

ARIZONA WATER
PROTECTION FUND



PROTECTING ARIZONA'S
RIVER & RIPARIAN
RESOURCES

ANNUAL REPORT
Fiscal Year 2016

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Executive Summary

The Arizona Legislature established the Arizona Water Protection Fund (AWPF) in 1994 (A.R.S. 45-2101 et seq.) In passing the legislation the Legislature declared that the policy of the state is to provide for a coordinated effort between state funding and locally led solutions for the restoration and conservation of the water resources of the state. The purpose of the AWPF is to provide monies through a competitive public grant process for implementation of measures to protect water of sufficient quality and quantity to maintain, enhance, and restore rivers and streams and associated riparian resources consistent with existing water law and water rights.

The Arizona Water Protection Fund Commission (Commission), which oversees the AWPF, is comprised of 9 appointed citizen based voting members, 2 non-voting state agency ex-officio members, and 2 non-voting advisory members from the State Legislature. Commissioners represent a variety of land, water use and riparian perspectives.

The AWPF was intended to be a proactive response to possible federal intervention in Arizona's river and riparian resource issues. The program was partially created to promote the use of incentives emphasizing local implementation rather than regulation to address resource concerns. As such, the Commission's philosophy has been to utilize a grass roots approach to improving river and riparian resources statewide. The program is operated through a competitive grant process that asks the public to propose local solutions rather than having the State dictate specific measures, priorities or areas of concern.

Arizona's water resources and associated riparian areas are important resources to the people of Arizona for a multiple of uses to include agriculture, recreation, wildlife habitat, residential and industrial uses. Proper land and watershed management strategies can make a profound difference in water quality and quantity, as well as, the economic and environmental values of our rivers and riparian ecosystems.

From 1994 to 2016, the Commission has invested in over 190 projects and contributed over \$37 million toward the restoration, protection and enhancement of river and riparian resources in Arizona. As a result, Arizona citizens have realized many benefits from these investments through improvements in water quality, in-stream flows/water supplies, biodiversity, fish and wildlife habitat, recreation, flood control and overall watershed functionality and sustainability. In addition, important socioeconomic benefits such as jobs and revenue streams are realized by many local communities through the implementation of AWPF projects.

In FY 2016 the grant application and manual was reviewed and the guidelines were updated as a result of recent changes in statute. Statutory changes in 2016 expand the AWPF to include projects that increase water supply, and removes the 5% spending cap of fund monies for water conservation programs.

Arizona Water Protection Fund Creation and Purpose

The 1994 Arizona Legislature established the Arizona Water Protection Fund (AWPF) and the Arizona Water Protection Fund Commission (Commission) to administer the AWPF (A.R.S. § 45-2101 et seq.). In passing the enabling legislation, the Legislature declared that their policy was to provide for a coordinated effort for the restoration and conservation of the water resources of the state. The policy was designed to allow the people of Arizona to prosper while providing financial resources for the conservation and restoration of this State's rivers, streams and associated riparian habitats, including dependent fish and wildlife resources. The law mandates that financial resources be available through grants to appropriate public and private entities to assist in water resource management activities that are consistent with that policy (A.R.S. § 45-2101 (A)).

The primary purpose of the AWPF by statute is to provide an annual source of funds for the development and implementation of measures to protect water of sufficient quality and quantity to maintain, enhance and restore rivers, streams and associated riparian resources, including fish and wildlife resources that are dependent on these important habitats, consistent with existing water law and water rights, and measures to increase water availability. The Commission may also provide funding to develop and protect riparian habitats in conjunction with a man-made water resource project, if the man-made water resource project directly or indirectly benefits a river or stream and includes or creates a riparian habitat.

Program Organization

Arizona Water Protection Fund Commission

The Commission is the main policy making body for the AWPF. The Commission is comprised of 9 voting members who must be Arizona residents and are appointed by various officials who, by statute, represent a variety of land, water use and socioeconomic perspectives. In addition, several of the appointed positions require technical expertise in water, natural resources and riparian ecology. There are also two non-voting ex officio members – the Director of the Arizona Department of Water Resources and the Commissioner of the Arizona State Land Department and two non-voting advisory members from the Arizona State House of Representatives (1) and Arizona State Senate (1). A list of current Commissioners and vacancies is provided in Table 1. Legislation was introduced during FY 2013 to change the number of Commission members from 15 to 9 as well as a change to the representative categories.

Arizona Water Protection Fund Administration

The Arizona Department of Water Resources (ADWR) provides the primary technical, legal and administrative staff to the Commission. The AWPF is managed by its Executive Director under the direction of the Commission. Staffing for the program during FY 2016 included an Executive Director, one legal counsel, and one finance administrator.

Table 1. Arizona Water Protection Fund Commissioners

Commission Member Name	Statutory Category Represented – Affiliation	Appointing Authority
Paradzick, Charles *	(1)Agricultural Improvement District -SRP	Governor
Jacobs, Pat **	(1) Multi-County Water Conservation District – Central Arizona Project (CAP)	District Governing Board (CAWCD)
Brick, Harold Paul	(4) Natural Resource Conservation Districts – San Pedro Natural Resource Conservation District	Speaker of the House of Rep.
Macauley, Michael	(4) Natural Resource Conservation Districts – Coconino Natural Resource Conservation District	Senate President
Pierpoint, Roy	(4) Natural Resource Conservation Districts – Gila Bend, Natural Resource Conservation District	Senate President
Schock, William	(1) Representative, AZ Natural Resource Conservation Districts State Association	Governor
VACANT	(4) Natural Resource Conservation Districts	Speaker of the House of Rep.
VACANT	(1) Indian Tribe	Intertribal Council of Arizona
Holmes, Mark	(1) Member of the Public – B.S. Hydrology- City Service by CAP	Governor
Buschatzke, Tom	Non-Voting Ex Officio Member	Director, Department of Water Resources
Atkins, Lisa	Non-Voting Ex Officio Member	State Land Commissioner
Griffin, Gail	Non-voting advisory member (1)AZ State Senate	Senate President
Brophy-McGee, Kate	Non-voting advisory member (1)AZ House of Representatives	Speaker of the House of Rep.

*Commission Chair

**Commission Vice-Chair

Accomplishments FY 2016

There was no grant cycle held for FY 2016 due to funding uncertainties and the potential for statutory changes. The Commission voted in February of 2016 to postpone the opening of the next cycle until after the 2016 Legislative session had been completed.

In 2016, AWPf staff managed 15 active grant projects and provided technical assistance to grantees. Of these projects, six contracts were closed out after project completion (see project descriptions below) and one other was cancelled. To date, the Commission has invested in over 190 projects and contributed over \$37 million toward the restoration, protection and enhancement of river and riparian resources in Arizona. A wide range of projects have been funded including but not limited to channel restoration, riparian revegetation, wetland creation/restoration, fencing and other grazing management improvements, upland restoration, erosion control, conservation education and applied ecological research.

Arizona citizens have realized many benefits from these investments through improvements in water quality, in-stream flows/water supplies, biodiversity, fish and wildlife habitat, recreation, flood control and overall watershed health. Not only do communities rely on these watersheds and riparian areas for a general water source, but also for recreation, eco-tourism, fishing/hunting, birdwatching, and agricultural operations. Important socioeconomic benefits such as employment opportunities and increased revenue streams are realized by many local communities through the implementation of AWPf projects.

Several of the projects completed and ongoing include the control of invasive species such as Tamarisk which is a fire hazard, effects soil nutrients, and consumes large amounts of water. A complete list of projects and a location map are included in Appendix A.

FY 2016 Active Grant Projects

07-141WPF: Picture Canyon Rio de Flag Meander Restoration Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
150	City of Flagstaff	Coconino	\$582,279.00	June 30, 2016

Project Description: Phase I of this project has restored the fluvial processes of the Rio de Flag and enhanced the riparian corridor for habitat, recreation, and aesthetics in the Picture Canyon area. Specific objectives included restoring channel meander and floodplain function, eliminating noxious weeds, restoring native riparian and wetland plant communities, increasing plant species diversity, creating additional wetland habitats, improving water quality, increasing wildlife habitat, and providing recreational benefits. Phase II of this project will complete similar work in the upstream reach.

