic Flame Flower	Terrestrial	1	6
<i>Thelypteris puberula var. sonorensis</i>	Aravaipa Woodfern	Aquatic/Riparian	1	11
<i>Vauquelinia californica ssp pauciflora</i>	Arizona Limestone Rosewood	Terrestrial	1	12
<b>Reptiles</b>				
<i>Cnemidophorus burti stictogrammus</i>	Giant Spotted Whiptail	Terrestrial	3	2, 6, 11
<i>Cnemidophorus opatae</i>	Huico de Oputo	Terrestrial	1	6
<i>Crotalus pricei</i>	Twin-Spotted Rattlesnake	Terrestrial	3	3, 6, 8
<i>Crotalus willardi obscurus</i>	New Mexican Ridgenose Rattlesnak	Terrestrial	1	12
<i>Crotalus willardi willardi</i>	Arizona Ridge-Nosed Rattlesnake	Terrestrial	2	6, 7
<i>Eumeces callicephalus</i>	Mountain Skink	Terrestrial	2	2, 6
<i>Phrynosoma cornutum</i>	Texas Horned Lizard	Terrestrial	4	3, 6, 11, 12

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	Terrestrial	3	3, 6, 12
<i>Sceloporus virgatus</i>	Striped Plateau Lizard	Terrestrial	2	3, 12
<i>Sistrurus catenatus edwardsii</i>	Desert Massasauga	Terrestrial	1	12
<i>Terrapene ornata luteola</i>	Desert Box Turtle	Terrestrial	3	6, 9, 12
<i>Thamnophis eques megalops</i>	Mexican Garter Snake	Aquatic/Riparian	4	6, 9, 10, 12
<b>Communities</b>				
Cienega		Aquatic/Riparian	7	2, 3, 6, 6, 8, 11, 12
Sacaton riparian grassland		Aquatic/Riparian	4	3, 6, 11, 12
<b>Ecological Systems</b>				
Apachean Grassland and Savanna Condition Class A		Terrestrial	4	3, 6, 11, 12
Apachean Grassland and Savanna Condition Class A&B		Terrestrial	5	1, 2, 6, 11, 12
Apachean Grassland and Savanna Condition Class A&D		Terrestrial	1	3
Apachean Grassland and Savanna Condition Class B		Terrestrial	8	1, 2, 3, 4, 6, 8, 11, 12
Apachean Grassland and Savanna Condition Class D		Terrestrial	5	3, 5, 6, 11, 12
Apachean Shrubland		Terrestrial	10	1, 2, 3, 4, 6, 8, 9, 11, 12,13
Chihuahuan Desert Scrub		Terrestrial	7	3, 4, 5, 6, 8, 11, 12
Desert Wash		Aquatic/Riparian	2	6, 11
Interior Chaparral		Terrestrial	7	3, 4, 6, 8, 11, 12,13 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12,13
Madrean Encinal		Terrestrial	12	12,13
Madrean Oak-Pine Woodland		Terrestrial	8	3, 4, 5, 6, 8, 11, 12,13
Mesquite Bosque		Aquatic/Riparian	1	11
Montane Mixed Forest		Terrestrial	4	3, 6, 8, 11
Montane Riparian Woodland and Shrubland		Aquatic/Riparian	6	2, 3, 6, 8, 11, 12
Pinyon-Juniper Woodland		Terrestrial	4	3, 6, 8, 11
Playa		Aquatic/Riparian	3	8, 11, 12
Ponderosa Pine Forest and Woodland		Terrestrial	1	12
Riparian Woodland		Aquatic/Riparian	8	1, 2, 6, 8, 9, 11, 11, 12

Target Type / Scientific Name	Common Name	Habitat Type	# of Conservation Areas	Conservation Areas <sup>A</sup>
Sonoran Desert Scrub		Terrestrial	5	2, 6, 8, 9, 11
Subalpine Spruce-Fir Forest and Woodland		Terrestrial	1	8

**Features**

Ecological gradient		Terrestrial	2	1, 11
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<sup>A</sup>1=Altar Valley/Baboquivari Mountains, 2=Atascosa/Pajarito Mountains, 3=Chiricahua Mountains, 4=Dos Cabezas/ Pinaleno Foothills, 5=Dragoon Mountains, 6=Huachuca Mountains Grassland Valley Complex, 7=Patagonia Mountains, 8=Pinaleno Mountains, 9=Rio Magdalena/Rio Asuncion, 10=Sabino Canyon, 11=San Pedro River/Aravaipa Creek, 12=Sierra San Luis/ Peloncillos Mountains, 13 =Santa Teresa Mountians

**Appendix 4-C.** Conservation targets associated with conservation areas that overlap the Coronado National Forest in Arizona and New Mexico.

