

R3 Species Database *(May 2006)*

I. Introduction

The Nature Conservancy entered into a cost-share agreement with Region 3 of the USDA Forest Service (Region 3) to gather pertinent scientific information and conduct ecological analyses for the National Forests of Arizona and New Mexico. The results of this work will assist Region 3 National Forests with the Forest Plan revision process. An important objective of this agreement was to synthesize existing information that identifies and highlights important ecological systems, processes, and organisms that occur on National Forests in Region 3. To aid in meeting this objective, the R3 Species Database was developed as a tool for understanding the conservation status of organisms that inhabit Region 3 National Forests.

The R3 Species Database draws from existing data sources, while adding consistency, comprehensiveness, and ease of access to information. Currently, substantial information exists in various databases regarding the conservation status of organisms that inhabit the 11 National Forests of Region 3. However, these relevant databases are often specific to a particular taxonomic group, use varying taxonomic standards, often do not include current or comprehensive conservation status information, and/or occur across a range of state and federal agencies, making it difficult to assess the status of organisms in a comprehensive and consistent manner.

The R3 Species Database is unique in that it uses NatureServe data as a taxonomic standard and provides consistent conservation status attributes across taxonomic groups. The R3 Species Database is comprehensive for aquatic and terrestrial vertebrates. It also includes many plants and invertebrates that may be of special management concern, but is not comprehensive for these taxonomic groups.

The R3 Species Database can be used for a variety of analyses and summaries that are relevant to forest planning. For example, the database can be used to compare numbers and types of species that occur on various Forests, and identify species that are unique to specific Forests. The database may also be used for identifying specific groups of species (species-of-concern, species-of-interest) that will be specifically considered in the forest planning process. Because the database incorporates data across National Forests in Region 3, it can be used for analyses at forest, subregional, or regional scales. Furthermore, biologists, planners and others can use this database as a foundation for further species-related analyses.

II. Information Included in the R3 Species Database

The R3 Species Database incorporates an inclusive list of aquatic and terrestrial vertebrate species and subspecies that occur on Region 3 Forests. The database also includes many plants and invertebrate species, subspecies, and varieties that may be of special management concern.

Each record in the database includes many important attributes regarding the taxonomy, conservation status, and distribution of the species, subspecies and varieties. These attributes include information on: taxonomic group; NatureServe and other scientific and common names; NatureServe Element Code and Unique Identifier; global, national, and state (AZ, NM, OK, and TX) conservation status ranks from NatureServe and state heritage programs; federal and state (AZ, NM, OK, and TX) listings under endangered and protected species laws and state Comprehensive Wildlife Conservation Strategies ; other special conservation designations, such as USDA Forest Service sensitive species status, US Fish and Wildlife Service Birds of Conservation Concern and Partners in Flight Watch Lists; and occurrences on Forests within Region 3.

III. Data Sources

Various sources were used to develop the R3 Species Database:

- A list of terrestrial vertebrate organisms that inhabit Region 3 came from a dataset maintained by Bryce Rickel, a Region 3 wildlife and fisheries ecologist. Bryce compiled this dataset from inventory information provided by Forest biologists.
- Aquatic vertebrate datasets were obtained from Ron Maes, Region 3 TES Program - Aquatics Biologist. The original source for these datasets came from Forest biologists.
- Plants incorporated in the database included USDA Forest Service, Region 3 current Sensitive Species (published 21 July 1999, updated 23 February 2000) and rare plants designated by The New Mexico Rare Plant Technical council (<http://nmrareplants.unm.edu>; obtained March 2005) and the Arizona Rare Plant Committee (Arizona Rare Plant Field Guide) are included.
- The list of invertebrates of management concern came from a sensitive species dataset developed by Marilyn Myers of Ecological Services, US Fish and Wildlife Service.
- All taxonomic grouping, NatureServe identification numbers, scientific and common names recognized by NatureServe, global and national ranks, and state heritage ranks were verified using NatureServe Explorer (<http://www.natureserve.org/explorer/> from January through April 2006).
- Data regarding Arizona species of state concern were obtained from Arizona's Natural Heritage Program through their Heritage Data Management System (species were last designated in March 1996).
- New Mexico wildlife state statuses were obtained from the Threatened and Endangered Species of New Mexico 2004 Biennial Review report (August 2004).
- Oklahoma state species statuses were obtained from the Oklahoma Department of Wildlife Conservation (<http://www.wildlifedepartment.com/endanger2.htm>; obtained August 2005).
- Texas state species statuses were obtained from the Texas Park and Wildlife Department (August 2005)