08-155WPF: Restoration of the Gila River at Apache Grove

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
164	Larry Barney	Greenlee	\$771,048.00	Completed

Project Description: This project restored natural floodplain function by removing an existing partially breached levee, reducing the risks of lateral erosion and land loss, managing salt cedar, and improving riparian habitats and stream function along 1.6-miles

of the Gila River in the Apache Grove area near Duncan. Proper stream geomorphology/channel characteristics were restored by allowing the main channel to reattach to its former floodplain thereby restoring floodplain conditions within the project area. The project also included mechanically excavating 3,000 feet of earthen levee and returning the ground to natural grade to restore natural flooding to the floodplain. A series of overbank hedgerows were designed and constructed in agricultural fields to allow for efficient harvesting of crops. Other project components included implementation of bank stabilization measures, invasive vegetative species management, native species revegetation, monitoring, fencing, livestock management, and public outreach.

Completion Summary and Lessons Learned:

Overall this project has been very successful and is meeting its objectives: removal of the dike has allowed for natural flooding during high flows without significant erosion or land loss; modifications to the channel and floodplain have increased the flood prone width and flood area, improving channel function; at-risk banks have been stabilized with brush revetments and spurs, bank sloping and native plants; the invasive tamarisk community has

been drastically reduced and the majority of large tamarisks have been removed from the project area improving riparian habitat and stream function; revegetation with native plants has been successful, particularly the woody vegetation (willow, baccharis and cottonwood). All banks in the project area are now densely vegetated with willows and baccharis; the planning and implementation of the project have managed to incorporate the needs of agriculture within the geomorphic setting of the river. This has provided a positive project example to the surrounding community, especially to those community members that were doubtful of both the philosophy of the design and wary of federal and state involvement on private lands.

The annual monitoring of channel cross-sections show that the channel is evolving to a more rectangular shaped channel with a narrower width. This is occurring both inside and outside of the project area, presumably due to extremely high sediment loads and a period of relatively frequent high flows that have deposited large amounts of material on the floodplain. Because of these changes, it is highly recommended that future monitoring be continued, especially of the channel cross-sections. A series of lower peak discharges will likely begin to widen the channel at the toe of the bank. While established vegetation along the toe may be lost, the new band of vegetation higher on the floodplain will survive and provide habitat during this period of change. The evolution of the channel and adjacent floodplain in response to the tamarisk eradication and to the new growth of willows can prove to be very important to future restoration or channel maintenance activities. The Gila River is a large, high sediment transport river. Annual variation in the stream cross section and pattern should be expected. This project should allow that variation to occur while helping to protect private property and the ecological resilience of the stream and riparian corridor.

Due to the frequent deposition on the floodplain and nearby source of weed material, tamarisk and other weeds will continue to invade the project. Rapid growth and spread of appropriate native vegetation will provide an extremely important check on re-colonization of the project area by weeds, especially tamarisk. However, annual weeds may continue to be a problem. We recommend that in the spring, the previous year's dense growth of kochia be removed to enhance growing conditions for native species. The thick layer of biomass left over from the previous season's growth of kochia and Russian thistle shades the ground and can inhibit growth of desirable species. This left over material is also a fire hazard that could damage the growth of willow and cottonwood plants. In the spring of 2013, this material was eliminated with an excavator by mowing and crushing the dried stalks. This method is expensive and can damage desirable plants if not done carefully. Additional plantings of taller woody species like the willows and cottonwoods may provide a better long-term solution. These species would outgrow the kochia over time, providing competition and inhibiting its unrestrained growth. Grass species appear to have little chances of persistence due to the very high sediment loads and consequent sedimentation on the floodplain.

Another possibility for reducing kochia density may be to utilize Larry Barney's cattle. A controlled grazing schedule could occur while the kochia is young and palatable. Short duration, intensive grazing could control the early growth of the kochia, allowing the native

species more time to mature without negatively affecting the existing willows and cottonwoods. This would have to be coordinated with the rancher and possibly approved by the Arizona Water Protection Fund. This may be an unusual recommendation but the cattle are an available resource that we think may be effective in reducing the kochia population.

Weed management activities have been effective in limiting the presence of tamarisk throughout the project area. However, some of the treated plants continue to resprout and every flood flow brings additional seeds and the growth of new seedlings. Continued maintenance and removal of tamarisk is key to the proper functioning of the channel and floodplain.

08-160WPF: Atturbury Wash Riparian Stewardship Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
169	Tucson Audubon Society	Pima	\$390,839.00	Completed

Project Description: This project is implementing riparian restoration on an undeveloped .45-mile reach of the Atturbury Wash at Abraham Lincoln Regional Park in the City of Tucson. Atturbury Wash is an ephemeral waterway that flows in a northeasterly direction into Pantano Wash. Native revegetation, rainwater harvesting, and installation of check dams are the central elements of the restoration plans.

Completion Summary and Lessons Learned:

Several in-channel structures on the upper part of the project reach functioned to spread water across the floodplain in the area of greatest erosive potential to the main wash channel. Without these in-channel structures, the main wash would’ve likely continued on a trajectory of increased incision, undesirable bank erosion, and loss of floodplain access that had been historically contributing to dewatering of the floodplain and subsequent vegetation die-off. These constructed elements mainly consisted of a curvilinear berm that moved water to a part of the floodplain where it could then slowly flow back into the main channel, removal of small areas of high ground that deflected sheet flow back into the main channel, and channel plugs that plug floodplain return channels (channels that previously carried water off of the floodplain and back into the main channel). In-channel structures like cross vanes and j-hooks were built in the main wash channel to dissipate flood energy and control grade along this more incised portion of the wash.

With an overall average restoration planting survival rate of 82% as of November 18, 2015, this portion of the Atturbury Wash project has been a successful endeavor. Although the overall trend in species survival is negative, it has begun to level off as survivors presumably become better-established. An uncommonly wet period beginning in late 2014 and continuing through the autumn of 2015 likely helped some plants survive the summer.

Wash flow patterns were difficult to detect after the installation of natural channel design structures in the fall of 2012, and several desert willows (*Chilopsis linearis*) planted on the edge of the channel were lost in powerful monsoon floods; the entire hydrological system at Atturbury Wash continues to “settle in” to its new confines, so more vegetation may be lost. The ability of willows to quickly stabilize the stream channel make them ideal choices to plant in this dynamic area of the site, despite the risk of losing them to unpredictable floods. Faster-growing species that can temporarily stabilize stream channel construction work—such as *Baccharis* spp.—may be desirable in future projects.

Finally, climatic conditions at the site—typically quite arid and relatively unpredictable—posed significant hurdles to plant establishment. The area is characterized by infrequent, intense, short-duration summer rains that do little to increase soil moisture at the root zone, and equally infrequent but low-intensity and soaking winter rains that may increase soil moisture available to roots. Winter root growth, however, is likely much-reduced or even halted by cold winter temperatures that are magnified by cold air drainage in the Wash. Herbivore damage also knocked many restoration plants back to the ground that may have been able to rebound once given sufficient moisture, but the ambient climate and the difficulty of frequently irrigating many plants likely limited this capacity in these plants.

In 2013 TAS improved the water delivery system at the Wash, allowing us to water most of the 800+ plants nearly every week. Yet, the fierce competition for moisture during the hottest, driest months of May and June posed a challenge that some plants could not overcome even with supplemental irrigation. The heavy rains of late 2014 and 2015 so uncommon in the modern period of regional drought delivered a blessing that no doubt aided in plant survival at the Project.

Tributary washes treated with one-rock dams and Zuni bowls exhibited aggradation throughout the project, as well as occasional scouring and unraveling of structures. Structures that developed problems were repaired or enhanced by Tucson Audubon Society (TAS) staff and volunteers throughout the project. Overall, TAS routinely observed increased moisture retention in these tributaries compared to baseline conditions, without significant loss of channel integrity. Additionally, the first signs of vegetation establishing due to the effects of rock structures were seen in early 2014 in these tributary areas; some of these locations have now grown-in relatively densely.

