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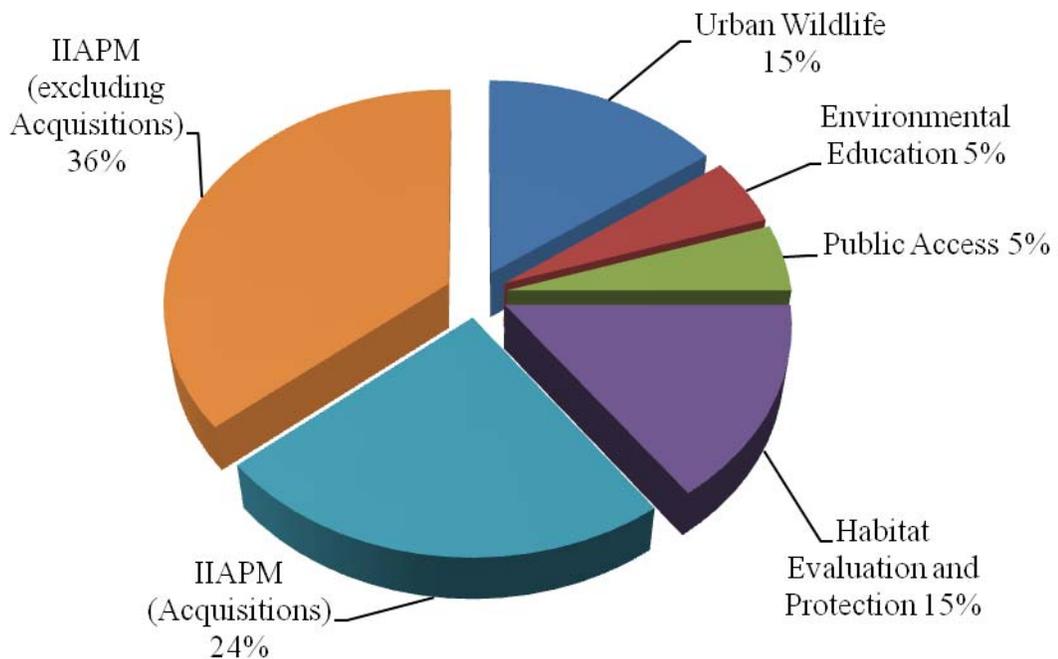
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## HERITAGE PROGRAM FY2007 REPORT TO THE ARIZONA LEGISLATURE

Report Period: July 1, 2006 - June 30, 2007

### Heritage Program Component Funding

As established in A.R.S §17-298



NOTE: Identification, Inventory, Acquisition, Protection, and Management of Sensitive Habitat (IIAPM)

**Fiscal Year 2007 Heritage Fund Revenues, Expenditures and  
 Full-Time Employees by Subprogram**

<b>Subprogram</b>	<b>FY07 Revenue<sup>1</sup></b>	<b>FY07 Revenue Percent</b>	<b>FY07 Expenditures<sup>2</sup></b>	<b>Full-Time Employees</b>
Acquisition	\$2,400,000	24%	\$307,446	0.0
IIAPM	\$3,600,000	36%	\$3,741,574	37.5
Habitat Evaluation	\$1,500,000	15%	\$1,988,503	2.5
Urban Wildlife	\$1,500,000	15%	\$2,277,243	19.3
Environmental Education	\$500,000	5%	\$1,110,610	5.0
Public Access	\$500,000	5%	\$1,270,060	3.5
Interest Admin <sup>3</sup>	\$613,235	N/A	\$844,751	14.0
<b>Total</b>	<b>\$10,613,235</b>		<b>\$11,540,187</b>	<b>81.8</b>

In FY2007, the amount of funds spent from the Heritage Fund for employee personal services was \$3,747,195. In addition, \$1,349,187 was spent on employee related expenses.

<sup>1</sup> Revenue/expenditure allocated pursuant to percentages set forth in statute.

<sup>2</sup> Total expenditures include prior year unexpended revenue as authorized by the Arizona Game and Fish Commission.

<sup>3</sup> Miscellaneous general revenue includes: unrestricted donations, treasurer's interest income, miscellaneous receipts, prior year reimbursements, sale of capital assets, state and local government grants.

## **Subprogram Summaries of Projects, Activities and Expenditures**

### **Identification, Inventory, Acquisition, Protection, and Management (IIAPM) Subprogram**

#### **OVERVIEW:**

Four jobs make up this subprogram:

1. Land and Water Rights Administration and Acquisition Project (IIAPM-LW)
2. Wildlife Management Project (IIAPM-WM)
3. Fish and Wildlife Research Project (IIAPM-FWR)
4. Stewardship Project (IIAPM-S)

Project Information: Administrative work was conducted at the Arizona Game and Fish Department (Department), Habitat Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations as necessary. Fieldwork was conducted statewide and, as necessary, in other states and Mexico.

#### **JOBS (Summary of Activities):**

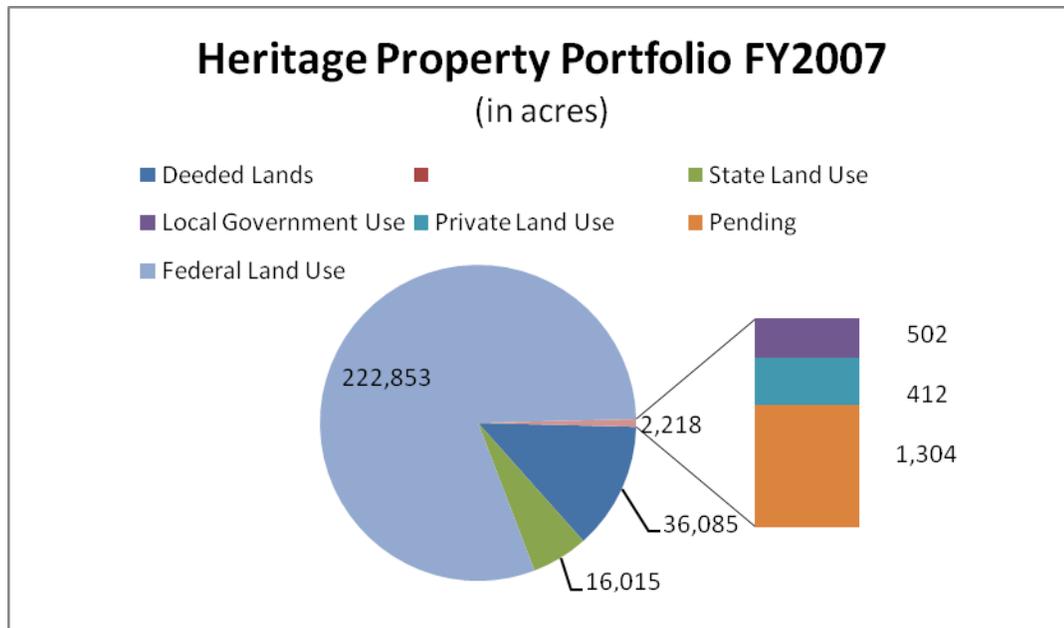
### **Lands and Water Rights Administration and Acquisition**

Objective: To protect sensitive habitat, including sensitive habitat utilized by endangered, threatened, and candidate species through real property management, acquisition, land leases and exchanges, creation of rights-of-ways, establishment of conservation easements and development of special land use agreements.

#### **Summary of Activities:**

The Department continues to evaluate and improve processes as needed to determine and monitor quality and value of wildlife habitat. The processes are used in the evaluation of potential acquisitions, accounting for appropriate laws and regulations.

As of June 30, 2007, the database of properties consisted of a total of 679 current and archive land records, increasing our land portfolio by 17 records and/or documents. Of that total, 350 were active records, which included the following: 277,811 acres of land, 5,851 acres of which are leased by the Commission to other entities usually as right-of-way agreements (refer to graph below). In addition, the Department maintains 373 water right claims and manages 7 fish hatcheries, 43 lakes or reservoirs, 81 wells, 58 springs, 59 retention dams or tinajas and 33 stock ponds exceeding 3,500 surface acres of water.



In addition, feasibility studies were conducted and coordinated on existing or new properties that were identified for protection through acquisition or land use agreements. These offers advanced through different levels of the Land Protection Evaluation Process. A total of 10 Heritage eligible property offers were examined over this reporting period. The Department made a preliminary review of two property offers that were not pursued further in the acquisition process as other offers received exhibited a more urgent need for wildlife conservation on a statewide level. One property offer was withdrawn. Seven property offers were considered for acquisition by the Department beyond the preliminary review stage and two offers are moving through the acquisition process. Products created through the acquisition process during FY2007 included nine Heritage property Realty Summaries. The Habitat Branch continues to provide monthly reports to Executive Staff and the Commission regarding the status of all property offers within the acquisition process.

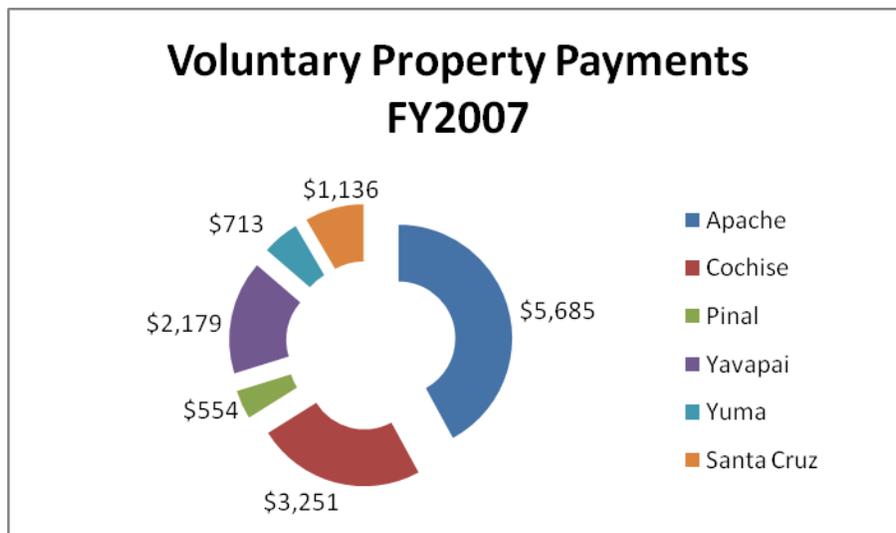
The Department evaluated the water right contributions to the Zuni Settlement Agreement for Becker Lake Wildlife Area, Grasslands Wildlife Area, Sipe White Mountain Wildlife Area and Wenima Wildlife Area. The Lands Program continues to coordinate other ongoing issues associated with Commission-owned water rights.

A new annual operating plan for subleasing livestock grazing was developed and implemented during the fiscal year with the livestock grazing subleasees (i.e., from November 1, 2006 to March 31, 2007) in accordance with provisions in the Department's Livestock Grazing Plan for the Grasslands Wildlife Area. Forage utilization monitoring was conducted during the grazing period in each of the grazed pastures to insure proper use of forage was occurring in line with objectives in the management plan.

Presentations and tours were conducted regarding acquired Heritage properties for members of groups listed in the following table to provide information on the management goals and status of implementing planned management activities on Heritage Fund related properties.

AGFD Commission	Rocky Mountain Elk Foundation
AGFD employees	The Nature Conservancy
State legislators	Trust for Public Land
Arizona Department of Water Resources	Heritage Alliance Board
Arizona Department of Environmental Quality	Local private landowners

No property taxes were paid nor contributions made during the fiscal year; however \$15,367 was paid to six Counties as voluntary contributions in lieu of taxes.



*Lands Operation and Maintenance*

Objective: To develop necessary processes to efficiently manage, operate and maintain Heritage Fund properties at sufficient performance levels to ensure compliance with all applicable regulations pertaining to land acquisition, management and disposal, to protect investments, and to protect and conserve natural resources and provide public recreation opportunities.

Summary of Activities:

Department personnel implemented numerous operation and maintenance activities for wildlife areas across the state. Significant activities and accomplishments included the construction and implementation of the Little Colorado spinedace refugia, construction of artificial burrows to facilitate the release of burrowing owls, construction of an improved water delivery system at the Grasslands Wildlife Area. At Whitewater Draw Wildlife Area, a diesel powered well was converted to clean, quiet, reliable electric power; a water delivery system for the moist soil units was installed, and additional above-ground piping was replaced to repair leaks and improve reliability. Activities at the Sipe White Mountain Wildlife Area included the selective removal of invading pinyon and juniper trees from historic grasslands.