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
<b>Altar Valley/Baboquivari Mountains</b>					
Amphibian	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
Bird	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	G3	LE
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Pipilo aberti</i>	Abert's Towhee	Aquatic/Riparian	G3	
Mammal	<i>Perognathus intermedius pinacate</i>	Rock Pocket Mouse	Terrestrial	GU	
	<i>Peromyscus eremicus papagensis</i>	Pinacate Cactus Mouse	Terrestrial	G2	C
	<i>Panthera onca</i>	Jaguar	Terrestrial	G3	LE
Plant-Vascular	<i>Coryphantha scheeri var. robustispina</i>	Pima Pineapple Cactus	Terrestrial	G2	LE
	<i>Dalea tentaculoides</i>	Gentry's Indigo Bush	Terrestrial	G1	
	<i>Amsonia kearneyana</i>	Kearney's Slimpod	Terrestrial	G1	LE
Ecological System		Apachean Shrubland	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A&B	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
Feature		Ecological gradient	Terrestrial	GU	
<b>Atascosa/Pajarito Mountains</b>					
Amphibian	<i>Eleutherodactylus augusti cactorum</i>	Western Barking Frog	Aquatic/Riparian	G3	
	<i>Gastrophryne olivacea</i>	Great Plains Narrowmouth Toad	Aquatic/Riparian	G5	
	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
	<i>Rana tarahumarae</i>	Tarahumara Frog	Aquatic/Riparian	G3	
Bird	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
	<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	G3	
	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	G3	LE

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Empidonax traillii eximus</i>	Southwest Willow Flycatcher	Aquatic/Riparian	G2	LE
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Aimophila botterii</i>	Botteri's Sparrow	Terrestrial	G4	
	<i>Aimophila carpalis</i>	Rufous-Winged Sparrow	Terrestrial	G4	
	<i>Trogon elegans</i>	Elegant Trogon	Aquatic/Riparian	G5	
Fish	<i>Catostomus insignis</i>	Sonora Sucker	Aquatic/Riparian	G3	SC
	<i>Agosia chrysogaster</i>	Longfin Dace	Aquatic/Riparian	G4	SC
	<i>Gila ditaenia</i>	Sonora Chub	Aquatic/Riparian	G2	LT
	<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow Intraspecific.	Aquatic/Riparian	G3	LE
Insect	<i>Heliopetes lavianus</i>	Laviana Skipper	Terrestrial	G5	
	<i>Amblyscirtes elissa</i>	Elissa Roadside-skipper	Terrestrial	GU	
	<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	GU	
	<i>Atrytonopsis cestus</i>	Cestus Skipper	Aquatic/Riparian	G1	
	<i>Calephelis arizonensis</i>	Arizona Metalmark	Aquatic/Riparian	G3	
Mammal	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Panthera onca</i>	Jaguar	Terrestrial	G3	LE
	<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	G5	
	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
	<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	Terrestrial	G4	
	<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	Terrestrial	G4	
	<i>Antilocapra americana sonoriensis</i>	Sonoran Pronghorn	Terrestrial	G1	LE
	<i>Antilocapra americana</i>	Pronghorn	Terrestrial	G5	
Reptile	<i>Eumeces callicephalus</i>	Mountain Skink	Terrestrial	G5	
	<i>Cnemidophorus burti stictogrammus</i>	Giant Spotted Whiptail	Terrestrial	G3	
Plant-Vascular	<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3	
	<i>Notholaena lemmonii</i>	Lemmon's Cloak-fern	Terrestrial	G3	
	<i>Metastelma mexicanum</i>	Narrowleaf Or Wiggin's Swallow Wort	Terrestrial	G3	
	<i>Dalea tentaculoides</i>	Gentry's Indigo Bush	Terrestrial	G1	
	<i>Fraxinus gooddingii</i>	Goodding's Ash	Terrestrial	G3	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Macropodium supinum</i>	Supine Bean	Terrestrial	G2	
	<i>Laennecia eriophylla</i>	Cochise Marshail	Terrestrial	G2	
	<i>Lotus alamosanus</i>	Sonoran Trefoil	Terrestrial	G3	
	<i>Amsonia grandiflora</i>	Arizona Slimpod	Terrestrial	G2	
	<i>Agave parviflora ssp parviflora</i>	Small-Flowered Agave/Santa Cruz striped agave	Terrestrial	G3	
	<i>Agave parviflora ssp flexiflora</i>	Maguey	Terrestrial	G3	
	<i>Coryphantha scheeri var. robustispina</i>	Pima Pineapple Cactus	Terrestrial	G2	LE
	<i>Paspalum virletii</i>	Virlet Paspalum	Terrestrial	G3	
	<i>Erigeron arisolius</i>	Erigeron arisolius	Terrestrial	G2	
	<i>Choisya mollis</i>	Soft Mexican Orange	Terrestrial	G2	
	<i>Pectis imberbis</i>	Beardless Chinch Weed	Terrestrial	G3	
	<i>Graptopetalum bartramii</i>	Patagonia Mountain Leather-Petal	Terrestrial	G3	
	<i>Penstemon discolor</i>	A Beardtongue	Terrestrial	G2	
	<i>Penstemon superbus</i>	Superb Beardtongue	Terrestrial	G2	
	<i>Senecio hartwegii</i>	Hartweg's Groundsel/Huachuca groundsel	Terrestrial	G3	
	<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	G3	
	<i>Physalis latiphysa</i>	Broadleaf Ground Cherry	Terrestrial	G1	
Community		Cienega	Aquatic/Riparian	GU	
Ecological System		Sonoran Desert Scrub	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A&B	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	
<b>Chiricahua Mountains</b>					
Amphibian	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
	<i>Rana blairi</i>	Plains Leopard Frog	Aquatic/Riparian	G5	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
Bird	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Trogon elegans</i>	Elegant Trogon	Aquatic/Riparian	G5	
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	
Fish	<i>Gila purpurea</i>	Yaqui Chub	Aquatic/Riparian	G1	LE
	<i>Agosia chrysoaster</i>	Longfin Dace	Aquatic/Riparian	G4	SC
	<i>Campostoma ornatum</i>	Mexican Stoneroller	Aquatic/Riparian	G3	SC
Insect	<i>Psephenus arizonensis</i>	Arizona Water Penny Beetle	Aquatic/Riparian	G2	
	<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	GU	
Mammal	<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	Terrestrial	G4	
	<i>Myotis volans</i>	Long-legged Myotis	Terrestrial	G5	
	<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	Terrestrial	G3	LE
	<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	G5	
	<i>Nyctinomops macrotis</i>	Big Free-Tailed Bat	Terrestrial	G5	
	<i>Myotis thysanodes</i>	Fringed Myotis Bat	Terrestrial	G4	
	<i>Sciurus nayaritensis chiricahuae</i>	Chiricahua Fox Squirrel	Terrestrial	G2	
	<i>Myotis ciliolabrum</i>	Western Small-Footed Myotis Bat	Terrestrial	G5	
	<i>Idionycteris phyllotis</i>	Allen's Big-Eared Bat	Terrestrial	G3	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
Reptile	<i>Sorex arizonae</i>	Arizona Shrew	Terrestrial	G3	
	<i>Sceloporus virgatus</i>	Striped Plateau Lizard	Terrestrial	G4	
	<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	Terrestrial	G4	
	<i>Crotalus pricei</i>	Twin-Spotted Rattlesnake	Terrestrial	G5	
Plant-Vascular	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	Terrestrial	G4	
	<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3	
	<i>Senecio huachucae</i>	Huachuca Groundsel	Terrestrial	G2	
	<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	G3	



Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Arabis tricornuta</i>	Rincon Mountain Rockcress	Terrestrial	G1	
	<i>Lupinus lemmonii</i>	Lemmon's Lupine	Terrestrial	G1	
	<i>Perityle cochisensis</i>	Cochise Rockdaisy	Terrestrial	G1	
	<i>Lilium parryi</i>	Lemon Lily	Aquatic/Riparian	G3	
	<i>Polemonium pauciflorum ssp hinckleyi</i>	Hinckley Jacob's Ladder	Terrestrial	G2	
	<i>Rumex orthoneurus</i>	Bloomer's Dock	Aquatic/Riparian	G3	
	<i>Samolus vagans</i>	Chiricahua Mountain Brookweed	Aquatic/Riparian	G2	
	<i>Stellaria porsildii</i>	Porsild's Starwort	Terrestrial	G1	
	<i>APACHERIA CHIRICAHUENSIS</i>	Cliff Brittlebush/Chiricahua Rock Flower	Terrestrial	G2	
	<i>Gentianella wislizeni</i>	Chiricahua Gentian	Terrestrial	G2	
	<i>Astragalus cobrensis var. maguirei</i>	A Milkvetch	Terrestrial	G2	
	<i>Senecio neomexicanus var. toumeyii</i>	Toumey Groundsel	Terrestrial	G2	
	<i>Erigeron kuschei</i>	A Fleabane	Terrestrial	G1	
	<i>Erigeron arisolius</i>	Erigeron arisolius	Terrestrial	G2	
	<i>Draba standleyi</i>	Standley's Whitflowgrass	Terrestrial	G2	
	<i>Hexalectris warnockii</i>	Purple-Spike Coralroot	Terrestrial	G2	
Community		Cienega	Aquatic/Riparian	GU	
		Sacaton riparian grassland	Aquatic/Riparian	GU	
Ecological System		Apachean Grassland and Savanna Condition Class A&D	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class D	Terrestrial	GU	
		Montane Mixed Forest	Terrestrial	GU	
		Pinyon-Juniper Woodland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	
		Apachean Shrubland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A	Terrestrial	GU	
		Chihuahuan Desert Scrub	Terrestrial	GU	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
		Interior Chaparral	Terrestrial	GU	
<b>Dos Cabezas/ Pinaleno Foothills</b>					
Bird	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
Mammal	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
Plant-Vascular	<i>Physalis latiphysa</i>	Broadleaf Ground Cherry	Terrestrial	G1	
Ecological System		Chihuahuan Desert Scrub	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Interior Chaparral	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
<b>Dragoon Mountains</b>					
Amphibian	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
Bird	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
Mammal	<i>Leptonycteris curasoae yerbabuenae</i>	Lesser Long-Nosed Bat	Terrestrial	G3	LE
	<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	Terrestrial	G4	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Myotis thysanodes</i>	Fringed Myotis Bat	Terrestrial	G4	
Plant-Vascular	<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3	
	<i>Penstemon discolor</i>	A Beardtongue	Terrestrial	G2	
	<i>Lupinus lemmonii</i>	Lemmon's Lupine	Terrestrial	G1	
	<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	G3	
	<i>Graptopetalum bartramii</i>	Patagonia Mountain Leather-Petal	Terrestrial	G3	
Ecological System		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Chihuahuan Desert Scrub	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
		Apachean Grassland and Savanna Condition Class D	Terrestrial	GU	
<b>Huachuca Mountains Grassland Valley Complex</b>					
Amphibian	<i>Rana subaquavocalis</i>	Ramsey Canyon Leopard Frog	Aquatic/Riparian	G1	
	<i>Rana pipiens</i>	Northern Leopard Frog	Aquatic/Riparian	G5	
	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
	<i>Hyla eximia</i>	Mountain Treefrog	Aquatic/Riparian	G4	
	<i>Ambystoma tigrinum stebbinsi</i>	Sonoran Tiger Salamander	Aquatic/Riparian	G1	LE
	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
	<i>Eleutherodactylus augusti cactorum</i>	Western Barking Frog	Aquatic/Riparian	G3	
Bird	<i>Pipilo aberti</i>	Abert's Towhee	Aquatic/Riparian	G3	
	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	G3	LE
	<i>Trogon elegans</i>	Elegant Trogon	Aquatic/Riparian	G5	
	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Terrestrial	G4	PS:LT,PDL
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	
	<i>Aimophila botterii</i>	Botteri's Sparrow	Terrestrial	G4	
	<i>Aimophila carpalis</i>	Rufous-Winged Sparrow	Terrestrial	G4	
	<i>Ammodramus bairdii</i>	Baird's Sparrow	Terrestrial	G4	
	<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	G3	
	<i>Athene cunicularia hypugaea</i>	Burrowing Owl	Terrestrial	G4	
	<i>Chloroceryle americana</i>	Green Kingfisher	Aquatic/Riparian	G5	
	<i>Buteogallus anthracinus</i>	Common Black-Hawk	Aquatic/Riparian	G4	
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Ceryle alcyon</i>	Belted Kingfisher	Aquatic/Riparian	G5	
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
	<i>Colaptes chrysoides</i>	Gilded Flicker	Terrestrial	G5	
	<i>Cyrtonyx montezumae</i>	Montezuma Quail	Terrestrial	G4	
	<i>Empidonax traillii extimus</i>	Southwest Willow Flycatcher	Aquatic/Riparian	G2	LE

