

STATE OF ARIZONA

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Arizona Game and Fish Department Heritage Fund 2018 Report to the Arizona Legislature

Project Year July 1, 2017 to June 30, 2018

Acknowledgments

The assistance of personnel throughout the Arizona Game and Fish Department (Department), and our external cooperators, in preparing this report and conducting the activities reported herein is gratefully acknowledged.

Civil Rights Notification

The Department prohibits discrimination on the basis of race, color, sex, national origin, age, disability in its programs and activities. If anyone believes they have been discriminated against in any of the Department's programs or activities, including its employment practices, the individual may file a complaint alleging discrimination directly with the Arizona Game and Fish Department, Director's Office, 5000 W. Carefree Highway, Phoenix, Arizona 85086; (623) 236-7290, or U.S. Fish and Wildlife Service, Office of Diversity and Inclusive Workforce Management, Public Civil Rights Accessibility & Disability Coordinator, 5275 Leesburg Pike, Falls Church, VA 22041; (703) 358-1724. If you require this document in an alternative format please contact the Arizona Game and Fish Department, Director's Office as listed above or by calling TTY at 1-800-367-8939.

Project Funding

Title 17, Chapter 2, Article 6. Arizona Game and Fish Commission Heritage Fund

§17-296. Definitions

In this article:

1. "Public access" means providing entry to publicly held lands for recreational use where such entry is consistent with the provisions establishing those lands.
2. "Sensitive habitat" means the specific areas within the geographical area historically or currently occupied by a species or community of species in which are found those physical or biological features essential to the establishment or continued existence of the species and which may require special management, conservation or protection considerations.
3. "Endangered species" means a species or subspecies or population of native Arizona wildlife whose population throughout its range has been reduced due to any cause whatsoever to such levels that it is in imminent danger of extinction, elimination from its range in Arizona, or has been eliminated from its range in Arizona.
4. "Threatened species" means a species, or subspecies or population of native Arizona wildlife that throughout its range although not presently in imminent danger of extinction, being eliminated from its range in Arizona, is likely to or might become an endangered species in the foreseeable future.
5. "Candidate species" means a species or subspecies, or population of native Arizona wildlife, for which habitat or population threats are known or suspected but for which substantial population declines from historic levels have not been documented.
6. "Urban wildlife" means the wildlife that occurs within the limits of an incorporated

area or in close proximity to an urban area that receives significant impact from human use.

7. "Environmental education" means educational programs dealing with basic ecological principles and the effects of natural and man related processes on natural and urban systems and programs to enhance public awareness of the importance of safeguarding natural resources.
8. "Habitat evaluation" means the assessment of the status, condition and ecological value of habitat and subsequent recommendations of management, conservation or other protection measures, or mitigation measures, including but not limited to, recommendation of reasonable alternatives for the proposed projects that might otherwise affect the habitat under assessment.
9. "Habitat protection" means the process of protecting the quality, diversity, abundance, and serviceability of habitats for the purposes of maintaining or recovering populations of Arizona wildlife.

§17-297. Arizona Game and Fish Commission Heritage Fund

- A. The Arizona game and fish commission heritage fund is established consisting of monies deposited from the state lottery fund pursuant to section 5-572 and interest earned on those monies.
- B. The fund shall be administered by the Arizona game and fish commission and is not subject to appropriation and expenditures from the fund are not subject to outside approval notwithstanding any provision of section 17-241 or 17-261 or any other statutory provision to the contrary. Monies received pursuant to section 5-572 shall be deposited directly with the Arizona game and fish commission heritage fund. On notice from the commission, the state treasurer shall invest and divest monies in the fund as provided by section 35-313, and monies earned from investment shall be credited to the fund.
- C. All monies in the Arizona game and fish commission heritage fund shall be spent by the commission only for the purposes and in the percentages set forth in this article. In no event shall any monies in the fund revert to the state general fund and monies in the fund are exempt from the provisions of section 35-190 relating to lapsing of appropriations.
- D. The commission shall not use its rights of eminent domain to acquire property to be paid for with money from the Arizona game and fish commission heritage fund.

§17-298. Expenditures from Fund; Purpose and Amounts; Annual Report

- A. Monies received pursuant to section 5-572 shall be spent as follows:
 1. Five per cent on public access, including maintenance and operation expenses.
 2. Sixty per cent on the identification, inventory, acquisition, protection and management, including maintenance and operations, of sensitive habitat. At least forty per cent of the monies available under this paragraph shall be spent on the acquisition of sensitive habitat utilized by endangered, threatened and candidate species. The commission may dispose of any lands acquired for use as habitat by an endangered, threatened or candidate species under this paragraph when the

species no longer qualifies as an endangered, threatened or candidate species. The Arizona game and fish commission shall dispose of the land in a manner consistent with the preservation of the species of concern. The disposal may include conservation easements and fee simple transfers with associated instruments of protection. The commission shall follow the guidelines established pursuant to section 37-803 relating to the disposition of real property by a state agency. In addition, disposal shall include a written agreement between the commission and the purchaser requiring the purchaser to incorporate management actions to ensure proper maintenance of the species of concern. Management actions may include maintenance of habitat, selective control of nonnative species, maintenance of genetic viability, monitoring of populations and habitat, coordinating conservation activities, funding conservation actions and assessing conservation progress.

3. Fifteen per cent on habitat evaluation or habitat protection.
 4. Fifteen per cent on urban wildlife and urban wildlife habitat programs.
 5. Five per cent on environmental education.
- B. All monies earned as interest on monies received pursuant to section 5-572 shall be spent only in the percentages and for the purposes described in subsection A of this section or for costs of administering the Arizona game and fish commission heritage fund in such amounts as determined by the Arizona game and fish commission.
- C. On or before December 31 each year the commission shall submit its annual report to the president of the senate, the speaker of the house of representatives and the chairmen of the senate and house of representatives committees on natural resources and agriculture, or their successor committees. The annual report shall include information on:
1. The amount of monies spent or encumbered in the fund during the preceding fiscal year and a summary of the projects, activities and expenditures relating to:
 - (a) Property acquisition.
 - (b) Identification, inventory, protection and management of sensitive habitat.
 - (c) Habitat evaluation and protection.
 - (d) Urban wildlife.
 - (e) Environmental education.
 - (f) Public access.
 2. The number and location of parcels of property acquired during the preceding fiscal year.
 3. For personal and real properties acquired with fund monies during the preceding fiscal year, the amount of property tax revenue paid to each taxing jurisdiction during the last full tax year prior to acquisition.
 4. The amount of money spent from the fund during the preceding fiscal year for employee personal services.
 5. The number of full-time employees employed in the preceding fiscal year in connection with property acquisition, including survey, appraisal and other related activities.
 6. The total number of full-time employees employed in the preceding fiscal year for the programs listed in subsection A of this section.
 7. A list of the grants awarded during the preceding fiscal year including information on the recipients, purposes and amounts.