### *Heritage Data Management System*

Objective: To maintain a sensitive habitat and species management information system that facilitates storage, retrieval, updating and analysis of data gathered through inventory and other management activities for the purpose of coordinating conservation activities and assessing conservation progress.

#### Summary of Activities:

Element occurrence information on sensitive wildlife species and habitats was gathered from a variety of sources and entered into the Heritage Data Management System (HDMS). Information gathered included: cooperating agency field information and reports, Heritage Grant reports, scientific collecting reports, scientific journal articles, academia, private consultants, museum and herbaria collections, and personal communications with knowledgeable individuals. Information also included new locations and updates on existing locations for sensitive wildlife species and habitats.

Geographic Information Systems (GIS) was integrated into the daily management of HDMS data through the NatureServe biodiversity data management software, BIOTICS, being used by Heritage Programs internationally. The Department continued to upgrade the database, report writing, and mapping software to increase productivity and efficiency and to improve product quality. In FY 2007, the BIOTICS system software was updated and all patches were completed. An effort was also made to meet NatureServe minimum data standards in key data fields. A key field (EORank), identified by NatureServe in its annual goals and objectives, and was completed for 69% of Arizona's rare and endangered species.

The Department continued to prepare and update brief summaries or "abstracts" of current information and references from scientific literature, agency reports, and knowledgeable individuals for selected special status biological elements. Abstracts assisted in management planning, writing environmental documents, and making management decisions. An increased number of the abstracts were made available on the Department's internet site. In FY 2007, 15 new abstracts were written and 10 were updated or completely revised. These abstracts are also being used to support Arizona's Comprehensive Wildlife Conservation Strategy (CWCS).

Element occurrence, status information, and HDMS data subsets were provided to the Department's Regional Habitat Programs, U.S. Forest Service Regions and Ranger District Offices, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, and Bureau of Reclamation. These subsets were used for project evaluations and baseline data for surveys. HDMS databases and desktop mapping files were updated quarterly to facilitate timely assessment of sensitive elements that might be affected by an ever-increasing number and variety of projects statewide.

The following interagency activities were conducted:

- Information and distribution maps were provided for several endangered species to the Arizona State Land Department for use in management activities.
- Element occurrence information for Pima County was updated for use in the Sonoran Desert Conservation Plan.

- ✦ A data subset was provided to the Arizona Department of Transportation to aid in identifying environmental issues for maintenance activities.
- ✦ Technical assistance and data interpretation was given to the U.S. Forest Service for finalizing their Sensitive Species List.
- ✦ Staff served on NatureServe technical teams for data standards and methodology, as well as the U.S. Section Council for NatureServe.

HDMS continued development of a web site for general information including species lists by county and watershed for special status species in Arizona. The web site was first posted in November 2000 and has been updated regularly. At the end of fiscal year 2007, there were 645 species abstracts on the HDMS web site. State-wide distribution maps, and photos or line drawings also accompany the species abstracts. The Program worked on the new online environmental review tool, which shows if a proposed development project could affect threatened or endangered animals and plants and is now available from the Department's web page. The free, Web-based, Arizona Online Environmental Review Tool generates a multi-page report showing any special status species that could be impacted in the project area, a description of critical habitat in the area, general recommendations on potential actions, and a list of other state, federal or tribal agencies which may require follow-up. This service went live to the public on July 10, 2006. In FY 2007, 2,432 projects were entered by internal and external customers. There are 638 customers signed up to use the tool.

## **Wildlife Management Project**

Objective: Manage Arizona's sensitive wildlife and sensitive habitats by conducting a full range of planning, conservation, and other management activities.

### Summary of Activities:

Arizona's varied habitats support a great diversity of wildlife. However, direct loss, fragmentation and continued threats to the health and diversity of these habitats through development associated with population growth, introduction and expansion of invasive species, increased demands from the public for hunting, fishing and watchable wildlife opportunities, wildland fires, and habitat damage caused by illegal immigration, homeland security efforts and long-term drought create challenges for the Department's wildlife management efforts. To make sound management decisions, resource managers and administrators must understand and appreciate the biological ecosystems being impacted. The Department's commitment to conserve, preserve, enhance and restore Arizona's wildlife populations and their habitats included the following projects.

#### ✦ *Kanab ambersnail*

Since 1995, the Department has actively participated in multi-agency monitoring surveys for the endangered Kanab ambersnail population in Grand Canyon National Park. As a leader in the recovery efforts for this rare mollusk, the Department successfully established a second wild population in Grand Canyon eight years ago. Monitoring of the Kanab ambersnail population over the past year found that numbers were low, likely due to drought and drier habitat. Department staff continued to participate in Kanab Ambersnail Work Group meetings, and assist with the on-going research on genetic and taxonomic analysis for regional populations of the Kanab ambersnail and related snails in Arizona and Utah.

 *Apache trout*

Part of the recovery goal for the threatened native Apache trout is to establish and/or maintain 30 streams with self-sustaining populations. As of July 2007, we had 28 streams with Apache trout populations that count toward recovery. Recovery efforts included chemical renovations of the West Fork Little Colorado River (3 treatments), Conklin Creek (2 treatments), and West Fork Black River (1 treatment). Apache trout were stocked into West Fork Little Colorado River and West Fork Black River. Additional renovations and repatriations are planned for the South Fork Little Colorado River and Stinky Creek (to reach the 30 stream goal).

 *Gila topminnow and desert pupfish*

Recovery efforts on the endangered Gila topminnow and desert pupfish are moving forward. Over the past year, nine sites were evaluated for possible topminnow reintroduction (Pemberton Pond and Nursery Tank at McDowell Mountain Regional Park, Willow Springs at White Tank Regional Park, Cottonwood Artesian, Quail Spring, Walnut Spring, Twin Tanks, Howard Well, and Posey Well). Department staff also evaluated 11 sites for possible pupfish reintroduction (Larry Creek, Mud Springs, Pemberton Pond and Nursery Tank at McDowell Mountain Regional Park, Willow Springs at White Tank Regional Park, Cottonwood Artesian, Quail Spring, Walnut Spring, Twin Tanks, Howard Well, and Posey Well) and subsequently stocked pupfish at the first two sites. In June 2007, Department staff renovated Fresno Canyon to remove predatory green sunfish from the Gila topminnow site.

 *Roundtail chub, flannelmouth sucker, bluehead sucker*

The Department assisted other cooperators in finalizing the “Three Species” Rangewide Conservation Agreement for the three “big river” candidate native fishes—roundtail chub, flannelmouth sucker, and bluehead sucker. Arizona’s Statewide Conservation Agreement and Strategy (SCAS) was also finalized for roundtail chub, headwater chub, flannelmouth sucker, bluehead sucker, Zuni mountain sucker, and Little Colorado sucker. When implemented, this partnership effort will help preclude the listing of these species under the Endangered Species Act.

 *Sonoran tiger salamander*

Four monitoring surveys were conducted for the endangered Sonoran tiger salamander in the San Rafael Valley in the first half of fiscal year 2007. Salamanders were documented at 18 of 67 sites sampled. To further recovery objectives, exotics were removed when encountered during these surveys, thus lessening predation on salamanders and competition for limited resources within their habitats. Department staff removed invasive exotic bullfrogs from four sites in the valley for the “Small Scale Exotic Species Removal Project” partially funded by the U.S. Fish and Wildlife Service. This project tests both the effectiveness of removing exotics completely from selected sites, and whether this type of effort prevents or reduces the re-invasion of exotics while maintaining tiger salamander populations.

 *Ranid frogs*

Ranid frog conservation (including Tarahumara frog and six species of leopard frogs) is the highest priority within the Amphibians and Reptiles Program. Arizona's native species have experienced serious population declines in the last two decades largely as a result of disease, habitat loss and introduced competitors and predators. These declines culminated in the complete loss of Tarahumara frogs from Arizona, and listing of Chiricahua leopard frogs as threatened under the Endangered Species Act. In Fiscal Year 2007, the Department engaged in statewide surveys of 143 historical and potential sites of occurrence of native ranid frogs, and recorded information on presence and absence, as well as the relative abundance, reproductive activity and habitat characteristics. Chiricahua leopard frogs were only documented at 13.5% of the historical or

potential sites surveyed. Sites were also surveyed to evaluate reintroduction potential. Biologists collected data on the distribution of a potentially deadly fungal disease (chytridiomycosis); only two of 43 animals tested positive for the disease. Due to the presence of this pathogen in Arizona, the Department continues to test and develop sterilization protocols for all field gear used during ranid frog fieldwork.

Chiricahua leopard frog egg masses were collected for use in captive propagation programs at the Pinetop regional office, Bubbling Ponds Fish Hatchery and the Phoenix Zoo. Progeny from these programs were used to establish three new sites. The Department continues to work closely with USFS to protect important Chiricahua leopard frog habitat along the Mogollon Rim. In June 2004, the Department began an effort to reestablish Tarahumara frogs in Arizona, in the Santa Rita Mountains. This past fiscal year, the Department continued standardized monitoring at the reintroduction site. Although the frogs experienced a die-off that appears to be related to chytridiomycosis, a healthy population persists at the site. The Department is working with FWS to continue to augment the population with captive animals.

#### *Gartersnakes*

Two species of native gartersnake, the northern Mexican gartersnake and the narrow-headed gartersnake, have experienced precipitous declines in their populations over the last two decades. To understand the population declines and develop mechanisms to combat those declines, the Department funded major studies of the population ecology of each species. In addition, to understand the taxonomic relationships of various populations of gartersnakes, the Department funded a genetic analysis of animals from throughout their respective ranges, including northern Mexico. Finally, working with many cooperators, the Department has facilitated several captive propagation programs, each of which is experimenting with the best possible ways to raise gartersnakes for possible repatriation efforts.

#### *Birds*

Wintering aquatic birds, such as cormorants, grebes, coots, rails, egrets, herons, bitterns, shorebirds and several fish-eating birds such as bald eagles, ospreys, and belted kingfishers, concentrate in large numbers in several highly urban water sources in the fast growing greater Phoenix area. To determine the extent of these populations, a primarily volunteer based Urban Phoenix Winter Aquatic Bird Survey was established as part of the Arizona Coordinated Bird Monitoring Program. In January 2007, a one day survey using 48 volunteers revealed over 35,000 wild aquatic birds of 55 species wintering in this otherwise desert urban area. In comparable size, there is no other location in Arizona with this high of diversity and density of wintering aquatic birds. Now established as an annual monitoring survey, it assists in determining high concentration areas for certain species and ultimately identify potential urban conflict areas. Potential conflicts include negative impacts to stocked urban lakes by large, fish-eating birds and turf damage/soiling caused by grazing species at golf courses and parks. This information assists urban planners and wildlife managers in making scientifically based, cost-effective decisions regarding management of aquatic bird populations, as well as identifying additional urban watchable wildlife opportunities.

#### *Mammals*

The goal of the Bat Management Program is to facilitate the conservation and management of bats in Arizona through cooperation with local, state and federal agencies and private landowners. One way we are accomplishing this is by partnering with other agencies and bat researchers to implement the Arizona Bat Conservation Strategic Plan (ABCSP). The ABCSP

delineates specific areas of concern for management, research, inventory and monitoring, and education that should be addressed in Arizona by land managers, wildlife managers, and scientists. The Bat Management Program promoted the efficacy of strategic planning, and how the strategic plan for bats has increased our ability to influence statewide activities with maximum effectiveness. Our partners consult the ABCSP to determine management needs for bats, and coordinate with the Department to develop bat project proposals. During this reporting period, the Department received five project ideas from external partners, and passed through funding to three external partners. In addition, the Program supported the Western Bat Working Group Conference and worked on creating bat identification keys. Bat habitat was protected through the creation of a bat gate at Tucson Mountain Park for California leaf-nosed bats.

#### High-status Species Activities:

##### *California condor*

FY2007 marked the 10<sup>th</sup> year of California condor reintroduction activities in Arizona. As of June 2007, there were 59 free-flying condors in Arizona with 1-2 chicks in nests and 11 birds awaiting release. In 2006, data from a variety of field and laboratory studies identified lead poisoning from gun-killed animals as the primary impediment to the establishment of a self-sustaining condor population. The Department responded in the spirit of its long-recognized excellence in conservation by instituting a voluntary non-lead bullet program for hunters in the condors' range in Arizona.

