

Arizona Wildlife Action Plan

What is a wildlife action plan?

Congress asked each state to develop a wildlife action plan, known technically as a comprehensive wildlife conservation strategy. These proactive plans examine the health of wildlife and prescribe actions to conserve wildlife and vital habitat before they become more rare and more costly to protect.

Arizona snapshot

Geography: Known for its stately Saguaro cacti and the magnificent Grand Canyon, Arizona provides a variety of habitats ranging from near-sea-level deserts to high alpine tundra.

Landscape: Lands managed by tribal governments make up 28% of the state, while private lands account for 18%. The majority of the remaining lands are administered by various federal agencies. The state is bordered by Mexico to the south, New Mexico to the east, and shares the Colorado River as a border with California, Nevada, and Utah.

Wildlife: Arizona ranks third in the nation for the number of native birds species, second for reptiles, fifth for mammals, and eighth overall for vertebrate animal diversity.

Arizona's planning approach

Arizona's Wildlife Action Plan provides a common strategic framework and information resource designed to help conserve Arizona's terrestrial and aquatic wildlife and the lands and waters on

which they depend for survival. The action plan is built on the premise that the most effective way to benefit and conserve rare, declining, and common wildlife species is to restore and conserve healthy areas to live. Consequently, the action plan focuses on habitat types, such as desert scrub, grasslands, forests and woodlands, and aquatic/riparian systems.



Desert Tortoise/Arizona

Recommended conservation actions are provided for these habitat types on a regional basis. The action plan begins the task of identifying conservation requirements for all wildlife by developing conservation priorities for the 183 species that are of most immediate concern. By combining habitat- and wildlife-specific approaches, Arizona's action plan will help to guide the conservation of the state's diverse wildlife.

Primary challenges to conserving wildlife in Arizona

Arizona's action plan identifies 70 priority stressors that operate in one or more of the habitat types in each region of the state. Many of these stressors are related

"This Action Plan represents the most comprehensive analysis of Arizona's Diverse Wildlife and their resources that has ever been undertaken. A full range of partnerships, which included land owners, scientists, sportsman, and non-consumptive wildlife enthusiasts, was used to identify threats, and more importantly, suggest actions that can be taken to ensure our state's wildlife diversity is here for our future generations to enjoy."

*-Duane Shroufe, Director,
Arizona Game & Fish
Department*

to four statewide phenomena: a rapidly increasing human population, changes to water storage and delivery systems in the Southwest, alteration of communities by invasive nonnative species, and the on-



Saguaro Lake/Arizona

going drought and warming trend. Specific stressors are highlighted in the descriptions below.

Recent population expansion in Arizona is tied directly to **Urban growth and Rural development**.

Population centers directly convert wildlife habitat - often along waterways - and require

an infrastructure of **Roads, Power lines** and **Telephone lines** that fragment the landscape. Human population growth has decreased the quality and quantity of water available to Arizona wildlife, in-

creased demand for recreational opportunities in open areas, and increased the amount and transportation of **Pollution, Invasive species, and Diseases/pathogens/parasites**.

Dams, reservoirs, and impoundments result in loss of water from downstream channels, loss of natural flow variability, suppression of native tree germination, and establishment of high densities of non-native plants and animals in and around reservoirs. Other effects include reduction in sediment transport, water quality, water table integrity, and fish migration. **Water diversions** and **Groundwater depletion** also reduce the amount of aquatic habitat for wildlife, especially in smaller drainages.

Once established, **Invasive species** have the ability to displace native plant and animal species (including threatened and endangered species), disrupt nutrient and fire cycles, and alter the character of the community by enhancing additional invasions. Impacts of introduced crayfish have completely altered waters where they occur, removing aquatic vegetation and extirpating native fish, frog, and salamander species. Exotic annual grasses have established themselves

“This proactive plan will guide how resource managers can work together to address threats to our state’s wildlife diversity. It provides an invaluable resource, including identification of specific actions that can be undertaken to help protect our future.”

*-Eric Gardner,
Nongame Branch Chief,
Arizona Game & Fish
Department*

Wildlife	Total number of species	Species of greatest conservation need*	Threatened/endangered
Crustaceans and mollusks	86	28	1
Insects	?	0	?
Fish	72	33	19
Amphibians	32	12	2
Reptiles	145	26	2
Birds	297	49	7
Mammals	164	35	8
Totals	796**	183	39

* Arizona has started by giving increased attention to state and federally listed species; federal candidate species; species currently petitioned for listing, recently delisted, or for which conservation agreements already exist; closed-season invertebrates; as well as species that are receiving attention from cooperators.

