

Excerpt: Arizona Wildlife Notebook, Checklists and Conservation Status

By

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Learn more about the species groups in this Notebook at <http://GarryRogers.com/nature>.

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For my father
John Samuel Rogers
For sharing his love of plants and animals.

Introduction

Arizona's diverse habitats are occupied by a truly rich mixture of animal species. Some of Arizona's animal groups, ants for example, include more species than any other state. This Notebook contains statewide checklists for 11 species groups. Though you will need at least 11 field guides to help with species identifications, you will need only this one book to keep a record of your species sightings.

The Notebook's checklists have both common and scientific names alphabetized by common name. Finding a name in the lists can be tricky, because the common name isn't always what we think. For instance, Arizona's two Robin species are not alphabetized in the bird checklist as Robins. They are alphabetized as "American Robin" and "Rufous-backed Robin." Both species are easier to find in the index where they are listed as "Robin, American" and "Robin, Rufous-backed." Both species are also listed in the index by scientific name.

The checklists include the Arizona Game and Fish Department's conservation-status rank for each species. If the rank is unknown, the status column will be blank, or it will contain a question mark.



Five-day old Mule Deer twins

Conservation-status rank indicates whether or not a species' population or its habitat is declining or is in danger of decline.

I compiled this notebook to have a single place to gather notes from my journal and the margins of my field guides. There is not much writing space, but if you use the notebook for a specific area such as a yard, there is

space to note at least ten dates. I usually record only the first sighting date each year. Appendix A presents a long list of details you can record. Use it for critically imperiled species (conservation rank S1) and endangered species (rank LE and LT).

Species checklists are most useful when they cover small areas. Checklists for valleys, mountains, urban parks, and yards are ideal,

but few are available. The species checklists in this notebook cover the entire State of Arizona. Thus, you can use the notebook to record species sightings anywhere in Arizona.

Species Conservation Status

People are killing off Earth's wildlife. Wildlife biologists have observed the decline of Arizona species, and their observations have been collected by the Arizona Game and Fish Department (AZGFD). Each of the species checklists has conservation-status symbols in the righthand columns that indicate whether or not the species is declining. The information is from the October 10, 2013 list posted on the Internet by the Arizona Game and Fish Department (AZGFD, <http://azgfd.gov>). The table below shows the numbers of species in each group that AZGFD considers **critically imperiled (S1)**, **imperiled (S2)**, and **vulnerable (S3)**. It also shows Endangered Species Act (ESA) numbers for **threatened (LT)** and **endangered (LE)** species. Definitions of the symbols begin on page nine. The Notebook has butterfly, moth, damselfly, and dragonfly checklists, but those groups are not in this table because the status of most of their species is unknown.

ARIZONA WILDLIFE CONSERVATION STATUS			
Species Group	# Arizona Native Species	AZGFD # S1+S2+S3	ESA # LT,LE
Amphibians	31	18 (58%)	2 (6%)
Birds	451	260 (58%)	9 (2%)
Fish	40	40 (100%)	13 (33%)
Lizards	67	27 (40%)	0 (0%)
Mammals	189	64 (34%)	15 (8%)
Snakes	76	35 (46%)	1 (1%)
Turtles	10	6 (67%)	2 (20%)
TOTAL	864	450 (52%)	42 (9%)

The table shows the number of Arizona native species and the portion of those ranked S1, S2, and S3. For example, there are 31 native amphibians found in Arizona. Fifty-eight percent of them are vulnerable (S3) or worse (S1 or S2). Six percent have been given protection under the ESA.

Conservation Status Symbols

AZGFD and the U. S. Fish and Wildlife Service (FWS) define the conservation status symbols that I used. For more information, visit <http://azgfd.gov> and navigate to “CONSERVATION” (top menu bar), then to: “Arizona’s Natural Heritage Program (HDMS)” (sidebar), and then to “Species Data Lists.”

Symbols used by AZGFD

- **S1 Critically Imperiled:** Extremely rare or some factor(s) is making the species especially vulnerable to extinction. Typically 5 or fewer locations or very few remaining individuals (<1,000).
- **S2 Imperiled:** Rare or some factor(s) is making the species very vulnerable to extirpation. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000).
- **S3 Vulnerable:** Rare or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
- **S4 Apparently Secure:** Uncommon but not rare, and usually widespread. Usually more than 100 occurrences* and more than 10,000 individuals. Possible long-term concern.
- **S5 Secure:** Common, widespread, and abundant. Safe under present conditions. Typically with considerably more than 100 locations and more than 10,000 individuals.
- **? Inexact or Uncertain:** Qualifies the character immediately preceding. Used alone to indicate there is insufficient information to assign a rank.
- **SA Accidental:** Not native.
- **SE Exotic Origin:** Not native.
- **SER State Exotic Reported:** Not native.
- **SHQ State Historical Report:** Taxonomy in question.
- **SH Possibly Extirpated (Historical):** Historically present, and there is some expectation that the species may be rediscovered.
- **SP State Potential.** Surveys needed to confirm presence.
- **SR State Reported.** Surveys need to confirm presence.
- **SRF State Reported Falsely.** Not present in state.
- **SRFSC State Reported Falsely, State Captive:** Present only in captivity or cultivation.