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Falco femoralis septentrionalis</i>	Aplomado Falcon	Terrestrial	G2	LE
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
Crustacean	<i>Stygobromus arizonensis</i>	Arizona Cave Amphipod	Subterranean	G2	
Fish	<i>Catostomus wigginsii</i>	Matalote Opata	Aquatic/Riparian	G3	
	<i>Rhinichthys osculus</i>	Speckled Dace	Aquatic/Riparian	G5	PS
	<i>Gila intermedia</i>	Gila Chub	Aquatic/Riparian	G2	PE
	<i>Cyprinodon macularius macularius</i>	Desert Pupfish	Aquatic/Riparian	G1	LE
	<i>Cyprinodon macularius</i>	Desert Pupfish	Aquatic/Riparian	G1	LE
	<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow Intraspecific.	Aquatic/Riparian	G3	LE
	<i>Catostomus insignis</i>	Sonora Sucker	Aquatic/Riparian	G3	SC
	<i>Catostomus clarki</i>	Desert Sucker	Aquatic/Riparian	G3	SC
	<i>Agosia chrysogaster</i>	Longfin Dace	Aquatic/Riparian	G4	SC
Insect	<i>Agathymus evansi</i>	Huachuca Giant Skipper	Terrestrial	G2	
	<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	GU	
	<i>Ancyloxypha arene</i>	Tropical Least Skipper	Aquatic/Riparian	G4	
	<i>Adopaeoides prittwitzii</i>	Sunrise Skipper	Aquatic/Riparian	G3	
	<i>Heterelmis stephani</i>	Stephan's Heterelmis Riffle Beetle	Aquatic/Riparian	G2	C
	<i>Calephelis arizonensis</i>	Arizona Metalmark	Aquatic/Riparian	G3	
Mammal	<i>Sorex arizonae</i>	Arizona Shrew	Terrestrial	G3	
	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
	<i>Myotis ciliolabrum</i>	Western Small-Footed Myotis Bat	Terrestrial	G5	
	<i>Panthera onca</i>	Jaguar	Terrestrial	G3	LE
	<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	G5	
	<i>Peromyscus merriami</i>	Mesquite Mouse	Terrestrial	G5	
	<i>Sciurus arizonensis</i>	Arizona Gray Squirrel	Terrestrial	G4	
	<i>Myotis thysanodes</i>	Fringed Myotis Bat	Terrestrial	G4	
	<i>Antilocapra americana</i>	Pronghorn	Terrestrial	G5	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Cynomys ludovicianus</i>	Black-Tailed Prairie Dog	Terrestrial	G4	C
	<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	Terrestrial	G4	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Corynorhinus townsendii pallescens</i>	Pale Lump-nosed Bat	Terrestrial	G4	
	<i>Macrotus californicus</i>	California Leaf-Nosed Bat	Terrestrial	G4	
	<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	Terrestrial	G3	LE
Mollusk	<i>Pyrgulopsis thompsoni</i>	Huachuca Springsnail	Aquatic/Riparian	G2	C
Reptile	<i>Thamnophis eques megalops</i>	Mexican Garter Snake	Aquatic/Riparian	G3	
	<i>Terrapene ornata luteola</i>	Desert Box Turtle	Terrestrial	G4	
	<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	Terrestrial	G4	
	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	Terrestrial	G4	
	<i>Eumeces callicephalus</i>	Mountain Skink	Terrestrial	G5	
	<i>Crotalus willardi willardi</i>	Arizona Ridge-Nosed Rattlesnake	Terrestrial	G3	
	<i>Crotalus pricei</i>	Twin-Spotted Rattlesnake	Terrestrial	G5	
	<i>Cnemidophorus opatae</i>	Huico de Oputo	Terrestrial	G1	
	<i>Cnemidophorus burti stictogrammus</i>	Giant Spotted Whiptail	Terrestrial	G3	
Plant-Vascular	<i>Euphorbia macropus</i>	Woodland Spurge	Terrestrial	G4	
	<i>Aster potosinus</i>	Lemmon's Aster	Aquatic/Riparian	G2	
	<i>Astragalus hypoxylus</i>	Huachuca Milkvetch	Terrestrial	G1	
	<i>Erigeron pringlei</i>	Pringle's Fleabane	Terrestrial	G2	
	<i>Erigeron lemmonii</i>	Lemmon's Fleabane	Terrestrial	G1	C
	<i>Erigeron arisolius</i>	Erigeron arisolius	Terrestrial	G2	
	<i>Echinomastus erectocentrus</i> var. <i>erectocentrus</i>	Needle-spined Pineapple Cactus	Terrestrial	G3	SC
	<i>Dryopteris patula</i> var. <i>rossii</i>	Mexican Shield Fern	Terrestrial	G1	
	<i>Coryphantha scheeri</i> var. <i>robustispina</i>	Pima Pineapple Cactus	Terrestrial	G2	LE
	<i>Asclepias uncialis</i>	Greene Milkweed	Terrestrial	G3	
	<i>Browallia eludens</i>	Elusive New Browallia Species	Aquatic/Riparian	G2	
	<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3	
	<i>Metastelma mexicanum</i>	Narrowleaf Or Wiggin's Swallow Wort	Terrestrial	G3	
	<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	G3	
	<i>Graptopetalum bartramii</i>	Patagonia Mountain Leather-Petal	Terrestrial	G3	
	<i>Talinum marginatum</i>	Tepic Flame Flower	Terrestrial	G2	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Talinum humile</i>	Pinos Altos Mountains Flame Flower	Terrestrial	G2	
	<i>Spiranthes delitescens</i>	Canelo Hills Ladies' Tresses Orchid	Aquatic/Riparian	G1	LE
	<i>Senecio huachucanus</i>	Huachuca Groundsel	Terrestrial	G2	
	<i>Samolus vagans</i>	Chiricahua Mountain Brookweed	Aquatic/Riparian	G2	
	<i>Rumex orthoneurus</i>	Bloomer's Dock	Aquatic/Riparian	G3	
	<i>Psilactis gentryi</i>	Gentry's Bare Ray Aster	Aquatic/Riparian	G2	
	<i>Penstemon superbus</i>	Superb Beardtongue	Terrestrial	G2	
	<i>Lilium parryi</i>	Lemon Lily	Aquatic/Riparian	G3	
	<i>Muhlenbergia dubioides</i>	Box Canyon Muhly	Terrestrial	G1	
	<i>Arabis tricornuta</i>	Rincon Mountain Rockcress	Terrestrial	G1	
	<i>Macroptilium supinum</i>	Supine Bean	Terrestrial	G2	
	<i>Hexalectris revoluta</i>	Chisos Coral-Root	Terrestrial	G1	
	<i>Lupinus huachucanus</i>	Huachuca Mountain Lupine	Terrestrial	G2	
	<i>Lilaeopsis schaffneriana var. recurva</i>	Affolter	Aquatic/Riparian	G2	LE
	<i>Hieracium rusbyi</i>	Rusby's Hawkweed	Terrestrial	G2	
	<i>Agave parviflora ssp parviflora</i>	Small-Flowered Agave/Santa Cruz striped agave	Terrestrial	G3	
	<i>Amoreuxia gonzalezii</i>	Santa Rita Yellowshow	Terrestrial	G1	
	<i>Hieracium pringlei</i>	Pringle's Hawkweed	Terrestrial	G2	
	<i>Hexalectris warnockii</i>	Purple-Spike Coralroot	Terrestrial	G2	
	<i>Heterotheca rutteri</i>	Rutter's Golden-Aster	Terrestrial	G2	
	<i>Pectis imberbis</i>	Beardless Chinch Weed	Terrestrial	G3	
	<i>Amsonia grandiflora</i>	Arizona Slimpod	Terrestrial	G2	
Community		Cienega	Aquatic/Riparian	GU	
		Cienega	Aquatic/Riparian	GU	
		Sacaton riparian grassland	Aquatic/Riparian	GU	
Ecological System		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Montane Mixed Forest	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Pinyon-Juniper Woodland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A	Terrestrial	GU	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
		Apachean Grassland and Savanna Condition Class A&B	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Sonoran Desert Scrub	Terrestrial	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	
		Desert Wash	Aquatic/Riparian	GU	
		Interior Chaparral	Terrestrial	GU	
		Chihuahuan Desert Scrub	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class D	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
<b>Patagonia Mountains</b>					
Bird	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
Mammal	<i>Sciurus arizonensis</i>	Arizona Gray Squirrel	Terrestrial	G4	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
Reptile	<i>Crotalus willardi willardi</i>	Arizona Ridge-Nosed Rattlesnake	Terrestrial	G3	
Plant-Vascular	<i>Euphorbia macropus</i>	Woodland Spurge	Terrestrial	G4	
	<i>Astragalus hypoxylus</i>	Huachuca Milkvetch	Terrestrial	G1	
	<i>Pectis imberbis</i>	Beardless Chinch Weed	Terrestrial	G3	
Ecological System		Madrean Encinal	Terrestrial	GU	
<b>Pinaleno Mountains</b>					
Amphibian	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
Bird	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
Fish	<i>Oncorhynchus apache</i>	Apache Trout Intraspecific.	Aquatic/Riparian	G3	LT
Insect	<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	GU	
	<i>Eumorsea pinaleno</i>	Pinaleno Monkey Grasshopper	Terrestrial	G2	
Mammal	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Tamiasciurus hudsonicus grahamensis</i>	Mount Graham Red Squirrel	Terrestrial	G1	LE
Mollusk	<i>Oreohelix grahamensis</i>	Pinaleno Mountainsnail	Terrestrial	G2	
	<i>Sonorella christenseni</i>	Clark Peak Talussnail	Terrestrial	G1	
	<i>Sonorella grahamensis</i>	Pinaleno Talussnail	Terrestrial	G1	
	<i>Sonorella macrophallus</i>	Wet Canyon Talussnail	Terrestrial	G1	C
	<i>Sonorella imitator</i>	Mimic Talussnail	Terrestrial	G2	
Reptile	<i>Crotalus pricei</i>	Twin-Spotted Rattlesnake	Terrestrial	G5	
Plant-Vascular	<i>Potentilla albiflora</i>	White-Flowered Cinquefoil	Terrestrial	G2	
	<i>Eupatorium bigelovii</i>	Bigelow Thoroughwort	Terrestrial	G2	
	<i>Rumex orthoneurus</i>	Bloomer's Dock	Aquatic/Riparian	G3	
	<i>Erigeron heliographis</i>	Pinalenos Fleabane	Terrestrial	G1	
	<i>Hymenoxys ambigens var. ambigens</i>	Pinaleno Mountains Rubberweed/Pinaleno Mountain Plummera	Terrestrial	G1	
Community		Cienega	Aquatic/Riparian	GU	
Ecological System		Chihuahuan Desert Scrub	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Montane Mixed Forest	Terrestrial	GU	
		Subalpine Spruce-Fir Forest and Woodland	Terrestrial	GU	
		Sonoran Desert Scrub	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	



Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
		Interior Chaparral	Terrestrial	GU	
		Playa	Aquatic/Riparian	GU	
		Pinyon-Juniper Woodland	Terrestrial	GU	
<b>Rio Magdalena/Rio Asuncion</b>					
Bird	<i>Dendroica petechia</i>	Yellow Warbler	Aquatic/Riparian	G3	
	<i>Empidonax traillii extimus</i>	Southwest Willow Flycatcher	Aquatic/Riparian	G2	LE
	<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	G3	
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
Fish	<i>Gila ditaenia</i>	Sonora Chub	Aquatic/Riparian	G2	LT
	<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow Intraspecific.	Aquatic/Riparian	G3	LE
	<i>Gila sp.</i>	Gila sp.	Aquatic/Riparian	GU	
	<i>Agosia sp.</i>	Agosia sp.	Aquatic/Riparian	GU	
Insect	<i>Ascia howarthi</i>	Howard's White	Terrestrial	GU	
Reptile	<i>Thamnophis eques megalops</i>	Mexican Garter Snake	Aquatic/Riparian	G3	
	<i>Terrapene ornata luteola</i>	Desert Box Turtle	Terrestrial	G4	
Plant-Vascular	<i>Lilaeopsis schaffneriana var. recurva</i>	Affolter	Aquatic/Riparian	G2	LE
	<i>Abutilon thurberi</i>	Thurber Indian Mallow/Thurber Abutilon	Terrestrial	G2	
Ecological System		Riparian Woodland	Aquatic/Riparian	GU	
		Madrean Encinal	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
		Sonoran Desert Scrub	Terrestrial	GU	
<b>Sabino Canyon</b>					
Amphibian	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
Bird	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	G3	LE
Fish	<i>Gila intermedia</i>	Gila Chub	Aquatic/Riparian	G2	PE
Reptile	<i>Thamnophis eques megalops</i>	Mexican Garter Snake	Aquatic/Riparian	G3	
Plant-Vascular	<i>Muhlenbergia dubioides</i>	Box Canyon Muhly	Terrestrial	G1	
	<i>Abutilon parishii</i>	Parish's Abutilon	Terrestrial	G2	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
<b>San Pedro River/Aravaipa Creek</b>					
Amphibian	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
	<i>Rana blairi</i>	Plains Leopard Frog	Aquatic/Riparian	G5	
Bird	<i>Grus canadensis</i>	Sandhill Crane	Aquatic/Riparian	G5	
	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy Owl	Terrestrial	G3	LE
	<i>Aimophila carpalis</i>	Rufous-Winged Sparrow	Terrestrial	G4	
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
	<i>Empidonax traillii extimus</i>	Southwest Willow Flycatcher	Aquatic/Riparian	G2	LE
	<i>Athene cunicularia hypugaea</i>	Burrowing Owl	Terrestrial	G4	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	
	<i>Buteogallus anthracinus</i>	Common Black-Hawk	Aquatic/Riparian	G4	
	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Dendroica petechia</i>	Yellow Warbler	Aquatic/Riparian	G3	
	<i>Pipilo aberti</i>	Abert's Towhee	Aquatic/Riparian	G3	
	<i>Colaptes chrysoides</i>	Gilded Flicker	Terrestrial	G5	
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
	<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	G3	
Fish	<i>Gila robusta</i>	Roundtail Chub	Aquatic/Riparian	G3	PS
	<i>Rhinichthys osculus</i>	Speckled Dace	Aquatic/Riparian	G5	PS
	<i>Gila intermedia</i>	Gila Chub	Aquatic/Riparian	G2	PE
	<i>Catostomus clarki</i>	Desert Sucker	Aquatic/Riparian	G3	SC
	<i>Meda fulgida</i>	Spikedace	Aquatic/Riparian	G2	LT
	<i>Cyprinodon macularius macularius</i>	Desert Pupfish	Aquatic/Riparian	G1	LE
	<i>Rhinichthys cobitis</i>	Loach Minnow	Aquatic/Riparian	G2	LT
	<i>Catostomus insignis</i>	Sonora Sucker	Aquatic/Riparian	G3	SC
	<i>Agosia chrysogaster</i>	Longfin Dace	Aquatic/Riparian	G4	SC