The second year of the free non-lead ammunition program was relatively successful with 60% participation. The condor lead reduction process has not yet resulted in a positive trend for condor lead exposures or mortalities. Data suggests that although a 50-60% reduction in the amount of spent lead ammunition is unprecedented, a greater reduction is needed to ensure that fewer condors are exposed to lead. Condor lead mortality rates have also fluctuated since 2002, with one in 2002, none in 2003, two in 2004, two in 2005, and four in 2006. As older birds are exposed to lead multiple times, they may experience more fatal results from a lead exposure event.

##### *Black-footed ferret (BFF)*

During this project period, 41 captive bred ferrets were used in the reintroduction effort in the Aubrey Valley. Fourteen ferrets were held over in the outdoor pens from calendar year 2006, for breeding and spring release purposes. Spotlight surveys were conducted in blocks of consecutive nights during the summer and fall months. These surveys totaled 2,078 person-hours. There were 46 black-footed ferret captured and/or identified and 237 sightings of ferrets without confirmation of identity. We captured 45 wild-born ferrets and tagged them according to protocol. During the fall surveys 10 litters were identified.

The Espee ranch in Coconino County was evaluated as a possible black-footed ferret reintroduction site. Surveys indicate nearly 29,000 acres of Gunnison's prairie dog towns are present and could be used for a translocation in late 2007.

#### *Administration and Coordination*

Objective: Fund, collaborate with and /or coordinate job-related efforts by internal and external cooperators. Increase program awareness and support by informing and educating the public, cooperators, and others about project-related issues, including wildlife conservation and management, wildlife-based recreation, and related topics.

Summary of Activities:

Activities were coordinated with international, national, state, county, tribal, and private entities, as well as within the Division. Department staff participated in various teams and working groups to coordinate job-related efforts by internal and external cooperators. Relations within the conservation community were promoted by participating in meetings of the following organizations:

Kanab Ambersnail Working Group	The Nature Conservancy
Native Fishes Conservation Team	The Tucson Herpetological Society
Apache Trout Working Group	City and Regional Parks
Intermountain West and Sonoran Joint Ventures	Local Community Groups
Arizona Bird Conservation Initiative	Arizona Bat Resource Group

*International and Borderlands*

The Department continued working with the international organizations and governments in various binational projects that included:

- ✦ Continued to work with Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora (CEDES) and with the University of Arizona for Sonoyta mud turtle conservation and management, and with National Park System (NPS) to plan monitoring efforts.
- ✦ Collaborated with representatives from CEDES, University of Arizona, the University of Toronto, and the private sector, collecting data on desert tortoise health, genetics and morphometrics in Sonora, Mexico.
- ✦ Worked with the United States Fish and Wildlife Service (USFWS) and Biodiversidad y Desarrollo Armónico A.C. (BIDA) on surveys for ranid frogs and Mexican gartersnakes in northern Sonora.
- ✦ Participated during the lesser long-nosed bat simultaneous count at the Pinacate Biosphere Reserve, Sonora, Mexico. The count has been done twice a year in June and August since it started in 2002. On the Arizona side, agencies participating in this monitoring effort include Cabeza Prieta National Wildlife Refuge, Organ Pipe Cactus National Monument and the Tohono O'odham Nation.
- ✦ Conducted the 9<sup>th</sup> Wetlands Conservation and Management Training Course in Mexico, on February 5-18, 2007, in Tabasco, Mexico. In addition, we organized a World Wetlands Day Ceremony on February 2 at the Pantanos de Centla Biosphere Reserve, Tabasco, Mexico, in collaboration with Mexico's Secretariat of Environment and Natural Resources. During these two events, we gave nine presentations on wetlands conservation to resource managers and the public. We also updated and distributed copies of the Wetlands Conservation Training Manual to agencies and resource managers in the State of Tabasco, Mexico.
- ✦ Presented four presentations on reintroduction efforts for the California condor, black-footed ferret, Gould's turkey, and thick-billed parrot during the annual Wildlife Management Training in north-central Mexico. The State of Zacatecas was the host for this year's event.

### *Education and Training Opportunities*

A number of continuing education and training opportunities were offered to enhance internal and external cooperator skills and knowledge related to the IIAPM-WM Project. Programs offered training or other education opportunities in FY07 included:

Invasive Species The Department continued to participate in the Governor's Task Force for Invasive Species Management, and coordinated with multiple state, federal, and private cooperators on the quagga mussel invasion. In May 2007, the Department established a formal internal team to address the recent quagga mussel invasion and provide guidance to Department managers, external partners, and the public.

In October 2006, Department staff worked with local educators and school district science coordinators in a pilot program to allow the use of live crayfish in classrooms under a responsible use plan, the Department wildlife holding permit, and a lesson plan on the impacts of crayfish on native species and Arizona's wildlife habitat. Currently, seven school districts are signed up under this pilot program, with additional districts working on their permit applications. This outreach effort supports the CWCS action to address nuisance wildlife and reduce their impact on wildlife populations and habitat.

Department staff implemented the new Small Scale Exotic Species Removal Project in the San Rafael Valley, partially funded through Fish and Wildlife Service. The project was begun in June 2006 and is ongoing. Four stock tanks comprise the core of the project, and adult bullfrogs were observed at all four tanks. No bullfrog tadpoles were found nor were any fish, although the presence of both was strongly suspected in two tanks, both of which were treated with rotenone by certified pesticide applicators. Bullfrogs were removed through hand capture, gigging and shooting. By August, nearly ten inches of rain had been recorded in parts of the San Rafael Valley, making ideal conditions for bullfrog dispersal. Two tanks were recolonized by bullfrogs, many of which were subsequently disposed of.

Presentations and Publications During this reporting period, the Department made presentations or presented posters at local, regional or national meetings, examples of which are mentioned below:

- Opening the Toolbox: Using Candidate Conservation Agreements and Safe Harbor Agreements to Implement Recovery. California-Nevada Amphibian Population Task Force, Las Vegas, Nevada.
- Statewide Conservation Agreement and Strategy for 6 species of suckers and chubs. One presentation each to the American Fisheries Society annual AZ-NM chapter conference and the Desert Fishes Council annual meeting.
- Arizona's Comprehensive Wildlife Conservation Strategy: 2005-2015. Presentations to the Bureau of Land Management managers, US Forest Service managers, Arizona Governor's Cabinet on Smart Growth—Natural Resource subcommittee, and the Arizona Governor's Cabinet on Smart Growth.
- In collaboration with the American Bird Conservancy, we published and distributed a highly popular brochure, *Keeping Cats Indoors-- Good for Cats, Good for Arizona's Wildlife*.

Presentations to Wildlife Manager trainees included Mollusks of Concern in Arizona; the Native Fish Program; the Amphibians and Reptiles Program; the Birds and Mammals Program; the Department's Borderlands Projects; and about scientific collecting permits and support.

Department biologists trained and certified 40 biologists from the Department, USFS, USFWS, TNC, San Carlos Apache Indian Reservation, and private consulting companies in how to conduct surveys for Chiricahua leopard frogs. Staff also attended the Desert Tortoise Council's 15<sup>th</sup> Annual Surveying, Monitoring, and Handling Techniques Workshop, and gave two presentations.

## **Wildlife and Fisheries Research**

Objective: Conduct research and experimental management actions on terrestrial and aquatic species and their habitats including wildlife in urban areas and sensitive species. Develop new and innovative techniques to assist in managing wildlife populations, provide technical expertise and advice on appropriate subject matters to agency and external partners, and respond to wildlife health concerns.

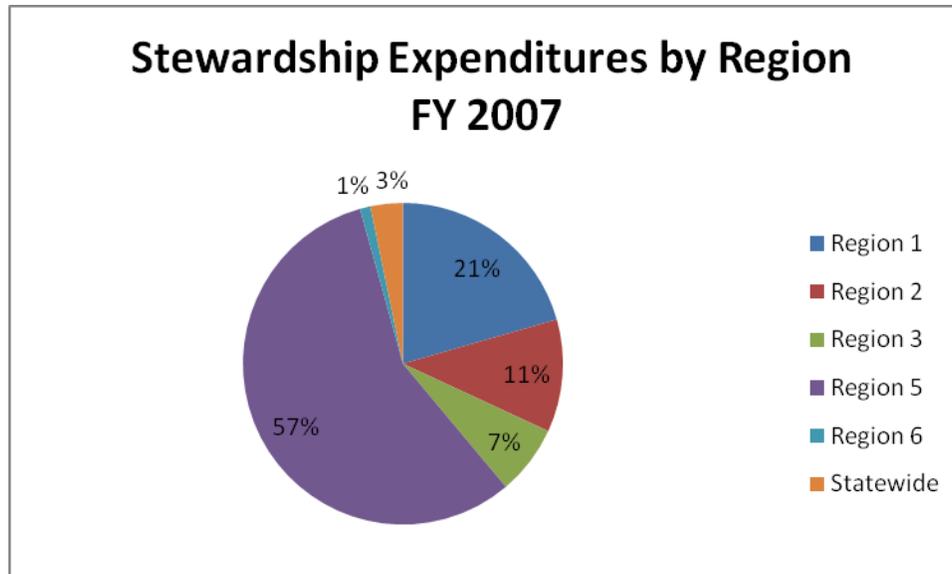
### Summary of Activities:

The Department, in cooperation with the Bureau of Land Management and Northern Arizona University (NAU), conducted research on wildlife responses to forest restoration on Mt. Trumbull in northern Arizona. During FY2007, fieldwork included studies which examined mule deer, passerine bird, and tassel-eared squirrel responses to restoration treatments on the Mt. Trumbull study area. As part of the second year of the pilot study, passerine bird foraging rates were collected using a plasma lipid technique which examined their use of treated and untreated forest stands. Mule deer locations on Mt. Trumbull were collected through the use of global positioning systems (GPS) and then analyzed with geographic information systems (GIS).

Protocols for the handling, restraint and testing methods of Thick-billed Parrots were developed in advance of the possible reintroduction of the species. A plan was developed to identify and manage native and nonnative fish areas on the Little Colorado River, which is being adapted to the Verde River watershed and other watersheds across the state. GAP analysis is continuing which will identify data gaps for the Verde watershed and update segments of the plan to enable application to a new location.

## Lands Stewardship

Objective: Implement compatible projects and agreements on public and private lands to enhance, protect and restore sensitive habitats for species at risk.



### Summary of Activities:

Examples of successful projects from Fiscal Year 2007:

🦉 **Chirchua Leopard Frog Rearing Facility:** This project provided funding to the Phoenix Zoo to create a new frog rearing facility for the Department to use in conjunction with the Department's effort to re-establish frog populations through the use of a USFWS Safe Harbor Agreement.

🦉 **Wild at Heart:** Funds were used to construct artificial burrowing owl burrows on various lands in the state. Burrowing owls displaced by urban expansion were relocated to site.

🦉 **Mexican Wolf Project:** This project provided funding to reduce livestock/ wolf conflicts near Blue, Arizona by encouraging ranchers to bring their mother cows into a home pasture to calve and wean for a couple of months. This reduces wolf conflicts since the cows are not giving birth out on open range, leaving the calves vulnerable to attack. However, these small home pastures do not support enough forage to hold the cows and calves for the 3 month period, thus the rancher is forced to purchase feed for 3 months (~\$40,000). The Department provided funding to offset some of the cost of that feed. By reducing predation on calves, the wolf pack was not harassed by the landowner, and allowed to use the ranch to search for natural prey.

🦉 **Artificial Bat Roosting Project:** This project is a collaborative effort between the Landowner Relations Program, Non-Game, and the Landowner to construct an artificial bat roost near San Manuel, Arizona. This project will provide habitat to several species of bat in Arizona, including species that are listed as species of concern.

🦉 **Aja Ranch Grassland Restoration:** This project is a collaborative effort between the Landowner Relations Program, the USFWS Partners for Wildlife Program and the Landowner to reclaim 1,280 acres of grassland that had been invaded by juniper. This project will benefit

several grassland obligate species.

 **Murdock Fencing Project:** This project fenced a 10-acre area around an active bald eagle breeding site, protecting the area from disturbances from cattle, ATV use, and other potential disturbances.

## **Habitat Evaluation and Protection Subprogram**

### **OVERVIEW:**

Two jobs make up this subprogram:

1. Habitat Evaluation and Protection
2. Heritage Data Management System

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Habitat Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations statewide; and at the national level, as needed.