Reporting Requirement

This Heritage Program Report to the Arizona Legislature is required under, and submitted in compliance with, Arizona Revised Statutes §17-298.

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HERITAGE ACQUISITION

The Arizona Game and Fish Commission (Commission) purchased one property and contributed funds to acquire a conservation easement with Heritage Acquisition funding in FY 2018.

On December 14, 2017, the Department closed escrow for the acquisition of EC Bar Ranch. The Department spent \$2,147,159 in Heritage acquisition funds (including due diligence paid in fiscal year 2017) as match for \$1 million non-traditional Section 6 grant from the U.S. Fish and Wildlife Service for the acquisition of the EC Bar Ranch in Apache County. The acquisition of approximately 392 acres of land, with 111.21 acres of water rights and 45 acre-feet of storage



rights in Nutrioso Reservoir, will provide wildlife benefits by protecting habitat for New Mexico meadow jumping mouse, southwestern willow flycatcher, Little Colorado spinedace, and yellow-billed cuckoos.

The Department partnered with the USDA-Natural Resources Conservation Service and The Nature Conservancy to acquire conservation easement across approximately 513 acres of the Park Central Farm along the Verde River, near Camp Verde Yavapai County. The Department contributed

\$750,000 in Heritage acquisition funds, with escrow closing on May 17, 2018. This acquisition will protect habitat for sensitive aquatic and terrestrial species.

There were three full-time employees working for the Department in the preceding fiscal year connected to property and water right acquisitions. The Department expended a total of \$260,046 for Habitat Evaluation and Protection Personnel Services for these activities.

HERITAGE IDENTIFICATION, INVENTORY, PROTECTION and MANAGEMENT of SENSITIVE SPECIES

Heritage Identification, Inventory, Acquisition, Protection and Management (IIAPM) funds are combined with other funding sources, like State Wildlife Grants (SWG) and Pittman-Robertson Funds, to implement a wide variety of projects identified in Arizona's State Wildlife Action Plan (SWAP). This leveraging of funds magnifies the return on investment by accomplishing critical conservation work throughout Arizona. In most cases, IIAPM funds provide a fiscal foundation that enables or entices other sources to contribute to making a conservation concept a reality. The projects below are just a few examples of hundreds of projects enabled by IIAPM funds thus far in Arizona. Although none of these projects has been funded solely by Heritage, their success is clearly attributable to the program.

Bald Eagle Conservation

Heritage IIAPM funds have contributed significantly to the recovery and delisting of the bald eagle in Arizona. Arizona has used IIAPM funds to collect data on Arizona's bald eagle population which has been used several times by the U.S. Fish and Wildlife Service (USFWS) to defend the decision to delist the species in Arizona. Without IIAPM funding and the biological data, pro-listing litigants would have likely succeeded in placing Arizona's bald eagle population back on the Endangered Species List. Arizona's future bald eagle monitoring and management will rely heavily on Heritage funds.

Greater Phoenix Area Waterbird Survey

Greater Phoenix metropolitan area has become an ever increasing destination for wintering birds. Each year, more neighborhood lakes and golf course ponds are created, attracting wintering aquatic birds. Annual Coordinated Bird Monitoring surveys confirm that this urban area continues to attract a higher density and diversity of wintering aquatic birds than any other place



of its size in Arizona. Heritage IIAPM funds help collect the data to lessen land use conflicts and to continue cooperative surveys that result in proactive wildlife management.

Breeding Marshbird and Colonial Waterbird Surveys

Annual statewide surveys are conducted to assist in monitoring populations of marshbirds and nesting colonial waterbirds, some of which are Species of Greatest Conservation Need in Arizona. Heritage IIAPM funds support biologists that coordinate survey training workshops and the survey efforts of various agency biologist and volunteers. Data from these surveys are used to assess breeding population of rails, egrets, herons, and cormorants, including



the endangered Yuma Ridgway's Rail and expanding and increasing population of neotropical cormorants.

California Condor



Heritage funding provides match to support recovery efforts for the endangered California condor. The Arizona Game and Fish Department (Department) continues to promote its successful voluntary lead reduction program by addressing the greatest challenge to condor recovery efforts: lead poisoning. In 2017, the condor educational programs reached over 7,500 Arizona residents at more than 20 events. The benefits of this outreach are demonstrated by the Department's innovative free non-lead ammunition program achieving a greater than 80% hunter participation rate since 2007. The 2018 program is ongoing and is currently on target to maintain a greater than 85% participation rate in this lead reduction program.

Sonoran Pronghorn Conservation



Funding from IIAPM is helping the Department save the fastest native land mammal in the United States, the endangered Sonoran pronghorn. Severe drought in the Southwest reduced the wild population in Arizona to an estimated 21 animals in 2002. Due to ongoing management efforts such as building waters, enhancing native habitats, and captive breeding pens, the most recent population estimate is 357. In the original herd south of Interstate 8 alone, the population has grown to 228 pronghorn. As a result of this success, the Department established two more populations on the Kofa National Wildlife Refuge and on the Barry M Goldwater Range. Currently we estimate there are 81 pronghorn in the Kofa, and an additional 48 in the Saucedo herd east of Highway 85. Recent rainfall and forage conditions have been poor leading and have contributed to a short-term population decline. However over the long-term, both populations are slowly growing and expanding their range to meet the recovery objectives.

Golden Eagle Baseline Surveys and Monitoring



As a result of newly established permitting authorities under the Bald and Golden Eagle Protection Act (BGEPA), there is an emerging need to accurately assess the population size and trends of golden eagles. Compounding this need is the increased mandate for BGEPA permits on renewable energy resource development. Without baseline nest location, occupancy, and productivity data, the USFWS has a limited ability under the BGEPA to issue permits to ensure compliance. Heritage IIAPM funds are currently helping the Department collect the data on golden eagles to allow for the USFWS to issue permits for development. In 2018 after eight years of survey effort, the Department has confirmed over 288 occupied golden eagle breeding areas; a 1,920% increase over the number of known breeding areas when the rule was published. This information has been invaluable in evaluating siting of proposed renewable energy projects.

