

**ROOSEVELT
HABITAT CONSERVATION PLAN
ANNUAL REPORT
2014**



PREPARED FOR:
U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951

PREPARED BY:
Salt River Project
Environmental Management, Policy & Compliance
Biological and Cultural Resource Services
PAB 352
P.O. Box 52025
Phoenix, Arizona 85072-2025

Cover Photograph: Rockhouse Demonstration Site, Salt River, Gila County, AZ.
Photograph taken July 30, 2014.

Contents

I. INTRODUCTION.....	1
II. ANNUAL REPORTING COMPLIANCE	1
III. ROOSEVELT LAKE AREA COMPLIANCE	1
A. Summary of Reservoir Operations–Water Year 2014	1
B. Incidental Take Permit Compliance Monitoring.....	6
1. Roosevelt Lake Habitat Monitoring	6
2. Habitat Monitoring Results	7
3. Bald Eagle Program	13
C. Tonto Forest Protection Officer.....	14
D. Rockhouse Demonstration Site	16
IV. STATUS OF MITIGATION COMPLIANCE	18
V. MITIGATION PROPERTIES–Monitoring and Management.....	19
A. Monitoring	19
B. Monitoring Results.....	23
1. Southwestern Willow Flycatcher Surveys	24
2. Western Yellow-billed Cuckoo Surveys	25
3. Ridgeway’s Rail Surveys	27
C. Management Obligations.....	27
1. Management Actions–Common to All Properties.....	28
2. Management Actions by Property.....	30
VI. MANAGEMENT AND COORDINATION.....	50
VII. PERMANENT NON-WASTING FUND	51

Figures

Figure 1: Water Year 2014 Precipitation Graph for the Salt-Verde Watershed.	2
Figure 2: Verde River, Salt River, and Tonto Creek 2014 Water Year Hydrograph	4
Figure 3: Roosevelt Lake Elevation for Water Year 2014	5
Figure 4. Roosevelt Lake Elevation 2004-2014	5
Figure 5. Salt River Inflow to Roosevelt Lake showing 2014 flycatcher habitat model results. Aerial image was taken on June 27, 2013 at lake elevation 2,104’ (50% full).....	9
Figure 6. Tonto Creek Inflow to Roosevelt Lake showing 2014 flycatcher habitat model results. Aerial image was taken on June 27, 2013 at lake elevation 2,104’ (50% full).....	10

Figure 7. Vegetation downstream of A-Cross Road, looking downstream toward the lake. The 2,151' elevation is adjacent to A-Cross Road on the downstream side. Photograph taken October 20, 2014.....	11
Figure 8. Tonto Creek arm of Roosevelt Lake looking west across stringers of riparian vegetation. Photograph taken October 20, 2014	11
Figure 9. Downstream of Eads Wash inflow looking downstream along the Salt River. Photograph taken October 20, 2014.....	12
Figure 10. Downstream of Eads Wash inflow looking east across the riparian vegetation along the Salt River. Photograph taken October 20, 2014.	12
Figure 11. Rockhouse Demonstration Site, looking northwest across the property. Photograph taken October 20, 2014.....	18
Figure 12. Interior view of occupied, nonnative-dominated flycatcher habitat at the Fort Thomas Preserve.	24
Figure 13. Approximately 6-day old flycatcher nestlings, Rockhouse territory 9, 2014.....	25
Figure 14. Exterior view of occupied, native-dominated cuckoo habitat on the Fort Thomas Preserve.	26
Figure 15. Three month's work on beaver dam. Photograph taken March 18, 2014.....	32
Figure 16. Left: Preparing the soil for planting. Right: Planted rows. Photographs taken September 23 and 25, 2014, respectively.	34
Figure 17. Brief pulse in flow in Aravaipa Creek resulting from storm of 1-2 March. Photograph taken March 2, 2014	35
Figure 18. Left: Preparing the soil for planting. Right: AZ Conservation Corps crew members operating the mechanical planter. Photographs taken Sept 22 and 25, 2014, respectively.	36
Figure 19. Left: Pumphouse at Black Farm removed down to slab. Right: Rebuilt pumphouse. Photographs taken July 14 and 25, 2014, respectively.....	36
Figure 20. Left: Barn with new gravel floor and poured slab for cabinet. Right: New pallet shelves in barn. Photographs taken July 31, 2014.	37
Figure 21. High flow in San Pedro River at Stillinger. Photograph taken August 14, 2014.....	38
Figure 22. High flow in the San Pedro River at Spirit Hollow Preserve and annex. Photograph taken August 14, 2014.	39
Figure 23. Buried fence at Spirit Hollow, near southeast corner. Where the fence disappears into the vegetation, the top wire is at ground level. This fence was repaired in 2011, at which time the top strand was 42 inches above the ground. Photograph taken December 6, 2013.	40
Figure 24. Tamarisk in Clay Fire area, showing fire and insect damage, and partial regrowth. Photograph take June 2014.	44
Figure 25. Regrowth following the Clay Fire. Saltbush and Goodding's willow are visible among the Tamarisk. Photograph taken August 13, 2014.....	44
Figure 26. Clearing along a large irrigation return ditch. Photograph taken January 30, 2014.	45
Figure 27. Clearing work extending into FTP C, an area planted with saltbush and other 1-gal potted plants. Photograph taken January 30, 2014.	46
Figure 28. Showing damage to fence caused by flooding and overflow from adjacent field. Photograph taken October 9, 2013.	47

Figure 29. Arlington Wetlands, looking southeast across the SRP cell. Photograph taken October 28, 2014..... 48

Figure 30. Arlington Wetland. New control panel on the well pump. Photograph taken October 28, 2014..... 49

Figure 31. Fuel tanks for the Arlington Wetland well pump, showing increased fuel capacity. Photograph taken October 28, 2014. 50

Tables

Table 1: Average Salt-Verde Seasonal Watershed Precipitation..... 3

Table 2. Multi-scaled Southwestern willow flycatcher breeding habitat probability model results, 2013 versus 2014. 8

Table 3. Bald eagle breeding productivity*, 2012-2014, Roosevelt Lake. 14

Table 4. Mitigation property information. 19

Table 5. Southwestern willow flycatcher survey schedule. 20

Table 6. Yellow-billed cuckoo survey schedule. 21

Table 7. Ridgeway’s rail survey schedule..... 21

Table 8. Mitigation property habitat monitoring schedule..... 23

Table 9. Summary of flycatcher territories by property, 2014..... 25

Table 10. Summary of cuckoo detections by property, 2014. 26

Table 11. Status of management obligations for mitigation properties..... 28

Appendices

- A. Photo Points of Conservations Properties Updated 2015
- B. Southwestern willow flycatcher and Western yellow-billed cuckoo Surveys Fort Thomas Preserve, 2014 Summary Report
- C. Southwestern willow flycatcher and yellow-billed cuckoo Surveys at the Rockhouse Demonstration Site, 2014 Summary Report
- D. Southwestern willow flycatcher and yellow-billed cuckoo Surveys at the Camp Verde Riparian Preserve, 2014 Summary Report
- E. Aerial photographs of mitigation properties
- F. Management activity implementation matrices

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.



