

**ROOSEVELT
HABITAT CONSERVATION PLAN
ANNUAL REPORT
2010**



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Cover photo: Camp Verde Riparian Preserve, Verde River, Yavapai County

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- A. Aerial photographs of mitigation properties^{1,2}
- B. Management activity implementation matrices
- C. Southwestern Willow Flycatcher Surveys at the Rockhouse Riparian Demonstration Project, Salt River, Gila County, Arizona: 2010 Summary Report.¹
- D. Yellow-billed Cuckoo Surveys at the Rockhouse Riparian Demonstration Project, Salt River, Gila County, Arizona: 2010 Summary Report¹

¹Locations of endangered species are sensitive data considered confidential by U.S. Fish and Wildlife Service.

²Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography.

CERTIFICATION

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

Ruth A. Valencia

Date

Sr. Environmental Scientist
Siting and Studies
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I. INTRODUCTION

In February 2003, the U.S. Fish and Wildlife Service (FWS) issued an Incidental Take Permit (ITP) pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, to Salt River Project (SRP) for southwestern willow flycatcher (*Empidonax traillii extimus*) (“flycatcher”), yellow-billed cuckoo (*Coccyzus americanus*) (“cuckoo”), bald eagle (*Haliaeetus leucocephalus*) and Yuma clapper rail (*Rallus longirostris yumanensis*) (“clapper rail”). The activity covered by the ITP is the continued operation by SRP of Roosevelt Dam and Lake up to an elevation of 2,151’. The ITP is conditioned upon SRP’s implementation of the Roosevelt Habitat Conservation Plan (“Roosevelt HCP”) (Salt River Project 2002). The Roosevelt HCP provides measures to minimize and mitigate incidental take of the four species listed above “to the maximum extent practicable and ensures that incidental take will not appreciably reduce the likelihood of the survival and recovery of these species in the wild” (FWS 2002a).

SRP is in its eighth year of implementing the Roosevelt HCP. This report documents all mitigation and minimization efforts conducted over the past water year, November 1, 2009 through October 31, 2010, including a summary of reservoir operations, management activities, monitoring results, status reports and planned future activities.

II. ANNUAL REPORTING COMPLIANCE

Obligation: SRP is required to submit an annual report to FWS, Bureau of Reclamation (USBR) and the Tonto National Forest (TNF) describing all Roosevelt HCP activities occurring during the past year. A draft report must be sent to FWS prior to the annual meeting in October/November of each year. The report is to be finalized by February 1st of the following year.

Actions: SRP submits this report to FWS, USBR and the Tonto Basin District Office of the TNF to fulfill the annual reporting requirement.

III. ROOSEVELT LAKE AREA COMPLIANCE

A. Summary of Reservoir Operations - Water Year 2010

Obligation: Data on reservoir elevations are used in conjunction with habitat monitoring information to determine permit compliance. Impacts to covered species will primarily occur from effects on occupied vegetation resulting from changes in water levels and duration of inundation or desiccation in Roosevelt Lake.

Action: SRP monitors lake levels throughout the year to evaluate impacts and ITP compliance.

Discussion

The El Niño this winter had the greatest influence on Salt and Verde reservoir operations this past water year. Water Year 2010 was a productive runoff year ultimately requiring over 660,000 acre feet of water to be released over Granite Reef Diversion Dam. The Climate Prediction Center declared an El Niño for winter 2009/2010. Sea surface temperatures reflected

a moderate to strong El Niño event for most of the runoff season. This was significant because the watershed has never seen a dry winter (at least since sea surface temperature data became reliable – 1950 to current) with a moderate or strong El Niño. The winter was no exception. Monsoon season is typically dry following a wet winter, however, precipitation this monsoon season on the Salt and Verde watersheds was 100% of normal. Unfortunately, cool waters in the equatorial Pacific herald a La Niña event this winter. The seasonal change in water delivery from the Salt System to Verde System was initiated on November 3, 2010, slightly later than usual due to maintenance requirements at Bartlett Dam.

Winter Precipitation: Sea surface temperatures across the Equatorial Pacific during the fall of 2009 were warmer than normal indicating that the Southern Oscillation was in a moderate El Niño phase going into the winter of 2009/2010. Typically, this condition is associated with above normal cool-season precipitation across the Southwestern United States with the biggest impact in Arizona usually observed during the months of December – March. Like several recent years, this past cool season began with very dry fall months followed by much more active winter months.

Average precipitation recorded on the Salt/Verde watershed for the months of October and November only totaled 0.26” which is a mere 8% of normal, but in early December, a strong winter storm system passed that helped bring that month’s watershed average precipitation total to near 2.40” or 126% normal for the month. Although high pressure dominated Arizona’s weather and kept the main storm track over the northern tier of the Western United States for the first half of January, an unprecedented week-long series of winter storm systems tracked over the Southwestern United States starting just after mid-month. The heaviest precipitation during this period occurred on January 21, 2010, when a Salt/Verde watershed average accumulation of 3.76” was observed which set a new record average watershed accumulation for a 24-hour period. This day’s average accumulation served as the base for this series of storm systems, which affected Arizona from January 18-23, 2010, to set record average Salt/Verde watershed accumulations for two through six day periods with the total for the six days equaling 6.76”.

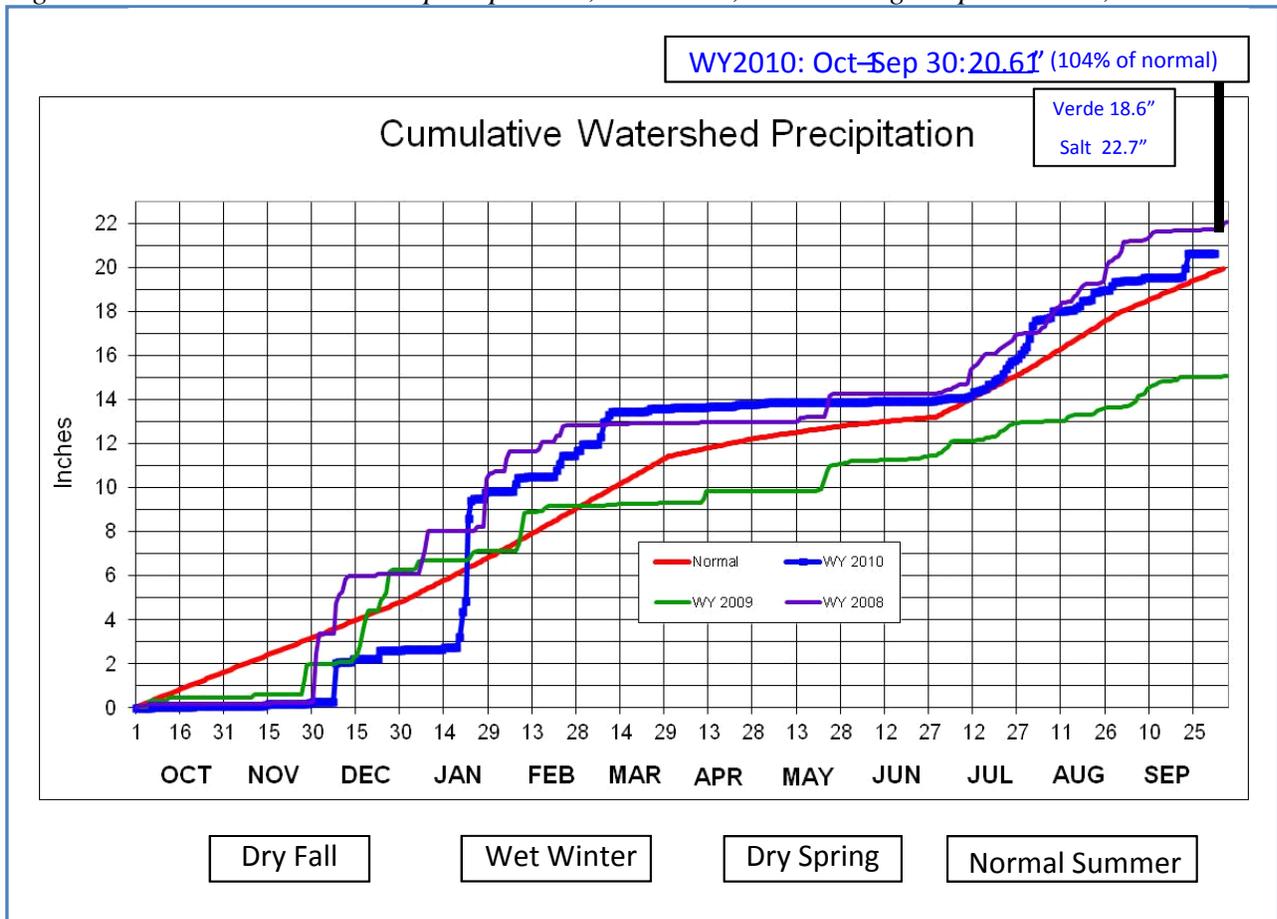
Several less intense but productive low-pressure systems passed during February and early March to produce a total of 3.76” for the two months which is near 70% normal. All totaled for the period from December 1, 2009, through March 31, 2010, the Salt/Verde watershed received an average precipitation accumulation of 13.32” which is 145% of normal; by basin for this winter time frame, the Salt Watershed received an average accumulation of 13.90” or 151% of normal and was slightly favored compared to the Verde Watershed which received 12.76” or 138% of normal.

Summer Precipitation: After a typically dry April through June, the North American monsoon got underway in Arizona in early July. Thunderstorms gradually became more numerous and widespread around the state after mid-July and built-up to what was to be the only significant “burst” of the monsoon which occurred in late July and early August. It was during this period that the most widespread, heavy rainfall of the monsoon was observed that helped produce a Salt/Verde watershed average precipitation accumulation for the two months of 5.38” which is 114% of normal. By late August, the monsoonal circulation over the Southwestern United States broke down as westerly winds aloft returned to the region so thunderstorms were much less

numerous in early/mid September. Later in the month, the remnants of a decaying tropical storm system interacted with a disturbance in the westerlies and produced heavy rainfall over parts of the Salt/Verde watershed and brought the average watershed accumulation for the water year's last month to 1.25" which is 73% of normal. For the summer months of July through September, the Salt/Verde watershed as a whole received an average accumulation of 6.63" which is 103% of normal; by basin for this summer time frame, the Salt Watershed received an average accumulation of 7.99" or 124% of normal and was again favored compared to the Verde Watershed which received only 5.31" or 83% of normal.

For the water year, October 1, 2009, through September 30, 2010, the Salt/Verde watershed average precipitation accumulation was 20.61" or 104% of normal with the Salt side receiving 22.66" or 115% of normal versus the Verde's 18.63" or 95% of normal. (See precipitation map below.)

Figure 1. Cumulative watershed precipitation, October 1, 2009 through September 30, 2010.

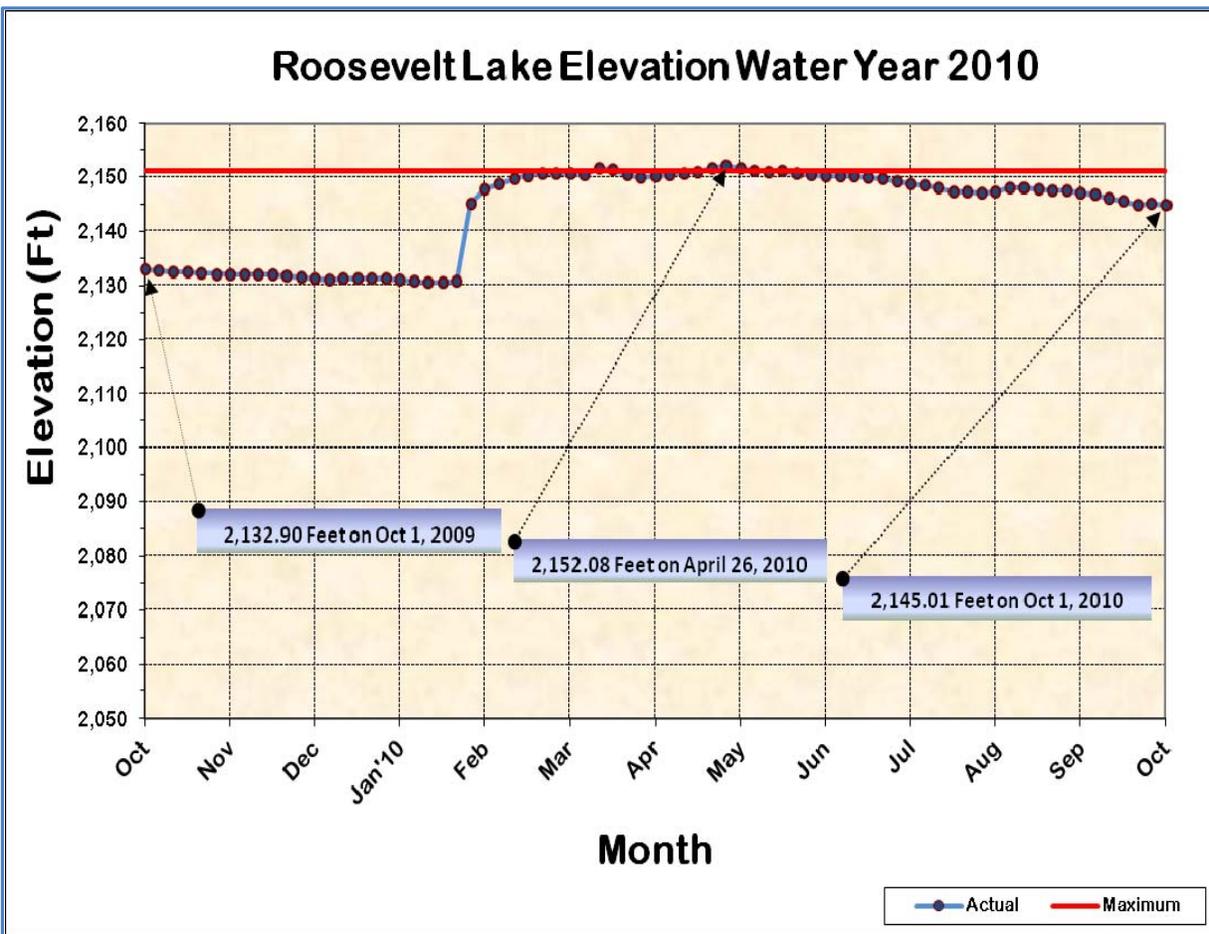


Reservoir Status: In early January 2010, total reservoir storage was 73 percent full with the prospect of significant improvement during an El Niño winter. After the major storm events from January 18 to January 23, runoff dramatically increased reservoir storage. In January, the watershed produced over 450,000 acre-feet of runoff which is about 40,000 acre-feet less than

the entire 2009 winter season. Total runoff this winter (January-May) was approximately 1,420,000 acre-feet. The Verde reservoirs were near capacity from April through June. Roosevelt Lake recorded the highest elevation in history this runoff season at 2152.08 feet on April 26, 2010.

