

ROOSEVELT HABITAT CONSERVATION PLAN ANNUAL REPORT 2012



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Cover photo: Rockhouse Demonstration Project, Salt River, Gila County, AZ. Photo provided by Michael Eller.

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- B. Management activity implementation matrices
- C. Southwestern willow flycatcher and yellow-billed cuckoo surveys at the SRP-managed properties along the Gila River, Graham County, Arizona: 2012 summary report¹
- D. Southwest willow flycatcher and yellow-billed cuckoo surveys at the Camp Verde Preserve, Verde River, Yavapai County Arizona: 2012 Summary Report¹
- E. Southwest willow flycatcher and yellow-billed cuckoo surveys at the Rockhouse

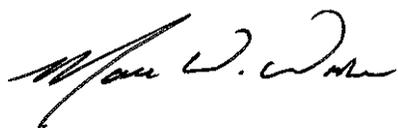
Demonstration Project, Gila County, Arizona: 2012 Summary Report¹
F. Photo Points of Conservations Properties.

¹Locations of endangered species are sensitive data considered confidential by U.S. Fish and Wildlife Service and have been removed from this version of the report.

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.



January 24, 2013

Marc W. Wicke
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Date

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 tenth year of implementing the Roosevelt HCP. This report documents all mitigation and minimization efforts conducted over the past water year, November 1, 2011 through October 31, 2012, 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 2012

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.

Summary: The strongest weather indicator, El Niño Southern Oscillation (ENSO), remained in La Niña conditions for a second consecutive year. The La Niña (cooler than normal sea surface temperatures along the equator in the Eastern Pacific Ocean) had the greatest influence on Salt and Verde reservoir operations this past water year. These conditions brought another dry winter to the Salt and Verde watershed. Since 1950, there have been nineteen La Niña winters. The majority of those nineteen winters have been dry with six being normal and four being above normal on the SRP watershed. Forecasts from the National Weather Service and the Climate Prediction Center, which called for a greater likelihood in 2012 of a dry winter and early summer came to fruition. The runoff this winter

was only 37% of median. The precipitation this monsoon season on the Salt and Verde watersheds was 109% of normal but runoff volumes from the monsoon season typically do not impact operations. Overall, the watershed received an average of 14.72 inches (81 % of normal) during Water Year 2012.

Winter Precipitation: La Niña conditions returned for a second winter after fading away during the early summer of 2011. Historically, the cooler equatorial waters and associated atmospheric response lead to dry winters in Arizona. The Water Year 2011 La Niña began in June 2010 and reached moderate to strong intensity during the Water Year 2011 winter before fading during May 2011. Often after a strong La Niña, the ocean surface will cool again after a short summer break and La Niña will return for a second winter. This time La Niña began again in August 2011 and lasted into March 2012. Its intensity was less this time (generally weak) during the Water Year 2012 winter.

A dry fall preceded a very wet December that was in turn followed by an extremely dry January which is more typical of a La Niña winter. The combined December-January precipitation resulted in a slightly dry (80 % of normal) early winter followed by sparse late winter precipitation (February-March). February was very dry (22 % of normal) while March was slightly wetter (63 % of normal). Winter precipitation totaled 4.75 inches on the Salt and Verde Watershed which is 62% of normal.

Summer Precipitation: Spring is historically a dry season as the winter storm track retreats to the north and is replaced by a dry and hot sub-tropical high-pressure system aloft. This high will eventually become the “monsoon” high-pressure cell that often sits near Four Corners and allows moist tropical air to flow into Arizona from the south primarily during July and August. Spring 2012 (April –June) was very dry as only 0.60 inches or 39 % of normal precipitation fell on the watershed.

Fortunately, the moist monsoon wind circulation began to set up in late June and the first rains of the 2012 monsoon fell just before the Fourth of July. Watershed rainfall was ample with an inch more than normal falling in July and slightly above normal rainfall in August. Rainfall was only 62% of normal in September as the monsoon circulation faded at mid-month. Overall the monsoon season (July through September) rainfall was 6.91 inches which was 109% of normal.

Water Year 2012: In spite of a wet November and December, a dry January through March kept the first half of water year 2012 dry; about 62% of normal precipitation fell. A dry spring (39% of normal precipitation) added to the water year deficit that could not be offset by the wet summer (109% of normal rainfall). In all, water year 2012 precipitation of 14.92 inches was 81% of normal. This is slightly more than the 13.91 inches that fell during water year 2011 but reflects the similarity in La Niña-influenced weather patterns during both water years (Figure 1).

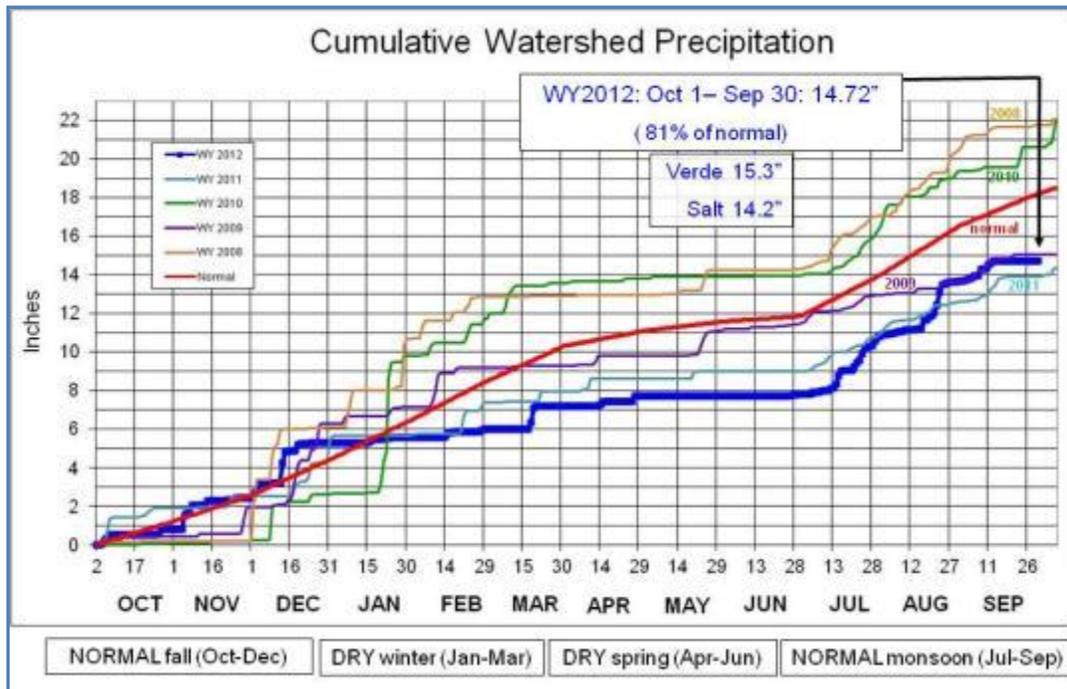


Figure 1. Water Year Precipitation for 2011-2012 for the Salt-Verde Watershed.

Reservoir Status: The reservoir system was 68% of capacity heading into water year 2012 due to well below median runoff from the 2011 winter season and below normal precipitation from the 2011 monsoon season. The winter season began favorably with November and December precipitation being 150% and 180% of normal respectively. However, the wet November and December were an anomaly given the moderate La Niña. Runoff this winter (January-May) was approximately 196,000 acre-feet which is 37% of median and ranked as the 16th driest winter on record. Runoff from the monsoon (July-September) produced about 70,500 acre feet. Total runoff for water year 2012 was approximately 367,000 acre-feet (Figure 2). Total storage decreased from 68% of capacity to 52% capacity during water year 2012.

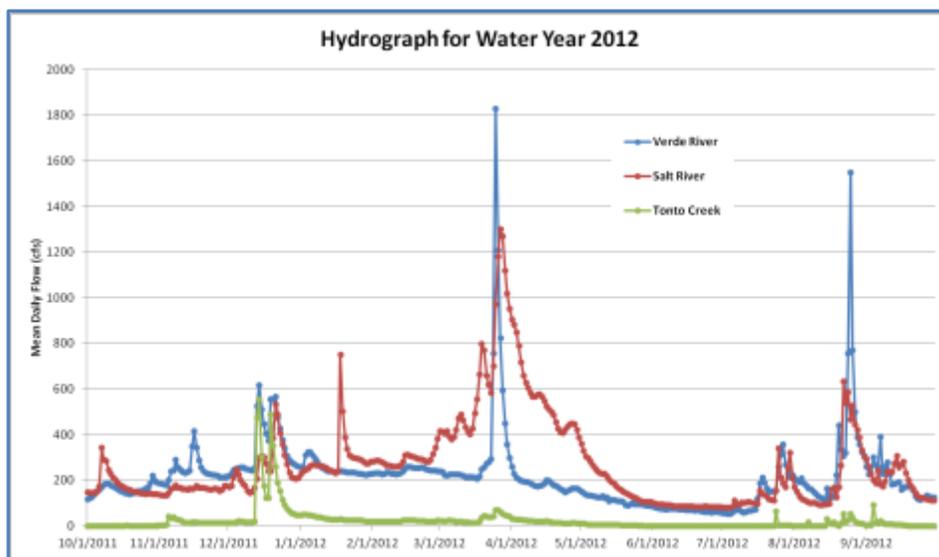


Figure 2. Water year Precipitation for 2011-2012 for the Salt-Verde Watershed

Roosevelt Operations: Roosevelt operations were most influenced by the lack of winter runoff. Roosevelt reservoir capacity entered the season with just over 500,000 acre-feet of available capacity reducing the risk of spill given La Niña conditions were in place for the second consecutive year. The winter of 2012 produced only 126,000 acre feet of runoff into Roosevelt Lake. The elevation at Roosevelt Dam varied little through the winter with well below normal inflows through the winter season. On February 20th the water order transitioned back to the Salt system. Reservoir levels began to decline as water order increased in the late spring and into the summer (Figure 3). The water order is projected to switch to the Verde system in early December, 2012. The transition is scheduled later than normal this year to position the Verde system storage at a level that will allow for better system flexibility if the 2013 winter runoff season is dry.

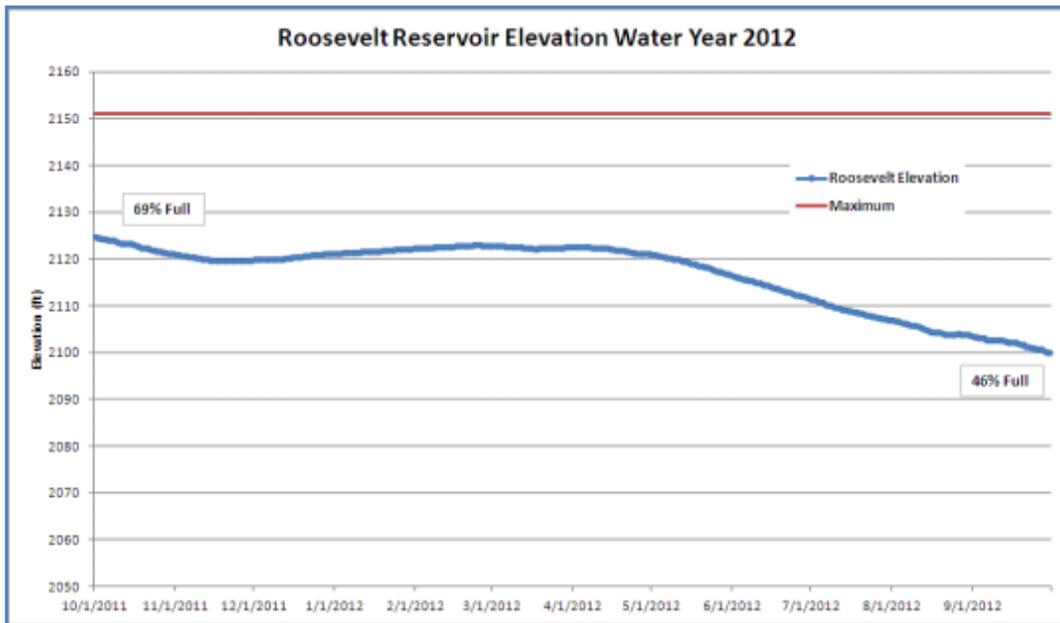


Figure 3. Roosevelt Lake Elevations, Water Year 2012

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).