### **JOBS (Summary of Activities):**

#### **Habitat Evaluation and Protection**

Objectives: Incorporate fish and wildlife resource needs or features in land and water development projects and land and water management planning efforts in Arizona. Ensure habitat protection through environmental compliance and regulation, and to monitor the implementation and effectiveness of mitigation commitments for various land and water development projects and management planning activities in Arizona.

#### Summary of Activities:

Data and information was acquired from wildlife surveys and habitat evaluations for use in biological reviews. Research and survey data was obtained from other Department and Heritage work conducted during the project year. As an ongoing activity, biological resource data was assimilated from existing references and other sources, such as the Department Geographic Information System and Heritage Data Management System. Staff worked with federal, state and local agencies and organizations on wildlife and wildlife habitat issues. In addition, staff was involved with habitat projects, land and resource planning issues on National Monuments, Wilderness Areas, and the Governor's Forest Health Advisory Committee.

Federal and State agency cooperative projects included:

 Participated with the Camp Verde Ranger District and the Arizona Antelope Foundation on wildlife and wildlife habitat issues, specifically focusing on pronghorn in Game Management Unit 21. Data from a previously funded aerial survey was reviewed along with other habitat evaluation data to assess the overall pronghorn distribution, population trends and habitat management actions. This information was used to establish appropriate land use practices on BLM and USFS lands during the project year.

Continued partnerships with the Arizona Department of Transportation and the Federal Highways Administration to identify important movement corridors for fish and wildlife populations on a statewide basis. The Missing Linkages and Connectivity report has been finalized and added to the ADOT website. The report is utilized by Department personnel working on development and transportation projects statewide. It is also utilized as a tool to develop criteria to identify areas of conservation priority.

Continued work with the Forest Service and other federal, state and local agencies on Forest Health and Forest Restoration planning during the project year. There continues to be a critical need to develop a long-term forest restoration program that reduces the threat of catastrophic wildfire within the urban interface and forested wildlands in Arizona. Focus has been on developing wildlife-based monitoring and research programs to better understand the affects of forest restoration to wildlife, and incorporating an adaptive management approach into the planning and implementation process.

Worked with the federal land management agencies on habitat projects and land and resource planning issues (e.g., proposed federal legislation, policies, projects and draft management plans). The Program reviewed and participated in the development of several federal land management policies (primarily associated with USFWS National Wildlife Refuge planning), land and resource management plans [USFWS, BLM, Department of Defense (DOD), (USFS), National Park Service (NPS)], and special land designations (e.g., new National Monuments and Conservation Areas and Wilderness proposals).

Reviewed with the Corps of Engineers permit applications for proposed dredge and fill activities and projects in waters of the United States in accordance with the Clean Water Act and the Rivers and Harbors Act (Colorado River). The Department has also been working with the Corps to develop adequate mitigation plans that minimize and/or replace the wildlife habitat values lost as a result of these applications.

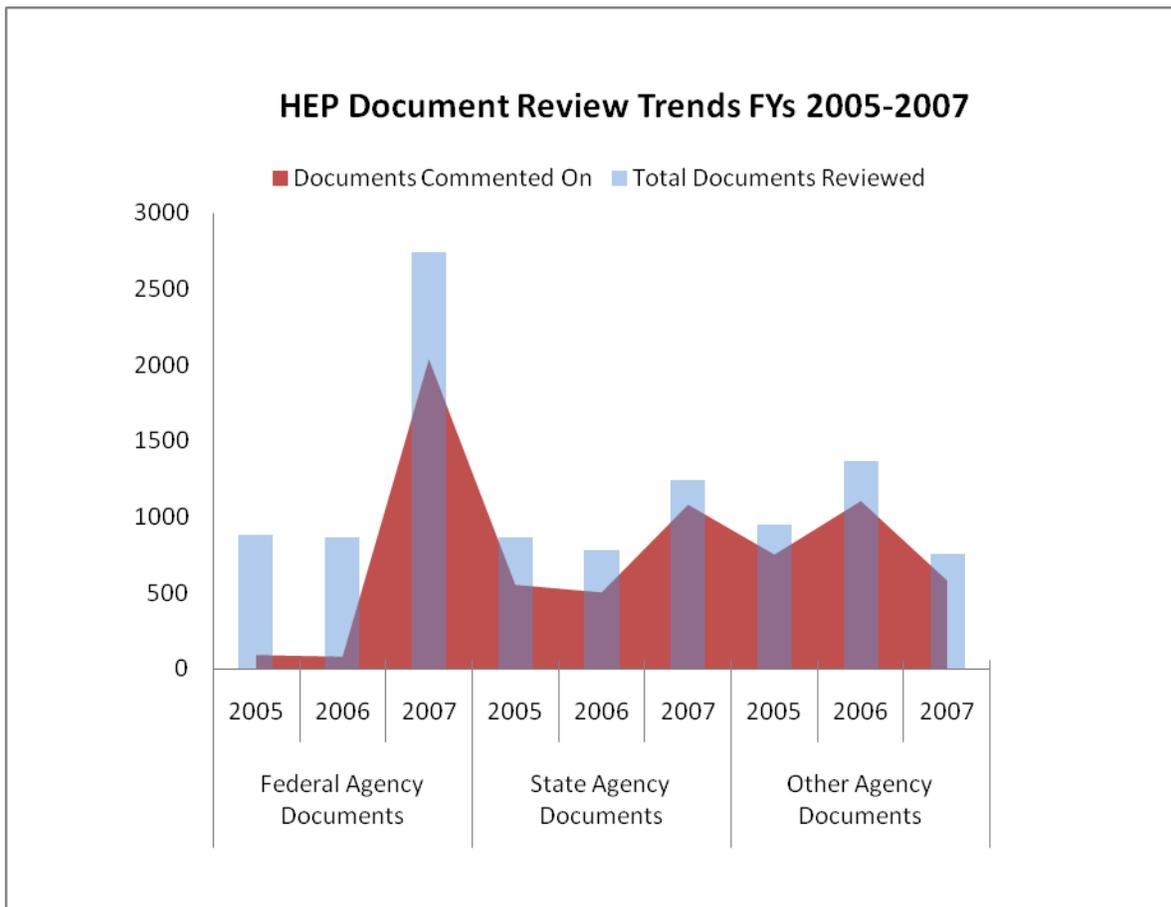
Worked with the Association of Fish and Wildlife Agencies (AFWA) and the Western Association of Fish and Wildlife Agencies (WAFWA) on issues pertaining to: special land designations (e.g., new National Monuments); National Wildlife Refuge planning; wildlife management activities within designated Wilderness areas; access to federal lands; alternative energy; the BLM's Policy for Lands with wilderness characteristics; strategies for the 2006 Farm Bill reauthorization; USFS land and resource management planning; and NPS land and resource management planning.

Developed and implemented Integrated Natural Resources Management Plans (INRPs) with DOD and USFWS for various military installations in Arizona, including Fort Huachuca (Sierra Vista), Florence Military Reservation (Florence), Camp Navajo (Flagstaff), Luke Air Force Base (Phoenix), Davis-Monthan Air Force Base (Tucson), Marine Corps Air Station (Yuma), Barry M. Goldwater Range (Yuma-Gila Bend), and Yuma Proving Ground (Yuma).

The project evaluation process was evaluated and streamlined. This effort involved both intra- and interagency coordination to identify ways to improve project evaluation processes and to provide more time to focus on projects that are expected to have significant impacts to fish and wildlife resources. This effort is expected to continue to increase the efficiency and effectiveness of the Department's statewide project evaluation and environmental compliance activities accomplished by the Program and the Regional Habitat Programs. In addition, these process improvement efforts resulted in the identification of priorities and development of different approaches to accomplishing

priority activities to improve efficiency and ensure that internal and external customer expectations are met or exceeded.

The Department received 4,727 documents from various state and federal agencies, cities, counties, and private sources. The Program's Online Environmental Review Tool was utilized this year heavily by external and internal customers. Of the 4,727 documents, 3,259 were reviewed via the Online Tool. High expectations associated with Program effort and support (internal and external) and more support provided to the Regional Habitat Programs have required the Program to focus on process improvements and prioritizing projects so that time is spent on proposed actions that are anticipated to have the most impact on Arizona's fish and wildlife resources. In total, 3,701 documents were reviewed and required a response (see diagram below).



Staff developed and planned habitat projects and documents with inter and intra-agency cooperative groups. Specific actions included the following:

-  Continued involvement with the Rio Salado Environmental Restoration Project to develop documents planning the restoration and creation of habitats once found along the Salt River.
-  Participated in the Tres Rios River Management Plan Steering Committee. This effort is directed at planning for issues associated with discharge of municipal effluent from the City of Phoenix 91<sup>st</sup> Avenue Wastewater Treatment Plant into the Salt River. The cooperating agencies and entities are seeking to maintain and restore a naturally functioning river with associated

habitat, manage flooding issues and secure a long-term commitment of water for the project. Currently working with the City to restore wildlife-related viewing access to the wastewater treatment ponds.

✎ Received and completed 59 Environmental Assessment Checklists from other Department work units.

✎ Participated in the Lower Colorado River Multi-Species Conservation Program. The Program completed a plan that "accommodates current water diversions and power production and optimizes future water and power development opportunities" and "works toward conservation of habitat and toward recovery of the species, and reduces the likelihood of additional 'threatened/endangered' species listings."

Program staff worked with Regional habitat programs, other state's wildlife agencies, and AFWA in the review of significant USFS proposals. Work continued on the proposal for protecting the remaining USFS roadless areas as directed by President Clinton during FY2000. Of the 1,116,000 acres of USFS inventoried roadless areas in Arizona, this proposal will impact about 400,000 acres of unroaded USFS lands where there are currently no special restrictions/limitations regarding road construction and reconstruction activities. The Department is currently working with the Governor's Office to develop a petition to the Secretary of Agriculture regarding Arizona's desire for future management of these areas.

### *Geographical Information System (GIS)*

Objective: To deploy a Geographic Information System (GIS) and related spatial technologies as effective natural resource data management tools in support of the Department's mission and functions.

#### Summary of Activities:

Development of digital data and providing Geographical Information System (GIS) services constituted the largest workload of the GIS program. Products include: maps of areas meeting specified criteria, databases, statistics, spatial analyses, meeting presentation graphics, publication or report graphics. As described above, use of GIS has become an essential tool of Department professionals in the accomplishment of their goals, in support of the Department mission, and an integral part of many programs. Benefits include the ability to correlate and discern relationships between data, more informed management decisions, and the ability to display spatial data relationships in a meaningful way. GIS permits management decisions based on analyses and information derived from spatial data, not possible without the capabilities of GIS tools.

Based upon needs identified in a user survey, the Habitat GIS Program continued development of a spatial data repository that will be available to all Department personnel. The objective of the spatial data repository is to reduce the amount of time spent acquiring data, reduce data redundancy, provide current datasets and facilitate GIS use throughout the agency.

In an effort to standardize GIS software throughout the agency, the GIS Program conducted a software survey to identify the different versions being used, and performed a cost-benefit analysis comparing maintaining the status quo of individual licenses vs. concurrent licenses. The survey and analysis revealed that successful GIS implementation required standardization to a common version, and the benefits would outweigh the costs of maintaining individual licenses.

The GIS Program requested and obtained funding for concurrent licenses, which were subsequently installed on 80<sup>+</sup> GIS users' computers. GIS software is now available to all agency personnel who are connected to the primary network maintained by the Information Services Branch.

Major activities and projects accomplished by the Habitat GIS Section during the project year included:

Land and Water Rights Administration

Provided large quantities of maps analyzing various aspects of lands under consideration for acquisition or exchange, and maps used in multiple rights-of-way and easement projects and for use in planning and management of Department lands and water rights, Wildlife Area management, and grazing plans.

U.S. Forest Service Roadless Areas

Developed a series of maps depicting proposed Roadless Areas for planning and project evaluation purposes.

Wildlife Management

Supported many aspects of wildlife management by developing supporting documentation including proposed sportfish stocking locations, hatchery management, multiple species distribution maps, habitat enhancement maps, the "Breeding Bird Atlas", water quality sample site location, Anderson Mesa relative to pronghorn management, critical habitat and land ownership, and a summary of Mt. Graham red squirrel field surveys.