- **SRX State Reported Extirpated or Extinct.**
- **SX Presumed Extinct:** Not located despite intensive searches, and virtually no likelihood that it will be rediscovered.
- **SXS#Q State Extirpated or Extinct:** State Rank of # due to re-introduction; taxonomy in question.
- **SNR Unranked:** Status not yet assessed.
- **SU Unrankable:** Lack of information about status or trends.
- **S#S#** Indicates the range of uncertainty about exact status (e.g., S3S4).
- **SNA** Conservation status is not applicable because the species is not a suitable target of conservation activities *for one of the following reasons:*
- **Hybrid** Species represents an interspecific hybrid without conservation value. (Note that hybrids may be ranked if they do have conservation value).
- **E Exotic Origin:** Species is not native to AZ.
- **AN Accidental/Nonregular:** Species is not regularly found in AZ.
- **N Not Confidently Present:** Presence has been reported but the report is unconfirmed.
- **No Definable Occurrences:** Species is native and appears regularly but lacks practical conservation concern in AZ because it is transient or occurs in a dispersed, unpredictable manner.
- **Synonym:** Species reported in AZ, but the state data center does not recognize the taxon; therefore, AZGFD does not assign the species a status.
- **Q Questionable Taxonomy:** Distinctiveness of this entity as a taxon is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with a lower-priority (numerically higher) conservation status rank.

Breeding Status Qualifiers

- **B Breeding:** Basic rank refers to the breeding population of the Element in the state. May be used in conjunction with an 'N' qualifier, to denote when taxon has both breeding and non-breeding populations in the subnation.
- **N Nonbreeding:** Non-breeding population in the state.
- **M Migrant:** Basic rank refers to the transient/migratory population of the Element in the subnation.

Note: A breeding status subrank is only used for animal species that have distinct breeding and/or non-breeding and/or migrant populations. A rank for any of the population segments may be assigned alone or may be coupled with one or both of the other segment ranks. In the latter case, the ranks are separated by a comma, with the higher priority rank listed first (e.g., S2B,S3N,S5M; S1B,S3N; SHN,S4S5B).

Other Qualifier

- ? **Inexact or Uncertain:** Qualifies the character immediately preceding.

Symbols Used for the ESA by FWS

- **LE Listed Endangered:** Imminent jeopardy of extinction.
- **LT Listed Threatened:** Imminent jeopardy of becoming Endangered.
- **PS Partial Status:** Listed Endangered or Threatened in part of range.
- **XN Experimental Nonessential population.**
- **PDL Proposed for delisting.**
- **PD Proposed for Delisting**
- **No (No Status)** Certain populations of this taxon do not have designated status (check with state or regional USFWS office for details about which populations have designated status).
- **SAT Listed Threatened due to Similarity of Appearance.** This happens when a member of a non-listed population occurs within the geographic area of a Distinct Population Segment for a listed species (e.g., a wintering bald eagle within the DPS for listed bald eagles).
- **PE Proposed Endangered**
- **PT Proposed Threatened**
- **C Candidate:** Species for which the USFWS has on file sufficient information on biological vulnerability and threats to support proposals to list as Endangered or Threatened under ESA. Proposed rules for these species are precluded at present by other higher priority listing actions.
- **C*** Species for which FWS made a continued warranted-but-precluded finding on a resubmitted petition.
- **SC Species of Concern:** Describes the entire realm of taxa whose conservation status may be of concern to the US Fish and Wildlife Service, but does not have official federal status.

References

I listed a few references in the introduction to each species group. If an Internet link fails, try going to the root directory and performing a search. For example, the location of the Endangered Species Act on the U. S. Fish and Wildlife Service website might change. To find it, go to <http://fws.gov> and search for Endangered Species Act.

Amphibians



One-eyed Rocky Mountain Toad (Go to garryrogers.com for the toad's story.)

Arizona is home to 35 water-dependent frogs, toads, and salamanders. Many species occur in widely separated populations, and some of these are declining. For example, the Arizona Treefrog (*Hyla wrightorum*), the Arizona state amphibian, is stable over most of its range, but the population in the Huachuca/Canelo Hills in southern AZ is critically imperiled and is a candidate for ESA protection.

Frogs, toads, and salamanders are failing fast worldwide. There are numerous reasons, but four factors are responsible for most of the decline.

1. Essential water habitats are shrinking and becoming polluted.
2. A lethal amphibian disease is spreading across the planet.
3. Damaging short wave solar radiation penetrating the atmosphere is increasing.
4. People are spreading invasive species that overwhelm natives. In Arizona, introduced Bullfrogs and some species from other groups are eliminating native species.

Amphibian Species Numbers

Arizona State Game and Fish Department, reports that 58% of native amphibians are vulnerable (State Status S1-S3) and 74% of natives are of possible long-term concern (State Status S1-S4).