- 2012 Actions:* SRP uses a multi-scaled flycatcher breeding habitat model to monitor habitat compliance at Roosevelt Lake. In January of 2012, SRP contracted with Cooper Aerial to collect LIDAR data over the Salt and Tonto arms of Roosevelt Lake. These data were used in conjunction with the GIS breeding habitat model to generate an enhanced breeding habitat map for the 2012 reporting period. Results are presented in section B.2. of this report.
- 2013 Actions:* SRP will continue to refine and work on this methodology to improve our ability to map and forecast potential occupied breeding habitat.
- Obligation:* The extent of cattail marshes will be monitored by helicopter survey each year that there is a potential for more than 3 acres of marsh below elevation 2,151'. If more than 3 acres exist, Yuma clapper rail surveys will be conducted to determine ITP compliance.
- 2012 Actions:* Low water levels in the lake prevented the development of cattail marsh below 2151' in 2012. Therefore, clapper rail surveys were not conducted.
- 2013 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. The trigger to initiate surveys is when the habitat model identifies 500 or more acres of potential breeding habitat.
- 2012 Actions:* SRP did not conduct flycatcher or cuckoo surveys in 2012 on the Salt and Tonto arms of Roosevelt Lake because little habitat existed below 2151'. TNF biologists conducted limited flycatcher surveys in 2012, both above and below the 2151' elevation mark on the Salt River and Tonto Creek.
- 2013 Actions:* SRP will initiate surveys when the amount of tall, dense vegetation below 2151' elevation identified by habitat modeling nears or exceeds 500 acres. Results of habitat monitoring suggest that approximately 15.15 acres of potentially suitable habitat existed in 2012, so SRP will not be conducting flycatcher or cuckoo surveys in 2013 (see Habitat Monitoring Results below).

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 (Hatten and Paradzick 2003). 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%). For purposes of tracking permit compliance, SRP considers habitat probability classes 3 through 5 as potentially occupied habitat because much of class 3 tends to be clustered around class 4 or 5 cells. By evaluating the data set in this way, we are taking a conservative approach.

Previously, SRP ran the multi-scaled habitat model using Landsat 5 satellite images. However, Landsat 5 images are no longer available for time periods after November 2011 when the satellite experienced catastrophic failure. Because of this, SRP ran the multi-scaled habitat model in 2012 using Landsat 7 ETM satellite images. However, Landsat 7 images can contain gaps of missing information in individual scene data due to a scan line corrector malfunction in the satellite that occurred in 2003. Although the Landsat 7 data may not be optimal, SRP addressed the issue by combining two images from separate time periods during the breeding season and at similar lake elevations. The primary image, taken on July 2, 2012, adequately covered over 80% of the area. These data were supplemented with a second image taken on May 31, 2012 to cover the remaining 20%. The lake elevation at the time of the July image was 2,111.23 feet and for the May image was 2116.59 feet (Figure 5).

In previous years, SRP found that the habitat model tended to misclassify areas of dense forbs and grasses as high quality flycatcher habitat based on its NDVI reflectance value (greenness). This type of error potentially could be eliminated if we had tree canopy height data. In 2012, we were able to test whether the use of LIDAR (Light Detection and Ranging) data, which would provide canopy height, could improve model accuracy within the conservation space at Roosevelt Lake.

LIDAR is an optical remote sensing technology that can measure distance to a target by illuminating the target with light, typically using some type of laser beam. In this case, the targets are tree tops. The scatter of points generated by LIDAR was used to generate tree canopy heights. At this point, the LIDAR data set has a much higher resolution than the habitat model, which is based on a 30 x 30 meter cell. SRP queried the data sets to identify cells in classes 3, 4 and 5 where all tree heights within a modeled "cell" fell below the threshold of 20 feet (6 meters). These cells were reclassified to lower probability classes and were not considered in the final tally. The resulting maps were compared to those developed from June 22, 2011. In addition, SRP staff visually verified the final results by helicopter.

Model Results: Using acreages from classes 3 through 5 and the manipulated LIDAR data set, SRP estimates that 15.15 acres of potentially suitable flycatcher breeding habitat existed below the 2151' elevation at Roosevelt Lake during the 2012 breeding season (Table 1). Results suggest a decrease of approximately 70 acres of estimated potential habitat from 2011.

Table 1. Multi-scaled Southwestern willow flycatcher breeding habitat probability model results, 2011 versus 2012.

Habitat Probability Class	Probability Range	Acres Below 2151' Elevation					
		Salt Arm		Tonto Arm		Total Acres	
		2011	2012	2011	2012	2011	2012
1	0-20%	254.65	539.97	82.89	252.42	337.54	792.39
2	21-40%	29.29	31.14	6.46	8.45	35.74	39.59
3	41-60%	22.82	14.14	21.93	1.01	44.75	15.15
4	61-80%	26.38	0.00	1.17	0.00	27.55	0.00
5	81-98%	12.67	0.00	0.22	0.00	12.89	0.00
Total 3 thru 5	41-98%	61.87	14.14	23.31	1.01	85.18	15.15
Total 4 and 5	61-98%	39.05	0.00	1.38	0.00	40.44	0.00

¹ 2011 satellite imagery was taken on June 22, 2011 when lake elevation was at 2140'.

² 2012 satellite imagery was taken on July 2, 2012 and May 31, 2012 when lake elevation was at 2111'.



Figure 4. Vegetation at A-Cross Road, looking upstream. The 2151' elevation is adjacent to A-Cross Road on the downstream side. Photo was taken at lake elevation 2100.77' on September 26, 2012 by Michael Eller.

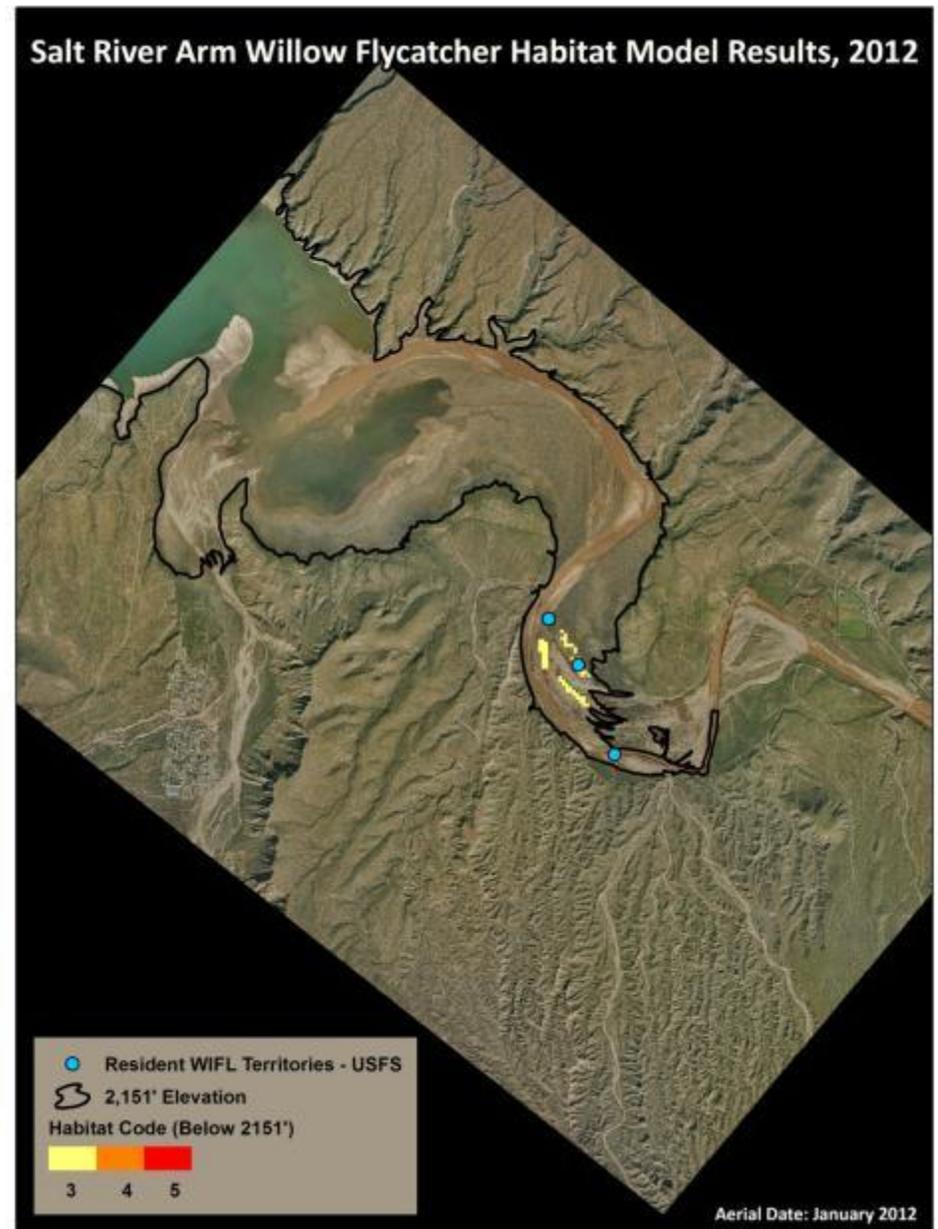
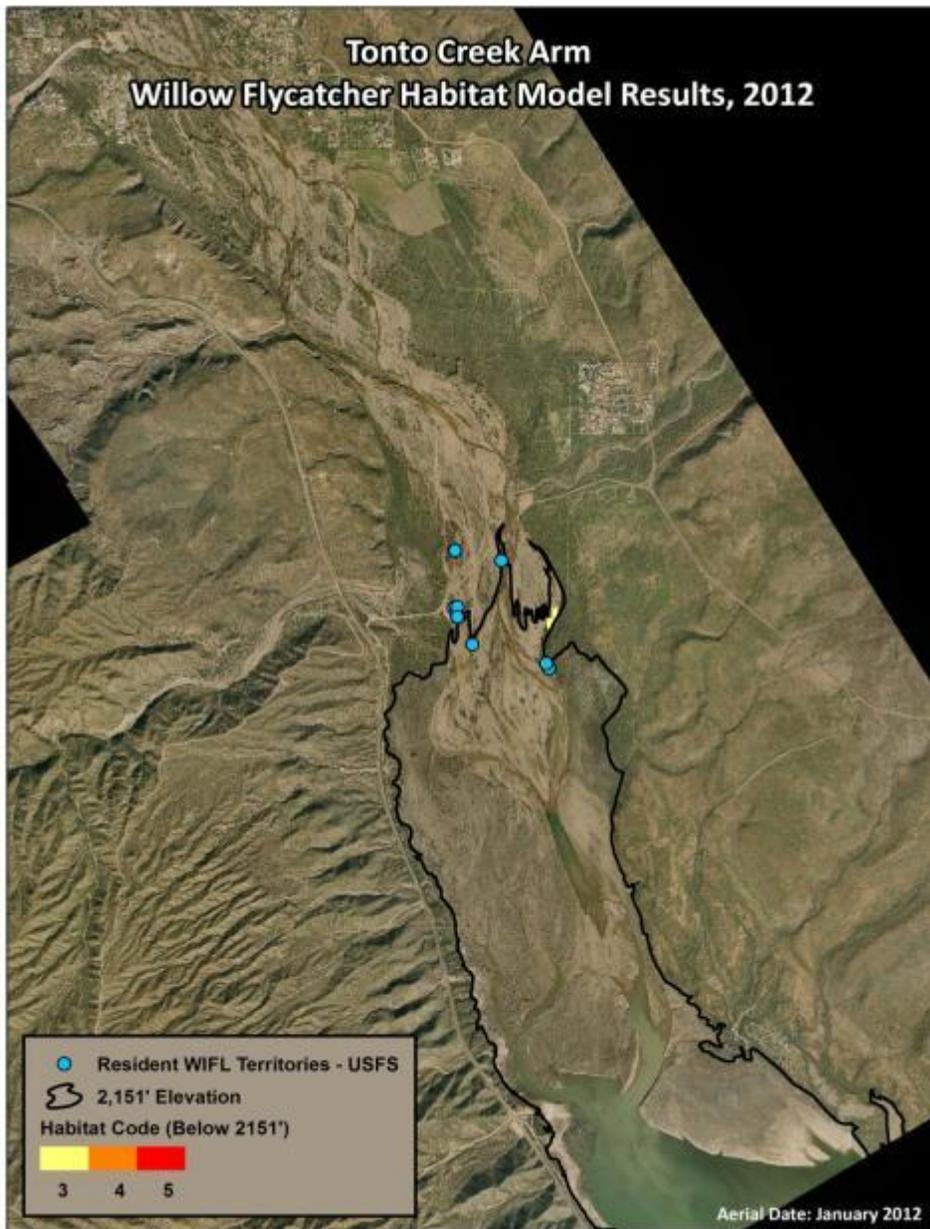