Sportfish Stocking

Involved in acquiring and developing the GIS datasets needed to analyze sportfish stocking locations across the state for compliance with Section 7 of the Endangered Species Act.

Public Access/Off Highway Vehicle Use

Maps for the Department's Access Program included road closures, proposed access improvements and gates, alternate access routes, and wildlife water development locations.

Parcels Data Development

Worked closely with the Lands Program to update GIS database land records and improve the spatial accuracy of digitized land parcel data.

Habitat Evaluation and Protection/Restoration Projects

Developed various maps for a wide variety of projects, including those showing critical habitat, land ownership, allotments and special status species locations.

Information and Education

Produced multiple updates of various maps showing Game Management Units, regional boundaries, and Wildlife Manager Districts for use by divisions within the Department. The Program also created maps that are currently used on the Department's website.

## Urban Wildlife Subprogram

### **OVERVIEW:**

Three jobs make up the subprogram:

1. Urban Wildlife Conservation
2. Urban Wildlife and Shooting Sports Recreation
3. Wildlife Enjoyment (Watchable Wildlife)

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Game Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other locations statewide, as necessary. Urban funded work was conducted in incorporated areas and large urban unincorporated areas statewide, with an emphasis in the Phoenix and Tucson Metropolitan areas.

### Summary of Activities:

#### **Urban Wildlife Conservation**

##### Objectives:

Provide financial assistance through grants, agreements and partnerships to manage urban wildlife conflicts. Manage conflicts between humans and wildlife in urban settings, and for public safety. Provide information, education and outreach to the public to enhance public awareness and understanding of urban wildlife conflict issues. Foster wildlife rehabilitation efforts in the community. Provide administrative structure, planning, training, oversight, and coordination for project personnel and cooperators.

### Summary of Activities:

As urban areas throughout Arizona grow, these new or expanding subdivisions impact wildlife habitat. Wild animals are often displaced while some species live nearby in open space areas, parks, undeveloped parcels of land, river bottoms, and on or near bodies of water. Others have adapted well to urban living and seem to thrive in and near cities. In most situations, people and wildlife coexist. Human-wildlife conflict is defined as "any interaction between humans and wildlife that results in negative impacts on human social, economic or cultural life, on the conservation of wildlife populations, or on the environment."

The Department continued educating the public about urban wildlife conflict issues. Examples of work conducted in fiscal year 2007 include:

 Completed an Environmental Assessment checklist and facilitated translocation of Gunnison's prairie dogs from urban development sites in Flagstaff to the Raymond Ranch Wildlife Area. Worked with the Coconino County Public Health Department to develop translocation protocol as it related to disease transmission.

- ✦ Promoted the Bear Aware program with material made available to the public at the front counter and at public fairs and events. The Department used a paid radio spot for three months, which utilized a 30-minute talk radio program and participated on live morning radio shows to heighten nuisance bear and other problem wildlife awareness and conflict resolution procedures.
- ✦ Developed a statewide, general brochure entitled “Living with Wildlife”. Outside partners include Arizona-Sonora Desert Museum, Museum of Northern Arizona, Pima County Natural Resources, Parks and Recreation, and others. Draft text is near completion and the finished product is expected no later than June 2008.
- ✦ Completed “Living with Bats” web page. Updated rehabilitator and wildlife service online lists. Added information and links on new law prohibiting feeding of wildlife to the AZGFD Web site.
- ✦ Presented a “Venomous Critters” presentation and associated information products to attendees of the Yuma-area “Safety Works Expo”. Provided a “Desert Self-Aid” class to attendees of the Yuma-area Safety Council. Class focused on dealing with venomous and nuisance wildlife.

A database was upgraded to record calls regarding human-wildlife interactions and to track the Department’s response. The database allows instant generation of reports by species, region, and/or date and individual calls can be emailed as soon as the data are entered. The database has been used for monthly reports to the Governor, annual performance reports, and for targeting conflict hot spots and areas to focus outreach efforts. The wildlife conflict database is showing thousands of calls are handled by the Department regarding human interactions with wildlife. The human-wildlife interaction; wildlife handling and salvage permit; and road kill databases were combined into one linked web-based interface with mapping capabilities which allowed for better speed, stability and accessibility by all employees.

A formalized process to deal with human-wildlife conflicts was created for conflicts centered in large developments. Steps were created to educate homeowners and the community involved to share the responsibility of an animal’s behavior. The process encouraged community partnerships and volunteerism and included incorporating wildlife disclosure language into the codes, covenants, and regulations in residential subdivision developments. Language advised the homeowners association about ‘living with urban wildlife’ and some self-help techniques for avoiding conflicts.

Specific actions included the following:

- ✦ The Adobe Mountain Wildlife Center assisted in the rehabilitation of over 1,500 sick or injured wildlife during the past year. These animals arrived at the Center from a variety of sources, primarily from the urban environment after a negative encounter with humans (ingested poison left for rodents, hit by a car, injured by a family pet, etc.).
- ✦ Conducted “Living with Urban Wildlife in Northern Arizona” presentations to the public. Presentations provided homeowners with self-help techniques to avoid unwanted encounters with high country wildlife.
- ✦ Provided mountain lion curriculum materials and in-class expertise for 125 students at Castle Dome Middle School in Yuma. The class project used the Department’s mountain lion protocols as the start of a project designed to explore how public wildlife policy is made. The project

concluded with each student writing a grant proposal to study some aspect of the problems associated with living in lion country.

☛ Provided advice on technical 'Living with Urban Wildlife' disclosure language for three new Coconino County residential subdivisions and their codes, covenants, and regulations. Advised Pima County on the development of zoning regulations for wildlife rehabilitators and animal rescue and sanctuary organizations after a complaint about a wildlife rehabilitator was received and the county realized there was no section in the rules governing these groups.

☛ Facilitated Coconino County Board of Supervisor formal approval of a Department sponsored elk research grant proposal along Highway I-17 to reduce wildlife collisions. This project will retrofit fencing to 5 crossing structures along 5 miles of highway to reduce collisions that currently account for approximately 25% of all elk-vehicle collisions along Highway I-17.

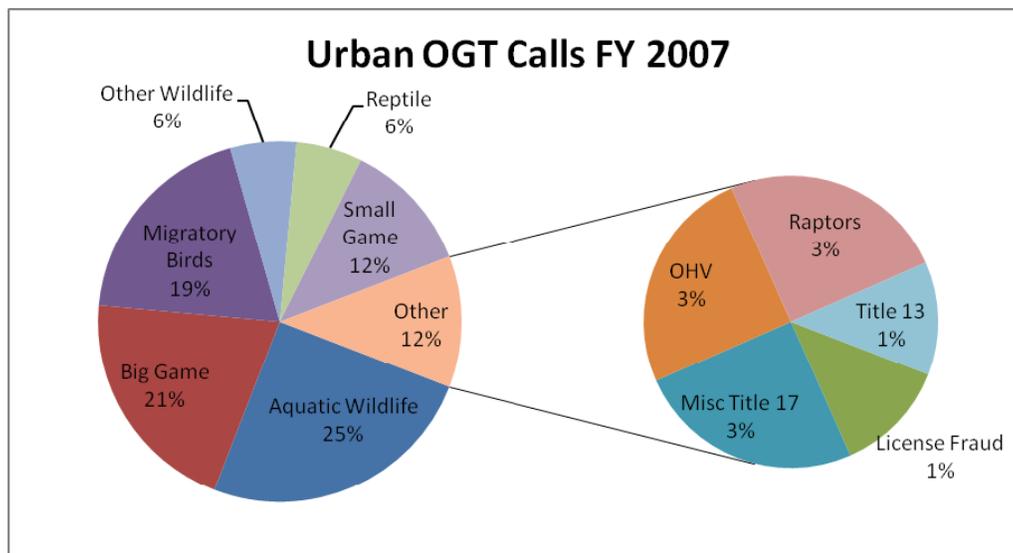
### *Urban Law Enforcement and Protection*

**Objective:** Protect urban wildlife populations, habitats and public safety by assuring compliance with state and federal law.

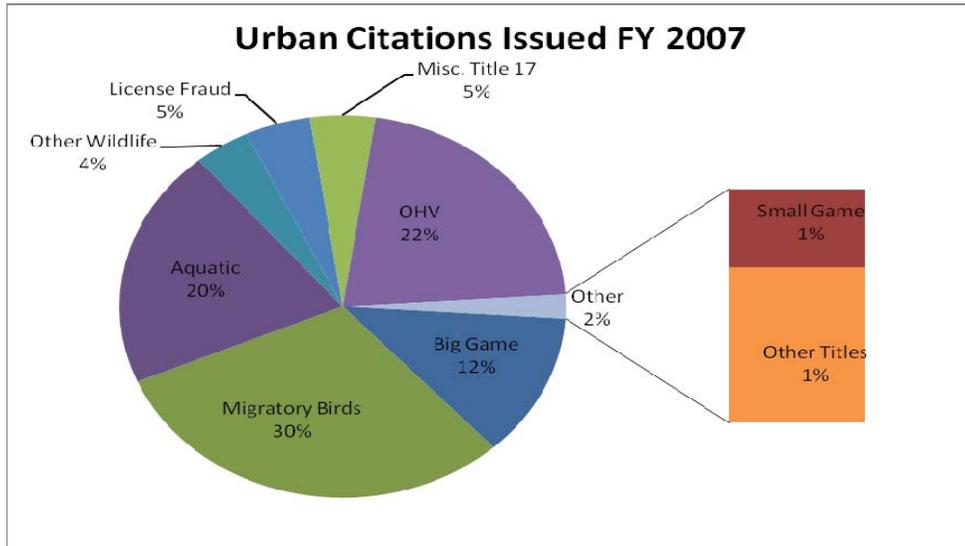
#### Summary of Activities:

Arizona's rapid development and increasing urban sprawl create a need to maintain balance between using the land for development needs and keeping as much open land as possible to minimize the loss of habitat and open lands traditionally used for hunting and fishing. Urban Law Enforcement officers provide the public with hunting and fishing information and protect Arizona's diverse resources from poaching and overuse. They investigate reports of violations, collect and preserve evidence, write reports, and testify in court. Officers are also expected to promote and coordinate hunter education programs, collect and report information on the conditions of fish and wildlife and their habitat, and represent the Department at local schools and meetings of special interest groups, e.g., hunting and fishing clubs, Lions Club, Rotary, Audubon, etc.

There were 68 Operation Game Thief calls received by the Department during fiscal year 2007 that involved the metro units. The breakdown by nature of the calls is as follows:



Urban enforcement efforts resulted in citations being issued for 145 offenses in the metro units. The nature of the offenses is as follows:

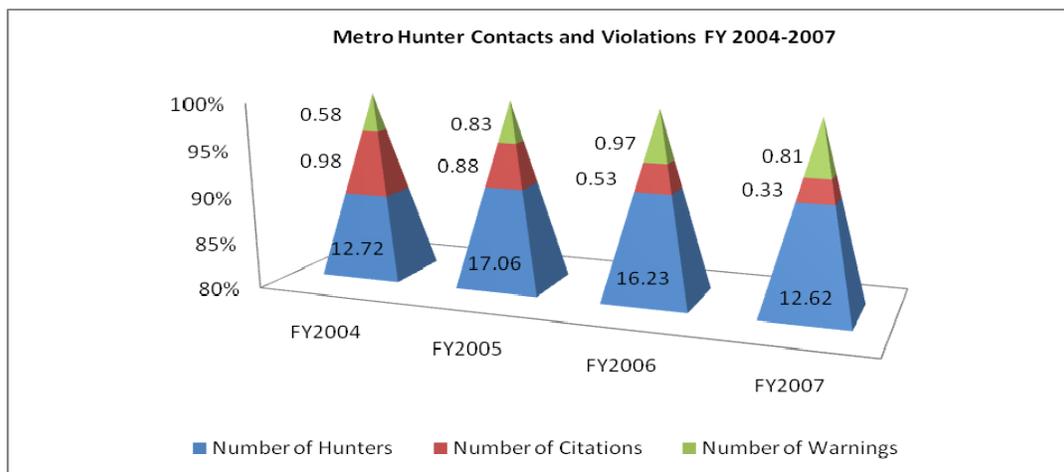


Specific actions included the following:

**July-2006 - June-2007 Metro Unit Hunter Contacts and Violations**

Region	Hunters	# Cited	# Warned
2	15	0	0
5	84	0	2
6	1163	33	79
<b>Totals:</b>	<b>1262</b>	<b>33</b>	<b>81</b>
<b>Percentage:</b>	<b>91%</b>	<b>2.6%</b>	<b>6.4%</b>

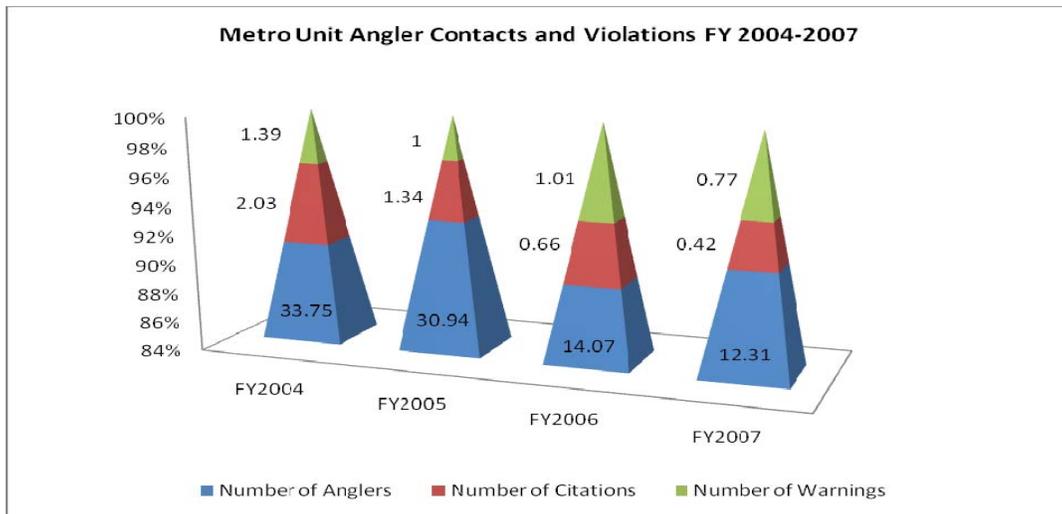
Violation percentage: 9% (Violations: 114/ Contacts: 1262)



**July-2005 - June-2006 Urban Lake Angler Contacts and Violations**

Region	Anglers	# Cited	# Warned
5	217	8	17
6	1145	58	84
<b>Total:</b>	1362	66	101
<b>Standard:</b>	87.7%	7.4%	4.8%

Violation percentage: 12.3% (Violations: 167/ Contacts: 1362)



**Urban Wildlife and Recreation**

Objectives:

Enhance wildlife associated recreational activities. Develop and collect social and biological information needed to support wildlife recreation. Provide financial assistance through grants, agreements and partnerships to support urban wildlife recreation. Provide information, education and marketing to the public to enhance public awareness and understanding of wildlife recreational opportunities, and increase participation. Develop, maintain and enforce regulations in support of wildlife recreation. Provide administrative structure, planning, training, oversight, and coordination for Project personnel and cooperators.

Summary of Activities:

The Department cooperated with federal agencies, local governments, private property owners and organizations to develop and enhance wildlife-related recreational opportunities in urban areas. Staff promoted recreational opportunities for wildlife watching and urban fishing. This included providing advice on design, habitat, management issues and opportunities for the Riparian Preserve at water treatment plants in Gilbert, the Rio Salado restoration project, The Point at the Squaw Peak community and the McDowell Sonoran Preserve.

The following represents other recreational opportunities the Department assisted in developing:

- Formed a community partnership agreement with the Arizona Lottery to sponsor established nature festivals: five festivals received assistance in FY 2007.

- ☛ Personnel coordinated with the Pinetop-Lakeside Chamber of Commerce in organizing and conducting their inaugural “Woodland Wild Country” wildlife festival held at Woodland Lake Park in October, 2006, with estimated 400 in attendance.
- ☛ With the Arizona Elk Society, co-sponsored and hosted “Wapiti Weekend” for 109 youth at Sipe White Mountain Wildlife Area that focused on development of several aspects wildlife consumptive use skills, including wildlife identification, calling, tracking, and hunting ethics.
- ☛ Served as a resource for developers regarding open space and wildlife corridor issues, as well as on nature trails and signage.
- ☛ Reprinted 10,000 copies of the “White Mountains Wildlife Trails” map and guide. The initial printing of 20,000 copies in November 2005 was exhausted within eight months.

Staff conducted a variety of education events to schools and after-school programs. Each program provided information about watchable wildlife opportunities, watchable wildlife skills, and interactions with wildlife in urban areas. Staff gave presentations on desert wildlife; bighorn sheep; and safe and environmentally sound desert recreation.

#### *Urban Fisheries Program*

There were over 440 fish stockings coordinated with contractors and municipalities during the year. A total of 211,800 fish weighing 209,900 pounds were purchased from commercial fish suppliers in Arkansas and Colorado and delivered to Urban Program waters from September through June. The Department worked with municipalities statewide to manage 20 designated Urban Fishing Program waters. Program performance in 2007 was excellent with a record number (36,793) of Urban Fishing Licenses sold (a 14% increase over 2006), over 620,000 recreational angler days provided, an 81% angler satisfaction rate with their angling experience, and a 26% participation rate by youth under age 14.

The Urban Fishing Program coordinated and provided special fish stockings for public fishing events and clinics at the Sportsman’s Expo, Outdoor Expo, Payson Wildlife Fair, Kiwanis Fishing Festival and nine smaller clinics. The Department also produced and installed 25 custom designed Urban Fishing kiosks with bulletin boards at 20 urban water locations.

### **Wildlife Enjoyment (Watchable Wildlife)**

Objective: Provide information, education and marketing to the public to enhance public awareness and understanding of watchable wildlife. Provide and expand public opportunities for watchable wildlife. Provide and enhance wildlife viewing opportunities. Develop and provide financial assistance through grants, agreements and partnership opportunities to support watchable wildlife activities. Provide administrative structure, planning, training, oversight, and coordination for watchable wildlife project.

#### Summary of Activities:

There is a great opportunity in Arizona to significantly increase organized recreational wildlife viewing, an effort commonly known as Watchable Wildlife (WW). In the past the Department has been very active with WW efforts. However, these efforts were generally carried out relatively

independently by Regional field offices and the Information and Education Division. Statewide, the WW project strives to increase public awareness of, and support for, wildlife through managed wildlife viewing-related recreational and educational opportunities, while not lessening existing hunting and fishing opportunity.

Emphasizing the ethical use of the resource by the public assures the positive wildlife viewing experience for all user groups is sustained for the future. Wildlife viewing recreationists are a diverse group of users; many have differing experience expectations. The Department’s WW project seeks to increase the chances of satisfying those expectations by offering various viewing experiences in a format that allows for the sharing of important wildlife management information and recognition of the Department’s management role.

The Department participates extensively in wildlife-related festivals, expositions and workshops. Watchable Wildlife (WW) presentations and materials were provided to attendees at the following education fairs and community celebrations across the state and included the following:

Arizona State Museum’s Solstice Celebration	Arizona State Parks 50 <sup>th</sup> Anniversary Celebration
Tucson Audubon’s Ironwood Festival	Tres Rios Earth and Nature Festival
SAFE’s Animal Fair	Woodland Wild Country Wildlife Festival
Colossal Cave’s Pioneer Days	Verde Valley Birding Festival
Pima County’s Earth Day Celebration	National Trails Day
Payson Wildlife Fair	High Country Hummers Celebration
Yuma Birding and Nature Festival	City of Yuma’s Safe Works Expo

Watchable Wildlife personnel coordinated a number of educational workshops and symposiums. Adobe Mountain Wildlife Center (AMWC) hosted the 2006 Southwest Wildlife Rehabilitators Symposium that offered a variety of educational courses focused on the care and biology of mammals, birds and reptiles. In cooperation with Yuma Parks & Recreation Department, personnel put on a two-day “Bats of Arizona” workshop which discussed bat biology, visited known bat roosts and used the “Anabat” system to record sounds of various bat species. Other workshops included a two-day Mexican Wolf Natural History Workshop; a bird watching workshop at Kachina Wetlands; the annual Bald Eagle Workshop; and two watchable bighorn sheep workshops.

WW personnel developed a variety of educational products such as a set of wildlife trading cards, a bighorn sheep poster, promotional key chains of the black-footed ferret and roundtail chub, educational coloring booklets for younger children of the bighorn sheep and black-footed ferret, and various educational handouts and brochures, including the Upper Verde River Wildlife Area.

The following interagency activities were conducted:

-  Developed Watchable Wildlife interpretive signs for highway rest areas and pullouts to inform and encourage people to watch and enjoy wildlife. The first three signs were installed at Sunset Point, McGuireville and Parks rest areas. The Department is working with the Arizona Department of Transportation (ADOT) to identify additional areas to place the signs.

- ✦ Involvement with Arizona Watchable Wildlife Tourism Association (AWWTA) included directing all aspects of a strategic planning effort for AWWTA to emphasize purpose, reorganize, and strengthen the association.
- ✦ Partnered with Coconino County Parks and Recreation to facilitate the Natural Resources Conservation Services purchase of a perpetual Wetland Reserve Program (WRP) conservation easement on Pumphouse Greenway (PG). PG is one of the many sites listed in our partner-based Watchable Wildlife Vision. By partnering on this WRP, the Department has been able to get wildlife habitat and watchable wildlife development projects into the PG management plan.
- ✦ Provided support for an Arizona State Parks grant to Coconino County Parks and Recreation to develop viewing platforms, viewing blinds, a nature trail, and interpretive signage at Pumphouse Greenway.
- ✦ Partnered with Springerville Chamber of Commerce to develop an urban trail, including interpretive wildlife signage and wildlife viewing platform, along Becker Lake Wildlife Area. This project won the award for “Community Development, Parks and Recreation” at the 2006 Governor’s Rural Development Conference.

The Department developed and conducted studies that considered the current and future needs of urban wildlife. These efforts to preserve our wildlife heritage were used to help the public become aware that wildlife is an asset to communities that must be considered in planning for the future. Urban wildlife studies are used to address controversies and challenges while offering possible solutions for managing and maintaining urban wildlife populations. The following are examples of urban wildlife projects that were conducted in fiscal year 2007:

#### Artificial Burrows for Burrowing Owls

Overall burrowing owl site occupancy declined in 2007 compared to the two previous years. Four land use categories were studied over the past several years: agricultural, industrial, residential and urban park sites. Initial conclusions found that agricultural and industrial site occupancy remained consistently high, however residential and urban park occupancy has declined. The greatest numbers of nests were detected at agricultural sites, followed by industrial, residential and urban park sites. Eighty-seven juveniles were banded during the 2007 field season, along with 4 adult males and 7 adult females.

#### Urban Mountain Lion Research

Radiocollars were placed on 15 adult mountain lions near Payson and Prescott (4 females, 11 males) over the past two years. During this project year aerial monitoring and downloading of radiocollar data continued. The data collected from this study will be used to evaluate mountain lion habitat use, movements, and behavior in and around urban areas.

#### Black Bear Densities in White Mountain Wildland Urban Interfaces (WUI)

Estimating the population size of black bears in forested regions is notoriously difficult. Objectives of this study involved noninvasive genetic sampling of black bears. Hair-snags are a fairly recent field tool to retrieve DNA from free-ranging black bears. The genetic data gathered from the hair samples are used to estimate the number of bears using locations around Greer, Nutrioso and in Unit 27. Thirty-seven samples were collected and analysis continues.

### Tassel-eared Squirrel Habitat Use in WUIs

Department staff and students from Northern Arizona University continued a telemetry study of tassel-eared squirrels in WUI treatment areas around Flagstaff. Forty-five squirrels were collared and tracked. Data collected included tassel-eared squirrel abundance on fuels reduction and restoration treatments at five ponderosa pine study areas in the Flagstaff area. Data collection and analysis continues.

## **Environmental Education Subprogram**

### **OVERVIEW:**

One job makes up this subprogram:

1. Environmental Education

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Environmental Education Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary. Fieldwork was conducted statewide and, as necessary, in other states.

### **JOBS (Summary of Activities):**

## **Environmental Education and Information**

Objectives: Implement annual marketing plans for all agency programs. Achieve customer satisfaction targets established by program. Achieve agency recognition targets by program. Increase participation of culturally diverse people in agency programs. Achieve increases in the public's skills, enjoyment and safety in the pursuit of programmatic and recreational activities. Achieve customer satisfaction targets established for products and services.