Arizona Bat Conservation Partnership



Over 50 percent of U.S. bat species are in some category of concern from emerging threats, such as fatalities at wind power facilities, unprecedented human activity and growth, climate change, and large-scale die-offs from a disease called white-nose syndrome. Arizona has one of the most diverse bat faunas in the United States with 28 species. Heritage IIAPM funding allows the Department to play a key role in creating partnerships to address these threats, with the common goal of conserving Arizona's bat resources. Heritage IIAPM funds have been

instrumental for tracking bat population status and trends and for monitoring changes in bat species distributions.

Black-footed Ferret Conservation



The Heritage IIAPM funded Black-footed Ferret Reintroduction Program in Arizona is working to achieve the population numbers required for down-listing the species to threatened, with the ultimate goal of meeting the state's population objective for delisting. To achieve this goal, the Department finalized a statewide plan that will ensure federal regulatory obstacles do not hinder the Department from expanding the reintroduction effort to multiple areas throughout the state. Heritage IIAPM funds are being used to monitor the existing populations, to reintroduce new populations, survey their movements with telemetry and drones, and to conduct field studies to counter the species biggest threat; sylvatic plague.

Black-tailed Prairie Dog Monitoring



In an effort to preclude the need to list the species under the Endangered Species Act, in 2008 the Department reintroduced black-tailed prairie dogs into grasslands within the species' historical range in the Las Cienegas National Conservation Area. Those efforts have grown into managing four colonies and a population of over 200 black-tailed prairie dogs. In 2017, Heritage IIAPM funds allowed for an additional reintroduction of 94 animals into Sands Ranch in partnership with Pima County, and have allowed management efforts to transition this fourth area into a healthy colony in its first year. In addition to direct population enhancements, the Department, BLM and the Arizona Antelope Foundation partnered to aggressively implement habitat improvement projects to restore over 700 acres of grassland through mesquite tree removal and prescribed burns.

Arizona Important Bird Areas - Citizen Science



Heritage IIAPM funding facilitates the support of Arizona’s Important Bird Areas (IBA) Program. Launched in 2001, the Arizona program (co-administered by Tucson Audubon Society and Audubon Arizona in coordination with the Arizona Bird Conservation Initiative), identifies the most important sites for priority bird species and habitats, coordinates citizen-science bird inventory and monitoring, and promotes on-the-ground habitat projects. The IBA Program is closely tied to the Department’s SWAP strategies for conserving priority birds and for helping to keep common species common, by pursuing conservation actions to address stressors to habitats and to Species of Greatest Conservation Need. To date 45 IBAs have been identified in Arizona and include riparian and wetland

habitats, southeastern “sky island” mountains, and grasslands. Fourteen of these IBAs are considered of global significance.

Topminnow and Pupfish Safe Harbor Agreement Progress



Ranchers, private landowners, and local governments are helping recover some of Arizona’s endangered fishes through a Safe Harbor Agreement (SHA). SWG and Heritage Funds enable the Department to oversee and monitor landowner-enrolled sites under the SHA for Gila and Yaqui topminnow and desert and Rio Sonoyta pupfish. To date, the Department has enrolled 23 participating landowners and stocked 23 refuge ponds for conservation, with four enrolled sites waiting to be stocked. An additional 11 landowners are pending enrollment. Loss and degradation of natural habitat, competition and predation by non-native fish, disease and parasites have impacted these fishes in the wild. SHA-enrolled populations help further recovery goals for these fish and provide a ready source of new fish for future stocking and repatriation efforts. These fish also provide a native solution to mosquito control in local and rural neighborhoods; research has demonstrated that

topminnow are just as effective as nonnative mosquitofish in preying on mosquito larvae.

Arizona Six Species of Native Fish Conservation Plan



Under the Department’s leadership, the Arizona Six Species of Native Fish Conservation Plan was finalized in August 2015. This plan outlines conservation actions and priorities for roundtail chub, headwater chub, flannelmouth sucker, Little Colorado River sucker, bluehead sucker, and Zuni bluehead sucker. Since 2006, federal, state, tribal, and non-governmental organization partners worked together to implement conservation actions in the original Six Species Conservation

Agreement and Strategy. In September 2015, eight of those partners, including the Department,

reconfirmed their conservation commitments under the new plan. Arizona is one of the signatory member states to the 2006 Three Species Range-wide Conservation Agreement and Strategy for roundtail chub, flannelmouth sucker, and bluehead sucker. Arizona Heritage Funds have been used to plan and implement many of the state-led actions to improve the status and distribution of roundtail and headwater chub, bluehead sucker, and Little Colorado River sucker. Specific projects implemented in 2018 under this conservation plan included surveys, stockings, and nonnative fish removal efforts.

Arizona Bird Conservation Initiative – Coordinated Bird Monitoring



Continental and local declines in many bird populations have led to renewed international concern for the future of migratory and resident birds. Heritage funds are enabling the Department to create bird conservation partnerships with federal, tribal, state, and private land management entities statewide to establish monitoring projects which will contribute to regional and national efforts assessing bird population trends and reverse these declines. The projects include bird monitoring projects for: grassland species, Sonoran desert species, riparian species, waterbirds, colonial nesters, and nightjars.

Mollusk Conservation and Survey Workshops



Since October 2017, the Department has hosted seven mollusk conservation and survey workshops around the State. Over 80 participants from State, federal, and county agencies, non-governmental organizations, universities, and environmental consulting firms received training on our native springsnails and land snails. Workshops were held in Kingman, Flagstaff, Page Springs, Cave Creek, Young, Safford, and Sierra Vista. Each workshop included a field trip to a local site for participants to gain first-hand experience in surveying for native snails and using ArcGIS Collector app for field data entry. Visiting State and federal biologists from California, Nevada, and New Mexico

also attended a few of these workshops to learn about native mollusk conservation in Arizona. These workshops are part of the partner-based effort to manage our smallest wildlife species under voluntary conservation agreements with landowners and natural resource agencies. Heritage Funds are used as a match for State Wildlife Grants to implement mollusk conservation efforts in Arizona.