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
Insect	<i>Amblyscirtes texanae</i>	Texas Roadside-skipper	Terrestrial	G4	
	<i>Abedus herberti</i>	Giant Water Bug	Aquatic/Riparian	GU	
	<i>Atrytonopsis cestus</i>	Cestus Skipper	Aquatic/Riparian	G1	
	<i>Cicindela oregona maricopa</i>	Maricopa Tiger Beetle	Aquatic/Riparian	G3	
	<i>Chioides catillus albofasciatus</i>	White-striped Longtail	Terrestrial	GU	
Mammal	<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	G5	
	<i>Idionycteris phyllotis</i>	Allen's Big-Eared Bat	Terrestrial	G3	
	<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	Terrestrial	G3	LE
	<i>Antilocapra americana</i>	Pronghorn	Terrestrial	G5	
	<i>Macrotus californicus</i>	California Leaf-Nosed Bat	Terrestrial	G4	
	<i>Eumops perotis californicus</i>	Greater Western Mastiff Bat	Terrestrial	G4	
	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	Terrestrial	G4	
	<i>Sciurus arizonensis</i>	Arizona Gray Squirrel	Terrestrial	G4	
	Reptile	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	Terrestrial	G4
<i>Cnemidophorus burti stictogrammus</i>		Giant Spotted Whiptail	Terrestrial	G3	
Plant-Vascular	<i>Salvia amissa</i>	Catalina Mountain Sage	Aquatic/Riparian	G2	
	<i>Samolus vagans</i>	Chiricahua Mountain Brookweed	Aquatic/Riparian	G2	
	<i>Penstemon superbus</i>	Superb Beardtongue	Terrestrial	G2	
	<i>Thelypteris puberula var. sonorensis</i>	Aravaipa Woodfern	Aquatic/Riparian	G3	
	<i>Puccinellia parishii</i>	Parish's Alkali Grass	Aquatic/Riparian	G2	
	<i>Penstemon discolor</i>	A Beardtongue	Terrestrial	G2	
	<i>Erigeron piscaticus</i>	Fish Creek Fleabane	Aquatic/Riparian	G1	
	<i>Echinomastus erectocentrus var. erectocentrus</i>	Needle-spined Pineapple Cactus	Terrestrial	G3	SC
	<i>Lilaeopsis schaffneriana var. recurva</i>	Affolter	Aquatic/Riparian	G2	LE
	<i>Abutilon parishii</i>	Parish's Abutilon	Terrestrial	G2	
<i>Lupinus lemmonii</i>	Lemmon's Lupine	Terrestrial	G1		
<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3		