Figure 5. Salt River and Tonto Creek arms of Roosevelt Lake showing 2012 flycatcher habitat model results and flycatcher territory locations as provided by Tonto Basin Ranger District, Tonto National Forest. Satellite image was taken on July 2, 2012 at lake elevation 2111' (56% full). The aerial photo was taken in January 2012 when the lake was 66% full.



Figure 6.
Tonto Creek
arm of
Roosevelt
Lake
looking
downstream
from A-
Cross Road.
September
26, 2012.
Photo by M.
Eller.

Figure 7.
Exposed Lake
Bottom at
Tonto Creek
inlet to
Roosevelt
Lake
September
26, 2012.
Photo by M.
Eller.





Figure 8. Exposed lake bottom upstream from the confluence of Pinto Creek. September 26, 2012. Photo by M. Eller.



Figure 9. Exposed lake bottom downstream from the confluence of Pinto Creek. September 26, 2012 Photo by M. Eller.

3. 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.

2012 Actions: SRP provided \$18,400 to fund a pair of bald eagle nestwatchers during the 2012 breeding season.

2013 Actions: The agreement between SRP and AGFD allows AGFD to invoice for the 2013 Nest Watch Program in November 2012.

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.

2012 Actions: SRP provided five flights totaling approximately \$13,550 worth of helicopter service to the AGFD during this period.

2013 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.

2012 Actions: Completed. Contact list was updated in October 2012.

2013 Actions: Implement plan, if necessary. Update contact list in October 2013.

2012 Breeding Status: AGFD monitors bald eagle productivity at five breeding areas (BA) associated with Roosevelt Lake. The results of the 2012 breeding season are shown below in Table 2. Arizona's bald eagle population continues to increase. In 2012, by the end of the breeding season, bald eagles set two new records for the number of breeding areas identified and the number of eggs laid.

Table 2. Comparison of bald eagle breeding productivity, 2010 - 2012, Roosevelt Lake

Breeding Area	2010		2011		2012	
	# of Eggs	# Fledged	# of Eggs	# Fledged	# of Eggs	# Fledged
Tonto	2	2	2	2	2+	2
Pinal	1	1	2	2	2	2
Pinto	1+	Failed	1	Failed	1+	Failed
Rock Creek	Unoccupied		Unoccupied		Unoccupied	
Dupont @ Sierra Anchas	Unoccupied		Unoccupied		Unoccupied	
TOTALS	4+	3	5	4	5+	4

Source: Unpublished data, Southwest Bald Eagle Management Committee, AGFD (2010, 2011, 2012)

Statewide, at least 80 bald eagle eggs were laid and a record 66 breeding areas were identified, including four new breeding areas. For only the third time, the number of nestlings that fledged exceeded 50 with 52 young birds making it to the important milestone of their first flight. The species' productivity records year after year indicate that bald eagles continue to flourish in the state

C. Tonto Forest Protection Officer (FPO)

Obligation: Fund a Forest Protection Officer at the Tonto Basin Ranger District (TNF) 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.

2012 Actions:

The following report has been provided by Amy Madara-Yagla, Forest Protection Officer, Tonto National Forest.

Enforcement Activities:

In 2010, a gate was placed on the Meddler Point/333 Road and fixed with a dummy-lock. In 2012, an agreement was made with the adjacent landowners and the gate has been locked. The gate has eliminated unauthorized access to the 333 Road

In March, after discussions with the Tonto Basin District Ranger, it was decided to attempt to place boulders west of the Eads Wash River Access area next to the Salt River, to help deter people from driving across the Salt River and to reduce activity in an area that had become occupied by southwestern willow flycatchers when Roosevelt Lake was near capacity. The area was still available for forest users to walk in and camp.

A fence was reconstructed on the north end of Bermuda Flat, thereby limiting vehicle access in the flycatcher restriction area. Signs were also placed throughout the Bermuda Flat and Horse Pasture shoreline camping area informing people it is illegal to cut any dead standing wood. These dead trees are utilized as perches by various species throughout the year.

A total of 13 citations were issued during 2012. One citation was issued to an individual that was driving into the southwestern willow flycatcher restriction area south of the A-Cross Road in Tonto Creek, and another to an individual driving into the restriction area off of the Indian Point Boat Ramp. Two littering citations were issued at the end of the newly reopened 397a road to two individuals disposing of cigarettes and cans into the river. Another citation was issued near the Indian Point boat ramp to a group of individuals collecting prehistoric pottery and other artifacts that had recently been exposed by decreasing lake levels. Seven citations for building fires during restrictions were issued in the Upper Salt River Recreation area during seasonal fire restrictions. Fewer citations were issued in 2012 in comparison to previous years.

Bald Eagles:

Madara-Yagla worked closely with the Arizona Game and Fish Department (AGFD) contracted Nestwatchers to ensure protection of the bald eagle nest closure areas.

The Tonto nest bald eagles occupied the one remaining nest, number 2, in the same tree that they had been previously using. Two chicks successfully hatched and were monitored by AGFD contracted Nestwatchers until fledged. Lake levels have dropped since 2010, so carsonite signs were placed on the 1000 feet land closure perimeter prior to Dec 1st and then removed after July 30th. This area receives a moderate amount of waterfowl hunting pressure.

The Pinto bald eagle pair were first observed incubating in a new nest (#8) late in the season, approximately February 16th and continued to incubate until April 2nd when they finally abandoned the nest. Bald Eagle nest watchers were assigned to the Pinto Nest until the 4th of April.

Outreach activities:

Madara-Yagla continued her outreach efforts with approximately 120 third graders at Dr. Charles A. Bejarano Elementary School in Miami, Arizona. This is the fourth year of this program which includes curriculums from Project WET, Project WILD and Focus: Wild Arizona (Arizona Game and Fish) as well as a variety of other resources to provide children opportunities to learn about natural resources.

Madara-Yagla also assisted the AGFD contracted Nestwatchers in conducting two programs during March at the Windy Hill Campground Amphitheater. She also conducted two programs focusing on local plants and animals during times of high visitation. The Nestwatchers graciously dressed up like Smokey Bear for a trip through the campground to encourage attendance to our family oriented programs.

Other Activities:

Madara-Yagla conducted surveys for the endangered southwestern willow flycatcher with assistance from other Forest Service biologists. With only a few exceptions, areas were only surveyed once this year, primarily during the residential period. Numbers were generally lower than previous years.

While conducting southwestern willow flycatcher surveys north of A-Cross Road, three Northern Mexican gartersnakes were encountered. They were located in a moist and moderately vegetated area. At the request of Bill Burger, AGFD, a tail clipping was collected from one of the snakes and sent to AGFD for a genetic analysis. All three snakes were located in generally the same area. Voucher photos and locations were also sent to AGFD.

Activities also included hundreds of campsite visits on the Upper Salt River throughout the year. Many people that were contacted had once frequented areas now closed to vehicle traffic. They are often anxious to know if those areas 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. These contacts also allowed an opportunity to educate people about local wildlife and other natural resources in the area and remind them to properly dispose of their trash and fully extinguish their fires when not in attendance.

D. Rockhouse Riparian Demonstration Project

Obligation: 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.

2012 O&M Activities:

Operations and Maintenance. SRP continued to contract with Tim Wheeler (Maratimo Construction) 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. 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.

Ditch cleaning activities performed during September, 2011 were sufficient to prevent substantial weed growth through 2012. Weed control activities may be continued in 2013 if necessary.

2013 Actions:

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

Summary Document. A report summarizing the history of project construction and monitoring was drafted in 2010. Flycatcher and cuckoo survey results and usage of the site will be added to the report in addition to vegetation data collected around six flycatcher nests on the site. We hope to finalize this report in 2013.



Figure 10. Rockhouse Project, looking northeast (downstream). September 26, 2012. Photo by M. Eller.



Figure 11. Interior of planting at the Rockhouse site. Photo by R. Valencia.

IV. STATUS OF MITIGATION COMPLIANCE

Obligation: 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.

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

Table 3. Mitigation property information.

Mitigation Property Name	River System	County	Size (acres)	Mitigation Credits	Ownership	Management
Camp Verde Riparian Preserve	Verde	Yavapai	124	124	Owned by SRP	SRP
Fort Thomas Preserve	Upper Gila	Graham	1,054	1054	250 acres – Conservation Easement w/ Freeport McMoRan 308 acres – Owned by SRP 496 acres – Owned by USBR	SRP
Adobe Preserve	San Pedro	Pinal	154	131	Owned by SRP	SRP
Black Farm Preserve	San Pedro	Pinal	137	95	Owned by SRP	SRP
Stillinger Preserve	San Pedro	Pinal	40	40	Owned by SRP	SRP
Spirit Hollow Preserve	San Pedro	Pinal	204	204	154 acres – Owned by SRP w/ USBR conservation easement 50 acres – Owned by USBR	SRP
San Pedro River Preserve	San Pedro	Pinal	623	623	TNC with USBR conservation easement	TNC w/ USBR endowment
Arlington Wetland/Cell 4	Lower Gila	Maricopa	5	5	Owned by AGFD	AGFD under contract to SRP
Rockhouse Demonstration Project	Salt River	Gila	20	15	Owned by USBR; leased to SRP	SRP

TNC = The Nature Conservancy; USBR = Bureau of Reclamation; AGFD = Arizona Game & Fish Department.

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.

2012 Actions: No Yuma clapper rail surveys were conducted at the Arlington Wetland in 2012. Surveys will be repeated in 2013.

Flycatcher and cuckoo surveys were conducted on the Fort Thomas Preserve in 2012 by EcoPlan Associates under contract to SRP (Appendix C).

Flycatcher and cuckoo surveys were conducted on the Camp Verde and Rockhouse mitigation properties by SRP staff and EcoPlan.

2013 Actions: Flycatcher and cuckoo surveys will be conducted on the San Pedro mitigation properties (Adobe, Stillinger, Spirit Hollow, and the Spirit Hollow Annex).

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 2013 and 2014.