- US Fish and Wildlife status was acquired from the agency's Threatened and Endangered Species database System (TESS; 15 May 2006).
- Non-native status of species came from NatureServe and species and taxonomic experts.
- USDA Forest Service sensitive species status was obtained from the Region 3 Sensitive Species List (published 21 July 1999, updated 23 February 2000).
- Information regarding Arizona Species of Greatest Conservation Need came from Arizona's Comprehensive Wildlife Conservation Strategy: 2005-2015, published 2005 by the Arizona Game and Fish Department.
- Information regarding New Mexico Species of Greatest Conservation Need came from the Comprehensive Wildlife Conservation Strategy for New Mexico, published in 2005 by the New Mexico Department of Game and Fish.
- Information regarding Oklahoma Species of Greatest Conservation Need came from Oklahoma's Comprehensive Wildlife Conservation Strategy, published in 2005 by the Oklahoma Department of Wildlife Conservation.
- Information regarding Texas Species of Greatest Conservation Need came from The Texas Comprehensive Wildlife Conservation Strategy – Wildlife Action Plan, published in 2005 by Texas Parks and Wildlife Department.
- Data regarding Birds of Conservation Concern were taken from the US Fish and Wildlife, Division of Migratory Bird Management, Birds of Conservation Concern report (December 2002).
- Data regarding bird species on the Partners in Flight Watch List came from the following website: <http://www.partnersinflight.org/WatchListNeeds/> (obtained August 2005).
- Information regarding species occurrences on individual Forests came from state heritage data, species experts, BISON-M species accounts (<http://fwie.fw.vt.edu/states/nm.htm>), and Forest biologists throughout the Region. Information has been incorporated from reviews by every Forest except the Tonto. When a review from the Tonto National Forest is available, the database will be updated.

We would like to thank the following people for providing information and/or reviewing the R3 Species Database:

- Wayne Robbie, Bryce Rickell, Amy Unthank, Ron Maes, Charlie McDonald, Rueban Weisz, Ernie Taylor, from the U.S. Forest Service Region 3 Office
- Jennifer Ruyle, Tom Skinner, Larry Jones, Gary Helbing, Glenn Frederick, Anne Casey from the Coronado National Forest
- Susan Bruin, Beverly DeGruyter, Dan Garcia de la Cadena, Bryan Hajny, Chuck Milner, David Heft, Alan Warren, Rick Newmon, and Hart Schwartz from the Cibola National Forest and Grasslands
- Bruce Higgins and Bill Noble from the Kaibab National Forest
- Jerry Ward and Cathy Taylor From the Apache-Sitgreaves National Forests
- Katherine Farr, Mike Manthei, Carol Boyd, Rory Steinke, Russ Copp, Cecelia Overby, Barbara Phillips, and Heather Green from the Coconino National Forest
- Maximillian Wahlberg, Maximillian Wahlberg, and Noel Fletcher from the Prescott National Forest
- Art Telles from the Gila National Forest

- Bill Britton and Esther Nelson from the Santa Fe National Forest
- Chirre Keckler from the Carson National Forest
- Danney Salas, Larry Paul, and Larry Cordova from the Lincoln National Forest
- Marilyn Myers from U.S. Fish and Wildlife Service
- Rob Marshall, Patrick McCarthy, Bill Ulfelder, Gary Bell, Dave Gori, Heather Schussman, Ed Smith, Bob Dale, Mike List, Dale Turner, of The Nature Conservancy

V. Database Description

Table 1 provides a summary of the fields included in the database, and is followed by a more detailed description of each attribute.