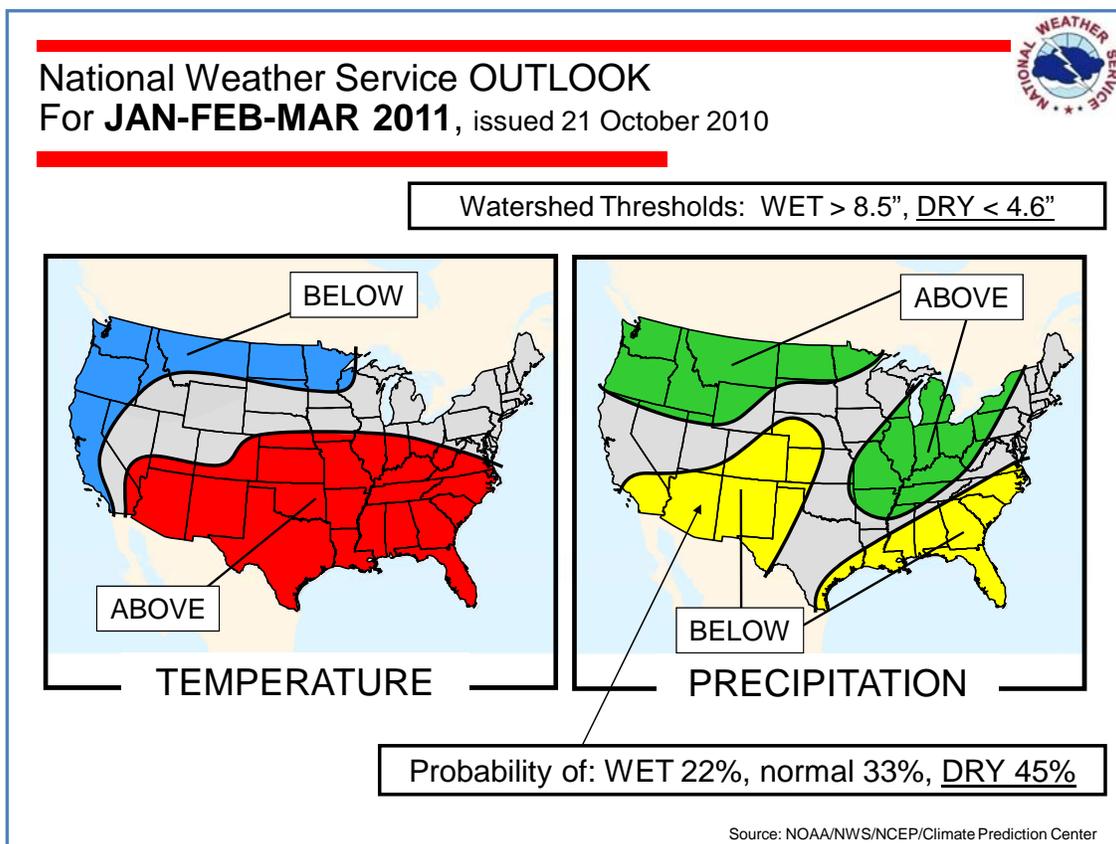
Roosevelt Operations: Roosevelt operations were most influenced by the winter runoff. The January 2010 events produced an estimated peak inflow of 178,000 cfs into Roosevelt Lake on January 21. However, the snowpack that was left behind ultimately produced well above median runoff for the winter season. Over 900,000 acre-feet of runoff flowed into Roosevelt Lake January through May forcing releases above water order for much of the winter season. The release was greater than water order from January 21 through May 27. (See lake elevation graph below). Roosevelt Lake elevation entered into flood control space two times during the winter runoff season. The reservoir was operated in accordance with the Water Control Manual during those times.

Figure 2. Roosevelt Lake storage for October 2009 through September 2010.



Weather Outlook: The strongest indicator, El Niño Southern Oscillation (ENSO), has shifted since last winter from El Niño to La Niña conditions. Current conditions along with the latest guidance indicate a moderate to strong La Niña event this winter with Equatorial Pacific sea surface temperatures well below normal. Since 1950, there have been twenty La Niña winters. Eight of those twenty winters have been dry with eight being normal and four being above normal. Official forecasts from the National Weather Service and the Climate Prediction Center all point to a greater likelihood of a dry winter. The Climate Prediction Center’s latest seasonal outlooks (January through March) for temperature and precipitation suggests above normal temperatures and below normal precipitation in the Valley and on the watershed. (See precipitation outlooks in Figure 3.)

Figure 3. Temperature and precipitation outlooks for January through March 2011.



B. Incidental Take Permit (ITP) Compliance Monitoring

The Roosevelt HCP states that SRP will periodically collect and evaluate information on occupied habitats and population status of flycatchers, clapper rails, cuckoos and bald eagles at Roosevelt Lake to monitor compliance with the ITP. Vegetation monitoring is to be conducted to ensure that adaptive management thresholds or permit limits are not exceeded. In addition, populations of flycatchers, cuckoos and rails will be monitored for ITP compliance and to identify long-term trends using appropriate field survey techniques or protocols.

1. Roosevelt Lake Habitat Monitoring

Obligation: To ensure that permit limits or adaptive management thresholds are not exceeded, SRP will monitor riparian vegetation at the Salt River and Tonto Creek arms of Roosevelt Lake on an annual basis beginning in 2007, continuing for the life of the permit. SRP will use a method to estimate tall dense vegetation likely to be occupied by flycatchers using satellite imagery information (calculations of relative density of vegetation).

2010 Actions: SRP uses a multi-scaled flycatcher breeding habitat model to monitor habitat compliance at Roosevelt Lake. In the past three years, SRP contracted with U.S. Geological Survey (USGS) to run the model. Our objective for the 2010 season was to have SRP staff trained to take over this function.

In March 2010, Jim Hatten, USGS Researcher, conducted a week-long training session for SRP Cartographics and GIS staff members on how to process the satellite imagery and run the model. This year marks the first time that SRP staff processed the data, with assistance from Hatten. Results are presented in section B.2. of this report.

Last year, we reported that we would contract for the acquisition of LIDAR data to enhance the accuracy of model results. Our intention was to develop a demonstration project for the 2010 breeding season. However, we are still investigating the use of LIDAR data and have postponed the target date for the demonstration project until fall of 2011.

2011 Actions: SRP will develop a demonstration project using LIDAR data to enhance our ability to identify potential flycatcher breeding habitat at Roosevelt Lake. These data will be used in conjunction with the GIS breeding habitat model to generate an enhanced breeding habitat map for the 2011 reporting period. We will continue to refine and work on this methodology to improve our ability to map and forecast potential breeding habitat.

Obligation: The extent of cattail marshes will be monitored by helicopter survey each year that more than 3 acres of marsh exist below elevation 2,151'. Yuma clapper rail surveys will be conducted to determine ITP compliance.

2010 Actions: High water levels in the lake eliminated any development of cattail marsh below 2151' in 2010. Therefore, clapper rail surveys were not conducted.

2011 Actions: Lake elevations and development of cattail marsh habitat will be monitored. If more than 3 acres of habitat develop below 2151', SRP will conduct clapper rail surveys.

Obligation: Periodic surveys for flycatchers and cuckoos will be conducted to determine ITP compliance.

2010 Actions: SRP did not conduct flycatcher or cuckoo surveys in 2010 on the Salt and Tonto arms of Roosevelt Lake because the reservoir was full or nearly full throughout the year. Limited flycatcher surveys were conducted in 2010 by Tonto National Forest biologists both above and below the 2151' elevation on the Salt River and Tonto Creek.

2011 Actions: SRP will initiate surveys when the amount of tall, dense vegetation below 2151' elevation exceeds 500 acres. Results of habitat monitoring suggest that approximately 76 acres of potentially suitable habitat existed in 2010, so SRP will not be conducting flycatcher or cuckoo surveys in 2011.



Figure 4. Salt arm of Roosevelt Lake looking downstream at Cottonwood Acres I.

2. Habitat Monitoring Results

Methods: Each year, SRP monitors the amount of potential flycatcher breeding habitat that exists below the 2151' elevation mark at Roosevelt Lake using a multi-scaled habitat model. The model uses a Landsat TM satellite image and evaluates four predictor variables: (1) width of floodplain, extracted from a digital elevation model; (2) relative density and biomass of green riparian vegetation within 900-m² cells (NDVI); (3) amount of densest vegetation within 4.5 ha (11.1 acre) neighborhoods, and (4) variation in vegetation density within 4.5 ha neighborhoods. The GIS-based model produces in a spatially explicit manner the probability of flycatcher breeding site occurrence (1-98%) for each cell.

The output files (ArcView shapefile polygons, grid cells) identify breeding habitat probability classifications (1 through 5) in a summary table of acres within each probability class for the Tonto Creek and Salt River arms. Each habitat probability class identifies a probability range indicating the likelihood that vegetation potentially suitable for flycatcher breeding exists in that grid cell. Habitat probability class 1 grid cells identify areas with the lowest probability (0-20%) for locating flycatcher breeding areas, whereas class 5 grid cells indicate areas with highest probability (80-98%).

In the past, we made the decision to consider habitat probability classes 3 through 5 as potentially occupied habitat because much of class 3 was clustered around classes 4 or 5 cells. By evaluating the data set in this way, we are taking a conservative approach. Model results were field checked by SRP staff from a helicopter. No ground-truthing was conducted this year because we felt we could adequately verify model results from the air.

Model Results: SRP ran the multi-scaled habitat model using a Landsat TM satellite image taken on June 19, 2010 at lake elevation 2149.69 feet (Figure 5). These results are compared to those developed from the May 31, 2009 image when lake elevation was at 2150.06 feet (Table 1).

Using 2010 imagery and acreages from classes 3 through 5, SRP estimates that 76 acres of potentially suitable flycatcher and cuckoo breeding habitat existed below the 2151' elevation at Roosevelt Lake during the 2010 breeding season. Results represent a reduction of 62 acres from 2009 estimated potential habitat.

Table 1. Multi-scaled Southwestern willow flycatcher breeding habitat probability model results, 2009 and 2010

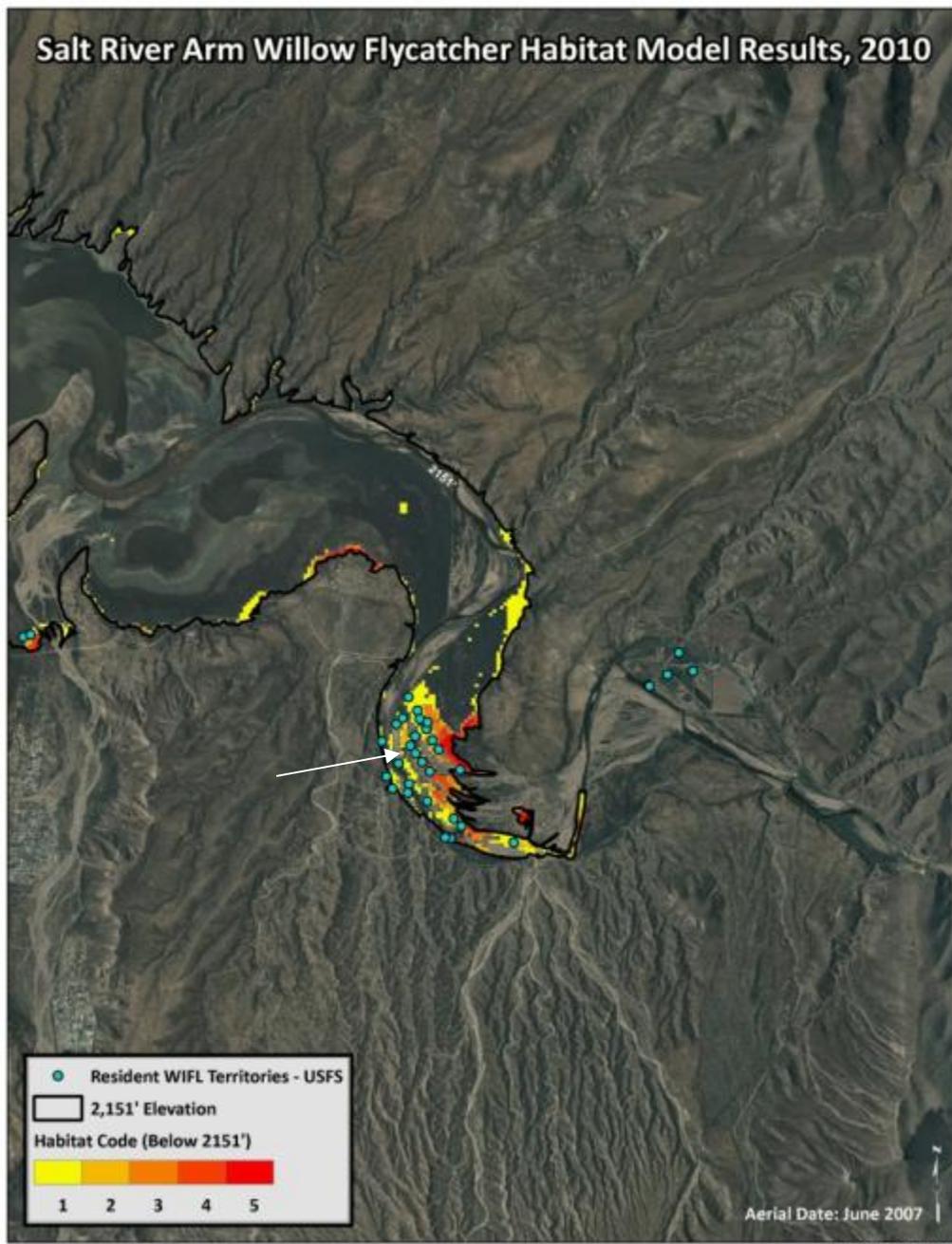
Habitat Probability Class	Probability Range	Acres Below 2151' Elevation					
		Salt Arm		Tonto Arm		Total Acres	
		2009	2010	2009	2010	2009	2010
1	0-20%	279.09	287.29	84.33	81.27	363.42	368.56
2	21-40%	32.35	23.83	15.15	7.86	47.50	31.68
3	41-60%	26.95	22.91	13.25	9.25	40.21	32.16
4	61-80%	28.45	20.44	8.86	4.89	37.31	25.33
5	81-98%	57.03	15.52	3.54	3.05	60.57	18.57
Total 3 thru 5	41-98%	112.43	58.87	25.66	17.19	138.09	76.06
Total 4 and 5	61-98%	85.48	35.96	12.41	7.94	97.88	43.90

¹ 2009 satellite imagery was taken on May 31, 2009 when lake elevation was at 2150.06'.