Table 4. Flycatcher survey schedule

	Purchase Date	2007	2008	2009	2010	2011	2012	2013	2014
SAN PEDRO									
Adobe	Sep-02		SRP			SRP		SRP	
Stillinger	Jun-04		SRP			SRP		SRP	
Spirit Hollow	Jul-04		SRP			SRP		SRP	
Spirit Hollow Annex	Dec-06	SRP*	SRP*			SRP		SRP	
VERDE									
Camp Verde	Jan-04	SRP		SRP			SRP		SRP
GILA									
McEuen	Aug-04	SRP		SRP			SRP		SRP
PD CE	Feb-05	SRP		SRP			SRP		SRP
BR/Hancock	Oct-05	SRP*		SRP			SRP		SRP
BR/Bellman	Dec-06	SRP*	SRP*	SRP			SRP		SRP
ROCKHOUSE									
	n/a		Evaluate	SRP	SRP		SRP		SRP
ROOSEVELT									
	n/a	TNF	TNF	TNF	TNF	TNF	TNF		

* Denotes baseline survey. BR = Bureau of Reclamation; GF = Arizona Game and Fish; TNF = Tonto Nat'l Forest

Table 5. Yellow-billed cuckoo survey schedule

	Purchase Date	2007	2008	2009	2010	2011	2012	2013	2014
SAN PEDRO									
Adobe	Sep-02		X			X		X	
Stillingner	Jun-04		X			X		X	
Spirit Hollow	Jul-04		X			X		X	
Spirit Hollow Annex	Dec-06	X*	X*			X		X	
VERDE									
Camp Verde	Jan-04	X		X			X		X
GILA									
McEuen	Aug-04	X		X			X		X
PD CE	Feb-05	X		X			X		X
BR/Hancock	Oct-05	X*		X			X		X
BR/Bellman	Dec-06	X*	X*	X			X		X
ROCKHOUSE	n/a		Evaluate	X	X		X		X
ROOSEVELT	n/a								

*Denotes baseline survey.

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

Table 6. Yuma clapper rail survey schedule

	Creation Date	2009	2010	2011	2012	2013
Arlington WMA	Feb-06	SRP/AGFD*		SRP/AGFD		SRP
Roosevelt	n/a				SRP**	SRP**

*Denotes baseline survey.

** Surveys will be conducted only 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.

2012 Actions:

Baseline Inventories. SRP updated several of the documents to reflect changes in property boundaries and ownership.

- Spirit Hollow Preserve - updated boundary to include USBR-acquired property (Annex) and the 10-acre buffer parcel acquired from Skeen.
- Fort Thomas Preserve – document was updated to include the Horseshoe-Bartlett HCP properties.

Documentation of Habitat Conditions. Habitat conditions were evaluated and photo documented during 2012 flycatcher and cuckoo surveys on the Camp Verde, Fort Thomas, and Rockhouse properties. See Appendix C for habitat photos. Habitat conditions at mitigation sites are described in section C of this report.

Table 7. Habitat monitoring schedule

	2008	2009	2010	2011	2012	2013
SAN PEDRO						
<i>Adobe</i> Baseline Inventory	Completed				Updated	
Photo points	X	X		X		X
Aerial photos	X					X
<i>Stilling</i> Baseline Inventory					Updated	
Photo points	X	X		X		X
Aerial photos	X					X
<i>Spirit Hollow</i> Baseline Inventory	Completed				Updated	
Photo points	X	X		X		X
Aerial photos	X					X
VERDE						
<i>Camp Verde</i> Baseline Inventory	Completed				Updated	
Photo points	X	X		X		X
Aerial photos		X				
GILA						
<i>Fort Thomas</i> Baseline Inventory	Completed		Completed		Updated	
Photo points	X	X		X		X
Aerial photos				X		
ROCKHOUSE						
Project Summary		Drafted				X
Photo points	X	X		X		X
Vegetation monitoring	Evaluation	X		X		
ARLINGTON						
Photo points	X	X		X		X
Aerial photos					X	

2013 Actions: Table 7 contains a summary of habitat monitoring activities scheduled for 2013.

Permanent Photo points. Fixed point photos will not be repeated in 2013 unless there is a need to document a significant event or change in conditions on one or more of the properties.

Documentation of Habitat Conditions. Documentation of habitat conditions typically coincides with bird surveys. See Tables 4 through 6 for time schedules.

Aerial Photos. Aerial photography will be repeated for the San Pedro River corridor or updated to 2013 from an online source.

B. Monitoring Results

In 2012, SRP contracted with EcoPlan Associates, Inc. to conduct protocol surveys for flycatchers and cuckoos on all Fort Thomas Preserve properties. SRP staff performed protocol surveys of the Camp Verde Preserve and the Rockhouse Demonstration Project. The results of these surveys are summarized below. The full survey reports can be found in Appendix C, D, and E.

Clapper rail surveys were not conducted by SRP biologists at the Arlington Wetland site in 2012.

1. Southwestern Willow Flycatcher Surveys

Fort Thomas Preserve

A total of 152 resident adult WIFLs (65 pairs) were detected in 90 territories along with 29 nests. An additional five nonresident WIFLs were detected. No banded birds were detected in 2012. Nest searching was conducted on these properties to determine the impact of brown-headed cowbird parasitism on flycatchers (SRP 2005). Nests of surrogate species were also checked if researchers were unable to locate an adequate number of flycatcher nests. A total of 33 flycatcher nests were found during nest searches including nests located on the Horseshoe-Bartlett parcels of the Fort Thomas Preserve. Of the 33 nests, parasitism was documented in seven nests. The parasitism rate (i.e., the number of nests parasitized divided by the total number of nests monitored) was 21.2%. Parasitism was spread out evenly across the entire Fort Thomas Preserve and was not concentrated in any specific area. Nest parasitism will be evaluated during the 2014 surveys and if the rate again exceeds 20%, SRP will discuss with the USFWS whether initiating preventative measures are warranted.



Figure 12. Interior view of suitable, occupied flycatcher exotic-dominated habitat near a territory on the Fort Thomas Preserve.

Rockhouse Demonstration Project

At total of 24 flycatchers, 10 pairs and 15 territories were observed at Rockhouse in 2012 (Table 8) compared to only 7 flycatchers and 5 territories in 2010. The results of the 2012 surveys can be found in Appendix E.

Camp Verde Preserve

A total of 5 flycatchers, 2 pairs and 3 territories were observed at the Camp Verde Preserve in 2012 (Table 8). No nests were located during the surveys. The survey results can be found in Appendix D.

Table 8. Summary of flycatcher territories by property 2012.

Parcel	Resident WIFLs	Pairs	Territories	Nests	Non-resident WIFLs
Fort Thomas Preserve	152	65	90	26	5
Camp Verde Preserve	5	2	3	*	--
Rockhouse	24	10	15	6	--

*Nest searching was not conducted.

2. Western Yellow-billed Cuckoo Surveys

Fort Thomas Preserve Properties

Twenty-five total YBCU detections (Table 9), including three incidental detections, were

recorded for the Fort Thomas Preserve during five protocol surveys of the area. Based on an examination of YBCU detection records made during surveys in 2012, potential repeat detections during separate surveys, incidental detections recorded throughout the summer, behavioral observations, and the geographical spread of detections throughout the study area, an estimated five to six pairs were present in the study area (Appendix C).



Figure 13. Exterior view of suitable, occupied YBCU mixed native–exotic habitat in the southern part of the Fort Thomas Preserve.

Rockhouse Demonstration Project

Yellow-billed cuckoo surveys were conducted at Rockhouse in 2012 (Appendix E). A total of 4 detections were made early in the survey season. This was consistent with surveys conducted in 2010 where there were 10 detections on the first survey and no others after.

Camp Verde Preserve

Surveys conducted at the Camp Verde Preserve in 2012 revealed a total of 11 cuckoo detections and a likely pair near the southern end of the property (Appendix D). Cuckoos were seen on the property beyond the survey season and well into September. Cicadas were numerous late in the summer and likely attracted cuckoos to the area.

Table 9. Summary of cuckoo detections by property, 2012.

Parcel	Incidental	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5	Total
Fort Thomas	3	4	12	1	3	2	25
Camp Verde Preserve	2	2	2	4	1	--	11
Rockhouse	0	1	3	0	0	--	4

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.

Table 10. Status of management obligations for mitigation properties

Mitigation Area	Site Manager	Mgmt Plan	Fire Plan Status	Fencing	Water Rights	Conservation Easement
Adobe	TNC	C	Update contacts	C	In process	
Black Farm	TNC	C	Update contacts	C	In process	
Spirit Hollow	TNC	C	Update	C	NR	Completed, USBR
Spirit Hollow Annex	TNC	C	Update	C	NR	n/a, USBR land
Stillinger	TNC	C	Update contacts	C	NR	
Camp Verde Riparian	SRP - contractor	C	Update contacts	C	NR	
Fort Thomas	TNC	C	In process	C	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

2012 Actions:

Site Management. All mitigation properties are being managed by SRP, except for the Arlington wetland site, which is 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. SRP has revised maps in several of the documents. See Appendix B for updated management activity implementation matrices. Fixed point photography was repeated for the properties in 2012 and can be found in Appendix F.

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

<u>Contractor</u>	<u>Property</u>
Tim Wheeler, Maratimo Construction	Rockhouse Project
Dick Hauser, Hauser & Hauser Farms	Camp Verde Riparian Preserve
Dan Wolgast, The Nature Conservancy	San Pedro & Gila River properties
Arizona Game & Fish Department	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 brush cutters is preferred, but application of herbicides and pre-emergents is sometimes necessary.
- 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.
- Re-planting or allowing natural recovery of trails and livestock- or human-disturbed areas.
- Minimizing human activity on 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.

Other Conservation Activities. A 20'x 20' hoop-style greenhouse was constructed at Black Farm to allow for the propagation of plants in support of revegetation efforts on SRP's mitigation properties.

2012 Actions:

Site Maintenance: Regular patrols of properties and fences will continue weekly, on average. All other activities listed in 2012 actions will continue through 2013.

Site Management: We anticipate all management arrangements will remain unchanged in 2013.

Cowbird Management. Based on results of cowbird parasitism estimates, all cowbird management activities remain at the Tier 1 level, as described in SRP's cowbird management plan (SRP 2005).

The following sections address actions taken to meet management objectives as described in the management plan for each Preserve. A brief description of current habitat conditions on each property is presented, followed by a summary of specific management actions accomplished in 2012 and a discussion of proposed actions for 2013.

2. Management Actions – San Pedro River

General Watershed Activities

AGFD – ASARCO Lands Transfer. SRP submitted extensive comments on the Draft EA addressing the transfer of lands from ASARCO to AGFD under a Natural Resource Damage Assessment claim. On *(enter date)*, SRP and Reclamation met with NRDA (Natural Resource Damage Assessment) Trustees, Reclamation and AGFD to discuss our comments prior to finalizing the EA document. Reclamation has taken the lead on this but we need to be very involved due to our property's proximity to AGFD future lands.

Fencing. The San Pedro Working Group, a group of conservation landowners and managers on the lower San Pedro River, broached the subject of evaluating everyone's cross-river fencing to see whether there is a better way to approach the protection of conservation lands on the river. Once AGFD has decided what they would like to do with the ASARCO transferred lands, we can have this discussion. In the meantime, SRP provided updated land ownership maps to allow managers to draw in their fence lines so we can assess where and how many cross-river fences exist and are planned. Collaborative management/maintenance will be considered.

Weed Issues. Conservation land managers on the rivers are constantly battling a profusion of noxious weeds on retired agricultural lands. It is a time-consuming effort to treat them (mow, spray, etc.), especially in wet years. SRP is investigating the option of hiring local Conservation Corps teams or other groups to assist with the effort.