December 30, 2014

Heather English

Date

Senior Scientist
Biological & Cultural Resource Services
Salt River Project

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 Ridgeway’s rail (formerly Yuma clapper rail; *Rallus longirostris yumanensis*; “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 2002).

SRP is in its twelfth year of implementing the Roosevelt HCP. This report documents all mitigation and minimization efforts conducted over the past water year, November 1, 2013 through October 31, 2014, 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, U.S. 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 Ranger District Office of the TNF to fulfill the annual reporting requirement.

III. ROOSEVELT LAKE AREA COMPLIANCE

A. Summary of Reservoir Operations–Water Year 2014

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 continuing drought had the greatest influence on the reservoirs in Water Year 2014.

El Niño and La Niña conditions can have significant influence on the yearly winter weather in Arizona. El Niño conditions (warmer than normal sea surface temperatures in the equatorial eastern Pacific Ocean) tend towards wetter weather patterns and La Niña conditions (cooler than normal sea surface temperatures in the equatorial eastern Pacific Ocean) tend towards dryer weather patterns. Sea surface temperatures in the equatorial Pacific were in a neutral El Niño Southern Oscillation (ENSO) state during the water year which gives little indication to whether there will be wet or dry conditions across the watershed. Unfortunately, this past

season was the fourth consecutive winter producing below median runoff. The runoff this winter was just 28% of median. The precipitation this monsoon season on the Salt and Verde watersheds was 158% of normal but runoff volumes from the monsoon season typically do not impact operations. Overall, the watershed received an average of 16.41 inches (90% of normal) during Water Year 2014.

Precipitation: Salt and Verde watershed precipitation for Water Year 2014 was quite variable with extremes occurring on both ends of the precipitation spectrum. The majority of precipitation over the SRP Watershed occurs during two wet seasons, winter and summer. Very dry conditions were observed in the winter of 2014 while wet conditions occurred in the summer.

Two key atmospheric and oceanic features were generally responsible for the extreme dryness this past winter. First, ocean surface temperatures in the equatorial eastern Pacific Ocean were slightly below normal. This positioned the winter 2014 in a borderline La Niña event (La Niña typically corresponds to dry winters over the southwest United States). Second, cold arctic air outbreaks occurred frequently during the winter months over the Plains and eastern United States, with unusual warm, dry high pressure centered over the western United States. These two phenomena limited the potential for moist low-pressure systems to pass near enough to produce significant precipitation. In fact, the winter of 2014 was made up of only two events, the first during the middle of November and the second occurring early in March (Figure 1).

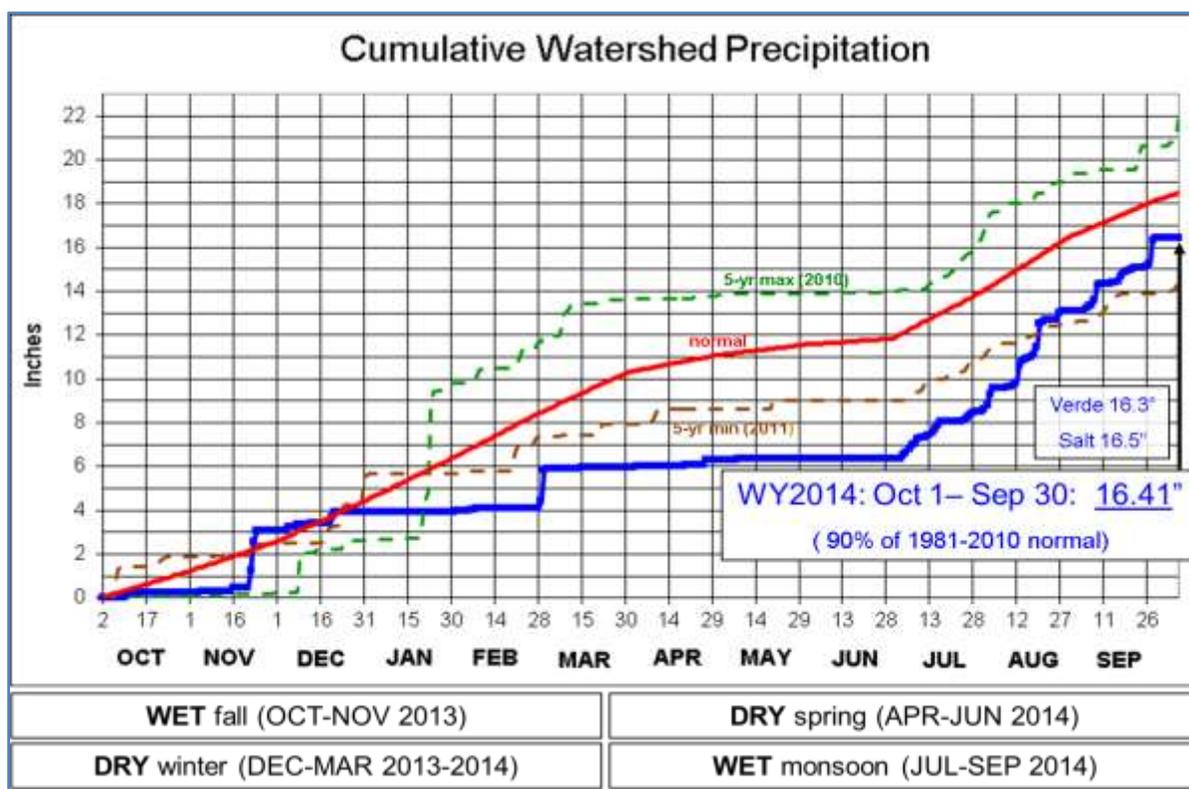


Figure 1: Water Year 2014 Precipitation Graph for the Salt-Verde Watershed.

In comparison, the summer monsoon was just the opposite of winter with respect to precipitation. Monsoon 2014 was well above average for precipitation (Table 1) and ranks as the 6th wettest monsoon for the 114 years of watershed precipitation records. A significant portion of the precipitation can be attributed to the latter half of the season where tropical

systems off the Mexican coast fed uncharacteristic amounts of moisture into Arizona. The result was numerous wet thunderstorms through much of September.

Table 1: Average Salt-Verde Seasonal Watershed Precipitation.