² 2010 satellite imagery was taken on June 19, 2010 when lake elevation was at 2149.69'.

Roosevelt Lake reached its highest elevation on April 26, 2010 at 2152.08 feet.

Salt River Arm Willow Flycatcher Habitat Model Results, 2010



Tonto Creek Arm Willow Flycatcher Habitat Model Results, 2010

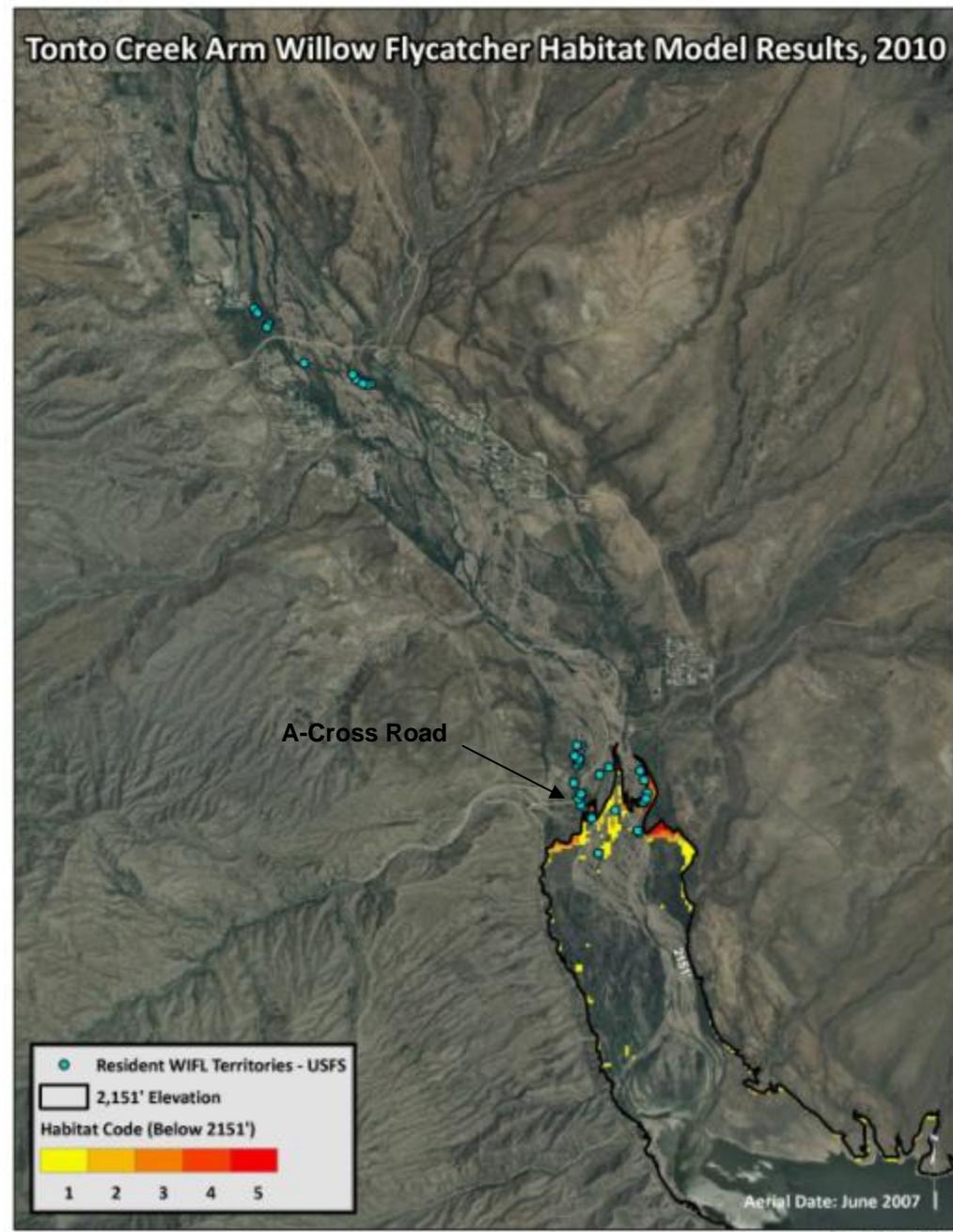


Figure 5. Salt River and Tonto Creek arms of Roosevelt Lake showing 2010 flycatcher habitat model results and flycatcher territory locations as provided by Tonto Basin Ranger District, Tonto National Forest. Satellite image was taken on June 19, 2010 at lake elevation 2149.69' (98% full).



Figure 6. Vegetation at A-Cross Road, looking north. Roosevelt Lake is to the right. The 2151' elevation is just downstream from the road. Photograph was taken on April 6, 2010 at lake elevation 2150.44 (99% full).



Figure 7. Inundated vegetation persisting at Tonto Creek arm of Roosevelt Lake. Photograph taken April 6, 2010 at lake elevation 2150.44'.



Figure 8. Inundated vegetation at Tonto Creek inlet to Roosevelt Lake looking upstream toward A-Cross Road. Photograph taken on April 6, 2010 at lake elevation 2150.44'.



Figure 9. Occupied flycatcher habitat at the Salt River inlet (Cottonwood Acres 1) looking upstream. Photograph taken April 6, 2010 at lake elevation 2150.44'.

4. Bald Eagle Program

Obligation: SRP is required to provide annual funding for a pair of seasonal bald eagle nest watchers through an existing Arizona Bald Eagle Nestwatch Program.

2010 Actions: In the past, payment for Nest Watch Program funding was sent to the Arizona Game & Fish Department (AGFD) in April each year. This past year, SRP formalized our obligations to AGFD in a cost-share agreement and changed the billing date to November. No payment was made this past year because the April 2009 payment covered the 2010 Nest Watch Program expenses.

2011 Actions: Payment for the 2011 Nest Watch Program will be made to AGFD in November 2010.

Obligation: Each year, SRP will assist with three Occupancy and Reproduction Assessment and nest search helicopter events and will provide funding for coordination and attendance by existing bald eagle management personnel. In addition, a maximum of three flights for rescue and management efforts will be provided.

2010 Actions: SRP provided eight flights totaling \$16,640 worth of helicopter service to the AGFD during this period.

2011 Actions: Provide helicopter service as described.

Obligation: SRP will develop a coordinated plan with AGFD and FWS to rescue any bald eagles, eggs or nestlings at Roosevelt Lake that may be threatened by rising reservoir levels.

2010 Actions: Completed. Contact list was updated in October 2010.

2011 Actions: Implement plan, if necessary. Update contact list in October 2011.

Table 2. Comparison of bald eagle breeding productivity, 2008 - 2010, Roosevelt Lake

Breeding Area	2008		2009		2010	
	# of Eggs	# Fledged	# of Eggs	# Fledged	# of Eggs	# Fledged
Tonto	2+	0	3	3	2	2
Pinal	2+	2	1+	Failed	1	1
Pinto	2+	2	2+	2	1+	Failed
Rock Creek	Failed		Unoccupied		Unoccupied	
Dupont @ Sierra Anchas	Unoccupied		Unoccupied		Unoccupied	
TOTALS	6+	4	6+	5	4+	3

Source: Unpublished data, Southwest Bald Eagle Management Committee, AGFD (2008, 2009, 2010)

2010 Breeding Status: AGFD monitors bald eagle productivity at five breeding areas (BA) associated with Roosevelt Lake. The results of the 2010 breeding season are shown in Table 2. Three eagles fledged from the Tonto and Pinal nests. The Pinto nest failed during incubation in February. AGFD reported that, statewide, the 2010 breeding season was very successful. Three new active breeding areas were identified, bringing the total number of occupied breeding areas in the state to 52. The total number of breeding adult bald eagles also grew to 104, which AGFD reported as the highest on record.

C. Tonto Forest Protection Officer (FPO)

Obligation: SRP funds a Forest Protection Officer to protect, enhance and manage habitat at Roosevelt Lake in support of the Roosevelt HCP, including posting and maintaining signs and fences in restricted areas, contacting individuals found in those areas and issuing citations, public education and planning and implementing management activities in regard to threatened and endangered species.

2010 Actions:

Enforcement Activities. High lake levels helped eliminate some illegal access points. A gate was placed on the Meddler Point/ 333 Road in January. It is currently “dummy locked” until an easement can be worked out with the private property holders who require access to the road. The gate has basically eliminated unauthorized use of the 333 Road. It is likely that the pressure in that area will increase as the lake level drops and provides better fishing opportunities in the Cottonwood Acres area.

There is an ongoing problem near Pinto Creek and the Roosevelt Mound. Its proximity to Roosevelt Estates and Resort makes it more accessible to motorized vehicles and therefore difficult to patrol. ATV and UTV riders are the primary violators. Often, signs are removed, broken off, or run over. This year there were two instances where the signs were illegally removed from the official boundary and then replaced at the water’s edge. The high water level this year has hindered vehicle use in Pinto Creek, but as the water level drops, the area is becoming more susceptible to ATV use.

The FPO issued six citations this year: five to individuals driving into closed areas (Old Canal Road, A-Cross Road) or for driving off Forest Service roads; and, one for an unattended campfire. Fortunately, seasonal fire restrictions were short lived this year, due to the productive monsoon season. This drastically reduced the number of citations issued.

On the morning of April 23, 2010, a fire was called in at the Upper Salt River Recreation Area. The fire was approximately one half acre and had burned a thin band of salt cedars and a few Goodding’s willows. It was later determined to have been started on April 22, by human causes, likely an abandoned campfire.

Bald Eagles. The FPO worked closely with bald eagle Nestwatchers to ensure protection of the bald eagle nest closure areas, including providing transportation and storage of AGFD motorboats during the breeding season.

The Tonto BA bald eagles occupied the one remaining nest in the same tree that they have been previously using. AGFD personnel placed closure buoys around the Tonto nest this year. Two chicks successfully hatched and were monitored until fledging. The Tonto Nestwatchers had many boaters violate the closure. Violations often occurred by fishermen/women who allowed

their boats to drift into the buoys. The Gila County Sheriff's Department also assisted with enforcing the closure area.

The Pinto bald eagle pair built and occupied a new nest this year. It was still at the edge of Cottonwood Acres in a dead cottonwood tree, but it was closer to the 333 Road, and did not require buoys. After only a short incubation period it was determined that the Pinto nest had failed of unknown causes. The FPO periodically checked in on the nest for about a month after, but no attempts to re-nest occurred.

Outreach activities. The FPO continued outreach efforts with third grade classes at Dr. Charles A. Bejarano Elementary School in Miami, Arizona for a second year, and dates have already been set for the 2010-11 school year. This school has been under-performing at the state level, and this nine week program improves the quality of their education. Many students at this school are economically disadvantaged. Outreach activities include teaching curriculum from Project WET, Project WILD and Focus: Wild Arizona (AGFD) as well as a variety of other novel resources to educate children about natural resources and to complement Arizona's third grade curriculum.

This year, the FPO also conducted three conservation education classes with third graders at the Cooper Rim Elementary school in Globe, Arizona. This involved about 125 students. She also held a touch, smell, listen and look table at the Dr. Charles A. Bejarano Elementary School annual Math and Science night servicing approximately 250 children and 200 adults. Participants had the opportunity to use their senses of smell, touch, and hearing to identify hidden objects in boxes. They also tried to identify the subject of pictures when only allowed to view part of it. The adults seemed to enjoy the activity as much as the children.

The FPO coordinated a nature hike/wet walk on Pinto Creek, with the Dr. Charles A. Bejarano Elementary School Science Club. Participants and their families enjoyed hands on lizard, frog and water bug catching. They also had the opportunity to make plaster cast molds of animal tracks. Approximately eight adults and twelve children participated.

The FPO participated in an Earth Day event at Picket Post Mountain, sponsored by the Arizona Trail Association. Kindergarten through sixth graders from the John F. Kennedy Elementary School in Superior attended. There were about 300 kids at the event, and she led about thirty students and ten adults on nature hikes, where they identified plants, animals, and animal signs.

The FPO was invited to speak at the Globe Library summer program for kids. She spent two afternoons quizzing participants on skulls, furs and animal sounds, and concluded with a power point presentation giving the answers as well as additional information about the subjects. There were about ten adults and seventy-five children.

The FPO was also invited to speak to approximately eighty-five members of the Boys and Girls Clubs of Globe and San Carlos. She spent two different days conducting power point presentations about her career as a wildlife biologist, as well as general techniques used in wildlife biology. She also brought in skulls, furs and other items related to wildlife biology.

Approximately forty Boy Scouts and their families and one hundred church members attended environmental education programs throughout the year at developed recreation sites at Roosevelt Lake. Most frequently, groups would participate in a question/answer talk involving local animal furs, skulls, nests and tracks as well as negative animal encounters.

Other Activities. The FPO and two other biologists conducted surveys for flycatchers and cuckoos in and around the vicinity of Roosevelt Lake. Two AGFD employees, two bald eagle Nest watchers (as volunteers) and one forest service employee from the Tonto Basin Ranger District assisted with these surveys at different times throughout the breeding season. Surveys revealed two new areas where resident pairs of flycatchers were found: Gleason Flat and the Mouth of Coon Creek. Three new areas with territorial male flycatchers were identified: Cherry Creek, mouth of Pinto Creek, and Mazatzal Bay/Apache Lake. Seven cuckoos were detected in six different survey areas, including two on Campaign Creek.