Piezometer Installations. SRP installed 10 piezometers on our properties in January 2011. We still need to install two more on the Spirit Hollow Preserve. We are trying to coordinate installation timing with Resolution Copper's planned installation of piezometers on the 7B Ranch property so that we can share mobilization costs. We will continue to work with them. Our target for installation is February or March 2013.

TNC Meeting w/ New Management. Holly Richter is the new supervisor over the Lower San Pedro Program Manager. However, this position is currently vacant. Holly was unfamiliar with the agreement between SRP and TNC. SRP met with her to discuss the scope of work and terms of the agreement. Oversight of this agreement will be very important during this interim period until TNC has all their re-organization completed and up to speed.

Lower San Pedro Nature Festival. The community is sponsoring a Nature Festival for the spring of 2013. Audubon (Tice Supplee) is actively involved and SRP has committed to assisting with planning and providing funds. SRP Volunteers could also be used.

Christmas Bird Count. On 30 December, the land manager participated in the Dudleyville Christmas Bird Count, accompanied by a volunteer from Queen Creek. Forty-two species were tallied, with a total of approximately 345 individuals. Species of note were Ferruginous hawk (*Buteo regalis*), Merlin (*Falco columbarius*), and Rufous-winged sparrow (*Aimophila carpalis*). Sparrows, in general, were far less numerous on this year's count than on last year's, with only one Savannah sparrow (*Passerculus sandwichensis*) and sixteen Lark sparrows (*Chondestes grammacus*). Compare this with 2010's flock of 100+ Lark sparrows.

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.

2012 Actions:

Trespass Livestock. Trespass by cattle and horses were identified during the winter of 2011-12. Both the horses and cows were successfully removed from the property.

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.

Restoration Activities. SRP is transferring water rights off the old pasture lands on the Adobe Preserve to in-stream flow. SRP Water Rights & Contracts would like us to limit the amount of mesquite trees that grow in the upstream end of the fields (where water table is deeper). We will need to implement a program of establishing native grasses and shrubs along with tree thinning without the use of supplemental water. Dan Wolgast, the San Pedro Preserve Manager, has started planting grasses in swales as a test to see if we can get them established using these methods.

2013 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. SRP will also continue to notify and work with neighboring ranchers to promptly remove their livestock. Fortification of fences is an on-going activity. We will continue to explore options with our neighbors to reduce the amount of fencing in the river. SRP has met several times with AGFD and they have indicated that they are willing to work with us on management and fencing issues.

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 implement a plan to introduce demonstration plantings and get more native grasses established on the eastern terrace. Removal of Mesquites in the lower pastures may also be pursued in the coming year.

Monitoring. Depth-to-water measurements at each of the three piezometers and stream flow measurements at the established station will be recorded on a monthly basis.

b. Black Farm Preserve, Aravaipa Creek, Pinal County

Habitat Conditions: This is the sixth year that native grasses have received no supplemental water. Despite predictions of a wet monsoon season, total rainfall accumulation was 3.58" (measured at H&E Land and Cattle, 5 miles south of Black Farm). Nevertheless, the grasses in the fields responded with abundant new growth and prolific seed. Some of this seed will be harvested and stored for future seeding efforts.

2012 Actions:

Infrastructure. . Tree-of-Heaven (*Ailanthus altissima*) and Chinaberry (*Melia azedarach*) (Figure 14) were removed from around the north side of the Black Farm house by Asplundh in January 2012 because they were interfering with powerlines to the house.



Figure 14. Chinaberry tree before (left) and after (right, showing resprout)

Invasive Weed Control. . Weed management in the native grass fields requires a constant effort. Control efforts are focused mainly on Russian thistle (*Salsola* spp.) but growth of London rocket (*Sisymbrium irio*), Little barley (*Hordeum hystris*) and Arabian grass (*Schismus arabicus*) was heavy this year. Tumbleweed was mowed in October using a combination of tools – tractor with rotary mower for large, dense patches; ATV with mower for smaller patches among saltbush; brush cutter for inside ditches; hand

scythe for small patches of spindly plants; and shovel for isolated, ball-like individuals. The fields were re-mowed in July to help further control Russian thistle and goosefoot.

Seeding. *Plantago minor* seed was spread along the east edge and in the northwest corner of the south field in early November in an attempt to control early-sprouting tumbleweed.



Figure 15. Seven Sandhill cranes (*Grus canadensis*) in the east field at Black Farm on November 18, 2011.

2013 Actions:

Native Grasses. In an attempt to increase native grass coverage in sparsely covered areas, we will be implementing, for the first time, a technique that is typically used on pasturelands. Grasses will be mowed and baled in the south field where native grasses are vigorous. Bales will be spread in the east field and other sparsely covered field edges. This will bring desirable native seed to the very sparsely vegetated areas of the Farm, while also adding a mulch layer to increase moisture retention and provide organic material. We hope to also increase grass species diversity in these areas.

Invasive Weed Control. SRP will continue to monitor fields for presence of tamarisk, Russian thistle, mesquite, and other unwanted plants. We will use mechanical or chemical removal methods as necessary. Specifically, we will continue mowing and removing tumbleweed, goosefoot and amaranth. *Ailanthus* treatment will also begin at the west end of the fields and continued *Ailanthus* treatment near the house as needed.

Monitoring. Depth-to-water measurements will be recorded monthly at all piezometers. We will record time periods when Aravaipa Creek has surface flow and take occasional stream flow measurements when there is enough surface flow to allow for this.

c. Stilling Preserve, San Pedro River, Pinal County

Habitat Conditions. Several high flows progressively reshaped the sediment wedge at Putnam Wash. This wedge had been holding back river flow, causing the Stilling stretch of the river to remain high and slow. The water now flows relatively unimpeded past this now-truncated wedge, dropping the level of the river at the north end of Stilling. This remains a perennial reach of the San Pedro.

2012 Actions:

Fencing. Due to the current condition of the channel at the north gap (i.e. shallow, more sandy than muddy), keeping the gap closed has proven difficult. All other portions of the fence line are in excellent condition. “No Trespassing” signs were added to the fences along the upper and lower roads in anticipation of the Easter holiday weekend. Gap fences were maintained throughout the season. The south gap was “permanently” closed by mid-September. The north gap remains open, though the water is too deep and the channel bottom too muddy to allow passage of cattle or horses.

Trespass Livestock. Cattle and horses get in occasionally, but neighbors have been responsive, even proactive in retrieving their animals.

2013 Actions:

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

Restoration. Seeding activities are planned but will depend on the amount of rain received during the winter and resultant soil moisture levels.

Monitoring. Monitoring depth to groundwater will continue on a monthly basis.

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

Habitat Conditions. The main channel remains in the middle of the river, with multiple overflow channels persisting across the floodplain. The channel bottom is covered with a dense growth of grasses, forbs and shrubs. Scouring flood flows occurred following a late summer storm and created new pools. However, the Goodding’s willows that supported many of the flycatcher territories in the past appear stressed due to lack of moisture.



Figure 16. New pool of standing water in main channel near north river gap at Spirit Hollow (Photo taken December 12, 2011).

2012 Actions:

Trespass Livestock. The trigger gate was baited with water and alfalfa in an attempt to draw out trespass cattle. The land manager coordinates with the neighboring ranchers throughout the year to actively remove remaining cattle.

Fencing. A late summer storm that dropped five inches of rain in the mountains and foothills caused flows which tore out gap-fences across washes on the east side of the property. In addition, high flows in the river damaged several parts of the north and south cross-river fences. A significant portion of the fence in the southeast corner of the preserve had been silted in, with only the top two strands of wire visible in some places. This was rebuilt, and the south gap fence at the active channel was shored-up to prevent re-entry.

2013 Actions:

Baseline Inventory. Baseline inventory will be updated to include acreage acquired by USBR and an additional 10 acres of upland acquired from the Skeens.

Wildfire Abatement. SRP will work with USBR on updating the fire management plan for these properties. The USBR has completed wildfire response agreements for these properties.

Monitoring. SRP is proposing to install additional piezometers at this location to monitor groundwater levels. Depth-to-water at the existing piezometer will be measured on a monthly basis and presence or absence of surface flows and standing water in the river channel will be noted.

3. Management Actions - Verde River

General Watershed Activities

SRP had been actively participating in the Verde Watershed Restoration Coalition, a citizen's group engaged in the implementation of the Comprehensive Invasive Plant Management Plan. SRP sits on the Steering Committee, the Planning & Implementation Subcommittee and co-chairs the Research & Monitoring Subcommittee. SRP facilitated a meeting between USFWS and the group to promote understanding of Endangered Species Act regulations in pre-project planning. In addition, Ruth Valencia conducted 5 flycatcher surveys following the project clearance protocol on a reach of the Verde River from the Dead Horse Ranch SP Bridge to Mingus Bridge. She was accompanied by members of the Coalition throughout the summer so that they could begin to get trained on flycatcher detection and survey protocols. SRP's participation with the group will continue in 2013.

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

Habitat Conditions: The condition of riparian habitat has remained unchanged on this property. Only moderate flood flows were experienced over the past year, with none large enough to cause any changes in channel morphology. Slow water and pools persist along the channel, especially at the downstream end of the property, resulting in pooling and marshy conditions. These are the areas where flycatchers have been observed.

New stands of willows are becoming established on the downstream portion of the property adjacent to the flycatcher territories that were identified in 2012.

2012 Actions:

Bird Surveys. Both flycatcher and yellow-billed cuckoo surveys were conducted this year. Results can be found in Appendix D

Trespass/Vandalism. The area near the I-17 Bridge continues to attract unwanted activity. The Camp Verde police department has been contacted regarding evidence of drug paraphernalia and littering. We have also had occasional trespass by horseback riders looking for a trail along the river.

Hunting. SRP has decided to close the property to hunting because of numerous negative experiences with hunters over the past few years. No hunting signs have been posted according to ARS 17-304. However, in January of 2012, hunters were still accessing the property and leaving behind trash and derelict hunting equipment.

Invasive Weed Control/ Wildfire Abatement. Areas adjacent to I-17 were mowed several times to reduce fire potential. On the north terrace (left bank), glyphosate (Roundup) was used to control Kochia and to keep a wide trail open through these dense weeds.

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 (VVBNF). SRP led a birding field trip to Arizona State Park's Rockin River Ranch.
- SRP provided funds to the VVBNF for printing a booklet about wildlife and river ecology to be used to educate fourth graders in Verde Valley schools.

- 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.

2013 Actions:

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

Invasive Weed Control/Wildfire Abatement: Mowing adjacent to Interstate 17 will be continued, as necessary, 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.

I-17 Issues: SRP will work with the town of Camp Verde to address vehicle access issues under the I-17 Bridge on to SRP 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 other planning efforts that will assist in protecting the riparian ecosystem.

4. Management Actions – Upper Gila River

General Watershed Activities

SRP staff attended the Arizona Riparian Council meeting in (date), which was held in Thatcher, AZ, and gave a presentation on management issues and challenges on the Fort Thomas Preserve.

SRP attended a meeting of the Gila Watershed Partnership in August 2012. SRP intends to continue participation with this group and focus on Walton Family Foundation funded restoration efforts in the watershed.

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.

2012 Actions:

Following the wildfire that burned unoccupied habitat at the Fort Thomas Preserve in 2011, SRP and the TNC began an experiment controlling re-sprouting tamarisk and native plantings. The experiment established four test plots utilizing prescriptive treatments including tamarisk cutting, herbicide treatment, and native woody plant re-establishment. Salt cedar treatment in test plots 2, 3, and 4 included cutting of burnt and

re-sprouting tamarisk stems and application of herbicide (Figures 19 and 20). All tamarisk re-sprout was cut to roughly 6-inch stubs. These stubs were then sprayed with a 50-50 mixture of Garlon 3A and water, making sure to soak all cuts and bark down to the soil line. In addition, some trees received basal-bark treatment, in which all stems are sprayed, using the same mixture, from a height of 36-inches down to the soil line, soaking the entire circumference of the stem.