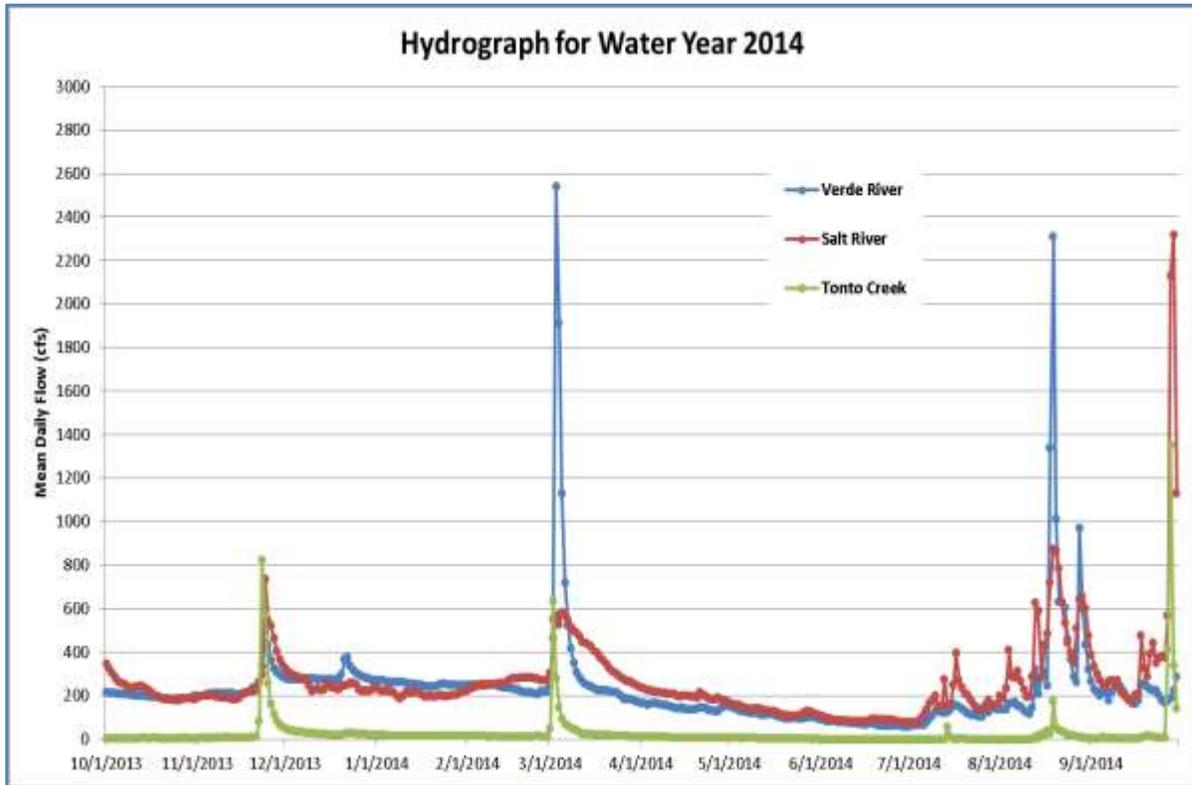
In inches and in percent of the 1981-2010 normal

	Oct - Nov 2013	Dec - Mar 2013-14	Apr - Jun 2014	Jul - Sep 2014
Salt and Verde	3.10	2.87	0.40	10.04
<i>percent of normal</i>	119%	38%	26%	158%
Normal, 1981-2010	2.61	7.64	1.52	6.36
Verde only	2.71	2.87	0.45	9.77
Salt only	3.49	2.87	0.34	10.30

Water Year 2014: Water Year 2014 began favorably with a Fall that was 119% of normal. December through March are the key precipitation months for triggering a productive runoff season but were only 38% of normal. A dry spring (26% of normal precipitation) added to the water year deficit that could not be offset by the wet summer (158% of normal rainfall). In all, Water Year 2014 precipitation of 16.41 inches was 90% of normal. This is 0.96" less than the 17.37 inches that fell during Water Year 2013.

Reservoir Status: Arizona depends on wet winters to reverse drought conditions but this past winter continued the dry streak. The 2014 winter precipitation (December 2013-March 2014) ranked as the 12th driest on record. The 2014 winter produced 148,000 acre-feet from January through May which is 28% of median. This winter represents the fourth consecutive winter with below median runoff. The 2011, 2012, 2013, and 2014 winter seasons were the 24th, 17th, 40th, and 8th lowest winter runoff seasons respectively and rank as the second driest four water year period on record. Runoff from the monsoon (July-September) produced about 117,000 acre-feet. While the precipitation and runoff from this monsoon was above normal it had little impact on SRP's total storage.

In spite of the consecutive dry years, groundwater production will be decreased from 300,000 acre-feet for calendar year 2014 to 275,000 acre-feet in calendar year 2015. The reduction in pumping was possible due to conservative planning and decreasing demand. The reservoir system total storage capacity decreased 7% from 56% to 49% during Water Year 2014. Total runoff for Water Year 2014 was approximately 371,000 acre-feet (Figure 2) which is 320,000 acre-feet less than the 691,000 acre-feet received during Water Year 2013.



*Data from USGS and are preliminary

Figure 2: Verde River, Salt River, and Tonto Creek 2014 Water Year Hydrograph

Reservoir Operations: Continued dry weather had the greatest influence on reservoir operations this water year.

Roosevelt Operations: Roosevelt Lake entered the season with just over 751,000 acre-feet of storage (2,099 feet in elevation) which is 45% of capacity (Figure 3). The winter of 2014 produced only 78,000 acre feet of runoff into Roosevelt Lake. The elevation at Roosevelt Dam varied little through the winter with below normal inflows through the winter season. On April 14, 2014 the water order transitioned back to the Salt system. Lake levels began to decline as water order increased in the late spring and into the summer. Roosevelt storage on September 30, 2014 was 632,000 acre-feet (2,089 feet in elevation) which is 38% of capacity (Figure 3). The water order was switched back to the Verde system on October 9, 2014. Figure 4 illustrates the declining reservoir elevations experienced at Roosevelt Lake since February 2010.