International and Borderlands Program



Department staff organized two capacity building workshops in Sonora, Mexico focused on the use of trail cameras for wildlife monitoring and scientific studies. The first workshop took place in Hermosillo, Sonora on September 18th and 19th, and the second workshop took place on November 1st and 2nd in Moctezuma, Sonora at Universidad de la Sierra (UNISERRA). A combined total of 60 workshop participants ranging from college students, wildlife technicians, and biologists were

introduced to topics such as study design, photo data processing, data analysis, proper data storage techniques; and, camera trap handling, programming, and deployment. The two-day workshops consisted of classroom sessions as well as hands-on interactive activities. The main instructor for both workshops was Dr. Jan Schipper, Director Field Conservation Research/Arizona Center for Nature Conservation, Phoenix Zoo/ASU. Department staff also participated as workshop instructors.

IIAPM Heritage Data Management System (HDMS)

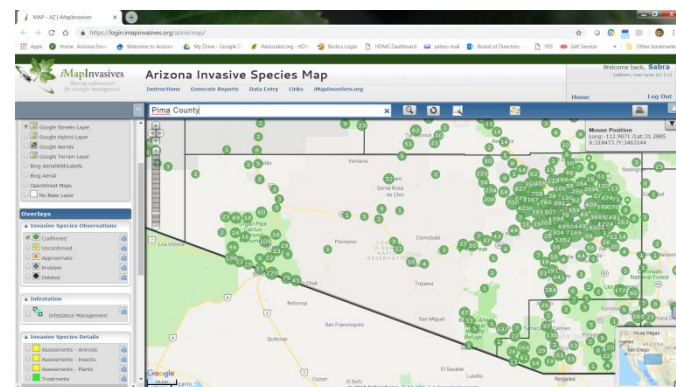
HDMS is part of a network of more than 90 Natural Heritage Programs and Conservation Data Centers in the western hemisphere. This information is made available to help Arizonans make prudent decisions weighing future development, economic growth, conservation, and environmental integrity.

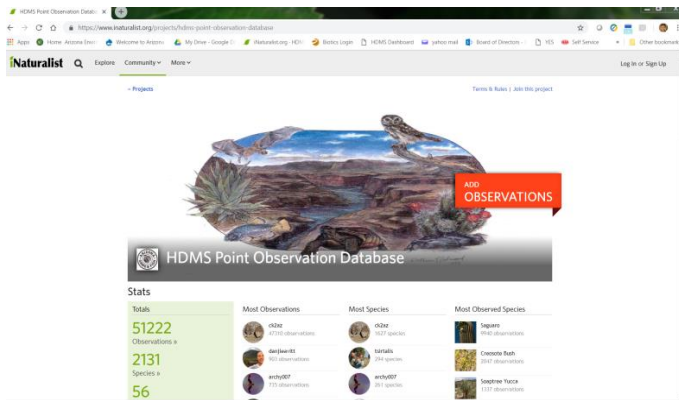
During fiscal year 2018, Department staff entered 555 new records and updated an additional 902 records within the HDMS. In addition, Department staff wrote or updated 14 species abstracts and updated occurrence and predicted range maps for over 1000 species. Occurrence and status information were provided to 48 requests related to research, conservation actions, and development projects. One new species management guidelines was created to guide avoidance and mitigation measures in the Online Environmental Review Tool.



The Online Environmental Tool was used for viewing Department data, creating maps, and receiving lists of species documented in a geographic area related to conservation, education, or development actions. Over 1991 projects were submitted during FY 2018 for environmental compliance. (<https://azhgis2.esri.com>)

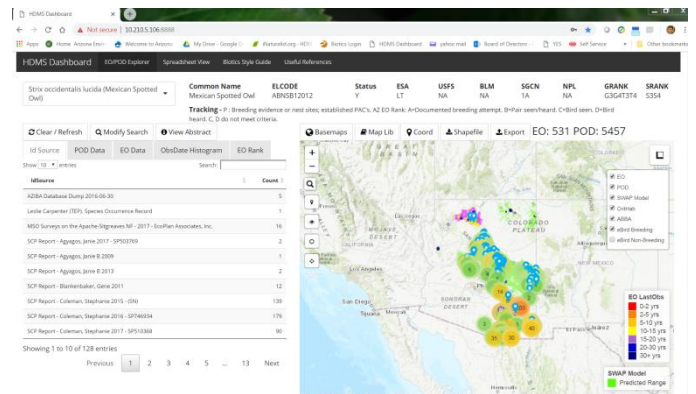
The iMapInvasives web site for tracking invasive species continues to grow in users and data. The system is being updated to new technology expected to be done in late FY 2019. It is hoped this will increase usage by partners. (<http://www.imapinvasives.org/arizonalogin>). We are also working with the Western Governors Association on invasive data management.





Department staff have finished digitizing species observation data related to Scientific Collecting Permits for the past 16 years; the dataset now has over 567,000 point observations to guide research and management decisions. Citizen Science efforts continue to be explored with our iNaturalist application having almost 51,000 records submitted by volunteers (<https://www.inaturalist.org/projects/hdms-point-observation-database>).

Department staff continued to increase other data sets to make sure the most current science are used in decisions. Department staff worked on a new tool for data visualization called the Dashboard. This is an internal application that allows one to view multiple data sources at once to make sound scientific decisions on research, environmental compliance, and species management. The new technology allows the viewing of data with online sources without having to actually obtain and manage it.



Heritage Property Operations and Maintenance:

Whitewater Draw Moist Soil Units – Phase 1

Whitewater Draw Wildlife Area provides habitat for the Bald Eagle (winter population and Peregrine Falcon. Additionally it is popular among bird watchers due to its winter roosting and loafing habitat for approximately 20,000 Sandhill Cranes annually, and habitat for other waterbirds, upland game birds, songbirds, and raptor species. Mule deer, javelina, plains leopard frogs, and various other nongame species can be found on the property. The property's moist soil units (3 cells), provides critical habitat for various migrating birds, is experiencing unacceptable seepage. Through the application of sodium bentonite on the moist soil unit a potential 1,215 acre-feet/year reduction in seepage would occur. This phase would treat the first of three cells. Not only is this a water conservation measure but it will reduce electric power consumed by reducing water pumping requirements.