In March 2012, 100 of the following grasses, shrubs and small trees were planted near a large return ditch in the middle of the burn area: *Acacia constricta* (whitethorn acacia), *Atriplex canescens* (saltbush), *Bouteloua gracilis* (blue gramma), *Chilopsis linearis* (desert willow), *Lyceum andersonii* (Wolfberry), and *Prosopis pubescens* (mesquite). DriWater (a gel based plant watering product) was utilized to provide moisture to the plants (Figures 17 and 18). Plant survival rates were assessed in August of 2012 and resulted in approximately 15% survival. Saltbush and Acacia were the predominant species that persisted. Survival was greatly influenced by sandy well-drained soils. Javelina took interest in the DriWater containers and un-earthed the majority of them.



Figure 17. Photo of native planting along an irrigation return ditch at the Ft. Thomas Preserve.



Figure 18. Photo of replanted test plot utilizing DriWater remote site irrigation cartons.



Figure 19. Test plot 3, from NW corner, taken on May 9, 2012. Trees in mid-frame were subsequently cut and the stumps sprayed with a 50-50 mixture of Garlon 3A and water. Trees to the left of the frame were subjected to basal bark treatment using the same mixture.



Figure 20. Same location, taken on June 28, 2012. Browned trees to the left of the frame were those receiving basal-bark treatments.

Other Activities: SRP is being asked to coordinate with the Gila Watershed Partnership and Walton Family Foundation to work on restoration of the upper Gila River through the Safford Valley prior to invasion by tamarisk beetle (*Diorhabda spp.*), which is expected in the next few years. This will entail taking part in meetings and working on committees, being actively involved in restoration decisions that might affect our lands and flycatcher population in the area, possibly involving our lands in a restoration demo project, and keeping abreast of what is going on with the beetle.

Community Outreach: We have been approached by the head of the Agricultural Department at the Fort Thomas High School to initiate hands-on activities regarding river issues, flycatchers/ESA, and/or restoration.

2013 Actions: SRP plans to conduct the following management actions in 2013 on the Fort Thomas Preserve:

- Finalize the fire management plan.
- Continue to monitor test plots while controlling tamarisk re-sprout.
- Continue to coordinate with BLM regarding fencing of the riparian area.
- Continue on-the-ground management activities in coordination with the Roosevelt HCP project manager.

g. Created Wetlands, Arlington Wildlife Area

Habitat Conditions: This is the fifth year that AGFD has managed SRP's wetland at the Arlington Wildlife Management Area. The wetland cell has remained completely grown in with riparian emergent vegetation, primarily cattail, with only a little giant bulrush remaining and sedges primarily along the east margin of the cell.

One significant event occurred on March 7, 2012 when a fire swept through the salt cedar bosque at Arlington. The SRP cell (cell 4) was also burned in this fire, with essentially all the marsh vegetation completely consumed. Occurring right at the beginning of the clapper rail breeding season, it is likely that nesting in this cell was prevented during 2012. The emergent vegetation did regrow vigorously and by the end of April was again covering essentially the entire floor of the cell with height in excess of 3 feet (Figure 21).

Marshbird surveys conducted by AGFD on May 15 and May 31, 2012 did not reveal any Yuma clapper rails responding to call playback from the SRP cell, but one clapper rail was observed on the May 15th survey as it walked into cell 4 from the adjacent cell 2. Other marshbirds detected in cell 4 included Pied-billed Grebe, Virginia Rail, Sora and Common Moorhen.



Figure 21. Photos of Arlington Wildlife Area Fire (March 7, 2012) and Aftermath (Photos taken March 21, April 30 and August 30, 2012, respectively).

2012 Actions:

Operational Status: Another significant event for AGFD this year was the resignation of the Lower Gila River Wildlife Areas Manager Phil Smith. Phil's resignation took effect in mid-March and his replacement did not start until early July. AGFD staffing was limited to temporary service employees during this time. They were advised that keeping water in the ponds at Arlington was one of their top priorities, and they attended to this at least weekly. AGFD has since hired a new Manager, Mr. Ryan Sutter.

There have been issues regarding water level management in SRP's wetland cell. As a temporary measure, AGFD raised the control stops on the water control structures following the nesting season to provide deeper standard level, making it easier to ensure water remains in the cell at all times. SRP requested an on-site meeting in September with the AGFD and the new manager to discuss current operations and potential improvements.

As in previous reports a variety of maintenance activities occurred on the Wildlife Area in 2011-12 with some relating directly to the SRP cell.

- Department staff routinely watered the levee roadways to maintain packed conditions, prevent erosion and hold down dust.
- Weed control was conducted with grading equipment, a brush mower and some hand labor from the temp services laborer. Encroaching salt cedar were cut and the stumps treated with herbicide to prevent re-sprouting.
- Continued work to repair or retard erosion around the water control structures was conducted. Erosive damage due to gopher and similar holes was also averted or repaired.

2013 Actions:

Following the September 2012 meeting between SRP and AGFD, the parties developed a course of action to increase efficiency of the operation and insure consistent water levels. SRP's water measurement group will be assessing current discharge quantities and operational duration from the existing well system. The measurement group will also investigate options for automating the system to reduce manual operation needs and insure more consistent water levels.

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.

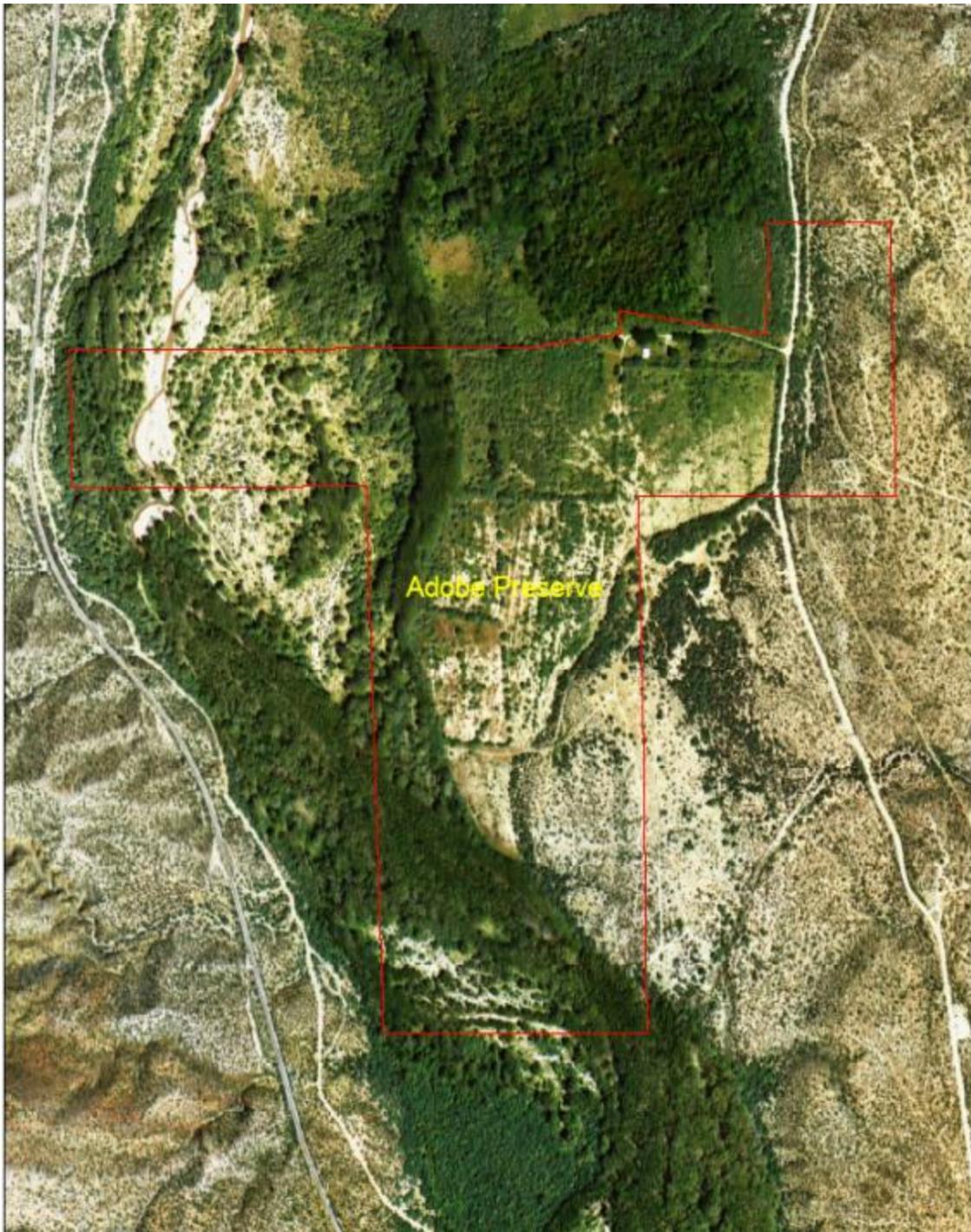
LITERATURE CITED AND REFERENCES

- Conway, C. J. 2008. Standardized North American Marsh Bird Monitoring Protocols. Wildlife Research Report #2008-01. U.S. Geological Survey, Arizona Cooperative Fish and Wildlife Research Unit, Tucson, AZ.
- Halterman, M., M. Johnson and J. Holmes. 2009. Draft western yellow-billed cuckoo natural history summary and survey methodology. Southern Sierra Research Station and Colorado Plateau Research Station, Weldon, California and Flagstaff, Arizona.
- Salt River Project. 2002. Roosevelt Habitat Conservation Plan, Gila and Maricopa Counties, submitted to the U.S. Fish and Wildlife Service, Volume II of the Final Environmental Impact Statement for the Roosevelt Habitat Conservation Plan, Phoenix, Arizona.
- Salt River Project. 2005. SRP Roosevelt Habitat Conservation Plan brown-headed cowbird monitoring, mitigation and adaptive management strategy. Phoenix, AZ. 6 pp.
- Sogge, M.K., R.M. Marshall, S.J. Sferra, and T.J. Tibbits. 1997. A Southwestern willow flycatcher natural history summary and survey protocol. National Park Service Cooperative Studies Unit, U.S. Geological Service Colorado Plateau Research Station, Northern Arizona University, Flagstaff, Arizona, USA. NRTR-97112.
- Southwest Bald Eagle Management Committee, 2009. Unpublished data. Arizona Game and Fish Department, Phoenix, AZ.
- Southwest Bald Eagle Management Committee, 2010. Unpublished data. Arizona Game and Fish Department, Phoenix, AZ.
- Southwest Bald Eagle Management Committee, 2011. Unpublished data. Arizona Game and Fish Department, Phoenix, AZ.
- U.S. Fish and Wildlife Service (FWS). 2002a. Roosevelt Habitat Conservation Plan, Gila and Maricopa Counties, Arizona, Volume I of the Final Environmental Impact Statement for the Roosevelt Habitat Conservation Plan, Phoenix, Arizona.
- U.S. Fish and Wildlife Service (FWS). 2002b. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. I-ix+210 pp., Appendices A-O.