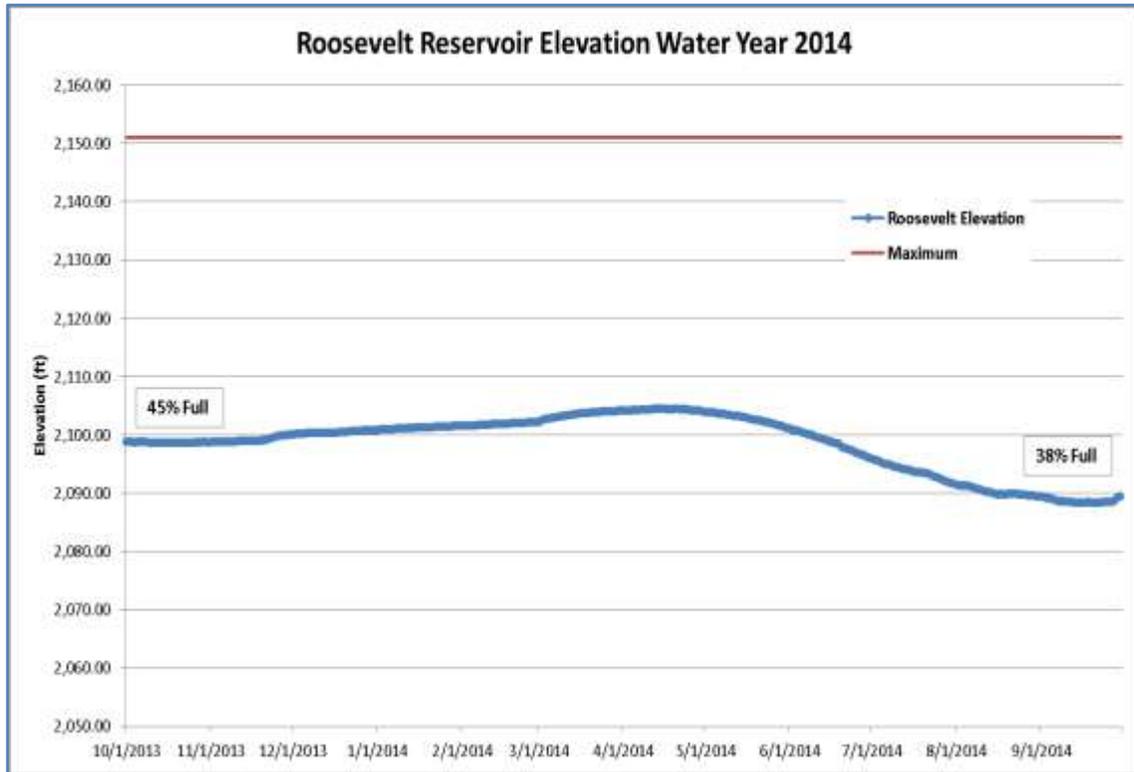


Figure 3: Roosevelt Lake Elevation for Water Year 2014

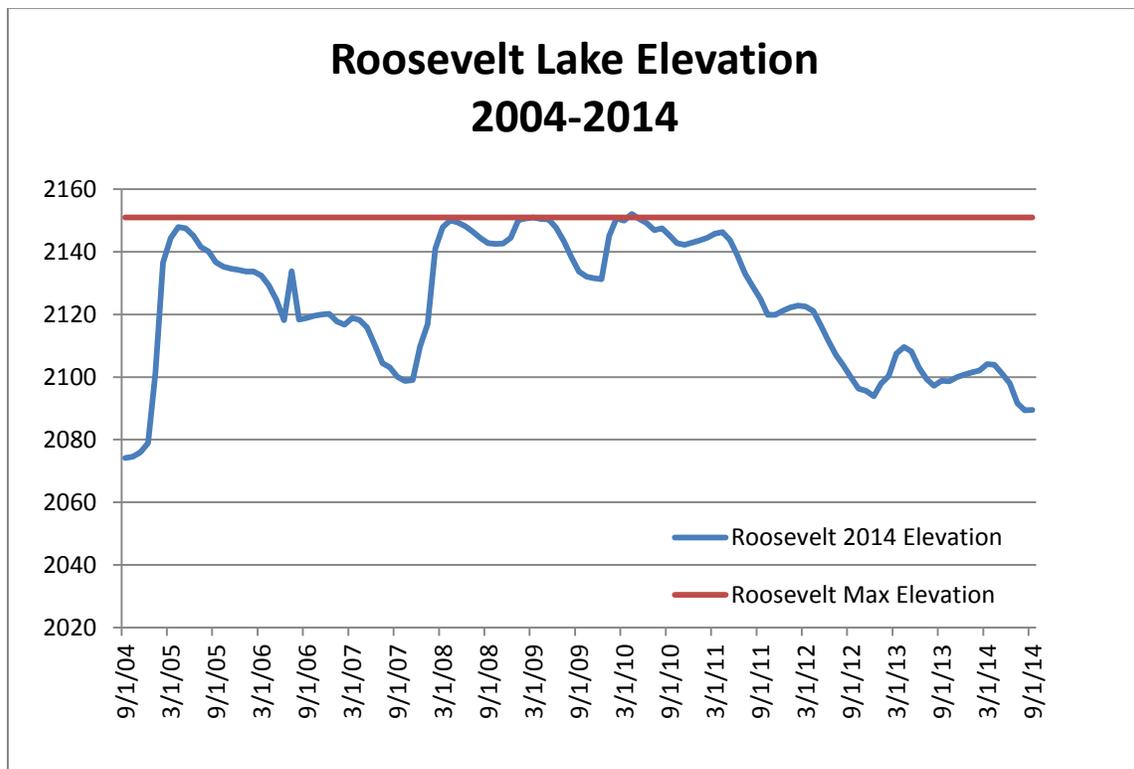


Figure 4. Roosevelt Lake Elevation 2004-2014

B. Incidental Take Permit Compliance Monitoring

The Roosevelt HCP states that SRP will periodically collect and evaluate information on occupied habitats and population status of flycatchers, cuckoos, rails, 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).

2014 Actions: SRP used a multi-scaled flycatcher breeding habitat model to monitor habitat compliance at Roosevelt Lake. Results are presented in section B.2. of this report.

2015 Actions: SRP will continue to work with USGS to modify the habitat model to accommodate differences between the previous Landsat 5 data and the new Landsat 8 data. This will improve our ability to map and forecast potential occupied breeding habitat. SRP will also employ LiDAR, a remote sensing technique used to measure the height of vegetation

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, rail surveys will be conducted to determine ITP compliance.

2014 Actions: Low water levels in the lake prevented the development of cattail marsh below 2,151' in 2013. Therefore, rail surveys were not conducted. Habitat was monitored via helicopter in October 2014 to determine extent.

2015 Actions: Based on the October 2014 helicopter flight at Roosevelt Lake, it has been determined that there is more than 3 acres of potentially suitable cattail habitat available along Tonto Creek. As such, rail surveys will be conducted at the Lake in 2015.

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.

2014 Actions: SRP did not conduct flycatcher or cuckoo surveys in 2014 on the Salt and Tonto arms of Roosevelt Lake because only approximately 12 acres of habitat existed below 2,151' in 2013.

2015 Actions: SRP will initiate surveys when the amount of tall, dense vegetation below 2,151' elevation identified by habitat modeling nears or exceeds 500 acres. Results of habitat monitoring suggest that approximately 311.2 acres of potentially suitable habitat existed in 2014, therefore SRP will not be conducting flycatcher or cuckoo surveys in 2015 (see *Habitat Monitoring Results* below). If the Lake does not fill over the winter months, SRP will periodically monitor vegetation and flycatcher occupancy during the 2015 breeding season.

2. Habitat Monitoring Results

Methods: Each year, SRP monitors the amount of potential flycatcher breeding habitat that exists below the 2,151' elevation mark at Roosevelt Lake through the application of a multi-scaled GIS (Geographic Information Systems) habitat model (Hatten and Paradzick, 2003). The model uses remotely-sensed, Landsat satellite images to identify spectral value thresholds of productive riparian habitat. The process 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 or Normalized Difference Vegetation Index); (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%) within each 30'x30' grid cell generated by the satellite image.

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 which collect the same band wavelength thresholds as Landsat 5. 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. Due to these potentially missing data, SRP switched to Landsat 8 in February 2013. Unfortunately it appears that Landsat 8 has its own issues. The threshold to identify riparian habitat is different from that of Landsat 5, specifically, the “red” and “nIR” band wavelengths. By comparing recent years' modeled habitat probability outputs at locations with nearly identical vegetative composition to the current modeled output, 2013 results appear somewhat underestimated due to this difference between Landsat 5 and Landsat 8. In early 2014, SRP worked directly with Jim Hatten of USGS to convert Landsat 8 NDVI reflectance values into a prediction NDVI raster consistent with Landsat 5. Landsat 8 raw TIFF scenes were converted to Top-of-atmosphere reflectance, and then processed into an NDVI. The resulting NDVI values were then placed in a correction equation with coefficients derived from a two-step linear regression bridging Landsat 8 to Landsat 5, using Landsat 7. Landsat 7 was the only available bridge between the datasets as it flew simultaneously to both Landsat 5 and 8. This equation would explain 93% of the variability between NDVI datasets. Using the best available science, SRP found the new process to properly estimate habitat probability and reduce underestimation.