At the project’s end, all indications suggest that the grade control and bank protection structures installed on site are preventing any further channel incision and may in fact be slowing floodwaters and contributing to modest aggradation. Qualitative surveys of the main channel at points outside of the cross section station areas continued to positively indicate visible channel aggradation in the form of buried tree limbs and ledges that were recently above the channel bottom. Additionally, increased moisture storage in meander bends and channel walls, as compared to baseline conditions, was often still evident following significant flows. Moreover, the cross-vanes have even been seen to hold pools of water for many days after a significant monsoon storm. The long-term outlook for stream restoration work done at Atturbury Wash will not be entirely clear for some time, as the system still needs time to adapt to its new constraints. For now, everything indicates that

hydrologic conditions are on a positive trajectory towards more natural stream function that will benefit to the area's ecosystems.

The permitting process, particularly permitting for the Section 404 permit, lasted a year or longer than anticipated. In the future TAS will more thoroughly investigate likely permit waiting time and adjust the project timeline accordingly. The development of the final work plans was significantly slowed by a change early in the project in the strategy for addressing erosion in the project area. In the future it would be wise to bring in the right experts—in this case hydrology and channel design experts—early, during the grant writing phase. This would have saved time, with the right strategy being in place from the beginning. With a more reliable project time line it might have been easier to grow out some of the more difficult to find species of trees and shrubs (e.g. netleaf hackberry (*Celtis reticulata*), graythorn (*Ziziphus obtusifolia*) and condalia (*Condalia warnockii*). In the future, more investigation should be done into the likely commercial availability of certain plant materials and an advance-plan should be in place for growing out additional vegetation in a timely manner. The plan for irrigation had to change due to the extended timeline. This resulted in using much more staff and volunteer time to water plants than originally expected. It was quite a chore to water the dispersed plantings and, if we were to do it again, we would not disperse plantings so widely and would instead concentrate efforts in areas with easier ways to irrigate. Tucson Audubon adapted to uncertainty and worked through issues that came up resulting in, overall, a successful outcome.

Monitoring work conducted during this project provided several definite learning opportunities for Tucson Audubon. First, no one at TAS had monitored the sheer number of plants proposed to be monitored for survival and growth during the project. The number of plants that had been planted increased gradually and it took TAS some time to realize the large amount of time and effort needed to monitor survival and growth of such a large sample. TAS eventually decided to request a decrease in the percentage of plants required to be monitored. Furthermore, some of our aluminum monitoring tags were torn off and scattered by animals—either rabbits or coyotes, from the dentition—making it difficult to locate some plants. TAS will develop a better method of labeling monitored plants in future projects.

Vegetation monitoring for habitat quality, in retrospect, was perfunctory. TAS should either have eliminated this kind of monitoring—perhaps finding some other method for assessing change in overall habitat value of the project area—or sited several more monitoring transects to better sample vegetation change. In the future, TAS will more carefully weigh plant monitoring design against a project's budget and TAS organizational staffing demands. In some past AWPf-funded projects, TAS has used subcontractors for some of the monitoring tasks, which may be more efficient in some cases.

Outreach was probably the most personally rewarding of all the activities associated with this project. There were no outreach activities that TAS did not believe were effective. However, a few of the volunteer days were poorly attended. This may have been related to the staff's capacity to publicize volunteer days beyond our own membership to the community at large. Volunteer days were well attended when we were able to publicize

events effectively. Organizations holding this kind of volunteer work day to expose projects to a wide audience should have a pre-organized minimum list of media and social media outlets on which to promote these days, and always follow through with this promotion.

09-162: Middle Fossil Creek Riparian Habitat Protection and Restoration

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
171	U.S Forest Service	Yavapai & Gila	\$250,348.00	Completed

Project Description: This project has restored riparian habitat, reduced sediment, improved water quality and protected cultural resources in Middle Fossil Creek through permanent removal of high-use dispersed campsites; ripping and reseeding of access roads located within the riparian zone; and the development of a communication plan to educate visitors about the importance of riparian resources. The project includes on-going monitoring of riparian vegetation, water quality and visitor use.

Completion Summary and Lessons Learned:

There were some signs of riparian vegetation recovery during the monitoring period. Some former recreation sites exhibited recovery of vegetation while others did not, and recovery was found to be variable from year to year. A concern throughout the monitoring period was a lack of tree seedling establishment in restoration areas. The speed and amount of riparian vegetation recovery appears to be linked to both climatic conditions (annual rainfall) and to the pressure of foot and vehicle traffic from visitation. If restoration sites can be protected from human trampling and if they receive sufficient moisture, they will recover. The installation of toilets at key recreation sites has contributed to a reduction in fecal coliform contamination. However, some conditions including creek water turbidity, high recreational use in the creek, and incomplete compliance with sanitation continue to cause exceedances of EPA standards in some popular swimming locations. Some of the sites that continued to receive a large amount of trampling throughout the monitoring period include Above Irving 1, Fossil Creek Bridge, the Mazatzal site near the swimming hole, and Sally Mae. These four sites also have not demonstrated significant increases in vegetation recovery over the course of the study.

By the end of the project period, there were signs of some riparian vegetation recovery. Over the course of the project, the three direct vegetation indicators (grasses, herbaceous, and shrubs) exhibited increased overall mean coverage by as much as 38%. This increase, however, occurred in both restoration and reference transects and occurred mostly in 2011. This indicates favorable environmental conditions for plant growth at a landscape scale that year. Normal precipitation in 2010 may have influenced this result. While some of the former camping areas are demonstrating vegetation recovery, which is expected to continue, factors such as continued recreational disturbance or less than normal precipitation conditions may be hindering recovery in other areas.

Stream channel attribute variables were measured between years to detect instability in the physical stream channel and for sediment increases. One site, Purple Mountain, has shown an increase in the percentage of fines and incurred a decrease in depth during the study and a significant increase in the width to depth ratio, suggesting that the channel is being filled in with sediment. This can indicate problems with channel bank stabilization and erosion and impacts to the aquatic community. It is possible that this increased sedimentation was due to larger landscape processes in the upper watershed of the Sally Mae Wash area.

This project has allowed for on-the-ground patrols and visitor interaction for data collection. The visitor interactions, use data and observations have allowed for management that is adaptive to new information, especially the observation of changing levels of visitor use and various aspects of that use that are having an impact on resources, visitor health and safety and emergency response.

Each summer during the grant period (2009 – 2015), Forest Service (FS) field rangers communicated with as many visitors as possible. This was carried out by FS rangers and volunteers under FS supervision. During the project over 100,000 visitors to Fossil Creek were directly contacted. Contacts were for the purpose of education, safety, law enforcement, feedback about management and resource protection. These direct contacts included communication with local businesses in Camp Verde, Pine and Strawberry to keep them informed of Fossil Creek issues and to hear their ideas and concerns. Information kiosks were installed and regulatory signs were replaced as needed on entrance roads and at all recreation sites in Fossil Creek. This venue helped visitors to understand the rules/regulations for the area: in particular the prohibitions on fires, camping and glass and the unique values of Fossil Creek. Route markers and site identification signs were placed and maintained throughout the project. These signs were used to encourage people to stay on the designated roads and trails, and to help them orient themselves to the area. An educational pamphlet was designed and distributed on-site and at key locations every summer for the project. This was the most effective venue that FS used to help visitors understand the uniqueness of the area and the need to comply with area regulations.

The AWPf grant essentially provided a safety net for the protection of Fossil Creek from the impacts associated with an exponential increase in popularity since 2005 when full flows were restored. Actions under this project enabled the FS to limit and focus visitor use to specific sites, and to install mitigations to protect specific features (such as the spring snail). The active redirection of visitor use has allowed for the recovery of many creekside areas, slowed the input of sediment into the creek and the loss of vegetation in some areas, and enhanced the protection of archaeological sites and sites of contemporary tribal significance. By many measures, this project is a resounding success in protecting Fossil's riparian values until the long-term plan for the Wild and Scenic River is put in place.

09-165WPF: Alpine Ranger District Riparian Improvement

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
174	National Wild Turkey Federation	Apache	\$372,579.00	Completed

Project Description: This project is now being implemented and is intended to improve water quality, riparian vegetation, wild turkey nesting and brood habitat, and threatened, endangered and sensitive species habitats on eight riparian sites on the Apache-Sitgreaves National Forests. This project includes forest thinning, constructing fence enclosures, spring box restoration, and creek crossing modifications working in coordination with the U.S.D.A. Forest Service’s Alpine Ranger District.