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

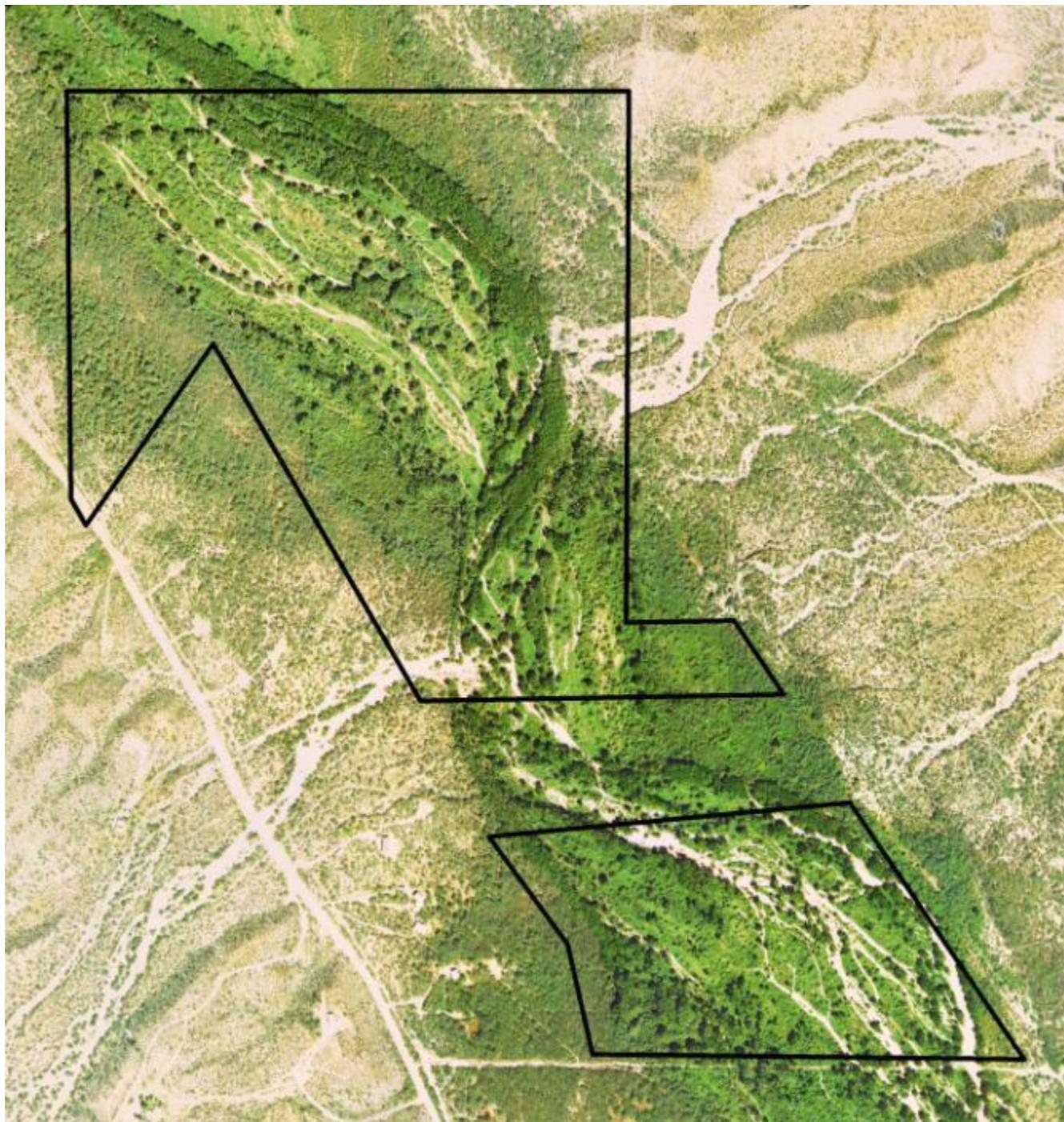


Aerial photo taken September 2008

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

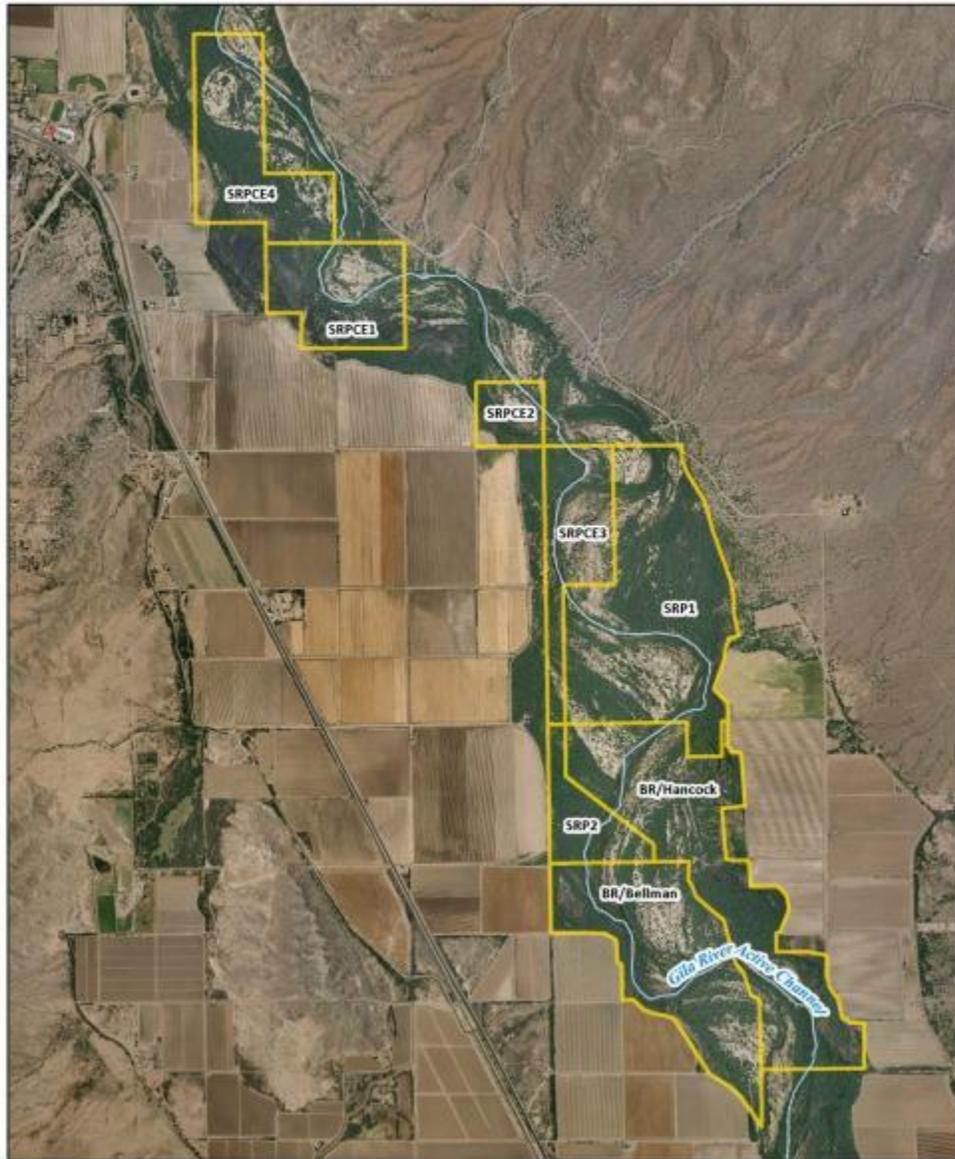


Aerial photo taken October 2009.

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**

Fort Thomas Preserve Properties - Gila Valley , Arizona		Aerial Photo
▲ NORTH 02.02.2012 ftp_baseline_aerial.mxd	T5S R23E, T5S R24E (Date of Aerial: June 2011)	



Aerial photo taken June 2011

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

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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	SRP is addressing objections to filing	SRP Water Rights
Install piezometers	Complete	January 2011	SRP
Monitor Piezometers and Stream Flow	Ongoing	Monthly	SRP
Cowbird Management:			
Apply nest searching protocol	Complete	2012 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 2012	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	1 st quarter of 2013	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	In process	Pending ADWR action	SRP Water Rights
Cease irrigation of fields	Completed	March 2007	SRP
Install piezometers	Complete	January 2011	SRP
Monitor Piezometers	Ongoing	Monthly	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 2012	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.

BLACK FARM (cont'd.)

Patrol property and fence lines	On-going	Weekly, on average	SRP contractor
Conduct general maintenance activities	On-going	As necessary	SRP contractor
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		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	Complete	May 2012	SRP Env. Svc.
Management Plan – add new properties	Complete	May 2012	SRP Env. Svc.
Cowbird Management:			
Apply nest searching protocol	Complete	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 2012	SRP Env. Svc. SRP contractor
Update fire plan to include USBR lands and protocols	In-process	October 2012	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	Complete	January 2011	SRP

SPIRIT HOLLOW (cont'd.)

Monitor piezometers	On-going	Monthly	SRP
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
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	Complete	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 2012	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.	Complete	May 2011	SRP contractor
Monitoring:			

STILLINGER PRESERVE (cont'd.)

Install piezometers	Complete	January 2011	SRP
Monitor piezometers	On-going	Monthly	SRP
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	Completed	No nests identified during 2012 survey	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

Invasive Plant Control			
MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Map invasive woody plants of concern	In-process	May 2012	SRP
Boundary Issues/Fencing (cont'd.)			
Install signage at I-17 bridge and along fence lines	Completed	July 2005	Env. Svc., Contractor
Install 'no hunting' signs	Complete	October 2011	SRP
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.
Support display and trip at Verde Birding and Nature Festival	Annually	April 2012	SRP Env. Svc.
Information display at Verde River Days	Annually	September 2012	SRP Env. Svc.
Verde River Planning w/ TNC , ASPB, FVG, USFS and others	On-going	On-going	SRP Env. Svc.
Support Verde Comprehensive Invasive Plant management Program	Currently		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	2014 survey 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 2012	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	On-going		SRP Env. Svc. SRP contractor
Send copies of fire management plan to fire management agencies	Initiated	After completion of plan, maps have been sent	SRP Env. Svc.
Post-fire restoration plan development and implementation	Initiated	Spring 2012	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	Complete	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.

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APPENDIX C

Southwestern Willow Flycatcher and Yellow-billed Cuckoo Surveys along the Gila River at the Fort Thomas Preserve, Arizona: 2012 Summary Report

This report contains sensitive data, which is considered confidential by the U.S. Fish and Wildlife Service. Therefore, it has been removed from this version of the report. The full survey report was sent to the USFWS Ecological Field Services Office in Phoenix, AZ.

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APPENDIX D

SOUTHWEST WILLOW FLYCATCHER AND YELLOW-BILLED CUCKOO SURVEY RESULT CAMP VERDE PRESERVE 2012

This report contains sensitive data, which is considered confidential by the U.S. Fish and Wildlife Service. Therefore, it has been removed from this version of the report. The full survey report was sent to the USFWS Ecological Field Services Office in Phoenix, AZ.

APPENDIX E

SOUTHWEST WILLOW FLYCATCHER AND YELLOW-BILLED CUCKOO SURVEY RESULT ROCKHOUSE DEMONSTRATION PROJECT 2012

This report contains sensitive data, which is considered confidential by the U.S. Fish and Wildlife Service. Therefore, it has been removed from this version of the report. The full survey report was sent to the USFWS Ecological Field Services Office in Phoenix, AZ.