Model Results: Using acreages from model classes 3 through 5, SRP estimates that 311.20 acres of potentially suitable flycatcher breeding habitat existed below the 2,151' elevation at Roosevelt Lake during the 2014 breeding season (Table 2, Figures 5 and 6). This is an increase of nearly 300 acres over the 11.9 acres estimated in 2013. The habitat was visually inspected to ground truth the model results on October 20, 2014 (Figures 7-10).

Table 2. Multi-scaled Southwestern willow flycatcher breeding habitat probability model results, 2013 versus 2014.

Habitat Probability Class	Probability Range	Acres Below 2,151' Elevation					
		Salt Arm		Tonto Arm		Total Acres	
		2013	2014	2013	2014	2013	2014
3	41-60%	4.33	169.90	7.36	24.50	11.69	194.40
4	61-80%	0.00	80.50	0.22	8.70	0.22	89.20
5	81-98%	0.00	23.80	0.00	3.80	0.00	27.60
Total 3 thru 5	41-98%	4.33	274.20	7.58	37.0	11.91	311.20
Total 4 and 5	61-98%	0.00	104.30	0.22	12.50	0.22	116.80

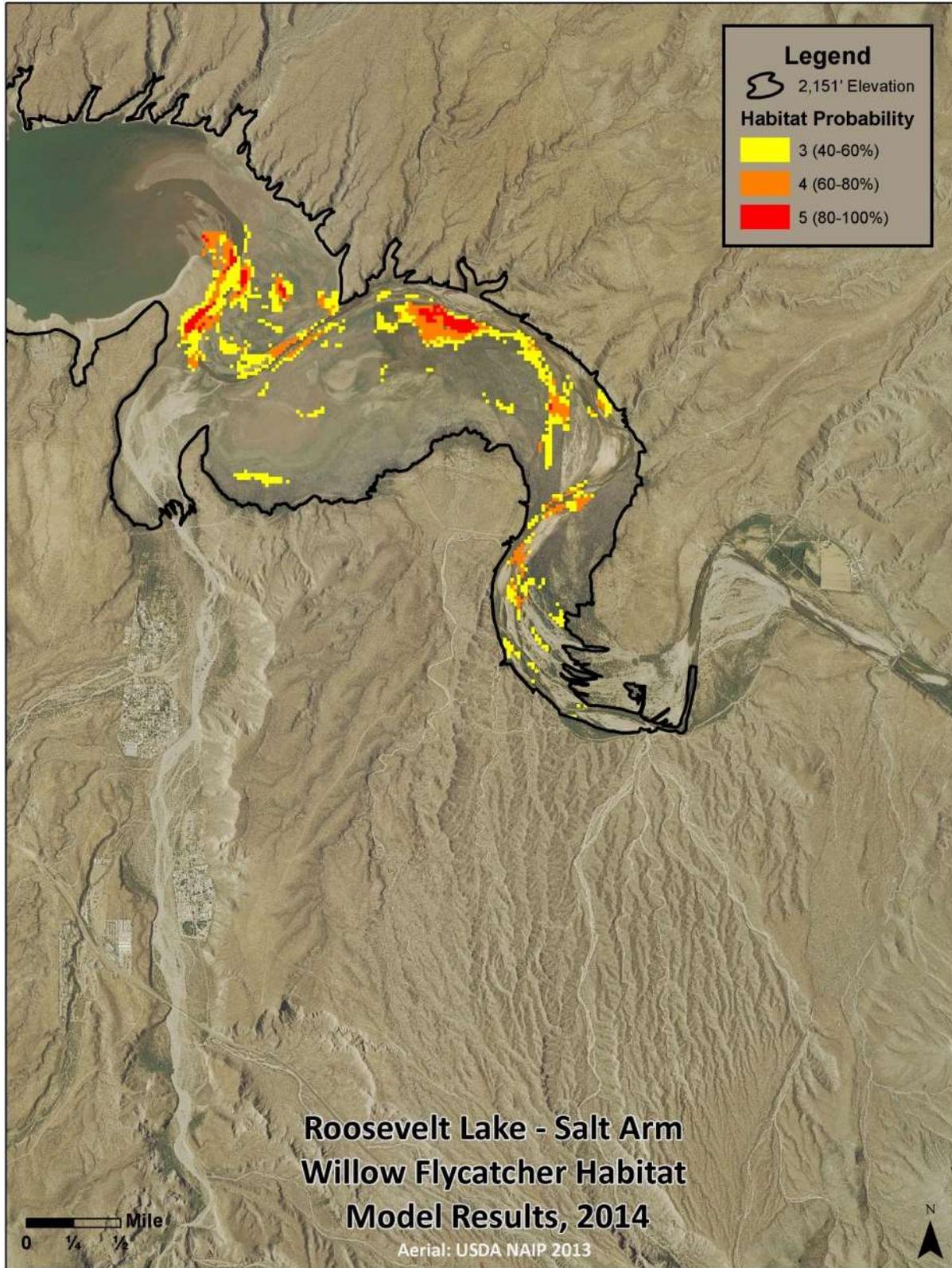


Figure 5. Salt River Inflow to Roosevelt Lake showing 2014 flycatcher habitat model results. Aerial image was taken on June 27, 2013 at lake elevation 2,104' (50% full).