Table 1. Names and description of database fields included in the R3 Species Database

Field Number	Field Name	Field Description
1	Taxa	General Taxonomic Group
2	NS_El_Code	NatureServe Element Code
3	NS_Unq_Id	NatureServe Unique Identifier
4	NS_S_name	NatureServe Scientific Name
5	Synonyms	Scientific Synonyms
6	NS_C_name	NatureServe Common Name
7	Other_C_name	Other Common Names
8	G_rank	NatureServe Global Conservation Status (G-rank)
9	R_G_rank	NatureServe Rounded Global Conservation Status
10	N_rank	NatureServe National Conservation Status (N-rank)
11	R_N_rank	Rounded NatureServe National Conservation Status (N-rank)
12	AZ_S_rank	NatureServe Subnational Conservation Status (S-rank) for Arizona
13	NM_S_rank	NatureServe Subnational Conservation Status (S-rank) for New Mexico
14	OK_S_rank	NatureServe Subnational Conservation Status (S-rank) for Oklahoma
15	TX_S_rank	NatureServe Subnational Conservation Status (S-rank) for Texas
16	AZ_R_S_rank	Rounded NatureServe Subnational (State) Conservation Status Rank for Arizona
17	NM_R_S_rank	Rounded NatureServe Subnational (State) Conservation Status Rank for New Mexico
18	OK_R_S_rank	Rounded NatureServe Subnational (State) Conservation Status Rank for Oklahoma
19	TX_R_S_rank	Rounded NatureServe Subnational (State) Conservation Status Rank for Texas
20	ESA_status	Federal Listing Status under Endangered Species Act

21	ESA_delisted	Species once listed as threatened or endangered under the Endangered Species Act (1973) and have since been removed
22	Non_native	Species considered introduced or non-native to southwestern United States
23	AZ_status	Arizona State Status (Arizona Native Plant Law 1983, Wildlife of Special Concern in Arizona 1996)
24	NM_status	New Mexico State Status under Wildlife Conservation Act (1978) and Endangered Plant Species Act (1985)
25	OK_status	Oklahoma State Status of Threatened, Endangered and Species of Special Concern
26	TX_status	Texas Parks and Wildlife Department list of species of fish and wildlife threatened with statewide extinction
27	USFS_SS	U.S. Forest Service Region 3 Sensitive Species (Updated 2000)
28	AZ_SGCN	Arizona Species of Greatest Conservation Need as identified by the Arizona's Comprehensive Wildlife Conservation Strategy
29	NM_SGCN	New Mexico Species of Greatest Conservation Need as identified by The Comprehensive Wildlife Conservation Strategy for New Mexico
30	OK_SGCN	Oklahoma Species of Greatest Conservation Need as identified in Oklahoma's Comprehensive Wildlife Conservation Strategy
31	TX_SGCN	Texas Species of Greatest Conservation Need as identified in the Texas Comprehensive Wildlife Conservation Strategy
32	Birds_of_CC	U.S. Fish and Wildlife Service Birds of Conservation Concern
33	PIF_watch_list	Partners in Flight Watch List
34-45	Forest Occurrences	Species Occurrence on each Forest in Region 3

Detailed Field Descriptions

1. Taxa – General Taxonomic Group

The Taxa code (Table 2) represents the general taxonomic groups to which each species belongs.

Table 2. Field codes and descriptions of general taxonomic groups included in the R3 Species Database

Code	Description
A	Amphibian
B	Bird
CL	Clam
CR	Crustacean
F	Fish
I	Insect
M	Mammal
P	Plant
R	Reptile
S	Snail

2. NS_El_Code – NatureServe Element Code

A 10-character element code assigned to each species, subspecies, or variety by NatureServe. This field is blank if the species, subspecies, or variety is not tracked by NatureServe.

3. NS_Unq_ID – NatureServe Unique Identifier

A unique identifying code assigned to each species, subspecies, or variety by NatureServe. This field is blank if the species, subspecies, or variety is not tracked by NatureServe.

4. NS_S_Name – NatureServe Scientific Name

The scientific name for a species, subspecies, or variety adopted for use by NatureServe. This field is blank if the species, subspecies, or variety is not tracked by NatureServe.

5. Synonyms

Other existing scientific names for a species, subspecies, or variety. These additional scientific names may have been provided in the source documents which served as the basis for the species' inclusion in the database or listed as an additional name in NatureServe. This field is blank if there are no known additional scientific names. This field serves as the working scientific name if the species is not tracked by NatureServe.