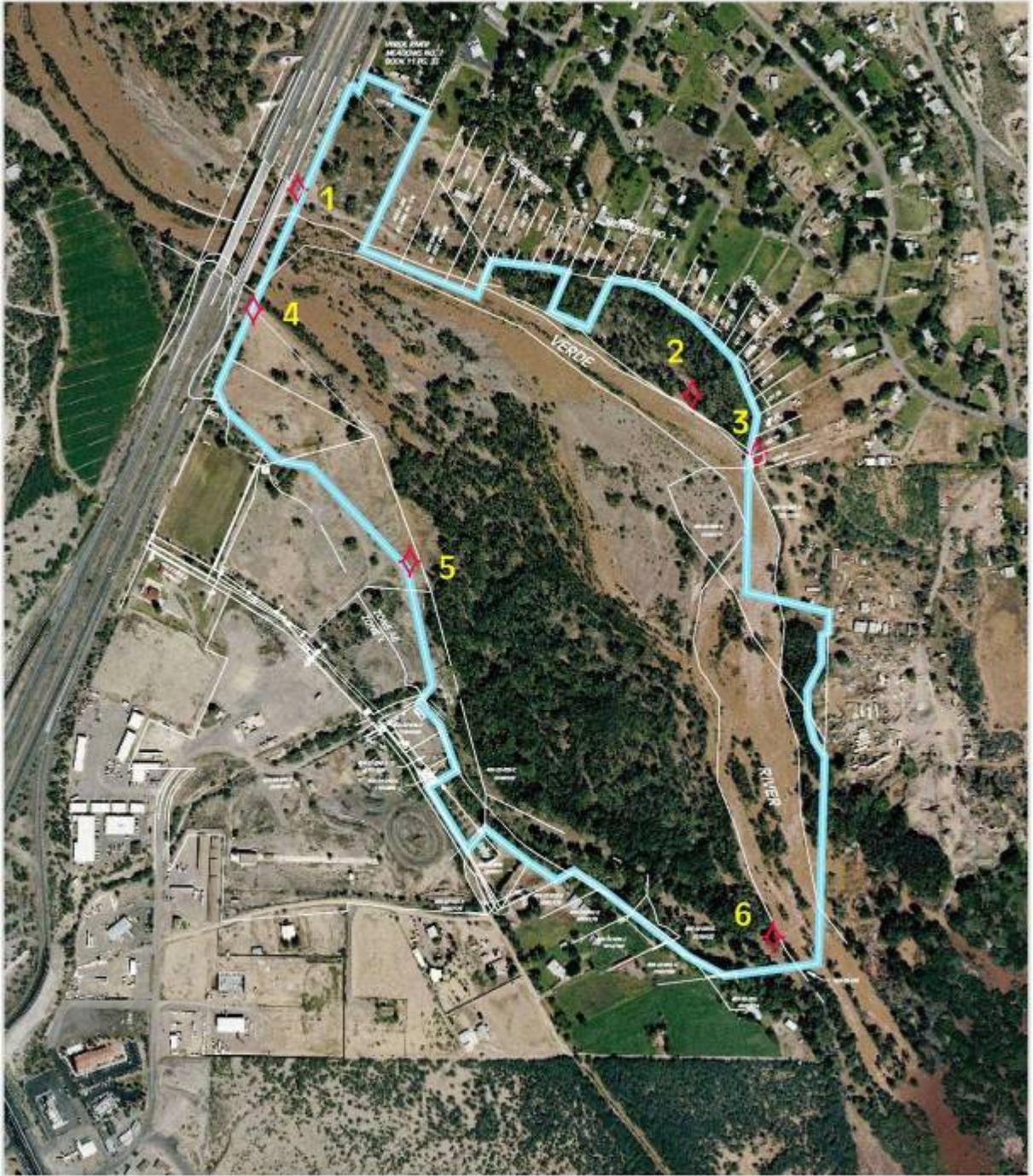
APPENDIX F

PHOTO POINTS OF CONSERVATION PROPERTIES

PHOTO POINT MONITORING RESULTS

CAMP VERDE RIPARIAN PRESERVE

Photo Point Locations Camp Verde Riparian Preserve



AirPhotoUSA 2004
T14N R4E, Sections 24 & 25

◆ Photo Points 〰 Preserve Boundary

b

Camp Verde Riparian Preserve Photo Point Record
Photo Point 1- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 1- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 1- View 3



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 1- View 4

NO PHOTO TAKEN IN 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 2- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 2- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 2- View 3



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 2- View 4



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 3- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 3- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 3- View 3



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 3- View 4



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 4- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 4- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 4- View 3



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 5- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 5- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 5- View 3



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 6- View 1



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 6- View 2



October 19, 2011

Camp Verde Riparian Preserve Photo Point Record
Photo Point 6- View 3



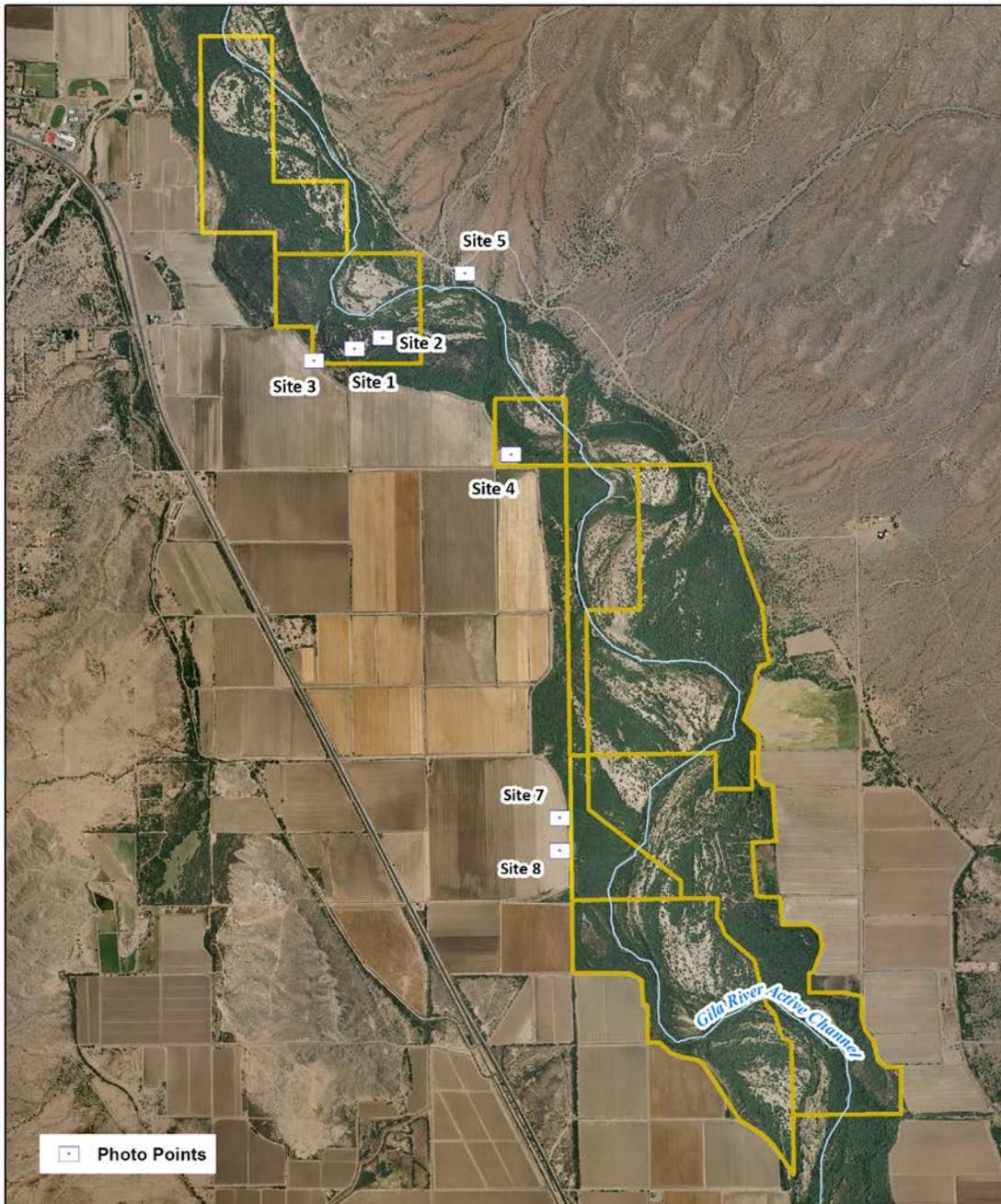
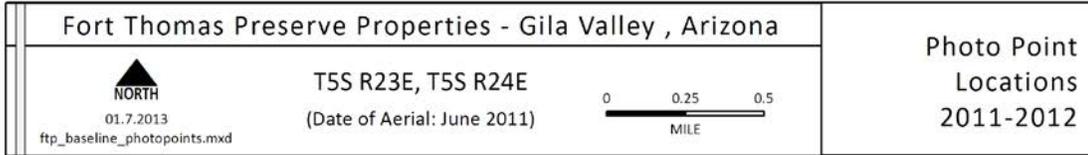
October 19, 2011

PHOTO POINT MONITORING RESULTS

FORT THOMAS PRESERVE

Photo Point Locations

In 2012, photo point locations were established for the newly acquired Indian Springs Ranch Parcel. The map below indicates the locations of the newly established points. The current Photo Point 6 (not included on the map) fell outside of the Indian Springs Ranch Parcel and will be re-established in 2013.



Fort Thomas Photo Point Record
Photo Point 1 – View 1



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 1 – View 2



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 1 – View 3



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 2 – View 1



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 2 – View 2



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 2 – View 3



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 3 – View 1



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 3 – View 2



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 3 – View 3



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 4 – View 1



November 9, 2011

Fort Thomas Photo Point Record

Photo Point 4 – View 2



November 9, 2011

**Fort Thomas Photo Point Record
Photo Point 4 – View 3**



November 9, 2011

Fort Thomas Photo Point Record

Photo Point 5 – View 1



November 9, 2011

**Fort Thomas Photo Point Record
Photo Point 5 – View 2**



November 9, 2011

Fort Thomas Photo Point Record

Photo Point 5 – View 3



November 9, 2011

**Fort Thomas Photo Point Record
Photo Point 5 – View 4**



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 5 – View 5



November 9, 2011

Fort Thomas Photo Point Record
Photo Point 6 – View 1



August 16, 2012

Fort Thomas Photo Point Record
Photo Point 6 – View 2



August 16, 2012

**Fort Thomas Photo Point Record
Photo Point 7 – View 1**



August 16, 2012

**Fort Thomas Photo Point Record
Photo Point 7 – View 2**



August 16, 2012

**Fort Thomas Photo Point Record
Photo Point 8 – View 1**



August 16, 2012

**Fort Thomas Photo Point Record
Photo Point 8 – View 2**



August 16, 2012

PHOTO POINT MONITORING RESULTS

ROCKHOUSE PROJECT

Photo Point Locations
Rockhouse Project



Rockhouse Photo Point Record
Photo Point 1- View 1



September 27, 2011

Rockhouse Photo Point Record
Photo Point 1- View 2



September 27, 2011

Rockhouse Photo Point Record
Photo Point 1- View 3



September 27, 2011

Rockhouse Photo Point Record
Photo Point 1- View 4



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 1



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 2



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 3



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 4



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 5



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 6



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2A- View 7



September 27, 2011

Rockhouse Photo Point Record
Photo Point 2B- View 1

NO PHOTO POINT TAKEN IN 2011

Rockhouse Photo Point Record
Photo Point 2B- View 2



September 27, 2011

Rockhouse Photo Point Record
Photo Point 3- View 1



September 27, 2011

Rockhouse Photo Point Record
Photo Point 3- View 2



September 27, 2011

Rockhouse Photo Point Record
Photo Point 3- View 3



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 1



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 2



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 3



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 4



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 5



September 27, 2011

Rockhouse Photo Point Record
Photo Point 4- View 6



September 11, 2009

Rockhouse Photo Point Record
Photo Point 5- View 1



September 27, 2011

Rockhouse Photo Point Record
Photo Point 5- View 2



September 27, 2011