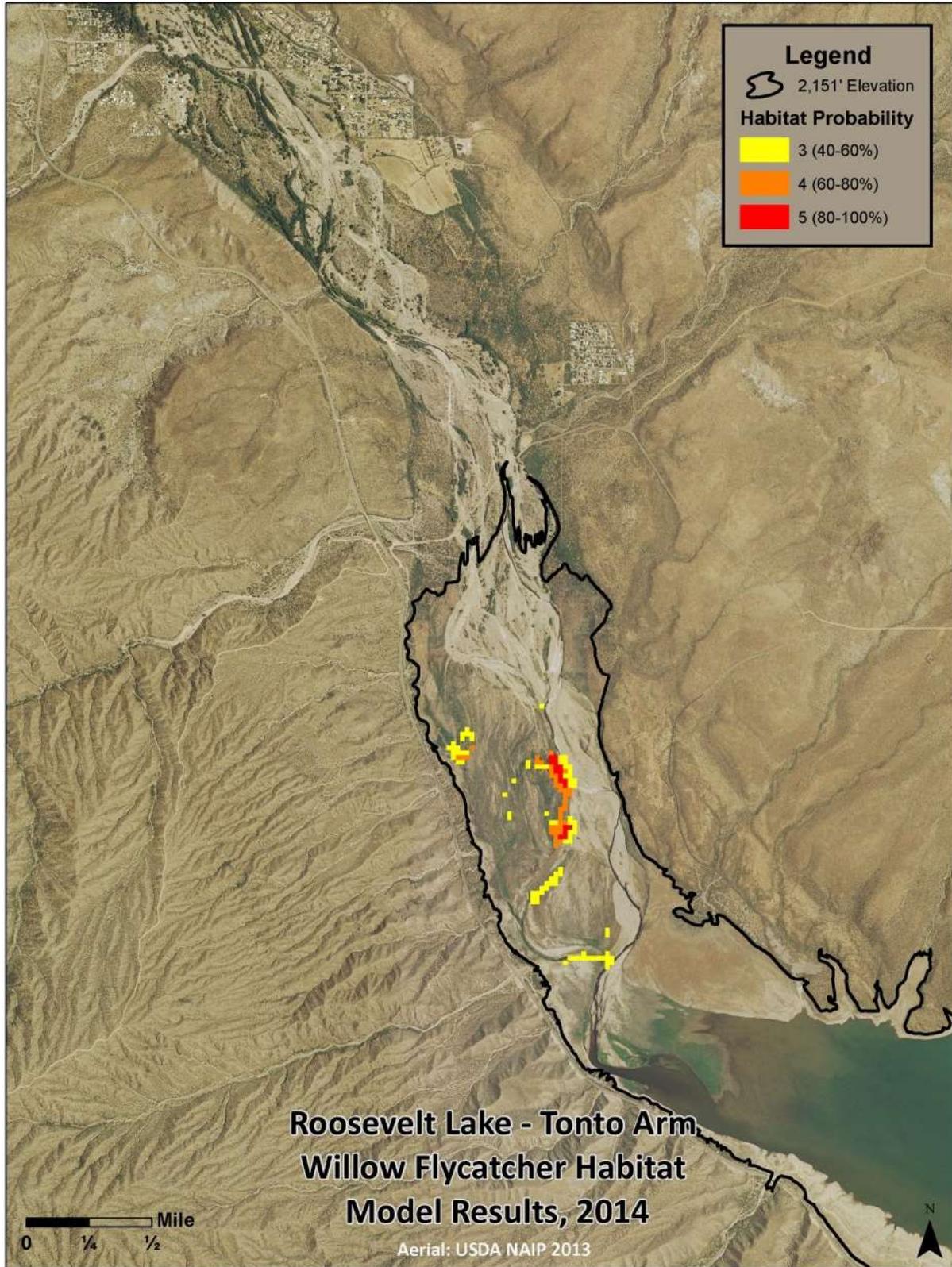


Figure 6. Tonto Creek Inflow to Roosevelt Lake showing 2014 flycatcher habitat model results. Aerial image was taken on June 27, 2013 at lake elevation 2,104' (50% full).



Figure 7. Vegetation downstream of A-Cross Road, looking downstream toward the lake. The 2,151' elevation is adjacent to A-Cross Road on the downstream side. Photograph taken October 20, 2014.



Figure 8. Tonto Creek arm of Roosevelt Lake looking west across stringers of riparian vegetation. Photograph taken October 20, 2014



Figure 9. Downstream of Eads Wash inflow looking downstream along the Salt River. Photograph taken October 20, 2014.



Figure 10. Downstream of Eads Wash inflow looking east across the riparian vegetation along the Salt River. Photograph taken October 20, 2014.

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 (Arizona Game and Fish [AGFD]).

2014 Actions: SRP provided \$25,900 to fund a pair of bald eagle nestwatchers during the 2014 breeding season.

2015 Actions: The agreement between SRP and AGFD allows AGFD to invoice for the 2015 Nest Watch Program in November 2014.

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.

2014 Actions: SRP provided three flights totaling approximately \$7,320 worth of helicopter service to the AGFD during this period.

2015 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.

2014 Actions: Completed. Contact list was updated in November 2013.

2015 Actions: Implement plan, if necessary. Contact list will be updated in November 2014, if needed.

2014 Breeding Status: Over the past several years, AGFD has monitored bald eagle productivity at breeding areas (BA) associated with Roosevelt Lake. In 2013, two new BAs were discovered at the lake - Campaign Bay and Bachelor Cove. On the Salt end of the lake, a pair was documented in late winter 2012; this became the Campaign Bay BA. The Bachelor Cove BA was located on the Tonto end of the lake, up a small side canyon away from the lake itself.

In 2014, an additional new BA was found on the Salt end of the lake at Armer Gulch. It was initially suspected that these were the 2013 Campaign Bay birds. However, observations by AGFD Nestwatchers determined that these were, in fact, new individuals not associated with the Campaign Bay BA. The nest is located more than 3 miles from the shoreline of Roosevelt Lake in a medium-sized cottonwood (*Populus* sp.) tree. These new birds successfully fledged one young in 2014.

The results of the 2014 breeding season for BAs associated with Roosevelt Lake are shown below in Table 3.

Table 3. Bald eagle breeding productivity*, 2012-2014, Roosevelt Lake.

Breeding Area	2012		2013		2014	
	# of Eggs	# Fledged	# of Eggs	# Fledged	# of Eggs	# Fledged
Armer Gulch	n/a	n/a	n/a	n/a	1	1
Bachelor Cove	n/a	n/a	1	1	Occupied	
Campaign Bay	n/a	n/a	1	Failed	Unoccupied	
Pinal	2	2	2	2	2	Failed
Pinto	1+	Failed	2	2	1	Failed
Tonto	2+	2	Occupied**		1	1
TOTALS	5+	4	6	5	5	2

* Source: Unpublished data, Southwest Bald Eagle Management Committee, AGFD (2012, 2013, 2014).

** The Tonto BA pair built a nest, but never laid eggs in 2013.

Arizona's breeding bald eagle population held steady in 2014 with 68 BA's occupied. However, following the record setting year in 2013, number of eggs documented, number of young hatched, and number of young fledged all decreased in 2014 (eggs laid 80+ to 73+, young hatched 73 to 58, and young fledged 58 to 43).

C. Tonto Forest Protection Officer

Obligation: Fund a Forest Protection Officer (FPO) 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.

On June 26, 2014, SRP and TNF signed a 5-year extension of the Collection Agreement that funds the Roosevelt Lake Forest Protection Officer. This Agreement funds the FPO to accomplish habitat protection, enhancement, and management for the Southwestern willow flycatcher, bald eagle, yellow-billed cuckoo, and Ridgeway's rail in the Roosevelt Lake area of the TNF. This Agreement commences October 1, 2014 and provides funding for federal fiscal years 2015-2019.

2014 Actions: The following report has been provided by Amy Madara-Yagla, FPO, TNF.

Enforcement Activities: With the decreasing lake levels a fence was extended on the north end of the Bermuda Flat Horse Pasture area to help prevent people from driving motor vehicles into emerging habitat along Tonto Creek. Signage was maintained throughout the Bermuda Flat and Horse Pasture shoreline camping area, which informed visitors that it was illegal to cut any dead standing wood. Bald and golden eagles, ospreys, and many other raptors use these dead trees for perches throughout the year. Sixteen abandoned campfires left by forest users were extinguished during the summer. Several of these campfires were directly adjacent to occupied flycatcher habitat.

Twenty-six citations were issued this year. Seventeen of those were issued to forest users within the Upper Salt River Recreation area who had fires during seasonal fire restrictions, even after passing a minimum of four fire restriction signs. One citation was issued to an individual for discharging a firearm across the Salt River. Eight tickets were issued to individuals for using a motor vehicle in a prohibited area. Several were issued to people attempting to travel east of Schoolhouse Boat Ramp, below the 2,151 foot elevation.