6. NS_C_name – NatureServe Common Name

The common name for a species, subspecies, or variety adopted for use by NatureServe. This field is blank if the species, subspecies, or variety is not tracked by NatureServe, or if an accepted common name does not exist.

7. Other_C_name – Other Common Names

Other common names that exist for a species, subspecies, or variety. These additional common names may have been provided in the source documents which served as the basis for the species inclusion in the database or listed as an additional name in NatureServe. This field is blank if there are no known additional common names.

8. G_rank - NatureServe Global Conservation Status (G-rank)

The NatureServe Global Conservation Status ranking (G-rank) provides an overall assessment of the conservation status (Table 3) of a species, subspecies, or variety across its entire range. The global status provides a method for evaluating the relative imperilment of a species across its entire range based on the best available information, including abundance, distribution, population trends, and threats. Global status ranks are assigned by NatureServe scientists with input from heritage programs and taxonomic group experts.

Table 3. Summary of status ranking definitions for NatureServe Global Conservation Status Ranks (G-rank, NatureServe 2005)

Rank	Definition
GX	Presumed Extinct — Not located despite intensive searches and virtually no likelihood of rediscovery
GH	Possibly Extinct — Missing; known from only historical occurrences but still some hope of rediscovery.
G1	Critically Imperiled —At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2	Imperiled —At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3	Vulnerable —At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4	Apparently Secure —Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5	Secure —Common; widespread and abundant.
G#G#	Range Rank —A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty in the status of a species.
GU	Unrankable —Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR	Unranked —Global rank not yet assessed.
GNA	Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
?	Inexact Numeric Rank —Denotes inexact numeric rank (e.g., G2?)
Q	Questionable taxonomy —Taxonomic distinctiveness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority conservation priority.

C	Captive or Cultivated Only —At present extant only in captivity or cultivation, or as a reintroduced population not yet established.
T#	Infraspecific Taxon (trinomial)—The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks.

9. R_G_rank - NatureServe Rounded Global Conservation Status

The NatureServe Rounded Global Conservation Status is provided by NatureServe as an easy to interpret status rank. It is based on the Global Conservation Status (G-rank), but does not include qualifiers or ranges. Status definitions for Rounded Global Conservation Status are the same as those in Table 3.

10. N_rank - NatureServe National Conservation Status (N-rank)

The NatureServe National Conservation Status ranking (N-rank) provides an overall assessment of the conservation status (Table 4) of a species, subspecies, or variety within a particular nation. The national status provides a method for evaluating the relative imperilment of a species within a nation based on the best available information, including abundance, distribution, population trends, and threats. A species cannot be ranked as less imperiled within a nation than the global rank. National status ranks are assigned by NatureServe scientists with input from heritage programs and taxonomic group experts.

11. R_N_rank – Rounded NatureServe National Conservation Status (N-rank)

The Rounded NatureServe National Conservation Status ranking (N-rank) was developed to provide a summarized national conservation status rank for use in analysis. Because this value is not provided by NatureServe, it was calculated for inclusion in the R3 Species Database. The rounded N-rank was calculated as the minimum status value (most imperiled rank) included in the NatureServe N-rank. For instance, if the N-rank was N1N2, the rounded N-rank was calculated as N1.

12, 13, 14, and 15. AZ_S_rank, NM_S_rank, OK_S_rank and TX_S_rank - NatureServe Subnational (State) Conservation Status Ranks for Arizona, New Mexico, Oklahoma, and Texas

The NatureServe subnational conservation status ranking (S-rank) provides an assessment of the conservation status (Table 4) of a species, subspecies, or variety within a particular state. The subnational status provides a method for evaluating the relative imperilment of a species within a state based on the best available information, including abundance, distribution, population trends, and threats. While a species can be ranked as more imperiled (lower ranking) within a state than nationally or globally, it cannot be ranked as less imperiled (higher ranking) than the global status ranking. Subnational status ranks are assigned by state natural heritage programs and are updated within NatureServe at least once a year.