- World: 6400
- U.S.: 230
- Arizona Total: 35
- Arizona Natives: 31
- Arizona Vulnerable (AZ rank S1-S3): 18 (58%)
- Arizona Possible Long-Term Concern (S1-S4): 23 (74%)

- ESA Species Listed Endangered (LE): 1
- ESA Species Listed Threatened (LT): 1
- ESA Candidate Species (C): 1
- ESA Species of Concern (SC): 3

Arizona Amphibian References

The Naturalist's Bookstore has field guides and other references. <http://bit.ly/RKW2bC>. You will find field guides at the end of the category list.

Amphibiaweb:

<http://amphibiaweb.org/chytrid/chytridiomycosis.html>.

AZGFD (Arizona Game and Fish Department): <http://AZGFD.gov>.

Bishop, S.C. 1962. Handbook of salamanders. Hafner, NY, NY. 555 p.

Brennan, T.C. 2008. Online field guide to reptiles and amphibians of Arizona: <http://reptilesfaz.com>.

Global Amphibian Assessment: <http://globalamphibians.org>.

NBII. U. S. National Biological Information Infrastructure: <http://nbii.gov>.

Southwest Partners in Amphibian and Reptile Conservation: <http://sw-parc.org>.

Stebbins, R.C. 1966. A field guide to western reptiles and amphibians. Houghton Mifflin, Boston, MA. 279 p.

U. S. Endangered Species Act. 1973. The act and related laws are discussed at: <http://fws.gov/laws/lawsdigest/ESACT.html>.

U. S. Forest Service. 2007. Regional Forester's list of sensitive animals: http://fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_021328.pdf.

Notes

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Arizona Amphibians Checklist

See page 9 for conservation status symbol definitions.

ARIZONA AMPHIBIANS			
COMMON NAME	SCIENTIFIC NAME	AZ	ESA
African Clawed Frog	<i>Xenopus laevis</i>	SE1	
American Bullfrog	<i>Lithobates catesbeianus</i>	SE5	
Arizona Tiger Salamander	<i>Ambystoma mavortium nebulosum</i>	S5	
Arizona Toad	<i>Anaxyrus microscaphus</i>	S3S4	SC
Arizona Treefrog	<i>Hyla wrightorum</i>	S4	CDPS
Arizona Treefrog (Huachuca/Canelo)	<i>Hyla wrightorum</i> (Huachuca/Canelo Hills Pop)	S1	CDPS
Baja California Treefrog	<i>Pseudacris hypochondriaca</i>	S3,SE	
Barking Frog	<i>Craugastor augusti</i>	S2	
Boreal Chorus Frog	<i>Pseudacris maculata</i>	S5	
Canyon Treefrog	<i>Hyla arenicolor</i>	S5	
Chiricahua Leopard Frog	<i>Lithobates chiricahuensis</i>	S2	LT
Couch's Spadefoot	<i>Scaphiopus couchii</i>	S5	
Great Basin Spadefoot	<i>Spea intermontana</i>	S3	
Great Plains Toad	<i>Anaxyrus cognatus</i>	S5	
Green Toad	<i>Anaxyrus debilis</i>	S3	
Lowland Burrowing Treefrog	<i>Smilisca fodiens</i>	S2	
Lowland Leopard Frog	<i>Lithobates yavapaiensis</i>	S3	SC
Mexican Spadefoot	<i>Spea multiplicata</i>	S5	
Mogollon Rim Treefrog	<i>Hyla wrightorum</i> (Mogollon Rim Pop)	S4	

ARIZONA AMPHIBIANS			
COMMON NAME	SCIENTIFIC NAME	AZ	ESA
Northern Leopard Frog	<i>Lithobates pipiens</i>	S2	
Plains Leopard Frog	<i>Lithobates blairi</i>	S1	
Plains Spadefoot	<i>Spea bombifrons</i>	S4	
Red-spotted Toad	<i>Anaxyrus punctatus</i>	S5	
Relict Leopard Frog	<i>Lithobates onca</i>	S1	C
Rio Grande Leopard Frog	<i>Lithobates berlandieri</i>	SE3SE4	
Rocky Mountain Toad	<i>Anaxyrus woodhousii woodhousii</i>	S4	
Sonoran Desert Toad	<i>Incilius alvarius</i>	S3S4	
Sonoran Green Toad	<i>Anaxyrus retiformis</i>	S3	
Sonoran Tiger Salamander	<i>Ambystoma mavortium stebbinsi</i>	S1	LE
Southwestern Woodhouse's Toad	<i>Anaxyrus woodhousii australis</i>	S4	
Tarahumara Frog	<i>Lithobates tarahumarae</i>	SXS1	SC
Western Barking Frog	<i>Craugastor augusti cactorum</i>	S2	
Western Green Toad	<i>Anaxyrus debilis insidiosus</i>	S3	
Western Narrow-mouthed Toad	<i>Gastrophryne olivacea</i>	S3	
Woodhouse's Toad	<i>Anaxyrus woodhousii</i>	S5	

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