Becker and Wenima Ditch Transition to Pipe

Management goals for Becker Lake and Wenima Wildlife Area are to provide the visiting public diverse recreational experience that includes quality fishing, boating access and wildlife viewing opportunities. Specific to the Enders parcel and Wenima, objectives are focused on conserving and enhancing aquatic and riparian habitat values for the management of Federally-listed Little Colorado spinedace and Southwestern willow flycatcher. Management objective for the wildlife area maintaining and enhancing aquatic habitat within the LCR corridor, maintaining and expanding desirable woody vegetation along the LCR and other suitable areas, while maintaining quality habitats for game and nongame species. To fill Becker Lake water is diverted out of the Little Colorado River (LCR) into the Becker Lake ditch. This ditch is close to a mile in length with about 600 feet of 24" diameter pipe already installed. This project would continue the transition to corrugated polyethylene IB pipe. The pipe would be placed in the existing ditch a covered with adjacent berm material. A similar issue occurs at the delivery ditch at Wenima, of which approximately 900 feet of ditch is proposed to be replaced with pipe. Currently these ditches experience approximately 40% - 60% transfer loss and require ongoing maintenance.

Arlington Well Refurbishment and Transition to Electric Power

The management emphasis at the Arlington Wildlife Area is to maintain habitat for waterfowl, doves, Yuma clapper rail and other wildlife; and to provide compatible hunting, wildlife viewing, and other wildlife-oriented recreational opportunities. This involves maintaining appropriate water levels and a mix of open water and marsh habitat in the ponds. The Arlington Well delivers water to the SPR mitigation pond and three other ponds. Currently, the pumping capacity of the well pump, which is driven by a diesel engine, is only operating at about 50% efficiency and cannot keep the SPR pond full during summer months. Additionally there are plans to modify these ponds and develop a 148 acre mesquite bosque and 12 acres of ephemeral wetlands a future mitigation banking project. At that point this well will be used to irrigate the mesquites to establishment and deliver water to the wetland. The well would be more efficiently operated on grid power, so this project includes bring power service to the well. Utility power is adjacent to the site.

Page Springs Property – Refurbish On-Site Pond

The Department plans to manage the new property for the northern Mexican gartersnake. The ideal use of the property for gartersnakes would be to construct ponds, similar to the unlined ponds on Bubbling Ponds Hatchery. Those ponds would be stocked with native fish, and perhaps lowland leopard frogs, and be managed to mimic the frequently-used existing gartersnake habitat on Bubbling Ponds. Part of the property also borders Oak Creek, and again, protecting the riparian habitat from development or other uses will serve to protect additional snake habitat. As part of management objectives for the newly acquired Page property the Department will be refurbishing a small (.25 acre) on-site pond on Page Springs property to create a small wetland area as part of the pond to improve habitat conditions for northern Mexican gartersnakes on the new property. Additionally the pond can support the native baitfish research project by using the pond to investigate the feasibility of captive rearing of Sonora suckers and longfin dace in a pond setting.

HABITAT EVALUATION AND PROTECTION

As defined in Title 17, Heritage Evaluation and Protection funds shall be spent on programs that provide assessment of the status, condition and ecological value of habitat and subsequent recommendations of management, conservation, mitigation or other protection measures, including but not limited to; recommendation of reasonable alternatives for the proposed projects that might otherwise affect the habitat under assessment; in addition to protecting the quality, diversity, abundance, and serviceability of habitats for the purposes of maintaining or recovering population of Arizona wildlife.

Specifically this fiscal year, Department staff conducted the following Heritage associated activities:

- Participated in Western Association of Fish and Wildlife Agencies Monarch Working Group, to prepare a Monarch Conservation Plan in support of habitat improvements that will benefit pollinators, birds, and other species.
- Coordinated with the Southwest Monarch Study and National Fish and Wildlife Foundation (NFWF) to plan habitat improvements for numerous Department Wildlife Areas that would benefit pollinators, birds, and other species.
- Yellow-billed cuckoo training and surveys on Commission owned Horseshoe Ranch as part of project monitoring for the on-going experimental cottonwood garden in GMU 21.
- Springsnail Surveys at Hutch Spring and Copper Spring one day in GMU 21.

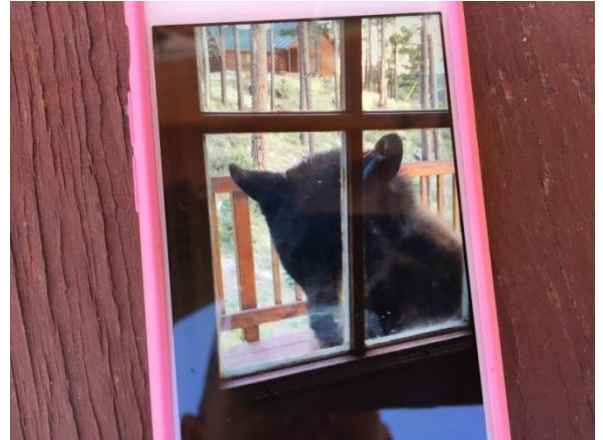
Heritage Habitat Evaluation and Protection funding supports a realty program that includes acquisition, disposals, and exchanges; existing property and water rights tracking; land and water use fees associated with Commission owned property; drafting and execution of land use agreements on Commission owned properties; drafting and execution of land use agreements with federal, state, local government, and private property; project review on Commission owned property; and maintenance of property and water right information. The Department completed the following activities as a function of the program.

- Made voluntary contributions in lieu of taxes on all eligible Commission-owned properties; contributions included \$34,867.21 to ten counties with \$11,161.76 paid to eight counties from Heritage IIAPM non-acquisition funds.
- Scheduled water deliveries with the Bureau of Reclamation for Lower Colorado River-Multi-Species Conservation Plan leased land at the Cibola Valley Conservation and Wildlife Area.
- Renewed one land use agreement.
- Executed four new agreements on Heritage Acquisition funded properties, including a Cooperative Agreement on the EC Bar Ranch for the previous landowner to assist with property management, as well as several Rights of Entry at Horseshoe Ranch, Lower San Pedro River Wildlife Area, and Robbins Butte Wildlife Area.
- Paid administrative fees associated with water rights including Norviel decree, canal companies, and irrigation district assessments.

HERITAGE URBAN WILDLIFE

Human-Wildlife Conflicts

Department personnel recorded over 4,774 calls related to human-wildlife conflicts across the state, of which nearly half of the calls continue to be associated with the Phoenix and Tucson metro areas. The number reflects a 174 call increase from FY17 and is believed to be a result of early season high temperatures across the state and drought conditions the state was experiencing prior to relief from monsoon precipitation. Callers were given information on identifying what is attracting wildlife to their homes or neighborhoods as well as methods of minimizing the conflicts. Once residents learned ways to effectively deal with wildlife around their homes, most residents



were generally tolerant of the wildlife living among them. For communities experiencing chronic issues, Department staff conducted presentations, held discussions with residents on how to resolve conflicts with wildlife, provided Department personnel to respond to human-wildlife interactions where there was an immediate public safety risk and/or the homeowner was not able to resolve the conflict on their own through self help measures. Public outreach and education continues to be a Department priority in passing along tools for homeowners to learn how to live with wildlife.