16, 17, 18, and 19. AZ_R_S_rank, NM_R_S_rank, OK_R_S_rank and TX_R_S_ranks – Rounded NatureServe Subnational (State) Conservation Status Ranks for Arizona, New Mexico, Oklahoma, and Texas

The Rounded NatureServe Subnational Conservation Status rankings (S-ranks) were developed to provide a summarized subnational conservation status rank for use in analysis. Because this value is not provided by NatureServe, it was calculated for inclusion in the R3 Species Database. The rounded S-ranks for each state were calculated as the minimum status value (most imperiled rank) included in the NatureServe S-rank for each species. For instance, if the S-rank was S1S2, the rounded S-rank was calculated as S1. For bird species with separate rankings for breeding and non-breeding habitat, the minimum (most imperiled) status was used. Thus, if the S-ranks for a species in a particular state were S3B,S4N, the rounded S-rank was calculated as S3.

Table 4. Summary of status ranking definitions for NatureServe National and Subnational Conservation Status Ranks (N-rank, S-rank; NatureServe 2005)

Subnational Rank	Definition
NX SX	Presumed Extirpated —Species is believed to be extirpated from the state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
NH SH	Possibly Extirpated (Historical) —Species occurred historically in the state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species could become SH without such a 20-40 year delay if the only known occurrences in a state/province were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
N1 S1	Critically Imperiled —Critically imperiled in the state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
N2 S2	Imperiled —Imperiled in the state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state/province.
N3 S3	Vulnerable —Vulnerable in the state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
N4 S4	Apparently Secure —Uncommon but not rare; some cause for long-term concern due to declines or other factors.
N5 S5	Secure —Common, widespread, and abundant in the state/province.
NNR SNR	Unranked —State/province conservation status not yet assessed.

NU SU	Unrankable —Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
NNA SNA	Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
N#N# S#S#	Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species.
Not Provided	Species is known to occur in this state/province. Contact the relevant natural heritage program for assigned conservation status.
B	Breeding —Conservation status refers to the breeding population of the species in the state/province.
N	Nonbreeding —Conservation status refers to the non-breeding population of the species in the state/province.
M	Migrant —Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the state/province.

20. ESA_status – Federal Listing Status under Endangered Species Act

The ESA_status field describes the current status (Table 5) of the species, subspecies, or varieties under the Endangered Species Act (1973 as amended). This field is blank for species, subspecies, or varieties that do not have a listing status.

Table 5. Summary of status codes and descriptions for designations under the Endangered Species Act

ESA Status Code	Description
E	Endangered
T	Threatened
PE	Proposed Endangered
PT	Proposed Threatened
C	Candidate
90-day	90-day Finding for a Petition to List or Review Status

21. ESA_delisted - Species once listed as threatened or endangered under the Endangered Species Act (1973) and have since been removed

The ESA_delisted field denotes species that have been listed at one time as threatened or endangered under the Endangered Species Act (1973), but have since been removed from that status, and no longer hold a federal listing status. Species that have been de-listed are coded with a 1 (one). Those species that have never been listed as threatened or endangered or species that currently hold a status under the Endangered Species Act are coded with a 0 (zero) in this field.

22. Non_native – Species considered introduced or non-native to southwestern United States

A species is considered non-native if its presence in an area is due to a direct or indirect human

intervention. Non-native species are coded with a one (1), while those not considered non-native are coded with a two (2).

23. AZ_status - Arizona State Status

Native plants in Arizona can be given protection (Table 6) under the Native Plant Law of 1993 (Arizona Department of Agriculture 2005). Wildlife species can be given the designation of “Wildlife of Special Concern in Arizona” (Arizona Game and Fish Department, 1996). This field is blank for species, subspecies, or varieties that do not have a status designation in Arizona.

Table 6. Summary of status definitions for plant and wildlife species given status designations in Arizona

AZ State Status Code	Description
<i>Plants</i>	
HS	Highly Safeguarded
SR	Salvage Restricted
ER	Export Restricted
SA	Salvage Assessed
HR	Harvest Restricted
<i>Wildlife</i>	
WSC	Wildlife of Special Concern in Arizona

24. NM_status - New Mexico State Status

Within New Mexico, the Forestry Division of the Energy, Minerals, and Natural Resources Department administers the Endangered Plant Species Act (1985) which provides for a designation of “endangered.” The New Mexico Department of Game and Fish administers the Wildlife Conservation Act which allows the listing of “wildlife indigenous to the state” as threatened or endangered (Table 7). This field is blank for species that do not have a status designation in New Mexico.