Awaiting Final Report.

11-174WPF: Eagle Creek Riparian Restoration at Filleman Crossing

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
181	Eagle Creek Riparian Restoration at Filleman Crossing	Greenlee	\$265,776.00	Cancelled**

Project Description: This project will reduce downstream sedimentation and turbidity; and protect and enhance habitat for federally listed species by armoring a flood-prone road crossing located on the grantee’s private property along US Forest Service Road 217. Greenlee County has agreed, through an easement with the grantee, to maintain the crossing. In recent years the US Forest Service relocated most of the in-stream portion of the road crossing. The crossing is now much shorter, perpendicular to both banks, and typical of most stream crossings. Rock rip-rap, aggregate, geo-textile fabric, and gravel surfacing will be installed and compacted across the stream channel. In addition to containing native species, Eagle Creek at the project site is designated critical habitat for the Gila chub and the loach minnow.

** This project was cancelled due to prolonged inactivity following permitting issues and the further listing of two additional species in the area forcing a new biological assessment from the U.S.Fish and Wildlife Service. Project design became too complicated following Army Corp. of Engineers review.

11-180WPF: Pakoon Wash and Pakoon Springs Restoration and Enhancement Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
186	USDI Bureau of Land Management	Mohave	\$306,353.00	August 31, 2016

Project Description: Pakoon Springs has been identified as one of the largest and most important spring complexes on the Arizona Strip. This project is a continuation of work that was implemented with AWPf funding under Grant Number 06-137WPF, which restored the Pakoon Springs and stream channel complex to natural conditions. The agricultural irrigation conveyances have been removed and the land has been recontoured and revegetated resulting in multiple restored natural spring features. Perennial flows were reestablished into Pakoon Wash after flows were redirected. As a result, the largest perennial stream in Grand Canyon-Parashant National Monument was recreated. That AWPf funded project was recently selected by the Bureau of Land Management as the most successful conservation partnership of the Conservation Lands System.

This project is to continue removal of non-native species, reestablish vegetated historic floodplain conditions, restore proper ecosystem function, enhance project monitoring, collaborate with other habitat and fish and wildlife management agencies, develop strategies for translocation of significant rare native species, and develop a unique field site for education and interpretation efforts in this important area. The channel will be recontoured to restore natural stream function. Bullfrog eradication will continue and translocation of two high priority native species includes the rare native relict leopard frog.

11-181WPF: Hidden Slough and Leopard Frog Marsh Restoration in Glen Canyon National Recreation Area, AZ

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
187	Grand Canyon Wildlands Council	Coconino	\$348,901.00	March 31, 2016

Project Description: This project is a 3-year effort initiated by the grantee to assist the National Park Service (NPS) by undertaking riparian restoration and monitoring in the Glen Canyon National Recreation Area downstream from Glen Canyon Dam at two sites. The sites are Hidden Slough, located at river mile 6.5Right, and Leopard Frog Marsh at River Mile 9Left. The grantee has implemented many successful projects in Glen and Grand Canyons including tamarisk control and revegetation of 6 acres at Hidden Slough from 2008 to 2010 and they have constructed a native plant nursery at Lee's Ferry. This project will quantitatively and qualitatively evaluate the recent tamarisk removal and revegetation at Hidden Slough, complete tamarisk control, complete the native revegetation process, phase out the on-site irrigation infrastructure, and develop and test a

monitoring program for the NPS. The results of these activities are to guide restoration at Leopard Frog Marsh, which will include habitat restoration planning, tamarisk control, native revegetation and reintroduction of the Northern leopard frog on approximately 1 to 1.5 acres.

14-182WPF: Arundo Eradication & Riparian Restoration of Sabino and Bear Creek, Tucson, AZ

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
188	University of Arizona	Pima	\$51,262.00	February 28, 2018

Project Description: This proposal builds upon a six-year effort of Arundo donax removal that began in Sabino Canyon Recreation Area in 2007 and that has fully removed the Arundo infestation from the Recreation Area and 1.71 miles of mostly private riparian land downstream from the Forest Service boundary. Arundo donax or giant reed/cane is a non-native plant to the United States that has become invasive along well-watered riparian areas throughout many Western states. Arundo degrades the riparian zone by choking native sycamore and mesquite trees with its rapid rate of growth and vast consumption of water, nutrients, and sunlight. Arundo is a fire hazard and provides no food to riparian dwellers. Previous removal efforts have proven effective, but still 2.58 miles of channel remains to be cleared down to the confluence of the Pantano and Rillito Washes.

The three main goals are: 1. Remove invasive Arundo donax from Sabino and Bear Creeks; 2. Improve conditions for riparian vegetation and wildlife; 3. Improve transmissions of flood flows.

The objectives are: 1. Clear Pima County parcels in Upper and Lower Bear Creek; 2. Clear Canyon Ranch Resort/DeBernardis property along Middle Sabino Creek; 3. Clear Tankersley Estates property along Middle Sabino Creek; 4. Clear infestations in Lower Sabino Creek to the confluence of the Rillito; 5. Monitor previously cleared reaches of Sabino and Bear Creeks.

14-184WPF: Date Creek Riparian Restoration Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
190	Date Creek Ranch	Yavapai	\$147,877.00	Cancelled**

Project Description: Date Creek is one of Arizona's unique desert streams with high potential to produce high quality riparian habitats. Date Creek is a tributary to Santa Maria River and part of the Bill Williams River watershed in southwestern Yavapai County, Arizona. Recent habitat assessments have revealed three major problems affecting the

functional health of Date Creek: tamarisk, a recent invader, has encroached on many areas and has established to form mature stands; the active channel is unstable as a result of excessive bed load, unrouted flows, and lack of freeboard caused by the invasion of various woody plant and flood debris accumulated over several floods; the native herbaceous aquatic plant composition is impoverished.

This project is focused on establishing essential stream functions that lead to having a more stable and productive stream ecosystem. The project consists of four major phases: 1) Conduct a complete assessment, 2) Removal of invasive and undesirable species, 3) Establishment of channel control structures, 4) Establishment of essential obligate graminoids. This effort will include monitoring to document habitat changes.

***This project was cancelled by the grantee due to concerns related to the Waters of the U.S. final rule defining and expanding waters considered to be under the jurisdiction of the U.S. It was anticipated that permits would be very difficult to obtain.

14-185WPF: Horseshoe Draw Flood Control, Restoration and Erosion Mitigation Study and Design Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
191	Hereford Natural Resource Conservation District	Cochise	\$198,625.00	November 30, 2016

Project Description: The Horseshoe Draw Project will take place on the Ladd Ranch, located outside of Sierra Vista, Arizona. The project will benefit the San Pedro River, the watershed and aquifer recharge. Head-cutting at Horseshoe Draw has caused severe erosion and therefore masses of sediment to be transferred downstream into the San Pedro River.

The project will consist of three phases. Phase I requires an engineering company to perform a feasibility study to determine the best method to prevent further soil erosion, control flooding and runoff, and prevent soil loss on the watershed. A preliminary look at the area determined a berm structure would be most suitable; however, this study is required to determine the proper structure or structures needed, and which would be most suitable, as well as the most effective locations for the construction of the berm(s). A berm structure would control the flow of water runoff, which is especially important during intermittent and intense seasonal flooding. Phase II includes a final project design based on findings from Phase I. Phase III would be construction, which is not being funded through this grant award.