The FPO also found two Northern Mexican gartersnakes (*Thamnophis eques megalops*) in the vicinity of A-Cross road. The Northern Mexican gartersnake is a candidate species for listing under the Endangered Species Act and is listed as a species of special concern by AGFD and the U.S. Forest Service. Voucher photos and locations were sent to AGFD. Bill Burger, AGFD Region VI biologist, requested that genetic samples be collected from any future encounters. Some of the necessary equipment to conduct this sampling was provided to the FPO by AGFD. The FPO conducted formal surveys for this gartersnake after these initial detections, but none were located.

FPO activities also included hundreds of campsite visits on the Upper Salt River throughout the year. Many people still want to know if areas closed to vehicular traffic will ever be opened again. Some think the closures were an improvement and were not surprised due to the abuses the area received. Others remain upset about the restrictions, but have seemingly accepted them. These contacts also allow an opportunity to educate people about local wildlife and the value of natural resources at the lake.

E. Rockhouse Riparian Demonstration Project

Obligation: SRP will develop a pilot project to establish and manage approximately 20 acres of riparian vegetation suitable for the listed and candidate species encompassed by the Roosevelt HCP on the Salt arm of Roosevelt Lake.

Actions: Installation completed. Site operation and maintenance continues.

2010 O&M Activities:

Operations and Maintenance. SRP continued to contract with Tim Wheeler to conduct irrigation and site maintenance. Irrigation intervals varied depending on rain events, soil moisture levels and temperature, but were performed according to the following general schedule. Last winter, the site was not irrigated because the area recently substantial precipitation throughout the season. Regular flood irrigation of the site began at the end of April and continued every 10 to 18 days through the end of September, after which irrigation intervals were reduced to monthly.

On January 22, 2010, flows on the Salt River reached almost 50,000 cfs. Water flowed over the irrigation ditch and access road causing minor damage to infrastructure. Sediment was deposited at the access gate and at the intake valve. The access road was washed out at mid-point and about 100 yards of the irrigation ditch was completely filled in. The gate into the site was torn out along with end posts and a portion of the fence. No major sedimentation occurred in the concrete-lined ditch. On the south end of the planted site, about 300' of fencing was washed out from substantial bank erosion along the main river channel.

This flood event marked the first time that flood waters spread across the planted fields. Only minor damage was sustained by the trees, but sediment was deposited across most of the planted area, with fields 1, 2 and 3 receiving the most sediment.

Repairs to the ditch and road were postponed until April 21, 2010 due to continued precipitation and high river flows through early spring. Ditch repairs required sediment removal and recontouring of a portion of the ditch, re-building of the ditch bank and re-grading the access road. The entrance gate posts were re-positioned and the gate installed. We cleared debris from the ditch and ports by hand.

Unrelated to the flooding, many of the port gates were badly rusted after 6 years of exposure to river water. This past year, 28 port gates were replaced and cracks were repaired in the concrete ditch.

Soil moisture levels remained high throughout the spring so our first irrigation of the growing season was postponed until April 30. Usually, we begin irrigating in mid-March. Tree growth and vigor were strong this past season due to increased moisture levels in the soil and, likely, increased soil fertility due to flood sediment deposition in the fields.

Summary Document. A report summarizing the history of project construction and monitoring was drafted in 2009 but has not been completed at this time.

2011 Actions:

Operations and Maintenance. SRP will continue with the same general irrigation schedule. General monitoring of tree growth and health will continue. Regular maintenance of the irrigation system will be conducted. We will remove vegetation, both mechanically and chemically, from the ditch areas, as necessary.

Summary Document. The project summary report will be finalized in 2011.



*Figure 10.
Rockhouse Project,
southern edge of
field 5. Photo taken
September 2010.*



Figure 11. Flood damage at ditch gate, Rockhouse. Ditch berm was breached and sediment filled about 40 feet of ditch.

Figure 12. Breach in ditch berm. Access road is toward front of picture.



Figure 13. After breach in berm, ditch was completely filled with sediment for about 100 yards.



Figure 14. Aerial view of the Rockhouse Project site looking west.

Figure 15. Cottonwood "fluff" covering tamarisk understory in Field 3.



Figure 16. Site of flycatcher territory at Rockhouse Field 3.

IV. STATUS OF MITIGATION COMPLIANCE

Obligations: SRP must acquire 2,250 acre-credits by February 2006 including acquisition and management of at least 1500 acres of riparian habitat by fee title or conservation easement, as well as 750 acre-credits of “other” habitat conservation measures.

Table 3. Mitigation property information.

Mitigation Property Name	River System	County	Size (acres)	Ownership	Management
Camp Verde Riparian Preserve	Verde	Yavapai	124	Owned by SRP	SRP
Fort Thomas Preserve	Upper Gila	Graham	1,054	250 acres – Conservation Easement from Phelps Dodge 308 acres – Owned by SRP 496 acres – Owned by USBR	SRP
Adobe Preserve	San Pedro	Pinal	154	Owned by SRP	SRP
Black Farm Preserve	San Pedro	Pinal	137	Owned by SRP	SRP
Stillinger Preserve	San Pedro	Pinal	40	Owned by SRP	SRP
Spirit Hollow Preserve	San Pedro	Pinal	204	154 acres – Owned by SRP w/ USBR conservation easement 50 acres – Owned by USBR	SRP
San Pedro River Preserve	San Pedro	Pinal	623	TNC with USBR conservation easement	TNC w/ USBR endowment
Arlington Wetland/Cell 4	Lower Gila	Maricopa	5	Owned by AGFD	AGFD under contract to SRP
Rockhouse Demonstration Project	Salt River	Gila	20	Owned by USBR; leased to SRP	SRP

TNC = The Nature Conservancy

Actions: Completed.

SRP has accrued 2,591 acre-credits, as follows.

- 1,842 acres of riparian habitat
- 429 acre-credits for buffer lands and water rights
- 20 acres of created habitat
- 300 acre-credits for Tonto FPO

V. MITIGATION PROPERTIES – Monitoring and Management

A. Monitoring

SRP monitors both the bird species of interest as well as habitat condition on each of the mitigation properties. Monitoring obligations for each property are detailed in the HCP document and are summarized briefly below.

Obligation: Flycatcher, cuckoo and clapper rail populations will be surveyed in the first two years following acquisition of the mitigation site for purposes of establishing a baseline. After that, trend surveys will be conducted every other year on average, but not less than every third year. The specific frequency of survey for each site is to be determined during the annual meeting.

2010 Actions: Flycatcher and cuckoo surveys were conducted at the Rockhouse Riparian Project site, Gila County. This was the second year that surveys were conducted at this site and the first year that flycatchers were detected.

Clapper rail surveys were conducted in the spring of 2010 by AGFD biologists. SRP biologists conducted baseline surveys at the site in 2008 and 2009 so were not required to survey in 2010.

2011 Actions: Flycatcher and cuckoo surveys will be conducted on all San Pedro River mitigation properties in 2011. Although not required, SRP will also conduct flycatcher surveys at the Rockhouse site to follow up on the birds detected during the 2010 breeding season. Tables 4 through 6 provide a summary of the past six years when bird surveys were conducted on Roosevelt HCP mitigation properties, along with projections for 2011 and 2012.

Table 4. Flycatcher survey schedule

	Purchase Date	2005	2006	2007	2008	2009	2010	2011	2012
SAN PEDRO									
Adobe	Sep-02	BR/GF			SRP			SRP	
Stillinger	Jun-04	BR/GF*	SRP*		SRP			SRP	
Spirit Hollow	Jul-04	BR/GF*	SRP*		SRP			SRP	
Annex	Dec-06			SRP*	SRP*			SRP	
VERDE									
Camp Verde	Jan-04	SRP*		SRP		SRP			SRP
GILA									
McEuen	Aug-04	SRP*	SRP*	SRP		SRP			SRP
PD CE	Feb-05	SRP*	SRP*	SRP		SRP			SRP
BR/Hancock	Oct-05		SRP*	SRP*		SRP			SRP
BR/Bellman	Dec-06			SRP*	SRP*	SRP			SRP
ROCKHOUSE	n/a				Evaluate	SRP	SRP	SRP	
ROOSEVELT	n/a	BR/GF	BR/GF	TNF	TNF	Limited TNF	Limited TNF		

* Denotes baseline survey. BR = U.S. Bureau of Reclamation; GF = Arizona Game and Fish Department; TNF = Tonto National Forest

Table 5. Yellow-billed cuckoo survey schedule

	Purchase Date	2005	2006	2007	2008	2009	2010	2011	2012
SAN PEDRO									
Adobe	Sep-02	X			X			X	
Stilling	Jun-04	X*	X*		X			X	
Spirit Hollow	Jul-04	X*	X		X			X	
Smith-Doherty	Dec-06			X*	X*			X	
VERDE									
Camp Verde	Jan-04	X*		X		X			X
GILA									
McEuen	Aug-04	X*	X*	X		X			X
PD CE	Feb-05	X*	X*	X		X			X
BR/Hancock	Oct-05		X*	X*		X			X
BR/Bellman	Dec-06			X*	X*	X			X
ROCKHOUSE	n/a				Evaluation	X	X	X	
ROOSEVELT	n/a	SRP							

* Denotes baseline survey.

Note: All cuckoo surveys are conducted by SRP or their contractors.

Table 6. Yuma clapper rail survey schedule

	Creation Date	2007	2008	2009	2010	2011
Arlington WMA	Feb-06	SRP/Audubon AGFD	SRP/AGFD*	SRP/AGFD*		SRP/AGFD
Roosevelt	n/a				SRP**	SRP**

*Denotes baseline survey.

** if cattail habitat exceeds threshold amount.

Obligation: Habitat conditions on mitigation properties will be monitored using the following means.

Baseline Inventories. Complete a baseline inventory for each property within one year of acquisition.

Aerial Photography. Acquire aerial photography to establish a vegetation/habitat baseline and retake every 5 years or when vegetation is altered by a catastrophic event.

Documentation of Habitat Condition. Document habitat conditions in occupied flycatcher, cuckoo and clapper rail habitat when bird surveys are conducted. Permanent photo points will be established and retaken periodically to monitor habitat condition.

2010 Actions: Table 7 summarizes habitat monitoring activities on SRP’s mitigation properties from 2005 through 2010 with projections through 2012.

Baseline Inventories. Fort Thomas Preserve baseline inventory was completed and sent to FWS.

Aerial Photography. No new georeferenced aerial photographs were taken.

Permanent Photo points. SRP did not repeat photographs from permanent photo point locations in 2010. After five consecutive years of photographs and no significant change in habitat conditions, photo documentation would provide no new information from last year’s report.

Documentation of Habitat Conditions. Habitat conditions were described and photo documented during 2010 flycatcher and cuckoo surveys at the Rockhouse Project site. Conditions at other mitigation sites are described in section C of this report.

Table 7. Habitat monitoring schedule

	2006	2007	2008	2009	2010	2011
SAN PEDRO						
<i>Adobe</i> Baseline Inventory	Completed					
Photo points	X	X	X	X		X
Aerial photos			X			
<i>Stillinger</i> Baseline Inventory	Completed					
Photo points	X	X	X	X		X
Aerial photos			X			
<i>Spirit Hollow</i> Baseline Inventory						Update
Photo points	X	X	X	X		X
Aerial photos			X			
VERDE						
<i>Camp Verde</i> Baseline Inventory	Completed					
Photo points	X	X	X	X		X
Aerial photos	X	X		X		
GILA						
<i>Fort Thomas</i> Baseline Inventory					Completed	
Photo points			X	X		
Aerial photos	X					X
ROCKHOUSE						
Summary of Project					Drafted	
Photo points	X	X	X	X		X
Vegetation monitoring	X	X	Evaluation	X		X
ARLINGTON						
Photo points		X	X	X		X
Aerial photos		X				

2011 Actions: See Table 7 for a summary of habitat monitoring activities scheduled for 2011.

Baseline Inventories. SRP will update the Spirit Hollow baseline inventory to include information on the USBR-acquired property.

Aerial Photography. SRP will contract to have aerial photography taken of the Fort Thomas Preserve.

Documentation of Habitat Conditions. Documentation of habitat conditions typically coincides with bird surveys. See Tables 4 through 6 for time schedule. Repeat photographs will be taken at permanent photo points on the San Pedro River properties.

If flycatchers return to the Rockhouse site, SRP will document vegetation conditions within territories after the breeding season.

B. Monitoring Results

Flycatcher and cuckoo surveys were conducted by SRP biologists at the Rockhouse Project site. Survey and monitoring results for that site are summarized here. The full survey report can be found in Appendix C.

Clapper rail surveys were conducted by AGFD biologists at the Arlington Wetlands site and are summarized below.

1. Flycatcher Surveys

Rockhouse Riparian Demonstration Project. SRP biologists conducted a second year of flycatcher protocol surveys (Sogge et al. 1997) in 2010. Three flycatcher territories were identified within the planted area and two additional territories with nests were detected at the outflow of the irrigation ditch adjacent to the Salt River. Territories within the planted area were occupied by singing males, but no females were detected. At the irrigation outflow, biologists located two nests and confirmed two breeding pairs. These surveys mark the first time flycatchers were detected on the site. See Appendix C for the full report with maps.

Flycatcher protocol surveys will be conducted to determine whether flycatchers return to the sites where they were found in 2010 and to detect whether there is any evidence of breeding.

2. Yellow-billed Cuckoo Surveys

Rockhouse Riparian Demonstration Project. SRP biologists conducted a second year of cuckoo surveys at the site this past summer. Four surveys were conducted between June and September, according to the Halterman et al. (2009) draft protocol. Ten detections were recorded during the first survey period (June 10-June 30) with no detections after that. Based on behavioral and visual observations, we estimate that 5 to 6 birds were present at the site and two pairs were using Fields 4B and 3. See Appendix C for the full report with maps.

3. *Yuma Clapper Rail Surveys*

Arlington Wetlands, Arlington Wildlife Area (AWA). SRP was not required to conduct surveys for Yuma clapper rail at Arlington in 2010. However, AGFD biologist, Mark Stewart, conducted a multi-species marsh bird survey protocol at the Arlington Wildlife Area Pond sites on May 12 and 27. He detected five rails during the first survey and seven during the second. None of the detections during protocol surveys were in the SRP pond. However, as reported in previous years, rails were observed crossing back and forth between the AGFD and SRP ponds.