Table 7. Summary of status definitions and descriptions for plant and wildlife designations in New Mexico

NM State Status Code	Description
<i>Plants</i>	
E	Endangered Plant Species - Any plant species whose prospects of survival within the state are in jeopardy or are likely, within the foreseeable future, to become jeopardized.
<i>Wildlife</i>	
E	Endangered - Any species or subspecies whose prospects of survival or recruitment in New Mexico are in jeopardy.
T	Threatened - Any species or subspecies that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in New Mexico.

25. OK_status – Oklahoma State Status

The Oklahoma Department of Wildlife Conservation assigns wildlife with a state status of endangered, threatened, or species of concern (Table 8). There are two categories of species of concern. This field is blank for species that do not have a state status designation in Oklahoma.

Table 8. Summary of status definitions and descriptions for plant and wildlife designations in Oklahoma

OK State Status Code	Description
E	Endangered Species – An endangered species is a native species whose prospect of survival or recruitment within the state is in imminent jeopardy.
T	Threatened Species – A threatened species is a native species that, although not presently in danger of extirpation, is likely to become endangered in the foreseeable future in the absence of special protection and management efforts.
Species of Concern:	
C1	Category I Species of Special Concern – A native species with a presently stable or increasing population that current evidence indicates is especially vulnerable to extirpation because of limited range, low population or other factors.
C2	Category II Species of Special Concern – A native species identified by technical experts as possibly threatened or vulnerable to extirpation but for which little, if any, evidence exists to document the population level, range or other factors pertinent to its status.

26. TX_status – Texas State Status

According to the Texas Parks and Wildlife Department, fish or wildlife species indigenous to Texas are considered endangered if listed on: (1) the United States List of Endangered Native Fish and Wildlife; or (2) the list of fish or wildlife threatened with statewide extinction as filed by the director of the Department. Species with endangered status in Texas are coded with an 'E' in this field. It is blank for those species that do not have a state status designation in Texas.

27. USFS_SS - Region 3 Sensitive Species

The Forest Service defines sensitive species as those plant and animal species identified by a regional forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. Species, subspecies, or varieties on the Region 3 Sensitive Species List (published 21 July 1999, updated 23 February 2000) are coded with a 1 (one) in this field; those that are not on the list are coded with a 0 (zero).

28. AZ_SGCN – Arizona Species of Greatest Conservation Need as identified by the Arizona’s Comprehensive Wildlife Conservation Strategy

In 2005, The Arizona Game and Fish Department drafted Arizona’s Comprehensive Wildlife Conservation Strategy that identifies “Species of Conservation Priority” also known as Species of Greatest Conservation Need for the state of Arizona. Species identified by the report as a Species of Greatest Conservation Need for the state are coded with a one (1). Those species not identified as such are coded with a zero (0).

29. NM_SGCN – New Mexico Species of Greatest Conservation Need as identified by The Comprehensive Wildlife Conservation Strategy for New Mexico

In 2005, The New Mexico Department of Game and Fish drafted The Comprehensive Wildlife Conservation Strategy for New Mexico that identifies Species of Greatest Conservation Need for the state of New Mexico. Species identified by the report as a Species of Greatest Conservation Need for the state are coded with a one (1). Those species not identified as such are coded with a zero (0).

30. OK_SGCN – Oklahoma Species of Greatest Conservation Need as identified by Oklahoma’s Comprehensive Wildlife Conservation Strategy

The Oklahoma Department of Wildlife Conservation published Oklahoma’s Comprehensive Wildlife Conservation Strategy in 2005 that identifies Species of Greatest Conservation Need for the state. Species identified by the report as a Species of Greatest Conservation Need for Oklahoma are coded with a one (1). Those species not identified as such are coded with a zero (0).

31. TX_SGCN – Texas Species of Greatest Conservation Need as identified by the Texas Comprehensive Wildlife Conservation Strategy

In 2005, Texas Park and Wildlife Department published The Texas Comprehensive Wildlife Conservation Strategy that identifies Species of Greatest Conservation Need for the state. Species identified by the report as a Species of Greatest Conservation Need for Texas are coded with a one (1). Those species not identified as such are coded with a zero (0).