### Summary of Activities:

The Department's Environmental Education (EE) program develops programs to introduce youth and the public to nature, develops curriculum to educate K-12 teachers and students about wildlife conservation and responsible behavior and facilitates Environmental Education and Schoolyard grant proposals. The Department sought to increase community involvement by providing opportunities for individuals and groups to contribute to the recovery, preservation, and study of Arizona's ecology. Education and information resources were promoted to citizens concerning the value of natural desert habitats, native biodiversity, and their importance to humankind. Example activities that supported these objectives are listed below.

☛ Three natural history workshops were provided to approximately fifty educators throughout Arizona on the following topics: Predators of Arizona, Wolves from the Wild to the Classroom and Sonoran Pronghorn.

☛ Approximately 5,434 students from 185 classrooms in 56 schools participated in the 4<sup>th</sup> grade Adaptations classroom presentations, which is a 45-minute presentation on animal adaptations

and symbiotic relationships, with a focus on the desert. Live animals from the Adobe Mountain Wildlife Rehabilitation Center were included.

- Conducted four crayfish eradication field experiences for approximately 38 Arizona teachers; a teacher workshop focusing on the Highway 260 elk project for approximately 50 educators; and conducted Focus WILD workshops throughout the state to reach new and in-service educators: Yuma County, ASU Polytechnic, and Pima County.

- Teacher training workshops promoting our Focus Wild online curriculum were presented at numerous teacher conferences including: Arizona Science Teachers Association, Arizona Council for Social Studies, Arizona Science Center educator evening and Geofest.

- Informational booths and educational presentations on the value and diversity of Arizona's Wildlife with live educational animals from the Adobe Mountain Wildlife Rehabilitation Center were set up at events including: Geofest, Valley Forward Earth Fest Educator's Reception, International Sportsman's Expo, Outdoor Expo., Welcome Back Buzzard Party @ the Boyce Thompson Arboretum, Channel 12 Kids Fair, National Migratory Bird Day @ Boyce Thompson Arboretum, Biker's Soar for Wildlife Bike Run, Verde Valley Birding and Nature Festival, Bow Hunter's Happening, Deer Valley Rock Art Center and Tres Rios Nature and Birding Festival.

The Information Project is a service-oriented project designed to support the dissemination of messages to the public of all of the Department's programs as the need is identified. It accomplishes its work through the creation and distribution of various communications products, including press releases, media advisories, newsletters, brochures, fact sheets, posters, giveaway items with Department branding, videos and other multimedia products. Other products included content on the Department's Web site at azgfd.gov, "Arizona Wildlife Views" television show, "Arizona Wildlife Views" magazine, advertising, direct mail, books, interpretive displays and signage, and various other publications, including the hunting and fishing rules and regulations, media field trips, news conferences, as well as direct public communications through telephone calls and personal contact. The Information Project also plays a role in various Department outreach events, often coordinating and organizing the Department's participation in those events to directly communicate with the public.

- Disseminated information about new programs and resources to program enrollees through electronic lists.

- The Department web site was frequently updated and improved during the reporting period. On average, more than 10,000 people visited the web site each day.

- The "Arizona Rattlesnakes" poster was redesigned and 30,000 were reprinted.

- Educational resource materials were provided to participants attending the Arizona Science Teachers Association (ASTA), the Arizona Council for Social Studies (ACSS), Geofest, Valley Forward Earth Fest, International Sportsman's Expo, Outdoor Expo, Welcome Back Buzzard Party @ the Boyce Thompson Arboretum, Channel 12 Kids Fair and Bow Hunter's Happening.

- Approximately 50,000 *Critters of Arizona* books were distributed to 4<sup>th</sup> grade students throughout the state to support Governor Napolitano's literacy initiative.

- A copy of *A Field Guide to Amphibians and Reptiles in Arizona* was distributed to every public school in the state of Arizona. This book was provided as a wildlife resource for student

research and reference in the library. Included in this mailing was information about Focus Wild and Heritage Grants.

➤ Issues of *WILD in Arizona*, *WILD Water Wonders*, and *Here Today – Gone Tomorrow?* student tabloids were distributed at the Arizona State Fair, six water festivals (held statewide in partnership with Project WET), five birding and nature festivals (Yuma, Tres Rios, Wings Over Willcox, Verde Valley, and Southwest Wings), regional wildlife fairs, and other public events.

➤ Lessons, study guides, and resources were developed and added to the agency web site including Wildlife and Highway Management, Mountain Lions in Arizona, and Living State Symbols of Arizona. Exemplary Heritage Environmental Education grants awarded in previous years were converted into free, downloadable web-based delivery formats for educators: Schoolyard Habitat Design, Exploring Arizona's Natural Resources, and Desert Birding Guide.

➤ Seven study guides, and resources were developed and added to the agency web site this year including Fashion A Fish; Living Labels; Mapping Your School Site; Receding Waters; The Mysterious Case of the Bass and the Lake; Wolves: An Uncertain Future; and The Trouble With Crayfish.

➤ "*Landscaping for Desert Wildlife*" is now available electronically on the Department's internet site. All the hard copies from the original printing have been given out, but the demand for this information still exists. The text and photographs were updated to include various plants, shrubs and trees whose images were essential in illustrating this new web page. This tremendous effort resulted in an outstanding finished product available to all our customers.

In FY 2007 approximately 134,600 copies of the *Arizona Wildlife Views* magazine reached an estimated 363,420 readers, including all state legislators. Various articles and news briefs that were published in the *Arizona Wildlife Views* magazine included:

- The bi-monthly department "Focus: Wild Arizona" offers lessons/learning activities for youth and teachers. The lessons come directly from the Focus: Wild Arizona program, which is a free education program for teachers, parents, students and anyone interested in learning about wildlife and habitat.
- Two stories celebrating the 10-year anniversaries of the black-footed ferret and condor reintroduction programs were published. The stories listed the programs' successes, continuing challenges and future plans.
- An article about crayfish in the classrooms was published and explained about what schools are doing to educate students about invasive species, such as crayfish, and how teachers are helping to eradicate the problem.
- News briefs about condors, ferrets and desert tortoises and other Heritage-related projects can be found in several magazine issues.
- Other projects that were printed included a black-footed ferret poster, a salamander brochure, and various urban wildlife publications.

The Department produced a 13-week television series, which aired on the statewide PBS network and cable systems. The *Arizona Wildlife Views* television show production staff received several awards in FY2007 including:

### **Emmy Awards (National Academy of Television Arts and Sciences)**

- “Arizona Wildlife Views – Show 10” in the Environment Program category
- “Later Alligator” in the Public Affairs Segment category.

### **Outdoor Writers Association of America Awards**

- Conservation/Environment category – First Place “The Brink of Recovery”
- Conservation/Environment category – Second Place “143 Days”
- Conservation/Environment category – Third Place “Lake Powell”
- Natural History category – First Place “Four Deserts”
- Natural History category – Second Place “The Brink of Recovery”
- Outdoor Ethics category – First Place “Volunteers”
- Shooting Sports category – First Place “CHAMP Program”
- Shooting Sports category – Second Place “Girls Got Guns”

### **International Wildlife Film Festival**

- Government Agency category – Finalist “The Brink of Recovery”

Two educational video programs were created and released by the Department in FY2007: *Non-Lead Ammunition Program* and *Espee Ranch Conservation Easement*. The non-lead ammunition program is a DVD that was mailed to every hunter who drew a mule deer tag on the Kaibab Plateau to educate them about the Department’s free non-lead ammunition program and the dangers of lead poisoning among California condors. The Espee ranch video details the opportunity to create a conservation easement on 90,000 acres of grassland in northern Arizona. The Audio-Visual Department also created five videos for the Wildlife for Tomorrow Banquet which profiled this year’s inductees into the Arizona Outdoor Hall of Fame.

## **Access Subprogram**

### **OVERVIEW:**

One job makes up the subprogram:

1. Heritage Public Access

Project information: Administrative work was conducted at the Arizona Game and Fish Department, Development Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary. Fieldwork was conducted statewide.

### **JOBS (Summary of Activities):**

## **Landowner Relations Program**

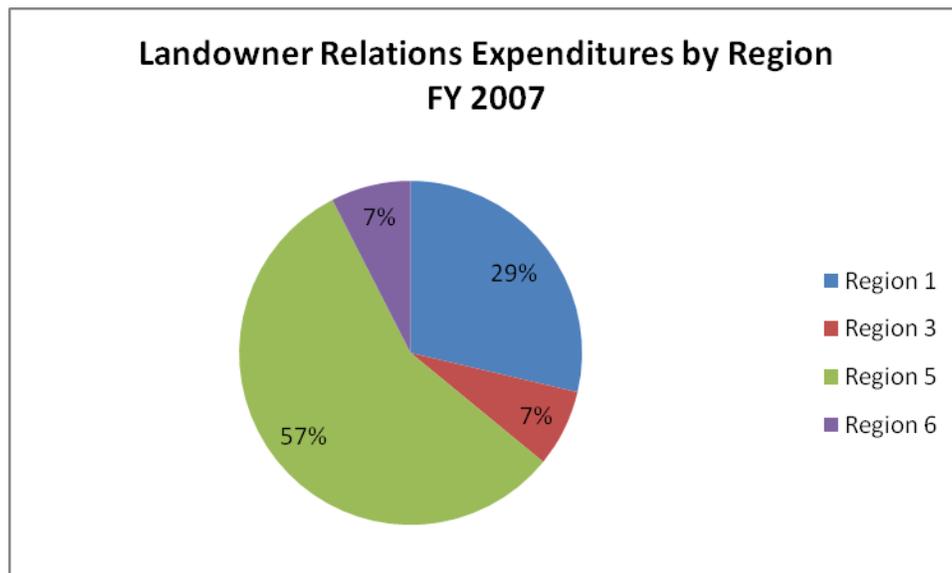
### **Objectives:**

To administer the Heritage funded Public Access Program by which the Department can collaboratively enhance opportunities for the public to enjoy wildlife by identifying lands and waters that are closed to the public or that do not have sufficient access and work with all interested

parties to meet recreation and other access needs. To administer statewide the Heritage funded Public Access Program by which the Department can work collaboratively with private landowners and land management agencies to enhance opportunities for the public to enjoy wildlife through maintaining, enhancing and restoring public access on lands in Arizona.

Summary of Activities:

The Heritage Access project (Heritage Access Grant-In-Aid, Landowner Respect Program, and the Adopt-A-Ranch program) was administered through the Department's Landowner Relations Program. The Project focused on establishing working relationships between landowner/lessees, recreational user groups, land management agencies, and the Department. A cost benefit analysis is completed for each Access project. The Department uses the best available data to determine the amount of recreational usage an area will receive (based on the number big and small game hunters, etc.). Dollar figures are then generated by the US Fish & wildlife Service 2001 national report for average expenditures per outing and generate a dollar value to the state in order to show the benefit to the State.



Featured Access Projects:

**HOPI 3 Canyon Ranches:** This project entailed working with the Hopi Tribe and NRCS to improve grassland and water distribution on three ranches. The Department provided \$40,000 towards this project in exchange for two years of hunter access to the ranches. This funding was matched by \$450,000 of NRCS funding and landowner efforts.

**Pima County Ranches:** Worked with Pima County to provide funding for several water distribution and riparian and grassland restoration projects on three ranches purchased by the county for conservation purposes. The Department provided \$80,000 towards this project in exchange for 20 years of hunter access to the ranches.

**Verde River Access:** This project entailed working with Arizona State Parks to secure a new boating access to the Verde River near Cottonwood, Arizona. The Department contributed

\$10,000 towards establishing a permanent access to the river and the construction of a parking lot for the users.

🦅 **Porter Access Project:** Worked with the rancher and NRCS to provide funding for a grassland restoration and some wildlife waters on the ranch. The Department provided \$20,000 towards this project in exchange for three years of hunter access to the ranches. This funding was matched by \$180,000 of NRCS funding and landowner efforts.

🦅 **Lackner Brothers Ranch Project:** This project entailed working with the landowner to install a solar pump and keep water in several drinkers on a year round basis for wildlife. The Department provided \$15,000 towards this project in exchange for two years of hunter access through the ranch to US Forest Service lands beyond the ranch.