Boulders placed west of Eads Wash in 2012 to deter the use of motorized vehicles in a sensitive area have allowed riparian vegetation in the area to thrive and has almost erased the user

created route that once existed. Some of those boulders were moved in May 2014 by forest users. Forest engineers have been requested to reposition them when they are assigned to the Tonto Basin Ranger District this winter.

Bald Eagles: One BA, Armer Gulch, was identified this past year adjacent to Roosevelt Lake on the Salt Inflow. The FPO worked closely with the AGFD contracted Nestwatchers to ensure protection of the bald eagle nest closure areas. Below is a summary of nest observations in the vicinity of Roosevelt Lake.

Tonto Nest: The Tonto BA nest was monitored full-time by AGFD contracted Nestwatchers. It was confirmed that there was a new, unbanded, adult female resident at the BA. The previous adult female was known to be 25 years of age before her disappearance in 2013. It is believed that the adult male is the same one that arrived in 2007, as two out of three digits on the leg tag were the same. The third digit could not be read. One chick was successfully fledged from the Tonto BA nest this year. The Nestwatchers had few human interactions within the nest closure area. Due to decreased lake levels, the shoreline was more than two miles from the nest tree, virtually eliminating human activity from the area. At some point during the last week of September 2014, several large branches of the nest tree fell. There was a large rain and wind event during this same time period. As of the beginning of October 2014, the nest is still intact.

Bachelor Cove: The Tonto Nestwatchers intermittently checked on the Bachelor Cove BA. Two adults were seen bringing nesting material to the nest early in the breeding season, but there was no other indication of a breeding attempt in 2014.

Armer Gulch Nest: The Armer Gulch Nest was monitored full-time by AGFD contracted Nestwatchers. It was initially believed that the 2013 Campaign Bay BA birds had moved to this new location on the north side of Roosevelt Lake. It was later determined by the assigned Nestwatchers, that this was an entirely new breeding pair. The nest was located more than 3 miles from the shoreline of Roosevelt Lake, in a medium sized cottonwood tree. Closure signs were placed in critical areas, and coordination occurred with the ranch permittee and AGFD personnel to ensure range activities did not interfere with the breeding bald eagles. There was a corral and water tanks within 300 feet of the nest tree.

Pinto Nest: The Armer Gulch BA Nestwatchers periodically checked the Pinto BA nest. Much like 2013, the Pinto eagles began incubating late. One chick eventually hatched, but unfortunately, on June 7, 2014 the chick was found deceased in the nest, quite likely from extreme heat and dehydration. Signs were placed along the river's edge to prohibit public access. There was no sign of human activity in the vicinity. The lake was more than two miles away, and the river level was very low throughout the season.

Campaign Bay: In 2013, the Campaign BA nest was precariously built in an area of small trees that had been submerged and died in prior years. Since 2013, the vegetation in the area has deteriorated in quality, with no foreseeable location for a new nest. It is possible the pair was in the vicinity, as adult eagles were occasionally viewed on Schoolhouse Point throughout the year.

Outreach activities: Outreach efforts have continued with approximately 120 third graders at Dr. Charles A. Bejarano Elementary School in Miami, Arizona for a sixth year. Outreach activities included teaching curriculum from Project WET, Project WILD, and Focus: Wild Arizona (AGFD) as well as a variety of other novel resources to educate children about natural resources and to compliment Arizona's third grade curriculum. Many of these same children are encountered during routine patrols on the Salt River. This year a similar program was also conducted for second graders at Destiny School in Globe, Arizona. Several new activities geared toward second graders were created. Approximately 45 children were reached through these programs.

Five campground outreach programs were conducted at the Windy Hill Campground focusing on local plants and animals. Three of the programs were hands on, using sight, sound, smell, and touch to identify plants and animals of the Roosevelt Lake area. One of the programs was focused on “Desert Night Dwellers” and highlighted the more secretive creatures of the night at Roosevelt Lake. Another program was dedicated to the bats of the Roosevelt Lake area. At the beginning of each presentation quagga mussels were introduced and were included in hands-on activities. Approximately 125 people attended campground activities this year, with 50 of those participating in at least one of the hands-on activities.

In addition to the programs at the Windy Hill Campground, two programs were conducted at the Grapevine group camping area, one involving a group of Boy Scouts and the other a Fellowship group. A group of “Young Marines” requested a special program dealing with the wildlife of Roosevelt Lake. This program began with a presentation at the Roosevelt Lake Visitor Center and a trip to observe the Tonto bald eagle nest. Unfortunately the weather hampered the visit and cancelled additional plans to explore aquatic habitat in Tonto Creek. In addition to these programs, a Girl Scout troop participated in a nature hike at the Lake.

Starting in 2014, responsibilities included management of a “*More Kids in the Woods*” grant project that had previously been administered by Globe Ranger District personnel. This summer there were four, one-week day camps for children of three different grade levels: K-2nd, 3rd-6th, 7th-12th. Two camps were conducted for the K-2nd graders due to the high demand in previous years. Children were introduced to range science, archeology, wildlife, and outdoor skills, such as putting up tents. The older group was taken on a site visit to a ruin at Roosevelt Lake, hiked in the Pinal Mountains, and explored a riparian area in Cherry Creek, all in an effort to make them better stewards of the environment.

Other Activities: Southwestern willow flycatcher surveys were conducted along approximately four miles of the Salt River from Eads Wash River Access Area floating downstream to the confluence with the lake. Eight territorial flycatchers were detected in small patches of Goodding’s willow (*Salix gooddingii*) adjacent to the Salt River. There was more potentially suitable habitat that was not surveyed due to time constraints.

Due to recurring cattle issues in the vicinity of the Schoolhouse Boat Ramp (Salt Inflow) and Indian Point (Tonto Inflow) the FPO worked closely with range personnel. The quickly receding water levels have made managing cattle along the shoreline of Roosevelt Lake challenging over the last several years. The FPO also provided information to District personnel to support ongoing travel management issues where it relates to the Roosevelt Lake vicinity.

D. Rockhouse Demonstration Site

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 (Figure 11).

Actions: Completed installation. Site operation and maintenance continues.

2014 Actions:

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.

Weed growth was evaluated in September 2014. It has been determined that treatment is again necessary along the irrigation ditch and associated access road. Mowing of weedy annuals and cutting and herbicide treating of woody perennials will occur prior to spring growth.

Bird Surveys: SRP staff conducted protocol surveys for flycatchers and cuckoos at the Rockhouse Demonstration Site in 2014. Results are included in Section B. *Monitoring Results.*

Photo points: SRP staff completed the 2014 Rockhouse photo-points. These photo-points were established in 2004 to document vegetation change over time, specifically to monitor cottonwood and willow (*Salix* sp.) pole and container plantings at this restoration site. Photo points were visited annually for the first five years and have been visited every other year on average since.

Outreach: SRP staff participated in a birding tour of the Rockhouse Demonstration property for the Arizona Field Ornithologists (AZFO) group on Sunday October 5, 2014. The group documented over 50 species of birds in just an hour at the property. Troy Corman with the Arizona Game and Fish Department noted that if they had the opportunity to survey the site more thoroughly there would have been even more birds encountered.