32. Birds_of_CC - US Fish and Wildlife Service Birds of Conservation Concern

The US Fish and Wildlife Service prepares a list that identifies “species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.” Bird species that are listed as birds of conservation concern (U.S. Fish and Wildlife Service, 2002) are coded with a 1 (one) in this field; birds that aren’t listed are coded with a 0 (zero). This field is blank for all taxa other than birds.

33. PIF_watch_list – Partners in Flight Watch List

Partners in Flight is an entity that is dedicated to the conservation of neotropical migrating birds and most other land birds in the Nearctic and Neotropics. Partners in Flight is a cooperative effort that includes federal, state, and local government agencies, academic institutions, private organizations, conservation groups, professional organizations, and philanthropic foundations. Partners in Flight identified a list of birds whose populations are of conservation concern and were placed on a Partners in Flight Watch List. The Watch List is divided into three categories (Table 9). This field is blank for bird species that do not occur on the Partners in Flight Watch List.

Table 9. Summary of status definitions and descriptions for Partners in Flight Watch List

Code for Partners in Flight Watch List	Description
1	Species with multiple causes for concern across their entire range
2	Species that are moderately abundant or widespread with declines or high threats
3	Species with restricted distribution or low population size

34. – 45. Forest Occurrences – Species Occurrence on each Forest in Region 3

Each National Forest within Region 3 is included as a field (Table 10) in the database. If a species, subspecies, or variety occurs on a particular Forest it is coded with a “P” within the field for that Forest. The “P” signifies it is present. If it does not occur on a particular Forest, it is coded with an “N” within the field for that forest. The “N” denotes not present. If the presence of a species, subspecies or variety is considered accidental on the forest, it is coded with an “A”. If a species was extirpated from a forest, it is noted with an “E”. Also, a field for the potential species list on which the species may be listed is coded for all species that occur on each Forest: TE – Threatened or Endangered Species, SOC – Potential Species of Concern, SOI – Potential Species of Interest.

Table 10. Forest Codes utilized as field names and associated Forest names

Column - Forest Code	Forest Name
34 - A/S	Apache/Sitgreaves
35 - Car	Carson
36 - Cib (Grss)	Cibola – National Grasslands
37 - Cib (Mt)	Cibola – Mountain Districts
38 - Coc	Coconino
39 - Cor	Coronado
40 - Gil	Gila
41 - Kai	Kaibab
42 - Lin	Lincoln
43 - Pre	Prescott
44 - Sfe	Santa Fe
45 - Ton	Tonto

Referenced Data Sources

- Arizona Game and Fish Department. 2005. Arizona's Comprehensive Wildlife Conservation Strategy: 2005-2015. Arizona Game and Fish Department, Phoenix, Arizona.
- Arizona Department of Agriculture. 2005. Protected Native Plants by Categories. <http://agriculture.state.az.us/ESD/protplantlst.htm>
- Arizona Game and Fish Department. 1996. Wildlife of special concern in Arizona. Arizona Game and Fish Department Publication. Phoenix, Arizona. 32 pp.
- Arizona Rare Plant Committee. Arizona Rare Plant Field Guide: A Collaboration of Agencies and Organizations. Undated (published ca. 2001).
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.
- New Mexico Department of Game and Fish. 2005. Comprehensive Wildlife Conservation Strategy for New Mexico. New Mexico Department of Game and Fish, Santa Fe, New Mexico. 526pp + appendices.
- New Mexico Rare Plant Technical Council. 1999. New Mexico Rare Plants. Albuquerque, NM: New Mexico Rare Plants Home Page. <http://nmrareplants.unm.edu> (Latest update: 11 January 2005).
- Oklahoma Department of Wildlife Conservation. 2005. Oklahoma Comprehensive Wildlife Conservation Strategy. Oklahoma Department of Wildlife Conservation, Oklahoma City, Oklahoma.
- Texas Parks and Wildlife Department. 2005. Texas Comprehensive Wildlife Conservation Strategy: 2005-2010. Texas Parks and Wildlife Department, Austin, Texas.
- US Fish and Wildlife Service. 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.
- USDA Forest Service 2000. SW Region USFS Sensitive species list (7/21/99 as corrected 2/23/00). R3_sensitive_list.pdf. 13 pp.