15-186: Phase II Gila River Corridor Invasive Weed Control

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
192	Coronado Resource Conservation and Development Area	Graham Greenlee	\$133,348.42	April, 30, 2019

Project Description:

This project is the second phase of invasive weed control along the Gila River corridor located in Graham and Greenlee counties. The Gila River corridor in Arizona includes several thousand acres of agricultural farmland and has been recognized as an important riparian and riverine habitat for many wildlife and fish species including the federally protected Southwestern willow flycatcher. The initial project (WPF 11-173) completed in 2015 identified and addressed barriers to treatment of invasive and noxious weeds in the area, as well as serving as an aid to the restoration of the native riparian vegetation within the corridor. Inventory of private land parcels for noxious weed presence was initiated in the spring of 2012 followed with treatment of targeted noxious weeds by participating landowners. Riparian tree cover class and composition transects were established adjacent to parcels where infestations were documented. This continued through 2014. The current project will continue to use a comprehensive, aggressive approach to address barriers to treatment and reach the project goal of restoring the native riparian area by controlling invasive weeds. The project area will be increased from ½ mile corridor to a 1-mile corridor. The goal of this project is to use an integrated Weed Management Program to protect the integrity of the Gila River by controlling invasive weeds (Russian knapweed, White top, Malta and Yellow starthistle) from the 54-mile river corridor through Greenlee and Graham counties. The project includes an educational outreach component to make the community and landowners aware of the economic and biological impacts of invasive weeds and work with the county and community to look into long term sustainability of the program.

15-187: Upper Verde Habitat Improvement Project

Map #	Grantee	County	AWPF Funding	Estimated Completion Date
193	Friends of Verde River Greenway	Yavapai	\$169,325.00	August 31, 2018

Project Description:

Invasive plants, such as Tamarisk, can impact ecosystem function significantly by altering wildlife habitat, soils, flow and fire regimes, vegetation structure, river geomorphology and

biodiversity. This project focuses on the removal of invasives followed by monitoring and maintenance, and will contribute to a larger effort called the Verde River Cooperative Invasive Plant Management Plan (CIPMP). The CIPMP is a strategic approach to control prioritized invasive plants in the riparian areas of the Verde Watershed while increasing stakeholder collaboration. The tasks within this specific project further the larger goals of decreasing the impacts of non-native species to riparian areas; improve riparian wildlife/fish habitat; create local employment; and inform communities. The three main components of the project are: the removal of invasive plants (Tamarix spp. and Ailanthus altissima); monitor previously treated sites and maintain treated sites; provide the public with information about the project, the Water Protection Fund, the impacts of invasive plants and the function and value of riparian systems. Removal will occur on 390 acres/7.3 miles of the Upper Verde River on National Forest lands using a combination of manual, mechanical and chemical methods. Maintenance and monitoring will occur on 1406 acres of previously treated sites.

Conclusion

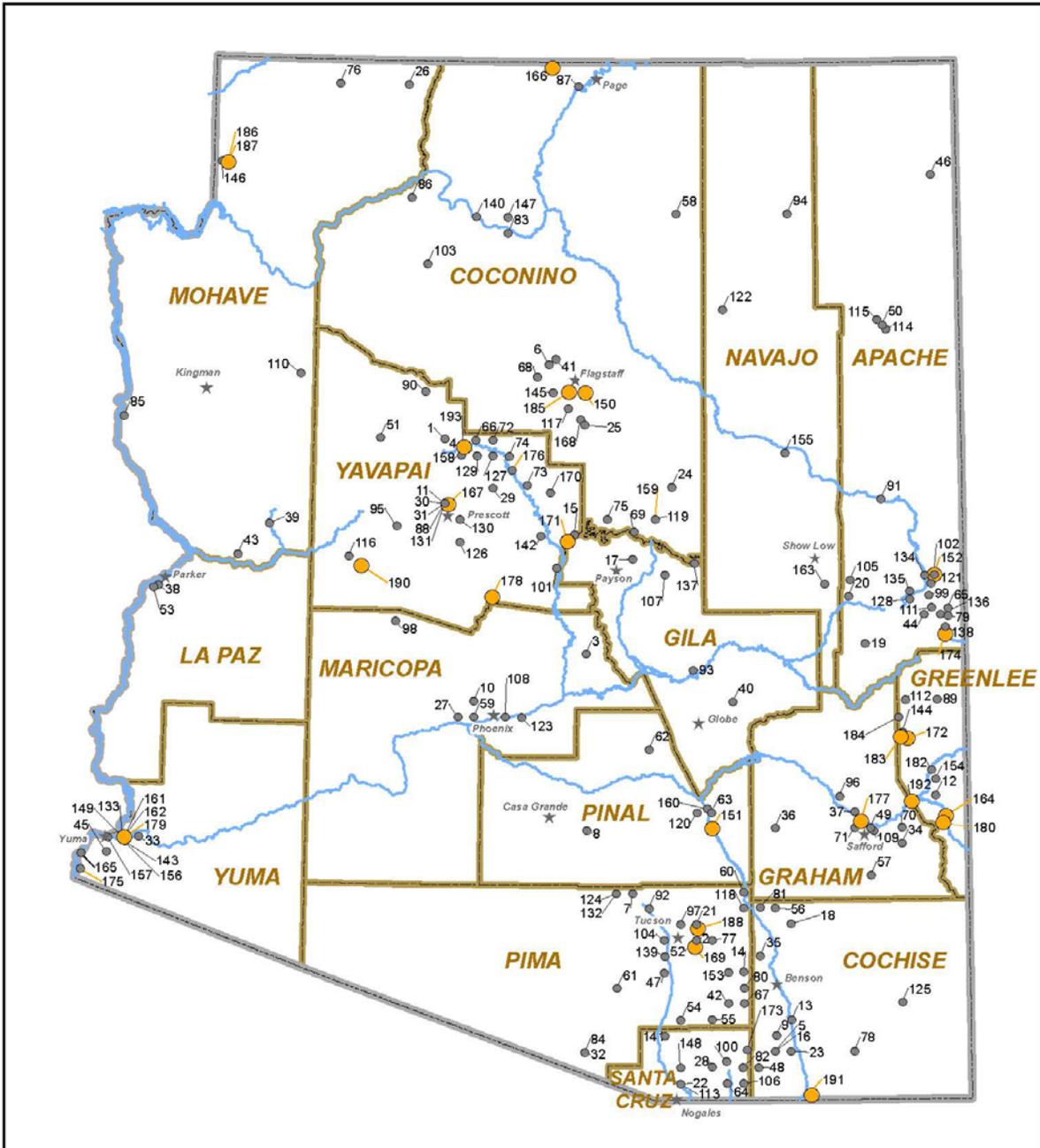
In the upcoming fiscal year, the Commission, staff and grantees will continue to make substantial progress toward the restoration, protection and enhancement of river and riparian resources throughout the State.

For the last several years, primary funding for this program has come from CAP in lieu funds pursuant to §48-3715.05. These funds are no longer available and the AWPf received no monies from this source in 2016. The AWPf did receive an appropriation of \$250,000.00 from the Arizona General Fund in FY 2016. The Commission is committed to approving projects that are fiscally responsible and beneficial to the citizens of Arizona.

All final reports for funded projects from 2007-2016 can be viewed on the WPF website: www.azwfp.gov. Final reports generated prior to 2007 can be requested from the Executive Director of the Water Protection Fund.

Appendix A: Map and List of AWPF Projects

The Map and List of AWPF Projects contain a compilation of grants awarded between FY 1995 - 2015 that have been implemented through contracts and had expenditures made against the grant award.



AWPF Project Location *

- Active Projects
- Closed Projects
- ▭ LIB.plsSection
- ★ City
- ~ River
- ▭ Arizona
- ▭ County

0 25 50 100 Miles

▲

Arizona Water Protection Fund Project Locations

*See following map key for project descriptions



Author: Karen Fisher, GIS
 Created on: October 3, 2016
 Location: U:\WorkSpaces\StatewidePlanning\WaterProtectionFund\Projects\AnnualReport\Maps\AWPFLocations2016.mxd