🦅 **T Link Ranch Project:** This project acquired a perpetual easement across the private portion of T Link Ranch for \$45,000. This payment will be used by the landowner to do a project with the US Forest service that will improve the ranch through prescribed burns and improving water availability for livestock and wildlife.

🦅 **Arizona Hunters Who Care:** This group participates in the Adopt-A-Ranch program, and conducts biannual cleanups of litter left by undocumented aliens on multiple ranches in southern Arizona. During this spring's project, the group was able to organize 177 volunteers for the cleanup. The project was so successful that there was a story about the litter problem and the volunteer's efforts on the Tucson news.

## **Administrative and Support Services**

### **OVERVIEW:**

One job makes up the subprogram:

1. Heritage Program Administration

Project Information: Administrative work and support services were conducted at the Arizona Game and Fish Department, Development Branch, 2221 West Greenway Road, Phoenix, Arizona 85023-4399; the Department's Regional Offices in Pinetop, Flagstaff, Kingman, Yuma, Tucson, and Mesa; and other statewide locations, as necessary.

### **JOBS (Summary of Activities):**

#### **Heritage Program Administration**

Objective: To ensure annually the program, planning, granting, budget and audit accountability for the Heritage fund to the level at which the job is being conducted, including coordination and annual reporting to the Legislature.

Administrative related activities are used to support the department's management activities relative to Heritage funded jobs.

Summary of Activities:

**Heritage Grants Awarded in FY2007**

Fifteen Heritage Fund grants were awarded in FY2007. The awarded grants were announced at the May 2007 Arizona Game and Fish Commission Meeting. Total awarded funding was \$348,993, which became available in July 2007. The project period for these grants is three years. Project information regarding the applicants, awarded funding and applicant's project descriptions is as follows:

***Environmental Education Heritage Grant Program***

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Project Information: E08001 INVADERS of the Sonoran Desert Region: High School Citizen Scientists

Amount Awarded: \$9,996.00

Organization: Pima County Natural Resources

Description:

High School Citizen Scientists involve students and Teachers directly in field research, hands-on data collection and analyses, management action and communication of results. The goals for the project are to educate high school students on invasive species and how they affect Arizona wildlife and their habitats, to teach them about implementation of scientific sampling and subsequent management actions through hands-on participation, and to provide students with a scientific field experience that can help direct their career goals. Students will learn that conservation is a multi-level effort that begins with an issue, proceeds to data collection and analysis, and ends with a specific action.

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Project Information: E08002 Sonoran Sea Aquarium Education and Outreach School Programs and Field Studies

Amount Awarded: \$9,540.00

Organization: Pima County Natural Resources

Description:

Provide hands-on programming in 25 schools to approximately 9000 students to educate about the waters and aquatic wildlife of Arizona and the Sonoran Desert. The "Crayfish" field studies program teaches 4th -6th grades about invasive non-native aquatic wildlife.

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Project Information: E08003 Curriculum Development to Support Tortoise Habitat and Native Plant Garden

Amount Awarded: \$7,500.00

Organization: Altar Valley School District

Description:

School staff will develop and pilot an interdisciplinary curriculum supporting and incorporating the tortoise habitat. The project will educate students and the community about their environment, how humans impact their environment, and how wildlife can coexist with humans.

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Project Information: E08006 Grand Canyon Outdoor Classroom

Amount Awarded: \$4,964.00

Organization: Grand Canyon Unified School District

Description:

Grand Canyon school has been modifying curriculum to meet International Baccalaureate (IB) standards in addition to Arizona state standards, which has included partnership with Grand Canyon National Park Environmental Education (GCEE) office to create a series of field trips associated with classroom activities. Grand Canyon School intends to continue this process of enhancing conservation curriculum by creating more hands-on opportunities for students. The outdoor classroom will provide a seating and activity area on a wooded section of the school grounds. The area can be used to help meet standards in the primary IB units on Sharing Our Planet as well as Arizona State education standards. It will be available as well for all teachers, K through 12, to be incorporated into other units of study but its primary focus is K through 5.

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### ***IIAPM Heritage Grant Program***

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Project Information: I08001 Bat Roosts Phase II

Amount Awarded: \$13,138.00

Organization: Northern Arizona University

Description:

Project will capture, radiotag, and locate maternity, post-lactating female and bachelor roosts for Allen's lappet-browed (*Idionycteris phyllotis*) to understand their roost needs and develop management recommendations for protecting roosts. Allen's lappet-browed bat is a key species listed in the Arizona Bat Conservation Strategic Plan. I will develop a predictive model for describing roosts that can be used by management agencies for protecting critical roosting habitat for Allen's Lappet-browed bats. Resurvey known snag roosts to determine the length of time these ephemeral roosts are available for use by maternity colonies of Allen's lappet-browed bats.

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Project Information: I08002 Population Status and Population Genetics of Leopard Frogs in Northern Arizona

Amount Awarded: \$39,861.00

Organization: Northern Arizona University

Description:

The northern leopard frog is one of many anuran amphibians that have suffered conspicuous declines in western North America. Genetic effects of population isolation compound other factors causing declines in increasingly fragmented populations in northern Arizona. This study will assess current distribution, abundance, and genetic integrity of leopard frogs in Arizona, in support of current and potential future management actions by the Arizona Game and Fish Department and others.

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Project Information: I08003 Demography of the Mexican Garter Snake

Amount Awarded: \$29,320.00

Organization: Associate Dean of Research

Description:

This project is to conduct detailed population study of *Thamnophis eques* at Finley Tank, in Santa Cruz County, Arizona. The main objectives are: 1. To develop estimates of population size, determine age structure of the population, survival rates, and set the groundwork for accessing long-term population trends. 2. To compare efficiencies of different sampling methods in estimating population size, or biases of the different methods for different sex or age groups. 3. Use this information to aid in a long-term species survival plan.

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Project Information: I08005 Population Impacts on the Narrow Headed Garter Snakes

Amount Awarded: \$76,535.00

Organization: University of Arizona

Description:

The uniquely adapted narrow-headed gartersnake occupies a water snake niche in the arid Southwest. It has an isolated population segments in sub-Mogollon Arizona/New Mexico and one in Mexico. The U.S. population, surveyed in 1985-8 and 2004-5 with AGFD funding, appears to have suffered the most precipitous declines of any North American reptile, for reasons unknown. We will quantify population size, demography, habitat ecology, and co-occurring species at 6 sampling sites at 3 localities, exploring the forces producing this decline. We will focus especially on suspected causes (exotic fishes and crayfish, siltation, and possible disease) and demographic, health, and habitat-specific abundance data that are expected to have signatures pointing toward the operative causes of decline.

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Project Information: I08010 Migration Pattern and Population Genetics Structure of the Lesser Long Nosed Bat

Amount Awarded: \$36,166.00

Organization: University of Arizona

Description:

Some maternity roosts in southwestern Arizona are occupied from spring to early fall, and non-maternity roosts in southwestern Arizona are occupied from mid-summer to early fall. There may be a connection between the southwestern and the southeastern Arizona roosts, which could indicate that bats are moving between the two proposed migration corridors. This project will determine migratory routes and population structure of the lesser long nosed bat by use of molecular markers to determine if significant gene flow occurs between southwestern and southeastern Arizona roosts, as well as throughout the migratory corridor between Mexico and the United States.

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Project Information: I08013 South Mittry Restoration

Amount Awarded: \$45,205.00

Organization: BLM

Description:

South Mittry Restoration will create 60 acres of dense, structurally diverse, cottonwood-willow habitat within flood-irrigated fields. This project will provide habitat for wildlife, including federally-listed southwestern willow flycatcher and yellow-billed cuckoo.

### ***Schoolyard Heritage Grant Program***

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Project Information: S08001 Peralta Trail Nature Reserve and Education Center

Amount Awarded: \$9,720.00

Organization: Peralta Trail Elementary School

Description:

This project is designed to create a schoolyard habitat that will allow students hands-on learning experiences with Arizona Native plants and animals. It will allow students to become oriented with life science, along with research skills needed to be successful writers. It is our goal to create an environment the students and teachers will enjoy and learn from. We would like to track wildlife in our community as it prepares to build 1,100 new homes in the next few years.

We will create a research database that includes list of species in the area and effect on each species as more homes are built in the area. We would like to install night vision cameras and track animals at night. We would also like to link our cameras to our school website so students, teachers, and community members can view the habitat at night when the animals are out.

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Project Information: S08004 Kyrene De La Esperanza Elementary School Heritage Discovery Habitat

Amount Awarded: \$9,850.00

Organization: Kyrene de la Esperanza

Description:

The project is a schoolyard habitat "Heritage Discovery Habitat Garden" and outdoor classroom at the front and side of the school. The Heritage Discovery Habitat will eventually include three distinct areas, an unfenced native plant and hummingbird habitat, a fenced native riparian habitat and a shaded outdoor classroom area. The Heritage Discovery Habitat will be a place for K-5th grade students to have hands-on learning from wildlife in nature and natural systems. The students and faculty will have a natural place for ecological discovery in all areas of their curriculum, science and arts.

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Project Information: S08005 Children Conserving Creatures Pollination Garden and Wildlife Area

Amount Awarded: \$7,271.00

Organization: Fruchthendler Elementary School

Description:

The purpose of this project is to develop and enhance a schoolyard habitat focusing on native wildlife. The proposed project will utilize community labor and native plantings to attract wildlife into a neglected wildlife preserve on the school property and establish a pollination garden in a separate area. Arizona state standards for many subjects will be emphasized as the students partake in the development, maintenance, and enjoyment of these improved areas. Community volunteers, school students and staff will all contribute to the project, promoting a sense of awareness and respect for native wildlife and conservation.

### ***Urban Heritage Grant Program***

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Project Information: U08005 Bats and the Wildland Urban Interface

Amount Awarded: \$48,465.00

Organization: Northern Arizona University

Description:

Severe wildfires in wildland urban interface (WUI) areas have increased forest management treatments (thinning, prescribed burning) to reduce fire risk and protect human structures. How these management treatments affect bats is unknown, but ponderosa pine snags, primary roost resources for reproductive female bats may be reduced. If natural roosts are lacking, bats may switch to human structures for roosting, increasing potential for human/wildlife conflicts. In Flagstaff, rabies outbreaks have occurred several times in the past 5 years; bats and other mammals are carriers of rabies. This 2-year project will examine how bats use WUI areas, potential for human/wildlife conflict, and potential for human exposure to rabies through bats.

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Project Information: U08009 Pemberton Pond Blind

Amount Awarded: \$1,462.00

Organization: Maricopa County

Description:

To construct a camouflaged viewing blind enclosure for park staff and visitors to observe and digitally record the variety and numbers of wildlife species present in the park and around the newly created Pemberton Pond.

**Acronyms used in the Arizona Game and Fish Heritage Fund Report**

A.R.S.	Arizona Revised Statutes
AAEE	Arizona Association of Environmental Education
ADOT	Arizona Department of Transportation
AFS	American Fisheries Society
AFWA	Association of Fish and Wildlife Agencies
AGFD	Arizona Game and Fish Department
AOT	Arizona Office of Tourism
ASLD	Arizona State Land Department
ASTA	Arizona Science Teachers Association
ASU	Arizona State University
BFF	Black-footed Ferret
BLM	Bureau of Land Management
CWCS	Comprehensive Wildlife Conservation Strategy
DOD	Department of Defense
EE	Environmental Education
GIS	Geographic Information Systems
GMU	Game Management Unit
GPS	Global Positioning System
HCP	Habitat Conservation Plan
HDMS	Heritage Data Management System
HEP	Habitat Evaluation and Protection
IBA	Important Bird Areas
IIAPM	Identification, Inventory, Acquisition, Protection and Management
IIAPM-FWR	IIAPM - Fish and Wildlife Research
IIAPM - WM	IIAMP – Wildlife Management
IIAPM-LW	IIAPM - Lands and Water Administration and Acquisition
IIAPM – S	IIAPM - Stewardship
PBS	Public Broadcast System
AWWTA	Arizona Watchable Wildlife Tourism Association
WUI	Wildland Urban Interface
CEDES	Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora
NPS	National Park Service
BIDA	Biodiversidad y Desarrollo Armónico A.C.
WAFWA	Western Association of Fish and Wildlife Agencies
WRP	Wetland Reserve Program
PG	Pumphouse Greenway
NRCS	Natural Resources Conservation Service