C. **Management Obligations**

The primary goal for management of these properties is to provide ecological and conservation benefits to the flycatcher, cuckoo, clapper rail and bald eagle. SRP focuses management activities on minimizing or eliminating identified threats to riparian habitat, such as wildfire, groundwater pumping, surface water depletion, trespass livestock grazing, cowbird parasitism and vandalism. We also take actions to enhance the quality of habitat on a property or reverse past damage, where warranted.

General management activities required for each property are listed below:

- SRP will identify a manager for all acquired properties.
- A management plan will be developed for each property within one year of acquisition in coordination with FWS and will be updated annually.
- Management activities identified in the management plan will be implemented, including construction and maintenance of boundary fencing and development of wildfire abatement plans.
- Cowbird management will occur on properties that are agreed to by SRP and FWS during the annual Roosevelt HCP meeting.
- Conservation easements will be placed on all riparian habitat and other land used for mitigation to ensure permanent protection, management and monitoring of these lands consistent with the provisions of the Roosevelt HCP.



Photo courtesy of U.S. Bureau of Reclamation

Table 8. Status of management obligations for mitigation properties

Mitigation Area	Site Manager	Mgmt Plan	Fire Plan Status	Fencing	Water Rights	Conservation Easement
Adobe	SRP - contractor	C	C	C	In process	
Black Farm	SRP - contractor	C	C	C	In process	
Spirit Hollow	SRP - contractor	C	C	C	NR	Completed, USBR
Spirit Hollow Annex	SRP- contractor	C	Update	C	NR	n/a, USBR land
Stillinger	SRP - contractor	C	C	In Process	NR	
Camp Verde Riparian	SRP - contractor	C	C	C	NR	
Fort Thomas	SRP - contractor	C		In Process	NR	Partial
Rockhouse	SRP - contractor			C	C	n/a USBR land
Arlington Wetland	AGFD	AGFD	AGFD	C	C	n/a AGFD land
San Pedro Preserve	TNC	C	C	C	In Process	Completed w/ USBR

C = Completed; NR = Not required; n/a = Not applicable to the HCP; TNC = The Nature Conservancy

1. Management Actions – Common to All Properties

2010 Actions:

Site Management. All mitigation properties are being managed by SRP, except for the Arlington wetland site, which is being managed and operated by AGFD, and the San Pedro River Preserve, which is owned and managed by The Nature Conservancy (TNC).

Management Plans. All management plans have been drafted and are revisited annually. See Appendix B for updated management activity implementation matrices.

General Site Maintenance. There have been no changes in SRP’s contracts for site maintenance and field management. SRP contracts with the following entities:

Contractor

Tim Wheeler, Maratimo Construction
 Dick Hauser, Hauser & Hauser Farms
 Dan Wolgast, The Nature Conservancy
 Arizona Game & Fish Department

Property

Rockhouse Project
 Camp Verde Riparian Preserve
 San Pedro & Gila River properties
 Arlington Wetland

The following management and maintenance activities were conducted on each property over the past year:

- Properties are patrolled regularly to deter trespass by people, vehicles and livestock; to identify and eliminate fire hazards; to identify any management issues that may need to be addressed; and, to monitor general habitat conditions and stream flow.
- Fences and gates are patrolled and repaired when necessary to maintain a secure boundary.
- If trespass livestock are present, we work to get them removed from the property and we attempt to find where they entered the property and repair any fence line breach.
- Weed management and control are on-going activities. We use both chemical and mechanical methods to minimize the problem. Use of mowers and brushcutters is preferred, but use of herbicides and pre-emergents is sometimes necessary. Weeds were especially prolific this past year because mitigation sites received substantial amounts of rain in both the winter and summer monsoon seasons.
- Site managers identify and eliminate potential fire hazards on a regular basis. Much of this is accomplished with weed management efforts. All contractors and SRP employees working on the properties are familiarized with fire abatement and response protocols.

Cowbird Management. All cowbird management activities remain at the Tier 1 level, as described in SRP's cowbird management plan (SRP 2005). Tier 1 activities include:

- Fencing riparian areas to exclude livestock to prevent the formation of trails and to eliminate grazing pressure on riparian habitat.
- Revegetating or allowing natural recovery of trails and livestock- or human-disturbed areas.
- Minimizing human activity on the mitigation properties and limiting activities to small areas away from riparian zones.

Conservation Easements. No additional conservation easements were placed on mitigation properties this past year.

2011 Actions:

Site Maintenance: Regular patrols of properties and fence lines will continue weekly, on average. All other activities listed in 2010 actions will continue through 2011.

Site Management: We anticipate all management arrangements will remain unchanged in 2011.

Cowbird Management. All cowbird management activities remain at the Tier 1 level, as described in SRP's cowbird management plan (SRP 2005).

2. Management Actions – San Pedro River

The following section addresses actions taken to meet management objectives as described in the management plan for each Preserve on the San Pedro River. A brief description of current habitat conditions on each property is presented, followed by a summary of specific management actions accomplished in 2010 and a discussion of proposed actions for 2011.

General Conditions. During the winter of 2010, the San Pedro watershed received frequent precipitation followed by high river flows. Regular storms in the first three months of the calendar year provided approximately half of the region's yearly rainfall. The most productive storm of the season lasted from January 19-23. Monthly precipitation was measured at Black Farm as follows: January 3.83 inches, February 1.48 in., and March 1.12 in., yielding a total of 6.43 in. for the first quarter of the year. This gave rise to abundant wildflowers and other spring annuals, as well as an early flush of weedy plants like London rocket, Russian thistle and goosefoot. Warm to hot and dry conditions prevailed from late March until early July. The summer rainy season began around July 1st, with the first significant rainfall occurring on July 18. The season would go on to provide the other half of the region's yearly rainfall, with 5.93" recorded at Black Farm by September.

Water Rights. SRP staff met with the Arizona Department of Water Resources (ADWR) at the Black Farm and Adobe properties to discuss SRP's application to sever and transfer water rights from agricultural fields to instream flows for fish and wildlife. ADWR is in the process of assessing the application with the newly acquired field information and should be responding in writing to our application with their initial review. (SRP received ADWR's initial review comments on November 4, 2010.)

Piezometers. SRP has been preparing to install a series of piezometers and deep observation wells at six locations on the mainstem San Pedro River and at one location at the lower end of Aravaipa Creek. These wells are part of a larger effort by SRP and others to better understand the hydrology of the lower San Pedro River. By gaining a better understanding of the system, we hope to work cooperatively with other land and water rights owners/managers along the river to protect the valuable ecological resources that exist there. On each of SRP's mitigation properties, we plan to install two piezometers and one deeper observation well cross-channel. We have also been working cooperatively with TNC and Resolution Copper to establish monitoring wells on the San Pedro Preserve, H&E Farms and the 7B Ranch.

Piezometers will be used to monitor long-term trends in water depth in the alluvial aquifer and to assist with identification of water table slope toward the river along with seasonal changes in that slope. In addition, these data will assist with refinement of a water budget for riparian vegetation. Deep observation wells will provide information on stratigraphy of stream alluvium and will allow us to better evaluate texture of layers and permeability of alluvium. These wells will also provide information on total depth to consolidated alluvium.

Wet-dry mapping. Each year on June 19, TNC organizes a broad-based effort to identify reaches of surface water in the lower San Pedro River channel at what is considered to be the driest time of the year. Wolgast participated in this annual Wet/Dry Mapping effort by covering the area from John Smith's river crossing to the confluence with Aravaipa Creek. This reach included the Stillinger property. The river reach on the Adobe property was covered by Ken Wiley and Amanda Amoros from TNC's Tucson Office, and the reach of Aravaipa Creek across the Black Farm property was covered by Ken O'Brien, TNC's San

Pedro River Preserve Manager. Surface flows were observed across the Adobe and Stillinger Preserves.

Building Community Support. General activities on the San Pedro River include:

- Participation in the Lower San Pedro Partnership.
- Coordination with AGFD to discuss new lands that are being transferred to AGFD from Asarco, LLC as part of a natural resource damage settlement.
- Participation in a field trip to San Pedro River conservation properties with Pinal County Supervisors and other local community leaders. The trip was planned by TNC. SRP attended, spoke about our conservation activities and objectives on the river and opened the Adobe Preserve to the group.
- Coordination with ranchers and neighbors on fencing issues, with the ultimate goal of reducing the amount of cross-fencing on the river.

a. Adobe Preserve, San Pedro River, Pinal County

Habitat Conditions: This reach of the river still supports a diverse Fremont cottonwood-Goodding's willow riparian forest community exhibiting an array of habitat types from open patches of sandy/cobbly alluvium to well developed gallery forests. The gallery forest is dominated by a nearly even-aged stand of Goodding's willows, representing a few major recruitment events that occurred in the early to mid-1990s. Willow trees have matured past the optimum size and density preferred by flycatchers. Mid-story development is increasing in patches where canopy has opened as a result of tree mortality. Mortality is due primarily from trees falling over due to force of flood waters.

The seep area along the eastern side of the channel remains dominated by a diverse and dense native riparian forest. Patches of tamarisk and mesquite persist on drier channel bars throughout the active channel, but the amount of tamarisk does not appear to be increasing.

We observed surface flows in this reach of the river all year, with high flows occurring after storms in January, February, March, July, and August.. The seep area along the eastern edge of the channel exhibited surface water or very moist soils all year. In the past few years, we attributed persistence of flows in this reach to precipitation events in the Aravaipa watershed, this past year, precipitation occurred more frequently on the main stem of the river.

We observed little to no change in the lateral location of the main base flow channel through this reach. At the northern portion of the property, the channel is down-cutting and widening through sediment that was deposited in this area during previous flood events, particularly in 2005. Fremont cottonwood saplings occur along the channel, especially in the northern portion of the property.

A pair of Zone-tailed hawks (*Buteo albonotatus*) returned to Adobe to nest in the same location they have been in since we acquired the property in 2003. Gray hawks (*Asturina nitens* and Common black hawks (*Buteogallus anthracinus*) were also seen and heard on the property throughout the spring and summer. On May 8, Dan Wolgast documented several notable bird sightings on the property during his participation in the North American Migration Count. He observed large numbers of Summer and Western tanagers (*Piranga rubra* and *P. ludoviciana*, respectively), Yellow warblers (*Dendroica petechia*)

and Common yellow throats (*Geothlypis trichas*). On June 4 at 11 a.m., two male Southwestern willow flycatchers (*Empidonax traillii extimus*) were heard calling in the area of the seep and were detected there throughout the breeding season. Flycatchers were also heard calling from the mesquite thicket between the livestock trap and the river terrace.



Figure 17. San Pedro River at southern end of the Adobe Preserve, looking west, following storm of January 19-23, 2010. Photo by Dan Wolgast.

2010 Actions:

SRP worked with AGFD and Asarco to allow access through the Adobe Preserve for removal of a wildcat dump on the adjacent Asarco property. The dump site was in an ephemeral drainage that fed into the San Pedro River just upstream of Adobe Preserve's southern boundary.

Trespass Livestock. Trespass by cattle, horses and a few burros occurs periodically, especially when cross-river fences are down due to flooding. Livestock are removed as soon as feasible.

Fencing. Cross-channel fences were downed by high spring flows in the river but were quickly repaired. Almost all cross-river fencing on the south boundary needed to be replaced and the entire north channel gap had to be re-strung. Regular minor fence repairs occurred throughout the rest of the year.

Invasive Weed Control. Weed control took the form of clearing around the house, maintaining a fire lane between the Adobe property and the neighboring Cook's Lake property and between the upland terrace and the riparian area within the Adobe property.

Weed species of concern this past year included London rocket (*Sisymbrium irio*), Foxtail barley (*Hordeum jubatum*), Lamb's quarters (*Chenopodium album*) and Mediterranean grass (*Schismus* sp.). These were mowed on a monthly basis using the ATV mower.

Restoration Activities. An experimental planting of Giant sacaton and Sand dropseed plants was undertaken at this property in early July to take advantage of the summer rains. Fifteen plants were grown in 9.5 inch "Short Ones" tree pots and were planted into one of the abandoned pasture irrigation ditches. Plants were watered twice before summer rains began using 1 gph drip emitters on a ½" poly-line attached to a 50-gallon drum. Of the 15 grasses planted, survival rate to date is 100%.

Community Outreach/Education. SRP gave permission to the Oro Valley Historical Society and Steampump Village Association to visit the property during a February 15th tour of the lower river valley. Wolgast attended the tour, which was led by Mr. Henry Ziff, who lived on the P-Z Ranch in 1924-25 while his parents were ranching and farming in the area. Ziff offered a lot of valuable historical information, primarily about the look of the farm and ranch grounds and description of the area between what is now Oro Valley and the P-Z Ranch. Mr. Ziff also offered some historical perspective specific to the Adobe property.

SRP gave permission to the Central Arizona College's College 4 Kids Program to use the Adobe Preserve as a field trip site for their summer program. On July 9, program leaders accompanied 40 students from the surrounding communities of Superior, Kearny, Hayden, Winkelman, Dudleyville, Mammoth, San Manuel and Oracle to the river on the Adobe Preserve. Activities included river explorations, a talk from local environmental educators and conservation workers, and examination of "ecology transects." A short piece about the program appeared in local newspapers.



Figure 18. Students in the College 4 Kids Program exploring the San Pedro River at Adobe Preserve, July 9, 2010. Photo by D. Wolgast.

2011 Actions:

Trespass/Vandalism/Livestock. SRP will continue to work cooperatively with USBR, TNC, AGFD and other conservation landowners along the river to reduce occurrences of trespass livestock grazing along the river. SRP will also continue to notify and work with neighboring ranchers to promptly remove their livestock. Fortification of fences is an ongoing activity. We will continue to explore options with our neighbors to reduce the amount of fencing in the river. There may be new opportunities once Asarco lands transfer to AGFD.

Invasive Weed Control. Mowing and manual clearing of roads, areas around infrastructure and abandoned pastures will continue on an as needed basis.

Restoration Activities. SRP and TNC will continue to work a plan and introduce demonstration plantings to get more native grasses established on the eastern terrace. Additional experimental small-scale plantings using Galleta and Tobosa grasses are planned for these abandoned pasture lands.