Urban Law Enforcement

Intentional feeding of wildlife continues to be a problem in Arizona's urban areas. Statewide, there were 118 calls to the Operation Game Thief Hotline reporting illegal feeding of wildlife. Department personnel continue to send "no feeding" letters warning residents that, not only is feeding wildlife unlawful (violation of A.R.S. 13-2927), it can be detrimental to the wildlife the residents are trying to help. This law currently applies only to Maricopa, Pinal, and Pima counties. Regional personnel continue to educate residents about the dangers of feeding wildlife through individual contacts, community presentations on "Living with Urban Wildlife", and through all printed and online materials about coexisting with native wildlife.

HERITAGE ENVIRONMENTAL EDUCATION

As defined in Title 17, Heritage Environmental Education funds shall be spent on educational programs dealing with basic ecological principles and the effects of natural and man related processes on natural and urban systems and programs to enhance public awareness of the importance of safeguarding natural resources.



Professional Educator Development

Department staff excels in developing and delivering

professional educator trainings on mission- consistent topics. During the last reporting period we interacted with more than 250 educators. Hundreds more accessed our professional development materials (e.g., resource trunks, lesson plans) through the Department’s “Focus Wild Arizona” webpages. These resources and our presentations (in person and via the internet) provide professional educators with an opportunity to learn about wildlife management and conservation, habitat, technology, science inquiry, Heritage grants, biological careers, and a variety of other topics.

Staff funded by Heritage dollars also participated on a variety of agency and nongovernmental boards and committees that provide support and resources to the educator communities throughout the state, such as: the Arizona Department of Education’s Parent and Community Focus Group for the development of the new science standards, Arizona Association for Environmental Education as part of their statewide Environmental Literacy Community of Practice and the Arizona Science Education Leaders Association, and various school districts. Staff also disseminated information of interest to educators through small and large group presentations at local, regional, and national meetings. The Department delivered professional development presentations for educators at two local educator conferences: the Arizona Council for Social Studies and the Arizona Science Teachers Association. In addition, staff provided professional development presentations at the ASU STEM camp designed specifically for teachers to learn about incorporating STEM concepts into their classroom.

Wildlife Rehabilitation

The Department’s Wildlife Center is primarily supported with Heritage Urban funds. The Center provides specialized care for sick, injured, orphaned, and confiscated wildlife, and cares for the Department’s collection of live, non-releasable animals used for public outreach programs. With the support of cooperating volunteer veterinarians, the Center provides care for a variety of wildlife including birds, mammals, and reptiles. Most of these animals are brought to the Department by concerned citizens.

Most wildlife brought to the Center are fully rehabilitated and returned to the wild. Those that are non- releasable due to permanent injuries or other issues are sent to approved wildlife sanctuaries or zoos to serve as “animal ambassadors” in their public outreach programs or exhibits.

During the reporting period, the Department received positive exposure for aiding bear cubs, over 100 desert tortoises and an orphaned grey fox. We also received considerable interest from the public and positive media coverage on a three-legged tortoise that was rehabilitated and adopted out to a local resort in Peoria.

Desert Tortoise Adoption Program

The Department’s Tortoise Adoption Program continues to provide a valuable service for Arizona citizens and tortoise owners. The Heritage Fund provides some funding for the program. For generations, homeowners in Arizona’s desert communities (Tucson, Phoenix, Yuma, and Kingman) have kept desert tortoises as pets in their backyards or



enclosures. To ensure unwanted desert tortoise pets are not released to the wild, potentially spreading pathogens or parasites to a resident population and endangering the life of the pet tortoise, the Department created an adoption program. The Department adopted out approximately 114 desert tortoises during the reporting period. Approximately 40% of the tortoises received required veterinary treatment for malnutrition, respiratory diseases, bladder stones, or traumatic injuries. Once the treatment plan is completed and the tortoises deemed healthy by the Department's consulting veterinarians they are adopted out to new families.

The Department hosts an annual "Tortoise Adoption Day" on the first Saturday in April. People line up to adopt a tortoise and often there is an adoption waiting list. The Department in cooperation with volunteer consulting veterinarians also hold a "prehibernation clinic" in September of each year, at half the normal cost, to ensure pet tortoises are healthy enough to survive the winter. The clinic raises thousands of dollars annually for the adoption program. Both events bring the Department positive media attention.

School Programs

Heritage Environmental Education funds are utilized to deliver education programs to K-12 schools. Students from throughout the state participated in "hands-on" wildlife education activities through summer camps, classroom presentations and field-based research events.



The Department's largest school outreach efforts are directed toward 4th graders. Approximately 8,000 students throughout the state, and in every county, participated in a wildlife education program correlated to Arizona's Academic Content standards. This program focuses on animal adaptations and uses live animals to better illustrate the concepts presented to the students.

Department staff also conducted or participated in numerous outdoor wildlife workshop events, summer camps, and special needs camps orientated toward children. The workshop-type events are hands-on activities and often directed toward large groups or families. To further encourage and support students interested in biological careers, the Department collaborated with the three major universities to establish liaisons. Department employees regularly meet with and mentor students to advise them on wildlife career opportunities and other topics.

For a third year in a row, the Department, in cooperation with Wildlife for Tomorrow Foundation, held the "Wildlife and Outdoor Recreation Summer Camp". Camp activities included live wildlife presentations, nature hikes, bird watching, owl pellet dissection, and more. Approximately 200 children participated, 25 of which were given scholarships based on their family's household income.