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
1	95-001	Stable Isotope Assessment of Groundwater and Surface Water Interaction: Application to the Verde River Headwaters	\$21,508.00	YAVAPAI	Closed
2	95-002	Partnership for Riparian Conservation in Northeastern Pima County (PROPIMA)	\$78,100.00	PIMA	Closed
3	95-003	Sycamore Creek Riparian Management Area	\$115,522.00	MARICOPA	Closed
4	95-004	Road Reclamation to Improve Riparian Habitat Along the Hassayampa and Verde Rivers	\$45,693.00	YAVAPAI	Closed
5	95-005	Preservation of the San Pedro River Utilizing Effluent Recharge	\$333,863.00	COCHISE	Closed
6	95-006	Critical Riparian Habitat Restoration along a Perennial Reach of a Verde River Tributary	\$102,535.00	COCONINO	Closed
7	95-007	High Plains Effluent Recharge Project	\$189,000.00	PIMA	Closed
8	95-008	Picacho Reservoir Riparian Enhancement Project	\$2,400,000.00	PINAL	Closed
9	95-009	Regeneration and survivorship of Arizona Sycamore	\$34,617.00	COCHISE	Closed
10	95-010	Assessment of the Role of Effluent Dominated Rivers in Supporting Riparian Functions	\$46,750.00	MARICOPA	Closed
11	95-012	The Comprehensive Plan for the Watson Woods Riparian Preserve	\$33,267.34	YAVAPAI	Closed
12	95-014	Gila Box Riparian and Water Quality Improvement Project	\$157,223.00	GREENLEE	Closed
13	95-015	San Pedro RNCA Watershed Rehabilitation/Restoration Project	\$286,000.00	COCHISE	Closed
14	95-016	Refinement of Geologic Model, Lower Cienega Basin, Pima County, Arizona	\$7,390.00	PIMA	Closed
15	95-017	Restoration of Fossil Creek Riparian Ecosystem	\$59,693.00	YAVAPAI	Closed
16	95-018	Autecology and Restoration of Sporobolus Wrightii Riparian Grasslands in Southern Arizona	\$53,734.00	COCHISE	Closed
17	95-019	Quantifying Anti-Erosion Traits of Streambank Graminoids	\$14,910.00	GILA	Closed
18	95-020	Teran Watershed Enhancement	\$142,378.38	COCHISE	Closed
19	95-021	Lofer Cienega Restoration Project	\$161,204.00	APACHE	Closed
20	95-022	Gooseberry Watershed Restoration Project	\$126,406.00	APACHE	Closed
21	95-023	Sabino Creek Riparian Ecosystem Protection Project	\$16,385.00	PIMA	Closed
22	95-024	Potrero Creek Wetland Characterization and Management Plan	\$75,300.00	SANTA CRUZ	Closed
23	96-0001	San Pedro Riparian National Conservation Area Watershed Protection and Improvement Project	\$89,250.00	COCHISE	Closed
24	96-0002	Completion Phase: Hi-Point Well Project	\$77,844.40	COCONINO	Closed
25	96-0003	Hoxworth Springs Riparian Restoration Project	\$31,545.00	COCONINO	Closed
26	96-0004	Hydrologic Investigation & Conservation Planning: Pipe Springs	\$50,000.00	MOHAVE	Closed
27	96-0005	Tres Rios-River Management and Constructed Wetlands Project	\$1,000,000.00	MARICOPA	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
28	96-0006	Hydrogeologic Investigation of Groundwater Movement and Sources of Base Flow to Sonoita Creek and Implementation of Long-Term Monitoring Program	\$155,715.00	SANTA CRUZ	Closed
29	96-0007	Ash Creek Riparian Protection Project	\$19,248.00	YAVAPAI	Closed
30	96-0008	Watson Woods Vegetation Inventory	\$16,115.00	YAVAPAI	Closed
31	96-0009	Watson Woods Riparian Preserve Visitor Management	\$8,556.79	YAVAPAI	Closed
32	96-0010	Rehabilitating the Puertocito Wash on the Buenos Aires National Wildlife Refuge.	\$83,432.00	PIMA	Closed
33	96-0011	Lower Colorado River - Imperial Division Restoration	\$435,928.00	YUMA	Closed
34	96-0012	Eagle Creek Watershed and Riparian Stabilization	\$80,626.00	GRAHAM	Closed
35	96-0013	Happy Valley Riparian Area Restoration Project	\$64,697.00	COCHISE	Closed
36	96-0014	Klondyke Tailings Response Strategy Analysis (RSA)	\$77,614.00	GRAHAM	Closed
37	96-0015	Abandonment of an Artesian Geothermal Well	\$113,360.00	GRAHAM	Closed
38	96-0016	'Ahakhav Tribal Preserve	\$1,131,477.00	LA PAZ	Closed
39	96-0017	Big Sandy River Riparian Project	\$92,000.00	MOHAVE	Closed
40	96-0018	San Carlos Spring Protection Project	\$131,540.00	GILA	Closed
41	96-0019	Response of Bebb Willow to Riparian Restoration	\$33,752.00	COCONINO	Closed
42	96-0020	Cienega Creek Stream Restoration	\$210,700.00	PIMA	Closed
43	96-0021	Riparian Vegetation and Stream Channel Changes Associated with Water Management along the Bill Williams River	\$14,788.00	MOHAVE	Closed
44	96-0022	Saffell Canyon and Murray Basin Watershed Restoration Project	\$24,316.00	APACHE	Closed
45	96-0023	Watershed Restoration at the Yuma Conservation Gardens	\$31,050.00	YUMA	Closed
46	96-0025	Tsaile Creek Watershed Restoration Demonstration	\$152,775.00	APACHE	Closed
47	96-0026	Riparian Restoration on the San Xavier Indian Reservation Community	\$591,319.00	PIMA	Closed
48	97-027	Lyle Canyon Allotment Riparian Area Restoration Project	\$60,359.57	COCHISE	Closed
49	97-028	Creation of a Reference Riparian Area in the Gila Valley – Discovery Park	\$182,000.00	GRAHAM	Closed
50	97-029	Demonstration Enhancement of Riparian Zone and Stream Channel along stretch of Pueblo Colorado Wash at Hubbell Trading Post	\$91,110.00	APACHE	Closed
51	97-030	Walnut Creek Center for Education and Research - Biological Inventory	\$50,580.00	YAVAPAI	Closed
52	97-031	Lincoln Park Riparian Habitat Project (f.k.a. Atturbury Wash Project)	\$154,580.00	PIMA	Closed
53	97-032	'Ahakhav Tribal Preserve - Deer Island Revegetation	\$228,800.00	LA PAZ	Closed
54	97-033	Proctor Vegetation Modification	\$11,487.00	PIMA	Closed
55	97-034	Oak Tree Gully Stabilization	\$42,491.00	PIMA	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
56	97-035	Watershed Improvement to Restore Riparian & Aquatic Habitat on the Muleshoe Ranch CMA	\$128,315.00	COCHISE	Closed
57	97-036	Stable Isotopes as Tracers of Water Quality Constituents in the Upper Gila River	\$27,338.00	GRAHAM	Closed
58	97-037	Talastima (Blue Canyon) Watershed Restoration Project	\$310,192.00	COCONINO	Closed
59	97-038	Tres Rios Wetlands Heavy-Metal Bioavailability and Denitrification Investigation	\$117,028.00	MARICOPA	Closed
60	97-040	Bingham Cienega Riparian Restoration Project	\$84,679.00	PIMA	Closed
61	97-041	Altar Valley Watershed Resource Assessment	\$88,730.00	PIMA	Closed
62	97-042	Queen Creek Restoration & Management Plan	\$207,595.00	PINAL	Closed
63	97-044	San Pedro River Preserve Riparian Habitat Restoration Project	\$336,127.00	PINAL	Closed
64	97-045	Santa Cruz Headwaters Project	\$100,445.00	SANTA CRUZ	Closed
65	98-046	EC Bar Ranch Water Well Project	\$20,300.00	APACHE	Closed
66	98-047	Upper Verde Adaptive Management Unit	\$115,300.00	YAVAPAI	Closed
67	98-049	Empire/Cienega/Empirita Fencing Project	\$54,850.00	PIMA	Closed
68	98-050	Watershed Restoration Of A High-Elevation Riparian Community	\$304,775.00	COCONINO	Closed
69	98-051	Evaluation of Carex Species for Use in Riparian Restoration	\$47,907.00	COCONINO	Closed
70	98-052	Tritium As A Tracer Of Groundwater Sources And Movement In The Upper Gila River Drainage	\$41,028.00	GRAHAM	Closed
71	98-054	Fluvial Geomorphology Study And Demonstration Projects To Enhance And Restore Riparian Habitat On The Gila River From The New Mexico Border	\$449,872.00	GRAHAM	Closed
72	98-055	Horseshoe Allotment: Verde Riparian Project II	\$82,561.99	YAVAPAI	Closed
73	98-057	Upper Verde Valley Riparian Area Historical Analysis	\$44,019.00	YAVAPAI	Closed
74	98-058	Effects Of Removal Of Livestock Grazing On Riparian Vegetation And Channel Conditions of Selected Reaches of the Upper Verde River	\$116,500.00	YAVAPAI	Closed
75	98-059	Verde River Headwaters Riparian Restoration Demonstration Project	\$204,629.00	COCONINO	Closed
76	98-061	Watershed Enhancement on the Antelope Allotment	\$137,307.00	MOHAVE	Closed
77	98-062	Partnership For Riparian Conservation In Northeastern Pima County II	\$54,734.55	PIMA	Closed
78	98-066	Hay Mountain Watershed Rehabilitation	\$116,525.00	COCHISE	Closed
79	99-067	EC Bar Ranch Wildlife Drinker Project	\$30,500.00	APACHE	Closed
80	99-068	Lower Cienega Creek Restoration Evaluation Project	\$83,272.00	PIMA	Closed
81	99-069	Riparian and Watershed Enhancements On the A7 Ranch - Lower San Pedro River	\$521,197.45	COCHISE	Closed
82	99-070	Lyle Canyon Allotment Riparian Area Restoration Project --- Phase 2	\$214,211.00	SANTA CRUZ	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