Monitoring. Two shallow piezometers and one deep observation well will be installed. We will begin monitoring groundwater levels on a monthly basis.

b. Black Farm Preserve, Aravaipa Creek, Pinal County

Habitat Conditions: This is the fourth year that native grasses have received no supplemental water. Late winter and early spring rains prompted rampant growth of Russian thistle (*Salsola* sp.), Golden crown-beard (*Verbesina encelioides*), London rocket (*Sisymbrium irio*), Nettlefoot goosefoot (*Chenopodium murale*), Lamb's quarters (*C. album*), Prickly lettuce (*Lactuca serriola*), and Foxtail barley (*Hordeum jubatum*). After summer rains, the most common weeds in the fields were Russian thistle (*Salsola tragus*), Carelessweed (*Amaranthus palmeri*), Prostrate pigweed (*Amaranthus graecizans*), and, to a lesser extent, Johnson grass (*Sorghum halapense*) and Morning glory (*Ipomea* sp.). Despite having large patches of Russian thistle and thorough coverage by Carelessweed and Pigweed, an abundance of native grasses grew. This was a welcome sight after last year's dry summer. Alkali sacaton (*Sporobolus airoides*) and Galleta (*Hilaria jamesii*) were the most widespread and abundant, but Sideoats grama (*Bouteloua curtipendula*), Plains bristlegrass (*Setaria macrostachya*) and Purple threeawn (*Aristida purpurea*) also made a good showing. Also present in the fields were small numbers of Feather fingergrass (*Trichloris mendocina*), Green sprangletop (*Leptochloa dubia*), and Giant sacaton (*Sporobolus wrightii*). These last three species were not included in the original seed mix.

In January 2010, Wolgast participated in the Dudleyville Christmas Bird Count, which covered the Black Farm Preserve. Twenty-eight species of birds were spotted over a six hour period. Notable sightings included a Merlin and a Dusky flycatcher, as well as a very large number of Common and Chihuahuan ravens (over 200 birds).



Figure 19 . Aravaipa Creek following storm of January 19-23, 2010, looking northeast from Black Farm. Photo by D. Wolgast.

2010 Actions:

Infrastructure. SRP installed gates to secure the road leading into the farm house and storage building. Repairs were made to the domestic well. The farm house was treated for termites and a number of electrical repairs were made primarily related to the hot water system.

Fencing. A 600-foot length of barbed-wire fence was constructed on the east side of the property, inside the property boundary, to keep Stambaugh's cattle from trespassing into SRP's fields. SRP provided materials and the Stambaugh's provided the labor.

Invasive Weed Control. Weed control began in early May and extended through June, with bi-weekly mowing of tumbleweed and golden crown-beard using a brushcutter and ATV mower. The purpose of a strategy of repeated mowing over the entire growing season is to prevent the formation of seed-forming parts by the species in question. Ample winter rains germinated copious amounts of weed seed, providing the opportunity to exhaust a portion of the weed seed bank in one year. Weed control focused on these two species because they tend to grow thickest along the field edges, where they can be mowed with smaller equipment.

The entire 100 acres of native grass fields were mowed to reduce seed production by weedy species in early July and again in late September using TNC's John Deere 5425 tractor and 1517 triple-deck rotary cutter.



Figure 20: South field at Black Farm, looking west, 5 July 2010. This field had just been mowed to approx. 6 inches. Photo by D. Wolgast.



Figure 21: South field at Black Farm, looking south, July 29, 2010. Dominant grasses in this field (Alkali sacaton, Sideoats grama and Galleta) as well as Russian thistle, were over 30 inches tall after less than a month of summer rains. Photo by D. Wolgast.

During the latter half of September, the previously unplanted five-acre field in the southeast corner of the property was prepared and planted with a ten-species seed mix. In addition to the above-mentioned species of native grasses, except fingergrass and Giant sacaton, this mix also included Desert Indianwheat (*Plantago minor*), Cane beardgrass (*Botriochloa barbinodis*), Sand dropseed (*Sporobolus cryptandrus*), Blue grama (*Bouteloua gracilis*), and Plains lovegrass (*Eragrostis intermedia*). Good seedling coverage was observed in this field at the end of September.

2011 Actions:

Native Grasses. TNC will be taking the lead on a volunteer activity to collect native grass seed from the Black Farm fields to be used in areas where we lost grasses due to drought conditions.

Invasive Weed Control. SRP will continue to monitor fields for presence of tamarisk, Russian thistle and other unwanted plants. We will use mechanical or chemical removal methods as necessary.

Monitoring. Two piezometers and two deep observation wells will be installed. Groundwater levels will be measured on a monthly basis.

c. Stillinger Preserve, San Pedro River, Pinal County

Habitat Conditions: During the last quarter of 2009, beavers had built a large dam in the San Pedro River just upstream of the confluence with Putnam Wash. This dam was blown out by the first high flows in the winter of 2010 and has not been re-built. Water levels in this reach remained high and relatively stable throughout the year despite the fact that no beaver dams were found between the property and Putnam Wash. The sediment plug at Putnam Wash may be responsible for this phenomenon.

2010 Actions:

Trespass Livestock. Periodic livestock grazing occurs on the property when the river bed dries out enough to allow access. SRP has been working with neighbors to minimize impacts from livestock. Neighbors have constructed some new fences to constrain livestock movements. One thing that helped this year was the lack of any large, sustained flood events. Most cross-river fences held throughout the season.

Fencing. The entire property boundary was staked by SRP's surveyors in preparation for fence construction. Wolgast received permission from the Arbizo family to allow our fencing contractor access across their property to fence the eastern boundaries on this property. Wolgast began clearing along property boundaries in preparation for fence construction.

Coordination Efforts. This past year, we made significant progress in working with adjacent livestock owners/managers. The issue in this reach of the river is the near impossible task to keep cross-river fencing intact. We have indications that these ranchers would like to maintain a barrier to keep cattle from trespass grazing across properties. If we can find a fence design that will hold through minor flood events, we may be able to get assistance from our neighbors to help keep it intact.

Some of the lands that AGFD will be receiving from Asarco in a natural resources claim settlement lie just upstream of the Stillinger property. SRP initiated discussions with AGFD about cooperative management in the area. AGFD is in the process of developing a management plan for these lands.

2011 Actions:

Fencing: A contract was awarded for fence construction to N & B Fence, LLC. Wildlife-friendly four-strand barbed wire fencing will be constructed around the property boundaries during the winter of 2011.



Figure 22 . Beaver dam on San Pedro River just upstream of Putnam Wash, January 2010. Photo taken by D. Wolgast.

Figure 23. San Pedro River at Putnam Wash, looking upstream, August 27, 2010. Photo taken by D. Wolgast.





Figure 24 . San Pedro River at Stillinger Preserve looking downstream from north boundary, May 19, 2010.

Trespass Livestock Grazing. We will continue to work cooperatively with neighboring ranchers and AGFD to minimize impacts from livestock grazing in this river corridor.

Access: SRP will continue to explore alternative access to the property from the east.

Coordination Efforts. SRP will work to coordinate conservation and management efforts with AGFD.

Monitoring. One piezometer will be installed on the west side of the river. Monthly groundwater levels will be measured and recorded.

d. Spirit Hollow Preserve and USBR Annex, San Pedro River, Pinal County

Habitat Conditions: River flows remain intermittent with surface water persisting in pools during the driest times of the year. The main channel stayed in the middle of the river over this past year, with multiple overflow channels persisting across the floodplain. Winter and summer flood events were not especially destructive and may have been tempered by the extensive amount of vegetation, both woody and herbaceous, in the floodplain. Vegetation on the USBR Annex property continues to flourish in the absence of livestock grazing.

Last year, we reported that portions of the east (right) terrace that burned in 2003 were returning to a mixed tamarisk-mesquite community. Upon further inspection this past year, there are very few tamarisks in this area on SRP property. Most of the regrowth is mesquite and grasses.

The Spirit Hollow Preserve was included in the Audubon Important Bird Area (IBA) surveys conducted on May 24, 2010. Tanagers, warblers and flycatchers were plentiful during the survey. Common black hawks, Zone-tailed hawks and Gray hawks were seen and heard on the property. On June 4, two male Southwestern willow flycatchers were heard calling from the tamarisk thicket on the east side of the property.

Figure 25 . Gila monster at Spirit Hollow Preserve. Photo by D. Wolgast.



2010 Actions:

Trespass Livestock, ATVs and Fencing. The property remained mostly free of livestock, except for short term trespass situations. Only minor fence repairs were necessary this past year. The north gap continues to function as designed, swinging out to allow for the passage of flood water and debris, and then swinging closed when the flood subsides. Arrangements have been made with Robert Clark, BHP Billiton's Land Manager on the San Manuel Crossing property, to cooperate in maintaining the north cross-river fence line. Clark has been patrolling this shared fence line twice a month, which has greatly increased security on that side. Sediment deposition is still occurring on the northwest portion of the floodplain. Cross-river fencing at this location is getting silted in once again. Clark has agreed to assist Wolgast in raising a portion of the shared fence line that has been progressively getting buried over the past few seasons.

The south fence, though receiving floods over a much broader area, suffered very little damage during winter flooding, with only the main channel gap washing out completely. The cross-river road had been re-graded at the end of 2009 but was rendered nearly impassable by mid-summer 2010. SRP has been getting assistance in maintaining the gap fence at the south end of the USBR Annex from Jim Bingham, neighboring rancher.



Figure 26. Access road south of Spirit Hollow Annex, looking east, following storm of March 8, 2010.

2011 Actions:

Baseline Inventory. Baseline inventory will be updated to include acreage acquired by USBR.

Wildfire Abatement. SRP will work with USBR on updating the fire management plan for the Annex property.

Monitoring. Permanent photo points will be established on the Annex property during winter of 2011 and photo points on the main property will be evaluated. Some new photo points may be established to better represent habitat conditions. At least one piezometer will be installed and monthly groundwater monitoring will be initiated.

e. Camp Verde Riparian Preserve, Verde River, Yavapai County

Habitat Conditions: The Verde River watershed received a substantial amount of precipitation in the 2009-2010 water year, as reported earlier in this report. Maximum winter stream flows occurred on February 22 at 8,020 cfs and on March 8 at 5,120 cfs. Maximum summer flows occurred on August 2 at 3,490 cfs. None of these events was large enough to cause any large-scale changes to vegetation or aquatic habitat in this reach of the river.

The mature Fremont cottonwood gallery forest continues to thrive over large portions of the property, but some tree mortality was noted. Coyote willow, seepwillow, Goodding's willow and Fremont cottonwood saplings continue to mature along the edges of the active channel. A few Tamarisk and Russian olive trees are also present. A number of beaver dams, runs and pools are found throughout the downstream end of the property, creating large marshy areas. Terrace understory continues to be dominated by exotic weedy annuals, which were especially vigorous this past year because of high moisture levels in the soil.

2010 Actions:

Bird Surveys. No protocol surveys were conducted for flycatchers or cuckoos this past year. However, both flycatchers and cuckoos were heard and observed during patrols of the property. Flycatchers were observed in the same location/territory as was reported last year. Cuckoos were observed in two of the sites where they were previously found.

Trespass/Vandalism. Malicious trespass and acts of vandalism were rare this past year. Some of the No Trespassing signs were "tagged" near the I-17 bridge on the north side of the property. This area under the I-17 bridge continues to be an attractive party spot and litter is a problem. The Friends of the Verde Greenway have been assisting with trash clean-up in this area. We have also had occasional trespass by horseback riders looking for a trail along the river. They usually don't travel very far when they realize that this reach of the river crosses a lot of private land.

Hunting. This past year, SRP kept the property open to hunting from November to April for elk bow-hunting. We had a serious incident of destructive behavior with a hunter this past summer when the property was closed to hunting. In essence, this individual was trespassing. SRP contacted both AGFD and the Camp Verde Marshall's Office to report

the incident. Actions were taken to resolve the issue. Because of this incident, we increased our patrols of the area.

Invasive Weed Control/ Wildfire Abatement. The area adjacent to I-17 was mowed several times to reduce fire potential. With the abundance of both winter and summer rains, weed control was probably our primary management activity this past year. Much larger areas were mowed on the south terrace to reduce the wildfire potential and mowing was conducted more often than in past years. On the north terrace (left bank), glyphosate (Roundup) was used to control Kochia and to keep a wide trail open through these dense weeds.

SRP participated in a meeting convened by the Friends of the Verde Greenway to discuss scope and issues related to an invasive weed management plan for the upper and middle Verde River. The plan is being funded by the Walton Family Foundation and is being developed and written by Fred Phillips Consulting (FPC). Additionally, SRP spent a day in the field with FPC staff to discuss and illustrate our HCP management objectives.

Coordination with Neighbors and Community. SRP remains active in supporting river conservation, research and educational efforts in the Verde Valley. Some of the activities we participated in this past year include the following.

- SRP participated in the Verde Valley Birding and Nature Festival. A field trip to the property was scheduled but was cancelled due to high river flows. Instead, SRP led a birding field trip to Arizona State Park's Rockin River Ranch.
- SRP had an educational booth at Verde River Days.
- SRP's property manager, Dick Hauser, maintains regular contact with neighbors and community members. He is able to resolve most issues at this level.
- SRP accompanied Shaun MacKinnon, reporter for the Arizona Republic newspaper, to the Camp Verde Preserve to discuss SRP's protection efforts for flycatchers and cuckoos. MacKinnon was collecting material for his series of articles on endangered wildlife in Arizona.
- SRP accompanied Kathy Robertson, FWS biologist, to the Camp Verde property to see occupied flycatcher habitat on the Verde River. Robertson is working on Safe Harbor agreements for flycatchers. We observed both flycatcher and cuckoos on this trip.

2011 Actions:

Trespass/Vandalism. We will continue to patrol the property and work with the community to minimize instances of malicious trespass and vandalism.

Hunting. SRP will closely monitor any hunting activities through the winter. After the past few years of problems, we will likely close the area to hunting after this season and post new signs to that effect. The numbers of elk in this reach of the river appear to be greatly reduced from when SRP first purchased the property. Therefore, we don't believe the hunting restriction will detrimentally affect the riparian vegetation or neighboring properties because there is no longer a large herd that would be harbored here. We will continue to monitor and evaluate elk impacts and will adopt an adaptive management approach to this issue to ensure habitat protection.