**Numbers reflect those species that can be effectively managed in Arizona. For instance, resident nonnative species are included, but transient, casual, and rare birds that occur unpredictably are not.

Wildlife highlights

Key Habitats	Wildlife (examples)	Issue (examples)	Action (examples)
Streams, Rivers, and Associated Riparian Areas	<ul style="list-style-type: none"> Chiricahua leopard frog Apache trout Humpback chub Western yellow-billed cuckoo 	<ul style="list-style-type: none"> Groundwater depletion/springhead use Nuisance animals Dams/reservoirs/impoundments Altered flow regimes 	<ul style="list-style-type: none"> Develop new watershed planning efforts to positively affect groundwater dynamics at the watershed scale. Survey for areas of suitable habitat for reestablishment of species Determine if adjusting dam operations to adjust water temperatures downstream is a benefit to native species Adopt national standards and efforts to reduce and control nuisance species.
Upland Sonoran Desertscrub	<ul style="list-style-type: none"> Burrowing treefrog Sonoran desert tortoise Desert bighorn sheep Cactus ferruginous pygmy-owl Costa's hummingbird 	<ul style="list-style-type: none"> Invasive species Roads for motorized vehicles Urban/Rural development Livestock management Unauthorized roads and trails 	<ul style="list-style-type: none"> Limit extent and level of disturbance that promotes invasion and spread of nuisance plants Encourage wildlife friendly design for all road building. Work with city and county planners to incorporate wildlife values in urban/rural development plans Develop and implement livestock and big game management guidelines that minimize habitat degradation Increase public awareness on the negative effects of creation and use of unauthorized roads and trails for recreation.
Semidesert Grassland	<ul style="list-style-type: none"> Botteri's sparrow Grasshopper sparrow Desert box turtle Black-footed ferret 	<ul style="list-style-type: none"> Rural/urban development Nuisance plants Habitat degradation/shrub invasions Loss of keystone species Unnatural fire regimes 	<ul style="list-style-type: none"> Identify key conservation areas to protect from development Acquire land or conservation easements to protect key conservation areas Develop plans to conserve priority conservation species that are not sufficiently addressed under existing plans. Design fire management plans and wildland/urban interface policies that consider wildlife value.
Montane Conifer Forest	<ul style="list-style-type: none"> Spotted bat Northern goshawk Wet Canyon Talussnail Mountain treefrog Western purple martin Red-naped sapsucker 	<ul style="list-style-type: none"> Forest and woodland management Drought Insect infestations Unnatural fire regimes 	<ul style="list-style-type: none"> Design forest/woodland harvesting and management strategies that promote wildlife habitat diversity and connectivity Promote adjustment of livestock management practices during droughts to ensure sufficient forage for wildlife Restore natural fire regimes (frequency, intensity, and mosaic distribution) to improve wildlife habitat.

Recommended actions to conserve Arizona's wildlife

throughout the state, and have become part of the cycle of **Unnatural fire regimes**.

Drought/Climate change is expected to have long-term region-wide impacts. In the arid Southwest, the distribution of plant communities may be controlled primarily by soil moisture. Recent research has shown that considerable vegetation changes have occurred in the past and can be expected in Arizona's future. Often, these changes were a result of widespread tree and shrub death due to secondary effects such as **Insect infestations** and **Unnatural fire regimes**; Arizona has already experienced large-scale die-offs of Ponderosa pine forest.

Chiricahua Leopard Frog Research/Arizona



Working together for Arizona's wildlife

To develop the action plan, the Department used various administrative and technical teams, stakeholder meetings, responsive management surveys, and a public input process. Ecoregion Workgroups consisted of Department species- and habitat- professionals and cooperating federal, state, and tribal resource managers. The Department held Wildlife summit workshops and open forum public meetings and accepted comments via the internet.

The Department used extensive outreach to inform and encourage participation from the public and partners, including 20 staff presentations, 28 presentations to external agencies, stakeholder councils, and non-government organizations, four media news releases, and email subscrip-

er announcements to over 16,000 individuals and organizations. Four Wildlife Summit Workshops were held around the state, with 54 participants providing input into developing the major components of the plan and an additional 418 constituents providing input via an online Wildlife Summit survey. Forty-two constituents participated in a series of eight public meetings held statewide.

"The state's Action Plan is the most exciting effort I have seen in many years that is designed to better manage Arizona's wildlife and the places in which they live. The plan used an unbiased approach to identifying threats to our wildlife and provides concrete actions that can be undertaken to ensure that those threats do not lead to the disappearance of these valuable resources."

- Bruce Taubert, Assistant Director,
Wildlife Management Division
Arizona Game and Fish Department.



Native fish study/Arizona

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