83	99-071	Protection Of Spring and Seep Resources of The South Rim, Grand Canyon National Park By Measuring Water Quality, Flow and Associated Biota	\$238,953.00	COCONINO	Closed
84	99-072	Leopard Frog Habitat and Population Conservation At Buenos Aires National Wildlife Refuge	\$120,485.00	PIMA	Closed
85	99-073	Colorado River Nature Center Backwater ---- Phase 2	\$41,500.00	MOHAVE	Closed
86	99-074	Proposal to Inventory, Assess And Recommend Recovery Priorities For Arizona Strip Springs, Seeps and Natural Ponds	\$101,856.00	COCONINO	Closed
87	99-075	Glen and Grand Canyon Riparian Restoration Project	\$371,285.00	COCONINO	Closed
88	99-076	Watson Woods Preserve Herpetological Interpretive Guide and Checklist	\$31,255.55	YAVAPAI	Closed
89	99-077	Blue Box Crossing	\$150,000.00	GREENLEE	Closed
90	99-078	Aquifer Framework And Ground-Water Flow Paths In Big and Little Chino Basins	\$188,140.00	YAVAPAI	Closed
91	99-079	Little Colorado River Riparian Restoration Project	\$404,587.00	APACHE	Closed
92	99-080	Cortaro Mesquite Bosque	\$486,650.00	PIMA	Closed
93	99-083	Cherry Creek Enhancement Demonstration Project	\$263,225.00	GILA	Closed
94	99-084	Assessments of Riparian Zones in the Little Colorado River Watershed	\$79,443.50	NAVAJO	Closed
95	99-085	Kirkland Creek Watershed Resource Assessment	\$131,430.00	YAVAPAI	Closed
96	99-086	Abandonment of Gila Oil Syndicate Well #1	\$333,790.00	GRAHAM	Closed
97	99-087	Rillito Creek Habitat Restoration Project	\$293,000.00	PIMA	Closed
98	99-088	Wickenburg High School Stream Habitat Creation	\$69,100.00	MARICOPA	Closed
99	99-089	Town of Eagar/Round Valley Water Users Association Pressure Irrigation Feasibility Study & Preliminary Design	\$320,540.00	APACHE	Closed
100	99-090	Redrock Riparian Improvement	\$62,350.00	SANTA CRUZ	Closed
101	99-091	Effects of Livestock Use Levels on Riparian Trees on the Verde River	\$41,417.00	YAVAPAI	Closed
102	99-092	Little Colorado River Enhancement Demonstration Project	\$348,627.94	APACHE	Closed
103	99-093	Coconino Plateau Regional Water Study	\$134,200.00	COCONINO	Closed
104	99-094	Santa Cruz River Park Extension	\$434,684.00	PIMA	Closed
105	99-095	Brown Creek Riparian Restoration	\$34,037.00	APACHE	Closed
106	99-096	Upper Santa Cruz Watershed Restoration	\$184,950.00	SANTA CRUZ	Closed
107	99-097	Dakini Valley Riparian Project	\$66,130.00	GILA	Closed
108	99-098	Rio Salado Habitat Restoration Project	\$950,408.00	MARICOPA	Closed
109	00-099	Gila Reference Riparian Area, Discovery Park	\$152,850.80	GRAHAM	Closed
110	00-100	Willow Creek Riparian Restoration Project	\$33,480.00	MOHAVE	Closed
111	00-101	Murray Basin and Saffell Canyon Watershed Restoration Project	\$260,727.83	APACHE	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
112	00-102	Upper Eagle Creek Restoration on East Eagle Allotment of Four Drag Ranch	\$66,330.00	GREENLEE	Closed
113	00-103	Riparian Restoration on the Santa Cruz River - Santa Fe Ranch	\$49,008.00	SANTA CRUZ	Closed
114	00-104	Continued Enhancement of Pueblo Colorado Wash at Hubbell Trading Post National Historic Site	\$69,349.00	APACHE	Closed
115	00-105	Hubbell Trading Post Riparian Restoration with Treated Effluent	\$81,951.00	APACHE	Closed
116	00-106	Tres Alamos Ranch Dirt-Tanks-To-Aquatic-Habitat Conversion	\$69,220.56	YAVAPAI	Closed
117	00-108	Lake Mary Watershed Streams Restoration Project	\$253,119.00	COCONINO	Closed
118	00-109	Lower San Pedro Watershed Project	\$249,871.00	PIMA	Closed
119	00-110	Upper Fairchild Draw Riparian Restoration	\$35,515.00	COCONINO	Closed
120	00-111	Cooperative Grazing Management For Riparian Improvement on the San Pedro	\$228,701.00	PINAL	Closed
121	00-112	Town of Eagar/Round Valley Water Users Assoc. - Additional Mapping For Water Quality Improvements in the Watershed	\$151,829.00	APACHE	Closed
122	00-113	Polacca Wash Grazing Management	\$267,511.00	NAVAJO	Closed
123	00-114	The Papago Park Green Line Project	\$229,152.00	MARICOPA	Closed
124	00-115	Tucson Audubon Society North Simpson Farm Riparian Recovery Project	\$127,409.30	PIMA	Closed
125	03-116	Cottonwood Creek Restoration	\$185,772.50	COCHISE	Closed
126	03-117	Lynx Creek Restoration at Sediment Trap #2	\$179,771.50	YAVAPAI	Closed
127	03-118	Verde River Riparian Area Partnership Project	\$111,221.00	YAVAPAI	Closed
128	03-119	Wet Meadows for Water Quality and Wildlife - A Riparian Restoration Project	\$137,027.30	APACHE	Closed
129	04-120	Verde Headwaters 3-D Hydrogeological Model Framework and Visualization	\$46,634.00	YAVAPAI	Closed
130	04-121	Lynx Creek Restoration	\$266,020.00	YAVAPAI	Closed
131	04-122	Watson Woods Riparian Preserve Restoration Feasibility Project	\$183,523.80	YAVAPAI	Closed
132	04-123	Tucson Audubon Society, Santa Cruz River Habitat Project, North Simpson Site, Phase 2	\$130,786.00	PIMA	Closed
133	04-124	Yuma East Wetlands Riparian Revegetation Project	\$285,878.25	YUMA	Closed
134	05-125	Wilkins' Family Little Colorado River Riparian Enhancement Project	\$293,618.00	APACHE	Closed
135	05-126	X Diamond Ranch LCR Riparian Enhancement Project	\$352,119.00	APACHE	Closed
136	05-127	EC Bar Ranch Reach 8 Water Well and Drinker Project	\$22,235.00	APACHE	Closed
137	05-128	Canyon Creek Riparian Restoration Project, Reach 4-5	\$106,919.00	GILA	Closed
138	05-129	Georges Lake Riparian Restoration Project	\$168,636.50	APACHE	Closed
139	05-130	Riparian Restoration on the San Xavier District - Project Two	\$36,353.00	PIMA	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
140	05-131	Management & Control of Tamarisk and Other Invasive Vegetation at Backcountry Seeps, Springs and Tributaries in Grand Canyon National Park	\$245,500.00	COCONINO	Closed
141	05-132	Esperanza Ranch Riparian Restoration Project	\$279,411.50	SANTA CRUZ	Closed
142	05-133	Verde Wild and Scenic River Fence Enclosure	\$63,888.50	YAVAPAI	Closed
143	05-134	Quechan Indian Nation Yuma East Wetlands Restoration Project - Phase I	\$263,803.25	YUMA	Closed
144	06-135	Double Circle Ranch Riparian Fencing Project	\$84,448.00	GREENLEE	Closed
145	06-136	The Arboretum at Flagstaff Wetland Habitat Enhancement	\$116,000.00	COCONINO	Closed
146	06-137	Pakoon Springs Restoration Design and Implementation Project	\$262,103.00	MOHAVE	Closed
147	06-138	Management and Control of Tamarisk and Other Invasive Vegetation at Backcountry Seeps, Springs, and Tributaries in Grand Canyon National Park - Second Year of Phase II	\$258,397.00	COCONINO	Closed
148	06-139	Coal Mine Fence	\$187,013.00	SANTA CRUZ	Closed
149	06-140	Yuma Crossing National Heritage Area Yuma East Wetlands Restoration Project - Phase I	\$256,790.00	YUMA	Closed
150	07-141	Picture Canyon Rio De Flag Meander Restoration Project	\$330,225.00	COCONINO	Active
151	07-142	Reduction of Erosion and Sedimentation along the Lower San Pedro River Through Hydrologic Restoration of Modified Ephemeral Washes	\$396,409.00	PINAL	Closed
152	07-143	Little Colorado River & Nutrioso Creek Riparian Enhancement Project	\$198,996.00	APACHE	Closed
153	07-144	Evaluation of Riparian Habitat and Headcutting on Lower Cienega Creek	\$23,972.00	PIMA	Closed
154	07-145	Kaler Ranch Erosion Control Project, Phase II	\$284,332.00	GREENLEE	Closed
155	07-146	Little Colorado River Project on H-Y Ranch River Property	\$53,000.00	NAVAJO	Closed
156	07-147	The Effects of Restoration on Wildlife Recovery at the Yuma East Wetlands Restoration Project	\$68,016.00	YUMA	Closed
157	07-148	South Channel Phase II Restoration Project	\$603,487.00	YUMA	Closed
158	07-149	Control of Tamarisk on 12 Miles of the Upper Verde River	\$366,390.00	YAVAPAI	Closed
159	07-150	Fairchild Draw Riparian Restoration Project	\$172,674.00	COCONINO	Closed
160	08-151	Test of Riparian Recovery Following Cessation of Groundwater Pumping, Lower San Pedro	\$61,795.00	PINAL	Closed
161	08-152	AWPF Yuma East Wetlands 68-acre Riparian Revegetation	\$746,667.60	YUMA	Closed
162	08-153	The Effects of Restoration on Herpetofaunal and Mammalian Community Recovery	\$156,833.40	YUMA	Closed
163	08-154	Billy Creek Natural Area Riparian Restoration Project	\$248,826.00	NAVAJO	Closed
164	08-155	Restoration of the Gila River at Apache Grove	\$744,747.00	GREENLEE	Closed
165	08-156	Cocopah Colorado River Restoration	\$296,708.00	YUMA	Closed
166	08-157	Paria River Exotic Removal Project - Phase I	\$293,960.10	COCONINO	Closed