Invasive Weed Control/Wildfire Abatement: Mowing on the south terrace adjacent to Interstate 17 will be continued and the property will be patrolled regularly to identify and minimize fire hazards. We will continue to use a combination of mowing and herbicide application on the north (left) terrace to minimize weed growth.

We will continue to investigate ways of reducing kochia and other invasive weeds on terraces. We are also investigating the feasibility of cutting and stump treating Giant reed (*Arundo donax*), Russian olive (*Elaeagnus angustifolia*), Siberian elm (*Ulmus pumila*), and Tree-of-heaven (*Ailanthus altissima*) on the property.

Coordination with Neighbors and Community: SRP will continue to coordinate with local community leaders and citizens' groups, Arizona State Parks, AGFD, Prescott National Forest, TNC and neighbors to ensure that the ecological goals for the property are met. We plan to participate again in the Verde Valley Birding and Nature Festival, the Verde Canoe and Kayak Challenge, and at Verde River Days. SRP will continue our participation in the invasive weed management planning efforts and in the Verde Land Manager's group, which was initiated by TNC last year.

f. Fort Thomas Preserve, Gila River, Graham County

Habitat Conditions: Vegetation on this parcel is comprised of a patchwork of dense tamarisk stands and mixed native and exotic riparian vegetation (Fremont cottonwood, Goodding's willow, coyote willow, tamarisk, seep willow). Several large stands of Fremont cottonwood-Goodding's willow gallery forest occur on this parcel. Large patches of coyote willow occur along edges between dense vegetation and open riparian strand. The river flows continuously in this reach except for short periods during the growing season when water is diverted to agricultural fields. When that occurs, channel pools still contain water but riffles are dry. Flycatcher territories tend to be found near water, either along the river channel or along irrigation return ditches.

SRP remains concerned about impacts to the flycatcher population on this Preserve should tamarisk beetles (*Diorhabda* sp.) be transported to the area. Last February, SRP personnel attended the Tamarisk Coalition Conference in Grand Junction, CO. We intend to stay apprised of the latest information on tamarisk beetle biology and range.

2010 Actions:

Baseline Inventory. Completed.

Management Plan. Completed.

Property Boundaries and Fencing. SRP met with USBR representatives to discuss minor errors in the land survey on land parcels that make up the Fort Thomas Preserve. Surveys were corrected and properly recorded. SRP Survey crews staked land boundaries so that fences could be constructed. SRP contracted with N & B Fencing to construct fencing during the fall and winter of 2010-2011 on the outer boundaries of the USBR parcels (Hancock, Bellman).

Trespass Livestock: No significant trespass instances were reported.

Coordination with Neighbors and Community. SRP met with adjacent farmers to coordinate and discuss proposed fencing.

Wildfire Response Plan. Henry Messing, USBR, had been working on compiling information for the joint Wildfire Response Plan for these properties. Messing retired last year and was replaced by Alex Smith. SRP will continue working with Smith to develop the joint plan. The hold-up seems to be with getting BLM to work with USBR on an agreement to have them fight fires on lands under the management of USBR.

2011 Actions:

Wildfire Response Plan. SRP will work with USBR, FMI, BLM, ASLD and the Fort Thomas Fire Department to develop a wildfire response plan for the Preserve lands.

Fencing: SRP will complete fencing of outer boundaries of the USBR parcels. The terrace area on the northeast corner of the northernmost conservation easement parcel will also be fenced along the property boundary line. SRP and contractors will continue to coordinate with BLM to secure the river bottom from trespass livestock.

g. Created Wetland, Arlington Wildlife Area (AWA)

Habitat Conditions: The vegetative cover of emergent marsh vegetation in the SRP cell (cell 4) has stabilized at about the 95% coverage. A couple of minor open areas remain, perhaps due to soils or other conditions. This adds to the habitat diversity and is not considered undesirable.

2010 Actions:

Operational Status. The period November 1, 2009 to October 30, 2010 represents the fourth full season of operational activities for the SRP Yuma clapper rail (YCR) habitat cell at the Arlington Wildlife Area (AWA). Highlights for the year include a major theft of removable metal parts from the well drive engine and significant flood damage from high flows down Centennial Wash. Routine management activities such as water level maintenance, weed removal, and regular wellness checks were conducted as required.

Water levels have been continuously managed to supply two to eight inches of gently flowing water across the floor of the cell. This has led to good plant vigor and much wildlife use. Generally the features and infrastructure of the designed habitat seem to be working satisfactorily with only minor maintenance/enhancements required. Wildlife use is high and normal operational costs minimal with a great deal of the required water being obtained via irrigation tailwater from adjacent farms.

Issues Requiring Special Attention. Two significant events occurred within this reporting period. On February 6 or 7, the well compound at Arlington was broken into and thieves took all easily removable metallic parts from the drive engine. The item of most significance was a commercial-grade radiator attached to the drive engine. Replacement cost for this piece of equipment was approximately \$3,275. The cost of this replacement was shared between AGFD and the SRP O&M account at the agreed to two-thirds/one-third ratio. The well compound has been reinforced with a significant new barring

Photos of Flood Damage at the Arlington Wildlife Area
Photos courtesy Arizona Game and Fish Department
January 27, 2010



Eroded road just inside entrance gate



Erosion after overtopping levee



Breached internal levee from distance



Breached internal levee up close (also below)



mechanism for the door and a welded steel cage around the engine infrastructure, limiting all but the most determined access and hopefully preventing future thefts.

The second event of operational concern was a large flood down Centennial Wash as a result of mid-January rains. This flood was of a magnitude to overtop the protective levee on the west side of the property and sequentially fill the basins. Damage was done to the entrance area and to the internal levee system in about three locations. (See photos above.) This damage was repaired within a couple of weeks by AGFD internal resources with no cost to the budgets of either the standard AGFD operational budget for the property or the SRP operations budget.

Annual Meeting. SRP met with AGFD in March 2010 to review the previous year's budget and operational activities and to discuss and set budget and activities for the coming year.

2011 Actions:

SRP will meet with AGFD staff in February 2011 to review budget and operational activities planned for the coming year. We will also coordinate on Yuma clapper rail surveys. Otherwise, no changes are planned for the operation and management of this wetland cell.

VI. MANAGEMENT AND COORDINATION

Obligation: SRP will establish a full-time staff position in its Environmental Services Department to manage and coordinate implementation of the Roosevelt HCP.

Actions: Completed.

VII. PERMANENT NON-WASTING FUND

Obligation: No later than 5 years after the ITP is issued, SRP will ensure that permanent funding is available to meet its continued obligations under the Roosevelt HCP.

Actions: Completed. Irrevocable grantor trust was funded in May 2008.

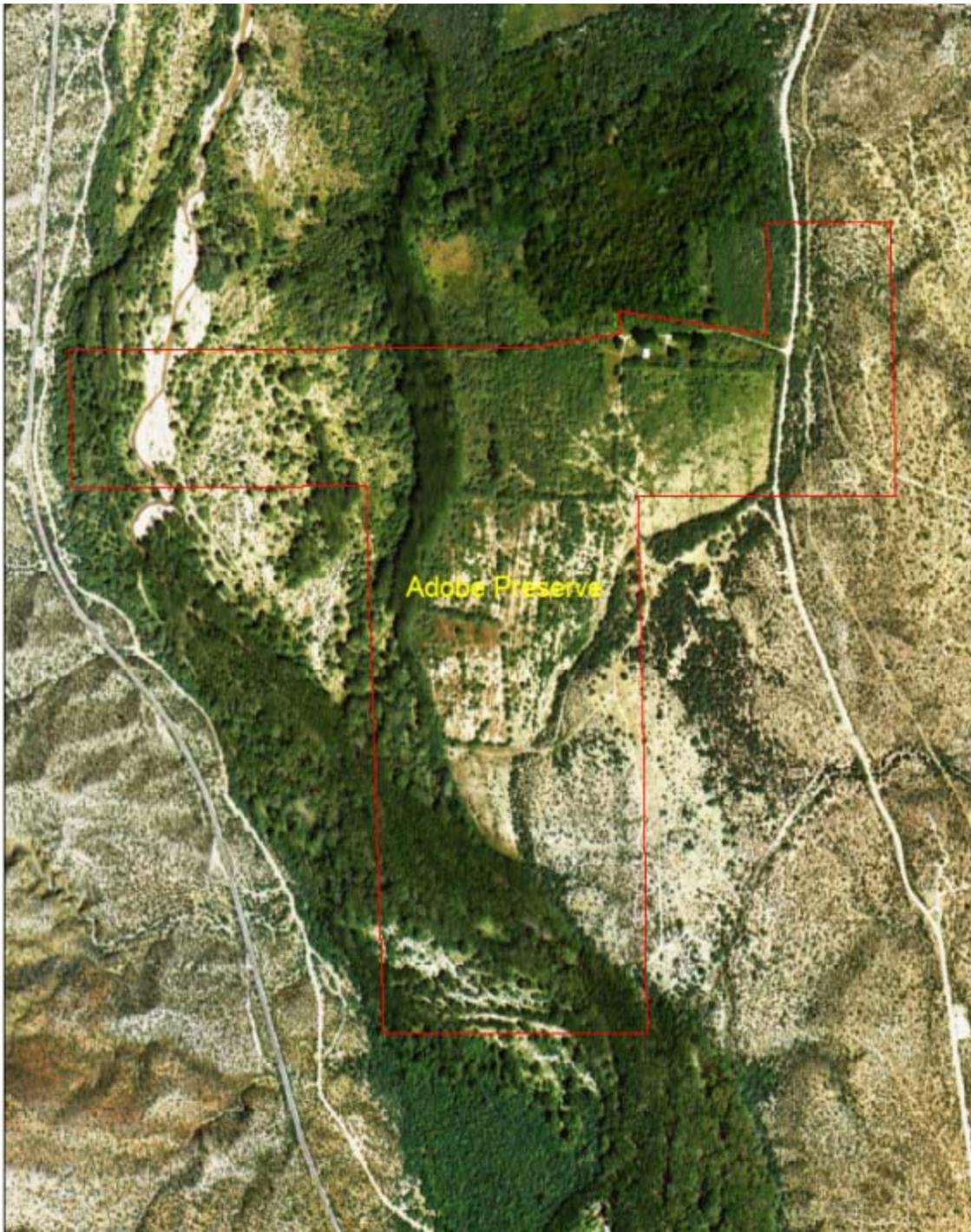
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APPENDIX A