Environmental/Wildlife Outreach

Department staff and volunteers interacted with approximately 250,000 individuals at numerous public gatherings, workshops, festivals, and fairs throughout the state. In addition, Department staff regularly promotes wildlife education through live media appearance and print media interviews. Some examples of some of the larger public events the Department participated at include:

- AGFD Outdoor Expo
- Get Outdoors Expo (Scottsdale)
- Wildlife Day at Sportsman’s Warehouse
- Verde Valley Birding and Nature Festival
- Payson Wildlife Fair
- High Country Hummers
- Glendale Community College Earth Day
- Gila River Indian Community Earth Day
- Coconino County Fair
- Woodland Lake Wildlife Festival
- Camp Courage for Burns and Trauma
- Tucson Kids Festival
- Pinetop Fall Art Festival
- Southwest Birding and Nature Festival
- Tres Rios Nature and Earth Festival
- Kartchner Caverns Cave Fest
- Tucson Birding and Wildlife Festival



Three of the most noteworthy events Department staff participated in during the reporting period (in regards to extraordinary public attendance) were the Department’s Wildlife Days at Sportsman’s Warehouse, the AGFD Outdoor Expo, and the Get Outdoors Expo. Public attendance at these three events alone exceeded 100,000 visitors. To help inspire an appreciation of Arizona’s wildlife and habitat to visitors at the public outreach events, the Department displays live, un-releasable wildlife

from its Wildlife Center to nearly all outreach presentations. The Department’s live “animal ambassadors” include a variety of hawks, eagles, owls, reptiles, and rodents. For most visitors this is the first time they have ever experienced wildlife so close, which further enhances their interaction with the Department.

HERITAGE PUBLIC ACCESS

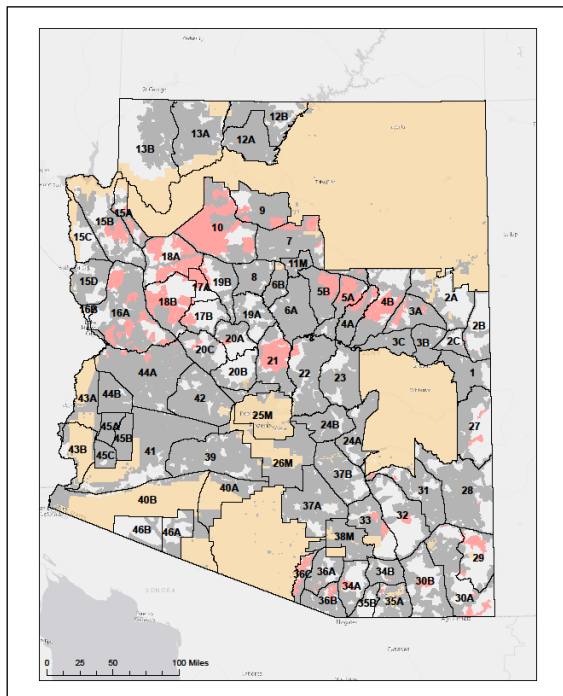
Public Lands Access (Heritage Public Access)

The Landowner Relations Program oversees the Department's recreational access efforts by which the Department collaboratively enhances opportunities for the public to enjoy wildlife. This is accomplished by identifying lands and waters that are closed to the public or that do not have sufficient access, then work with all interested parties to meet recreation and other access needs.

Fiscal year 2018 was a successful year with significant accomplishments. The Department completed 17 recreational stewardship agreements with private landowners, including two perpetual easement projects securing access to landlocked public lands. This fiscal year the Department also allocated \$504,000 of federal funds and Game and Fish funding towards securing access. The projects funded with these federal dollars are included in this report as accomplishments due to the fact that the staff's developing these projects were funded through the Heritage budget. These efforts secured access to an additional 18,000 acres for the public to enjoy for wildlife related recreation. In total, the Department had 85 access agreements where 4.529 million acres had access secured through Department efforts. The Respect program provided signs to 51 ranches, new kiosks/sign-in boxes to 5 ranches and swinging gates to 11 ranches. The Department assisted with 34 Adopt-A-Ranch events which included 610 volunteers totaling 4,710 volunteer hours. Using a value of \$21.69 per hour, this represents \$102,160 in volunteer in-kind funding that contributes to the Heritage Access resources for projects that secure access for Arizona's citizens.

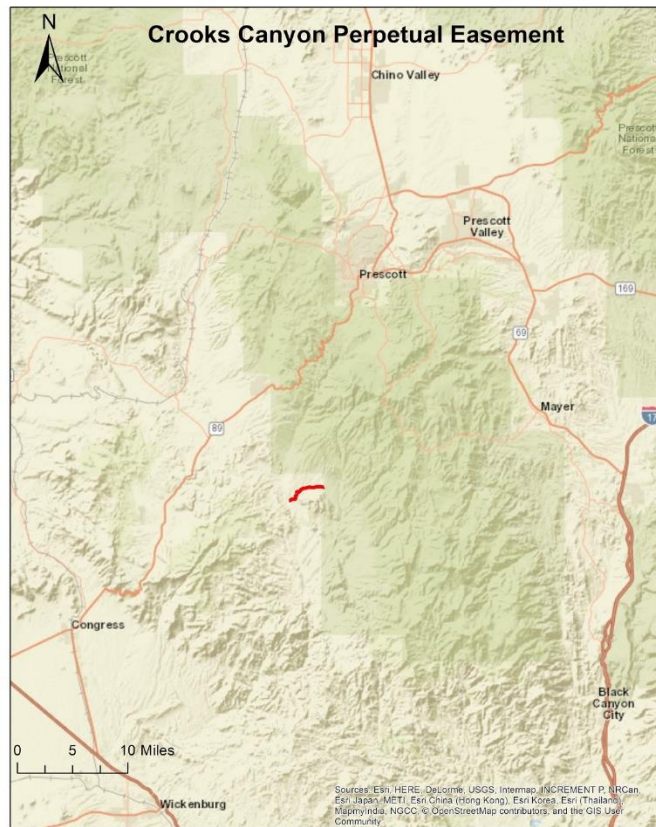
The Landowner Compact Program - The Department began a new program called the Landowner Compact in 2013 that was designed to make an impact on the behavior of all people interested in outdoor wildlife recreation on private lands. The Department re-enrolled The Fort Rock Ranch east of Kingman. The Fort Rock Ranch is unique in that it focuses on opportunity for youth hunters. The Compact Program is not appropriate for every landowner or every ranch in the state, but it has been a successful program with 10 landowners currently enrolled. To learn more about the program, visit <https://www.azgfd.com/landowner-compact/>

Private and land locked public Areas Opened for the Public- Statewide Perspective



Pink = area opened through access program
Grey = area that cannot be closed by private landowners
Tan = tribal or areas closed to hunting by law
White = potential areas that could be closed by private landowners

Crooks Canyon perpetual access easement – Through a complex real estate agreement and transaction, the Department provided funding to multiple landowners to secure an approximately 3 mile perpetual easement providing legal access into a landlocked section of the Prescott National Forest. A further unique aspect of this easement is that it will be held by Yavapai County.