List of AWPf Projects with Map Key

Map #	Grant #	Project Title	Grant Amount*	County	Project Status
167	08-158	Watson Woods Riparian Preserve Restoration Project	\$798,988.00	YAVAPAI	Closed
168	08-159	Hoxworth Springs Stream Channel Restoration Project	\$142,543.20	COCONINO	Closed
169	08-160	Atturbury Wash Riparian Stewardship Project	\$390,839.00	PIMA	Closed
170	08-161	Montezuma Well Riparian Pasture Restoration Project	\$296,155.00	YAVAPAI	Closed
171	09-162	Middle Fossil Creek Riparian Habitat Protection and Restoration	\$250,348.00	GILA	Closed
172	09-163	Double Circle Ranch Erosion Control Project	\$35,356.00	GREENLEE	Closed
173	09-164	Babocomari River Riparian Protection Project	\$118,125.00	SANTA CRUZ	Closed
174	09-165	Alpine Ranger District Riparian Improvement	\$372,579.00	APACHE	Active
175	09-166	Hunter's Hole Riparian and Wetland Restoration Project	\$683,345.87	YUMA	Closed
176	09-167	Tavasci Marsh Wetland Restoration Project	\$374,838.00	YAVAPAI	Closed
177	09-169	Gila River Water Conservation Education Program	\$148,612.80	GRAHAM	Closed
178	09-171	Black Canyon Riparian Restoration Project	\$291,700.00	YAVAPAI	Closed
179	11-172	Avifaunal and Butterfly (Lepidoptera) Recovery in Restored Wetland and Riparian Habitats	\$100,758.00	YUMA	Closed
180	11-173	Invasive Weed Control - Gila River Corridor, Greenlee County	\$261,995.96	GREENLEE	Closed
181	11-174	Eagle Creek Riparian Restoration at Filleman Crossing	\$265,776.00	GREENLEE	Cancelled
182	11-175	E. Coli Reduction on the San Francisco River through Alternative Livestock Water on the Kaler Ranch, Phase II	\$137,594.43	GREENLEE	Closed
183	11-176	Double Circle Ranch Erosion Control Project Phase II	\$36,866.60	GREENLEE	Closed
184	11-177	Eagle Creek Riparian Protection Project	\$136,714.11	GREENLEE	Closed
185	11-179	Inventory of Tamarisk Leaf Beetle and Effects on Riparian Habitat in the Colorado, Verde, Salt and Tonto Rivers	\$141,972.80	COCONINO	Closed
186	11-180	Pakoon Wash and Pakoon Springs Restoration and Enhancement Project	\$306,353.00	MOHAVE	Active
187	11-181	Hidden Slough and Leopard Frog Marsh Restoration in Glen Canyon National Recreation Area , AZ	\$348,901.00	MOHAVE	Active
188	14-182	Arundo Eradication & Riparian Restoration of Sabino and Bear Creek, Tucson, AZ	\$51,262.00	PIMA	Active
190	14-184	Date Creek Riparian Restoration Project	\$147,877.00	YAVAPAI	Cancelled
191	14-185	Horseshoe Draw Flood Control, Restoration and Erosion Mitigation Study and Design Project	\$198,625.00	COCHISE	Active
192	15-186	Phase Two Gila River Corridor Invasive Weed Control	\$133,338.42	GREENLEE/GRAHAM	Active
193	15-187	Upper Verde River Habitat Improvement Project	\$169,325.00	YAVAPAI	Active

* The "Grant Amount" column represents the full grant awarded for each project and will total more than the grant disbursements and grant obligations sections on the financial page. Some grants have been completed for less money than the amount budgeted while others have terminated prior to expenditure of the full grant amount. This column has not been changed to reflect these situations.

Appendix B: Financial Statement

ARIZONA WATER PROTECTION FUND
Combined Statement of Receipts, Expenditures and Fund Balance
For the Fiscal Year Ending June 30, 2016
(000's Omitted)

FUND BALANCE - July 1, 2015	\$3,284
<u>RECEIPTS:</u>	
Investment Income	\$22
Interstate Water Sales	\$120
Receipts and Donations	
TOTAL - RECEIPTS	<u>\$142</u>
<u>EXPENDITURES:</u>	
ADWR Support	\$142
ASLD Support	
Commission Expenses	
Grant Disbursements	\$655
Legislative Transfers Out	
TOTAL - EXPENDITURES	<u>\$796</u>
FUND BALANCE	\$2,630
LESS: REMAINING GRANT OBLIGATIONS	<u>(\$1,064)</u>
UNCOMMITTED FUND BALANCE - JUNE 30, 2016	<u><u>\$1,566</u></u>
<u>ACCOUNTS:</u>	
GRANT FUNDS	\$1,088
ADMINISTRATION EXPENSES	\$0
TOTAL - ACCOUNT BALANCE	<u><u>\$1,088</u></u>