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
Community	<i>Atriplex griffithsii</i>	Griffith's Saltbush	Terrestrial	G2	
	<i>Hedeoma dentatum</i>	Arizona False Pennyroyal	Aquatic/Riparian	G3	
Ecological System		Sacaton riparian grassland	Aquatic/Riparian	GU	
		Cienega	Aquatic/Riparian	GU	
		Apachean Shrubland	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Sonoran Desert Scrub	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Chihuahuan Desert Scrub	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A&B	Terrestrial	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	
		Desert Wash	Aquatic/Riparian	GU	
		Mesquite Bosque	Aquatic/Riparian	GU	
		Interior Chaparral	Terrestrial	GU	
		Montane Mixed Forest	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Pinyon-Juniper Woodland	Terrestrial	GU	
		Playa	Aquatic/Riparian	GU	
		Apachean Grassland and Savanna Condition Class D	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class A	Terrestrial	GU	
	Feature		Riparian Woodland	Aquatic/Riparian	GU
		Ecological gradient	Terrestrial	GU	
<b>Santa Teresa Mountians</b>					
Bird	<i>Falco peregrinus anatum</i>	American Peregrine Falcon	Terrestrial	G3	
Mammal	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
		Pinaleno Mountains Rubberweed/Pinaleno Mountain			
Plant-Vascular	<i>Hymenoxys ambigens var. ambigens</i>	Plummera	Terrestrial	G1	
Ecological System		Interior Chaparral	Terrestrial	GU	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
		Madrean Encinal	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
<b>Sierra San Luis/ Peloncillos Mountains</b>					
Amphibian	<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	Aquatic/Riparian	G3	LT
	<i>Rana yavapaiensis</i>	Yavapi Leopard Frog	Aquatic/Riparian	G4	
	<i>Rana blairi</i>	Plains Leopard Frog	Aquatic/Riparian	G5	
Bird	<i>Trogon elegans</i>	Elegant Trogon	Aquatic/Riparian	G5	
	<i>Pipilo aberti</i>	Abert's Towhee	Aquatic/Riparian	G3	
	<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	Terrestrial	G3	LT
	<i>Buteogallus anthracinus</i>	Common Black-Hawk	Aquatic/Riparian	G4	
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	Terrestrial	G4	PS:LT,PDL
	<i>Asturina nitida maxima</i>	Northern Gray Hawk	Aquatic/Riparian	G3	
	<i>Ammodramus bairdii</i>	Baird's Sparrow	Terrestrial	G4	
	<i>Aimophila botterii</i>	Botteri's Sparrow	Terrestrial	G4	
	<i>Accipiter gentilis</i>	Northern Goshawk	Terrestrial	G5	
	<i>Buteo albonotatus</i>	Zone-Tailed Hawk	Aquatic/Riparian	G4	
	<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	Aquatic/Riparian	G3	C
	<i>Falco femoralis septentrionalis</i>	Aplomado Falcon	Terrestrial	G2	LE
	<i>Callipepla squamata</i>	Scaled Quail	Terrestrial	G5	
	<i>Ceryle alcyon</i>	Belted Kingfisher	Aquatic/Riparian	G5	
	<i>Chloroceryle americana</i>	Green Kingfisher	Aquatic/Riparian	G5	
Fish	<i>Ictalurus pricei</i>	Yaqui Catfish	Aquatic/Riparian	G2	LT
	<i>Campostoma ornatum</i>	Mexican Stoneroller	Aquatic/Riparian	G3	SC
	<i>Gila robusta</i>	Roundtail Chub	Aquatic/Riparian	G3	PS
	<i>Catostomus bernardini</i>	Yaqui Sucker	Aquatic/Riparian	G4	
	<i>Agosia chrysogaster</i>	Longfin Dace	Aquatic/Riparian	G4	SC
	<i>Gila purpurea</i>	Yaqui Chub	Aquatic/Riparian	G1	LE
	<i>Poeciliopsis occidentalis sonoriensis</i>	Yaqui Topminnow Intraspecific.	Aquatic/Riparian	G3	LE