OTHER REPORT REQUIREMENTS

The Department received \$10 million from lottery revenues for Heritage funded programs. Expenditures totaled approximately \$11.5 million in FY2018. The following information represents Department expenditures in fiscal year 2018:

Heritage funds spent for:

- (a) Property acquisition \$3,320,664
- (b) Identification, inventory, protection & management of sensitive species \$3,938,949
- (c) Habitat evaluation and protection \$1,364,368 (\$650,000 was used to match Federal grants)
- (d) Urban wildlife \$1,462,091
- (e) Environmental education \$810,889
- (f) Public access \$470,069

The Department spent \$2,652,227 for employee personnel services and \$1,188,685 for employee related expenses on 51.5 FTEs.

1. On December 14, 2017, the Department closed escrow for the acquisition of EC Bar Ranch. The Department spent \$2,070,620 in Heritage acquisition funds as match for \$1 million non-traditional Section 6 grant from the U.S. Fish and Wildlife Service for the acquisition of the EC Bar Ranch in Apache County. The acquisition of approximately 392 acres of land, with 111.21 acres of water rights and 45 acre-feet of storage rights in

Nutriosio Reservoir, will provide wildlife benefits by protecting habitat for New Mexico meadow jumping mouse, southwestern willow flycatcher, Little Colorado spinedace, and yellow-billed cuckoos.

2. The Department partnered with the Partnered with the USDA-Natural Resources Conservation Service and The Nature Conservancy to acquire a conservation easement across approximately 513 acres of the Park Central Farm along the Verde River, near Camp Verde Yavapai County. The Department contributed \$750,000 in Heritage acquisition funds, with escrow closing on May 17, 2018. This acquisition will protect habitat for sensitive aquatic and terrestrial species.
3. There were three full-time employees working for the Department in the preceding fiscal year connected to property and water right acquisitions. These employees also work on and charge other funding sources, other than Heritage acquisition.
4. For the 2018 Heritage Grant Cycle the Department received 56 applications and awarded 24 Heritage Grants totaling **\$390,878** in Heritage Funds. Below is a listing of the grants awarded:

Outdoor Education:

- **Pendergast Elementary School District, Copper King Elementary School** requested and will receive \$2,500 for "*Copper King STEAM Goes Overboard*".
- **Flagstaff Unified School District, Eva Marshall Magnet Elementary School,** requested and will receive \$2,276 for "*Marshall's 2nd Grade Outdoor Curriculum Experience*".
- **Oak Creek Watershed Council,** requested and will receive \$2,170 for "*Oak Creek Water Quality Field Days*".
- **Gilbert Public Schools, Superstition Springs Elementary School,** requested and will receive \$800 for, "*Second Grade Butterfly Wonderland Field Trip.*"
- **Arizona Trail Association,** requested and will receive \$2,500 for "*Arizona Trail Wildlife CAM (Conservation and Monitoring)*".

Environmental Education:

- **Arizona Board of Regents on Behalf of ASU, Tempe and Polytechnic Campuses,** requested and will receive \$6,825 for "*Cultivating Life in the Sonoran Desert.*"
- **Arizona Wildlife Federation,** requested \$7,915 and will receive \$7,665 for "*Audio Guides to the Raymond Wildlife Area and Morman Lake Arizona Watchable Wildlife Experience.*"
- **Arizona State Parks, Red Rock State Park,** requested and will receive \$2,250 for "*Wildlife Tracking with Technology.*"
- **Snowflake Unified School District, Snowflake Jr. High,** requested and will receive \$5,000 for "*Technology and Wildlife Collision Reduction.*"

Schoolyard Habitat:

- **Wickenburg Conservation Foundation**, requested and will receive \$1,715 for the "*Outdoor Environmental Classroom.*"
- **Pine Forest School**, requested and will receive \$10,000 for "*Cedar Forest's Children's Garden: Schoolyard Wildlife Habitat and Learning Wonderland.*"
- **Osborn School District**, requested and will receive \$1,000 for "*Desert Tortoise Habitat to Facilitate Outdoor Learning at Solano Elementary School.*"
- **Maine Consolidated School District**, requested and will receive \$1,329 for "*Northern Arizona Bat Habitat and Sanctuary.*"

Public Access:

- **Town of Sahuarita**, requested and will receive \$7,705 for "*Sahuarita Lake Public Access for Persons with Disabilities Phase 2.*"
- **City of Holbrook**, requested and will receive \$42,165 for "*Holbrook's Public Access to Recreation Area.*"

Urban Wildlife:

- **Southwest Wings Birding and Nature Festival**, requested and will receive \$5,000 for the project titled "*Southwest Wings Birding and Nature Festival: Wildlife Focused Festival.*"
- **City of Phoenix, Parks and Recreation**, requested and will receive \$33,000 for the project titled "*Papago Park All-Access Fishing Dock.*"
- **Willow Bend Environmental Education Center**, requested and will receive \$38,337 for the project titled "*Habitat Restoration and Watchable Wildlife Enhancement at Sawmill/Willow Bend AWWE Site.*"
- **Friends of Verde River Greenway**, requested and will receive \$14,166 for the project titled "*Verde Tour-An Addition to the Arizona Watchable Wildlife Experience Program - Phase 1.*"
- **Catalina Foothills School District**, requested and will receive \$4,475 for the project titled "*Critter Cams for Kids.*"

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

- **Arizona Board of Regents, University of Arizona**, requested \$42,262 and will receive \$40,301 for the project titled "*Status, Distribution, Habitat, and Stressors of the Sonoran Talussnail.*"
- **Phoenix Zoo**, requested and will receive \$57,804 for the project titled "*Monitoring Fecal Glucocorticoids and Behavior to Assist in Developing a Propagation for Release Program for the Critically Endangered Mt. Graham Red Squirrel.*"

- **Arizona Board of Regents, University of Arizona**, requested and will receive \$61,895 for the project titled "*Soft-release Translocation Techniques to Maximize Fidelity to Release Site in Red Squirrels.*"
- **Idaho Department of Fish and Game**, requested and will receive \$40,000 for the project titled "*Development of YY Male Technology for Eradicating Undesirable Invasive Fish Populations in Arizona.*"