**AERIAL PHOTOGRAPHS
OF
MITIGATION PROPERTIES**

ADOBE PRESERVE, SAN PEDRO RIVER, PINAL COUNTY, AZ
153 ACRES



Aerial photo taken September 2008

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography

BLACK FARM PRESERVE, ARAVAIPA CREEK, PINAL COUNTY, AZ
137 ACRES



Aerial photo taken September 2008

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography

STILLINGER PRESERVE, SAN PEDRO RIVER, PINAL COUNTY, AZ
40 ACRES

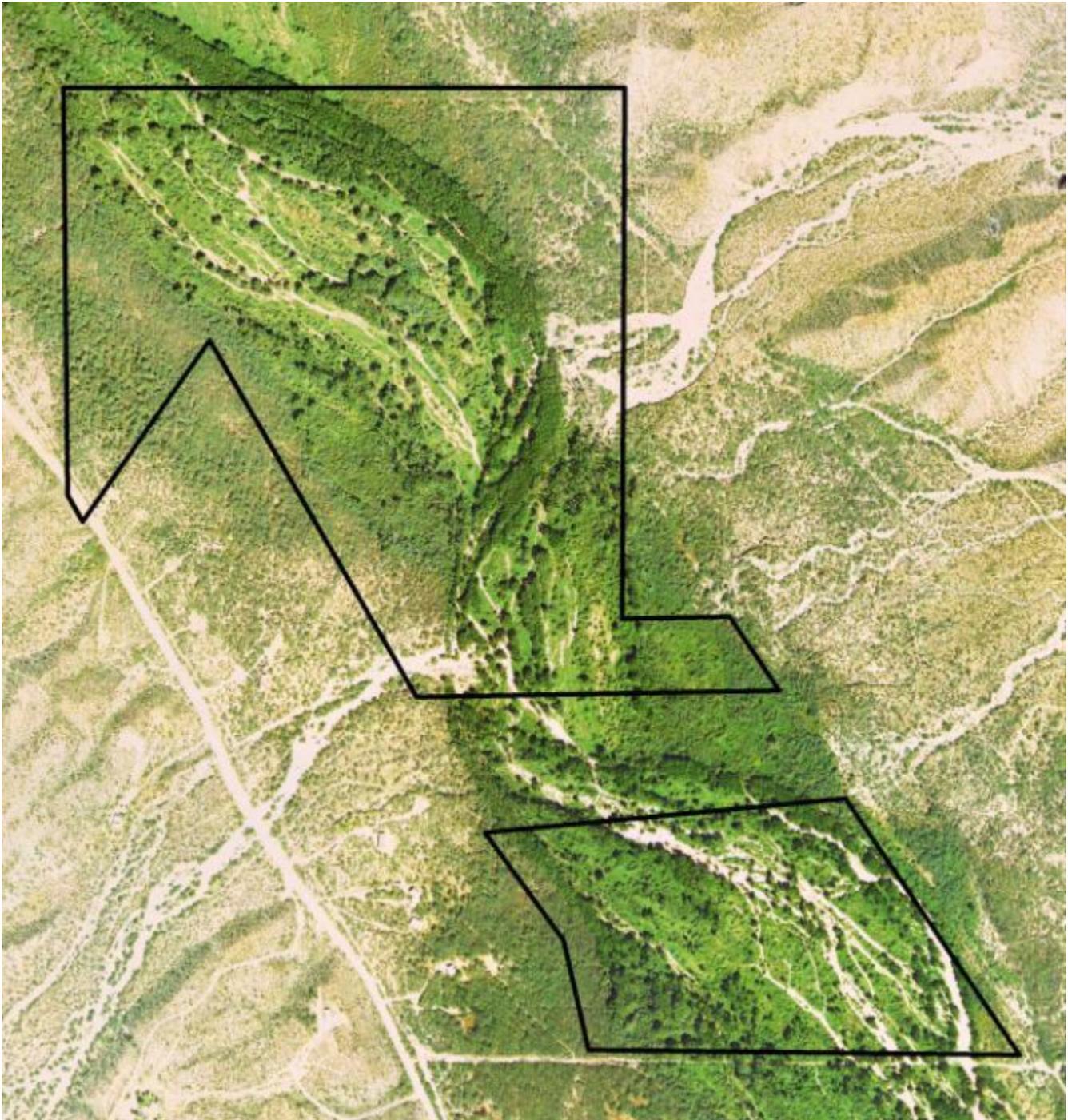


Aerial photo taken September 2008

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography

SPIRIT HOLLOW PRESERVE and ANNEX, SAN PEDRO RIVER, PINAL COUNTY, AZ

154 ACRES



Aerial photo taken September 2008

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography

**CAMP VERDE RIPARIAN PRESERVE, VERDE RIVER, YAVAPAI
COUNTY, AZ**

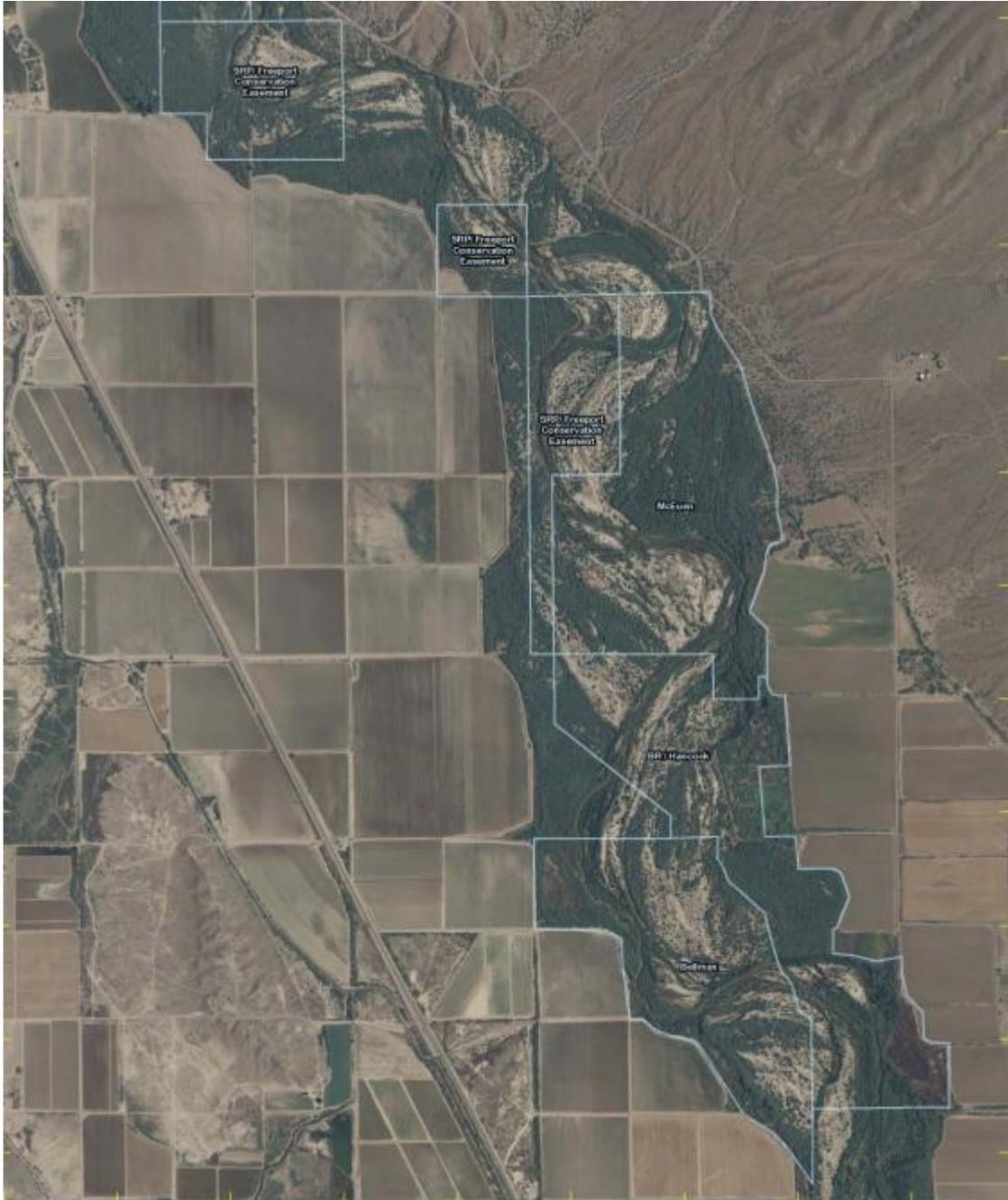
124 ACRES



Aerial photo taken October 2009.

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography

**FORT THOMAS PRESERVE
GILA RIVER, GRAHAM COUNTY, AZ
1,054 ACRES**



Aerial photo taken June 2006

Property boundaries overlaid on aerial photographs are approximate due to slight distortions on the aerial photography.

APPENDIX B

MANAGEMENT ACTIVITY IMPLEMENTATION MATRICES

ADOBE PRESERVE – Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan			
Baseline Inventory	Completed		SRP Env. Svc.
Management Plan	Completed		SRP Env. Svc.
Water Rights and Use:			
Submit water rights claim form to ADWR	Completed		SRP Water Rights
Complete the transfer of water rights on property, except for domestic use	In process	Pending ADWR action	SRP Water Rights
Install piezometers	In process	January 2011	SRP
Cowbird Management:			
Apply nest searching protocol	Repeat	Second application of method during 2011 breeding season	SRP
Livestock grazing and recreational disturbance:			
Remove all trespass livestock	On-going	Patrol conducted regularly	SRP contractor Livestock owner(s)
Fire Management:			
Develop a fire management plan in coordination with fire management agencies	Completed	October 2004	SRP Env. Svc. Contractors
Maintain close coordination with wildfire response agencies; Update local contact	Pending	April 2011	SRP Env. Svc. SRP contractor
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP contractor
Fencing and Gates:			
Conduct regular fence patrol to check for breaches. Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP contractor

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Restoration of Upland Fields:			
Develop a plan to begin restoration of upland fields	In process	Next steps: 2011 growing season	Env. Svc. SRP contractor
On-Site Management			
Maintain and repair existing fences and roads	On-going	As needed	SRP contractor
Conduct general maintenance	On-going	As needed	SRP contractor
Invasive Plant and Animal Control:			
Survey the property to determine presence and extent of invasive elements	Completed	October 2008	Env. Svc. Contractor
Develop plan to minimize or eliminate problem species	In process	See "Restoration of upland fields"	Env. Svc. SRP contractor
Facilities Management:			
Implement actions for domestic well	On hold	TBD	SRP Env. Svc. Contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	Env. Svc. Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP SRP contractor

BLACK FARM PRESERVE – Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan:			
Finalize baseline inventory	Completed		Env. Svc.
Finalize management plan and distribute to cooperators	Completed		Env. Svc.
Water Rights and Use:			
Submit water rights claim form to ADWR	Completed		SRP Water Rights
Complete the transfer of water rights on property, except for domestic use	Pending	TBD by ADWR	SRP Water Rights
Cease irrigation of fields	Completed	March 2007	SRP
Install piezometers	In Process	January 2011	SRP
Fire Management:			
Develop a fire management plan in coordination with fire management agencies	Completed	October 2004	Env. Svc. Contractor
Patrol site regularly to identify and eliminate potential fire hazards	On-going	Conducted weekly, on average	SRP contractor
Make initial contact with local fire-fighting org. and wildfire response agencies; Update local contact info	Pending	April 2011	Env. Svc. SRP contractor
Familiarize SRP employees with protocols	On-going	As necessary	Env. Svc.
Restoration of Upland Fields:			
Plant native grasses and forbs on 101 acres of agricultural fields	Completed	September 2005	Agric. contractor SRP contractor
Seed 5 acres at southeast corner of property	Completed	September 2010	SRP contractor
On-Site Management:			
Hire a property maintenance technician	Completed		Env. Svc.
Patrol property and fence lines	On-going	Weekly, on average	SRP contractor
Conduct general maintenance activities	On-going	As necessary	SRP contractor

BLACK FARM (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Invasive Plant Control:			
Conduct mechanical removal of weeds from agricultural fields seeded with native grasses; contact SRP to coordinate need for herbicide spraying	On-going	On-going	SRP SRP Groundwater SRP contractor
Coordination with Neighbors and Community:			
Coordinate activities with adjacent landowners	On-going		SRP Env. Svc.

SPIRIT HOLLOW PRESERVE – Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan			
Baseline Inventory – add new properties	Pending	May 2011	SRP Env. Svc.
Management Plan – add new properties	Pending	May 2011	SRP Env. Svc.
Cowbird Management:			
Apply nest searching protocol	Repeat	Second application of method during 2011 surveys	SRP Env. Svc. Cooperators
Livestock grazing and recreational disturbance:			
Remove all trespass livestock	On-going	As necessary	SRP contractor Livestock owner(s)
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies	Completed	October 2004	SRP Env. Svc. Contractors
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP contractor
Make initial contact & maintain coordination w/ wildfire response agencies, update local contact info	Pending	April 2011	SRP Env. Svc. SRP contractor
Update fire plan to include USBR lands and protocols	Pending	October 2011	SRP Env. Svc. USBR
Fencing:			
Conduct regular fence patrol to check for breaches. Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP contractor
Monitoring:			
Install piezometers	In Process	January 2011	SRP

SPIRIT HOLLOW (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
On-Site Management			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP contractor
Conduct general maintenance	On-going	As needed	SRP contractor
Invasive Plant and Animal Control:			
Survey the property to determine presence and extent of invasive elements	Completed	September 2008	Env. Svc. Contractor
Develop plan to treat burned area on right terrace	Cancelled; not necessary		
Conservation Easement:			
Complete conservation easement	Completed	October 2006	Env. Svc.
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc.

STILLINGER PRESERVE – Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan			
Baseline Inventory	Completed	September 2005	SRP Env. Svc.
Management Plan	Completed	September 2005	SRP Env. Svc.
Cowbird Management:			
Apply nest searching protocol	Repeat	Second application of methods during 2011 surveys	SRP Env. Svc. Cooperators
Livestock grazing and recreational disturbance:			
Remove trespass livestock	On-going	On-going	SRP contractor Livestock owner(s)
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies	Completed	October 2004	SRP Env. Svc. Contractors
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP contractor
Make initial contact and maintain close coordination with wildfire response agencies, Update local contact info	Pending	April 2011	SRP Env. Svc. SRP contractor
Fencing:			
Conduct regular fence patrol to check for breaches;	On-going	Conducted weekly, on average	SRP contractor
Maintain and repair existing fences and gates	On-going	As needed	SRP contractor
Construct fences along property boundary; repair fences on left bank.	Pending	February 2011	SRP contractor
Monitoring:			
Install piezometers	In Process	January 2011	SRP

STILLINGER PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
On-Site Management			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Conduct general maintenance	On-going	As needed	SRP contractor
Invasive Plant Control:			
Survey the property to determine presence and extent of invasive elements	Not necessary at this time		Env. Svc. Contractor
Develop plan to minimize or eliminate problem species	Not necessary at this time		Env. Svc. Contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	Env. Svc. Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP contractor SRP Env. Svc.

CAMP VERDE RIPARIAN PRESERVE – Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan			
Baseline Inventory	Completed	September 2005	SRP Env. Svc./Contractor
Management Plan	Completed	September 2005	SRP Env. Svc./Contractor
Cowbird Management:			
Apply nest searching protocol	Pending	Apply during 2011 survey if nest is present	SRP Env. Svc. Cooperators
Livestock grazing and recreational disturbance:			
Minimize human, vehicular and livestock trespass	On-going	On-going	SRP contractor Livestock owner(s)
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies	Completed	December 2004	SRP Env. Svc. Contractors
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP contractor
Make initial contact and maintain close coordination with wildfire response agencies, send plan	Completed	On-going	SRP Env. Svc. SRP contractor
Mow vegetation to create fire break along I-17 boundary	On-going as necessary	After each winter and monsoon rainy season	SRP
Boundary Issues / Fencing:			
Install wildlife friendly barbed wire fencing along the southern boundary of property.	Completed	December 2004	Contractor
Conduct regular fence patrol to check for breaches. Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP contractor

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Boundary Issues/Fencing (cont'd.)			
Install signage at I-17 bridge and along fence lines	Completed	July 2005	Env. Svc., Contractor
On-Site Management			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP Env. Svc.
Conduct general maintenance	On-going	As needed	SRP Env. Svc. Contractors
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	Env. Svc. Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc.
Information display and trip at Verde Birding Festival	Annually	April 2011	SRP Env. Svc.
Information display at Verde River Days	Annually	September 2011	SRP Env. Svc.
Verde River Planning w/ TNC , ASPB, FVG, USFS and others	On-going	On-going	SRP Env. Svc.

FORT THOMAS PRESERVE - Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan			
Baseline Inventory	Completed	February 2009	SRP Env. Svc./Contractor
Management Plan	Completed	November 2008	SRP Env. Svc./Contractor
Cowbird Management:			
Test nest searching protocol	Completed	2006 and 2007 breeding season	SRP Env. Svc. Contractor
Conduct nest searching protocol	Completed	2009 breeding season	SRP Contractor
Livestock grazing and recreational disturbance:			
Install signage to deter human and vehicular trespass	Completed	September 2008	SRP Env. Svc.
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies and USBR	Initiated	October 2011	SRP Env. Svc. USBR
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP contractor
Make initial contact and maintain close coordination with wildfire response agencies	Initiated		SRP Env. Svc. SRP contractor
Send copies of fire management plan to fire management agencies	Not started	After completion of plan	SRP Env. Svc.
Boundary Issues / Fencing:			
Evaluate the property to determine fencing, signage and access needs	Completed	June 2007	SRP
Install fencing, signage on Hancock, Bellman boundary	In Process	February 2011	SRP
On-Site Management			
Hire a property maintenance technician	Completed	March 2004	SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP Env. Svc.

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
On-Site Management (cont'd.)			
Conduct general maintenance	On-going	As needed	SRP Env. Svc. SRP contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	Env. Svc. Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc.