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
Mammal	<i>Cyprinella formosa</i>	Beautiful Shiner	Aquatic/Riparian	G2	LT
	<i>Gila intermedia</i>	Gila Chub	Aquatic/Riparian	G2	PE
	<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-Nosed Bat	Terrestrial	G3	LE
	<i>Panthera onca</i>	Jaguar	Terrestrial	G3	LE
	<i>Antilocapra americana</i>	Pronghorn	Terrestrial	G5	
	<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat	Terrestrial	G4	
	<i>Sorex arizonae</i>	Arizona Shrew	Terrestrial	G3	
	<i>Cynomys ludovicianus</i>	Black-Tailed Prairie Dog	Terrestrial	G4	C
	<i>Thomomys umbrinus</i>	Southern Pocket Gopher	Terrestrial	G5	
	<i>Ursus americanus</i>	Black Bear	Terrestrial	G5	
	<i>Myotis velifer</i>	Cave Myotis Bat	Terrestrial	G5	
	<i>Lepus callotis</i>	White-sided Jackrabbit	Terrestrial	G3	
Mollusk	<i>Sonorella animasensis</i>	Animas Talussnail	Terrestrial	G1	
	<i>Ashmunella animasensis</i>	Animas Peak Woodlandsnail	Terrestrial	G1	
	<i>Pyrgulopsis bernardina</i>	San Bernardino Springsnail	Aquatic/Riparian	G1	
Reptile	<i>Thamnophis eques megalops</i>	Mexican Garter Snake	Aquatic/Riparian	G3	
	<i>Sistrurus catenatus edwardsii</i>	Desert Massasauga	Terrestrial	G3	
	<i>Sceloporus virgatus</i>	Striped Plateau Lizard	Terrestrial	G4	
	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	Terrestrial	G4	
	<i>Sceloporus slevini</i>	Slevin's Bunchgrass Lizard	Terrestrial	G4	
	<i>Terrapene ornata luteola</i>	Desert Box Turtle	Terrestrial	G4	
	<i>Crotalus willardi obscurus</i>	New Mexican Ridgenose Rattlesnake	Terrestrial	G2	LT
Plant-Vascular	<i>Vauquelinia californica ssp pauciflora</i>	Arizona Limestone Rosewood	Terrestrial	G3	
	<i>Penstemon superbus</i>	Superb Beardtongue	Terrestrial	G2	
	<i>Physalis latiphysa</i>	Broadleaf Ground Cherry	Terrestrial	G1	
	<i>Cleome multicaulis</i>	Many-stemmed Spider-flower/Playa Spider Plant	Terrestrial	G2	
	<i>Astragalus cobrensis var. maguirei</i>	A Milkvetch	Terrestrial	G2	
	<i>Lilaeopsis schaffneriana var. recurva</i>	Affolter	Aquatic/Riparian	G2	LE
	<i>Coryphantha robbinsorum</i>	Cochise Pincushion Cactus	Terrestrial	G1	LT
	<i>Carex ultra</i>	Cochise Sedge	Aquatic/Riparian	G3	

Conservation Area/ Target Type	Scientific Name	Common Name	Habitat Type	Global Rank	ESA Status
Community	<i>Hymenoxys ambigens var. ambigens</i>	Pinaleno Mountains Rubberweed/Pinaleno Mountain Plummera	Terrestrial	G1	
		Sacaton riparian grassland Cienega	Aquatic/Riparian Aquatic/Riparian	GU GU	
Ecological System		Apachean Grassland and Savanna Condition Class A	Terrestrial	GU	
		Chihuahuan Desert Scrub	Terrestrial	GU	
		Riparian Woodland	Aquatic/Riparian	GU	
		Ponderosa Pine Forest and Woodland	Terrestrial	GU	
		Playa	Aquatic/Riparian	GU	
		Interior Chaparral	Terrestrial	GU	
		Montane Riparian Woodland and Shrubland	Aquatic/Riparian	GU	
		Apachean Grassland and Savanna Condition Class A&B	Terrestrial	GU	
		Apachean Shrubland	Terrestrial	GU	
		Madrean Oak-Pine Woodland	Terrestrial	GU	
		Madrean Encinal	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class B	Terrestrial	GU	
		Apachean Grassland and Savanna Condition Class D	Terrestrial	GU	

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