2015 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 prior to the spring green-up. Water Construction and Maintenance will be coming out to the Diversion Dam in the early spring to clear vegetation and sediment around the irrigation intake structure.

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 6 flycatcher nests on the site. We hope to finalize this report in 2015.



Figure 11. Rockhouse Demonstration Site, looking northwest across the property. Photograph taken October 20, 2014.

IV. STATUS OF MITIGATION COMPLIANCE

Obligation: Acquire 2,250 acre-credits by February 2006 including acquisition and management of at least 1,500 acres of riparian habitat by fee title or conservation easement, as well as 750 acre-credits of “other” habitat conservation measures.

Actions: Completed. Table 4 includes background information on the mitigation properties.

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 4. Mitigation property information.

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

CE = Conservation Easement; USBR = Bureau of Reclamation; TNC = The Nature Conservancy; 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 Roosevelt HCP document and are summarized briefly below.

Obligation: Flycatcher, cuckoo, and 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 (Tables 5, 6, and 7). The specific frequency of survey for each site is to be determined during the annual meeting.

2014 Actions: Flycatcher and cuckoo surveys were conducted on the Fort Thomas Preserve conservation properties in 2014 by EcoPlan Associates, Inc. under contract to SRP. Surveys will be repeated at Fort Thomas in 2016.

Flycatcher and cuckoo surveys were also conducted on the Camp Verde Riparian Preserve property and the Rockhouse Demonstration Site in 2014 by SRP staff.

No rail surveys were conducted at the Arlington Wetland in 2014.

2015 Actions: Flycatcher and cuckoo surveys will be conducted on the San Pedro River Properties and the Rockhouse Demonstration Site in 2015.

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 2015.

Table 5. Southwestern willow flycatcher survey schedule.

Mitigation Property	Purchase Date	2009	2010	2011	2012	2013	2014	2015
SAN PEDRO								
Adobe	Sep 2002			SRP		SRP		SRP
Stillinger	Jun 2004			SRP		SRP		SRP
Spirit Hollow	Jul 2004			SRP		SRP		SRP
Spirit Hollow Annex	Dec 2006			SRP		SRP		SRP
VERDE								
Camp Verde	Jan 2004	SRP			SRP		SRP	
GILA								
McEuen	Aug 2004	SRP			SRP		SRP	
PD CE	Feb 2005	SRP			SRP		SRP	
BR/Hancock	Oct 2005	SRP			SRP		SRP	
BR/Bellman	Dec 2006	SRP			SRP		SRP	
SALT								
Rockhouse	n/a	SRP	SRP		SRP		SRP	SRP
ROOSEVELT	n/a	TNF						

TNF = Tonto National Forest

Table 6. Yellow-billed cuckoo survey schedule.

Mitigation Property	Purchase Date	2009	2010	2011	2012	2013	2014	2015
SAN PEDRO								
Adobe	Sep 2002			SRP		SRP		SRP
Stillinger	Jun 2004			SRP		SRP		SRP
Spirit Hollow	Jul 2004			SRP		SRP		SRP
Spirit Hollow Annex	Dec 2006			SRP		SRP		SRP
VERDE								
Camp Verde	Jan 2004	SRP			SRP		SRP	
GILA								
McEuen	Aug 2004	SRP			SRP		SRP	
PD CE	Feb 2005	SRP			SRP		SRP	
BR/Hancock	Oct 2005	SRP			SRP		SRP	
BR/Bellman	Dec 2006	SRP			SRP		SRP	
SALT								
Rockhouse	n/a	SRP	SRP		SRP		SRP	SRP
ROOSEVELT	n/a							

Table 7. Ridgeway's rail survey schedule.

Mitigation Property	Creation Date	2009	2010	2011	2012	2013	2014	2015
Arlington WMA	Feb 2006	SRP/ AGFD*		SRP/ AGFD		SRP		SRP
Roosevelt	n/a				SRP**	SRP**	SRP**	SRP

AGFD = Arizona Game and Fish Department

* 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.

Photo points. Permanent photo points will be established and retaken periodically to monitor habitat condition.

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 rail habitat when bird surveys are conducted.

2014 Actions:

Photo points. Photo points were completed at the Rockhouse Demonstration Site and the Camp Verde Riparian Preserve in 2014 (Appendix A).

Aerial Photography. Aerial photography was updated to 2013 NAIP (National Agriculture Imagery Program) imagery for the Camp Verde Riparian Preserve.

Documentation of Habitat Conditions. Habitat conditions were evaluated and photo documented during 2014 flycatcher and cuckoo surveys on the Fort Thomas Preserve, Rockhouse Demonstration Site, and Camp Verde Riparian Preserve. See Appendices B, C, and D (2014 Fort Thomas Avian Survey Report, 2014 Rockhouse Demonstration Site Avian Survey Report, and Camp Verde Riparian Preserve Avian Survey Report) for habitat photographs. Habitat conditions at mitigation sites are described in Section C.

2015 Actions:

Table 8 contains a summary of habitat monitoring activities scheduled for 2015 along with past activities.

Photo points. Fixed point photographs will be repeated for the Fort Thomas Preserve, San Pedro River properties and Arlington Wildlife Management Area in 2015 as well as if there is a need to document a significant event or change in conditions on one or more of the other properties.

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

Table 8. Mitigation property habitat monitoring schedule.

Mitigation Property/Activity	2008	2009	2010	2011	2012	2013	2014	2015
SAN PEDRO								
<i>Adobe</i>								
Baseline Inventory	Completed				Updated			
Photo points	X	X		X		X		X
Aerial photos	X					X*		
<i>Stillinger</i>								
Baseline Inventory					Updated			
Photo points	X	X		X		X		X
Aerial photos	X					X*		
<i>Spirit Hollow</i>								
Baseline Inventory	Completed				Updated			
Photo points	X	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					X	
GILA								
<i>Fort Thomas</i>								
Baseline Inventory	Completed				Updated			
Photo points	X	X		X				X
Aerial photos				X				
SALT								
<i>Rockhouse</i>								
Summary Report		Drafted						X
Photo points	X	X		X			X	
Vegetation monitoring	Evaluation	X		X				
ARLINGTON								
Photo points	X	X		X				X
Aerial photos					X			

*Appendix E includes updated aerial photography

B. Monitoring Results

In 2014, SRP contracted with EcoPlan Associates, Inc. to conduct protocol surveys for flycatchers (Sogge 1997) and cuckoos (Haltermann 2009) on the Fort Thomas Preserve property. SRP staff conducted protocol surveys at the Camp Verde Riparian Preserve and the

Rockhouse Demonstration Site for flycatchers and cuckoos. The results of the protocol surveys are summarized below. The full survey reports can be found in Appendices B, C, and D. No rail surveys were conducted at the Arlington Wetland site in 2014.

1. Southwestern Willow Flycatcher Surveys

Fort Thomas Preserve

A total of 166 resident adult flycatchers (69 pairs and 28 unpaired males) were detected at 97 territories (Table 9) at the Fort Thomas Preserve (Figure 12). Twenty-six nonresident flycatchers were also detected. No banded birds were detected during the 2014 field season. The Fort Thomas Preserve Survey Report can be found in Appendix B.

Nest searching was conducted on these properties to determine the impact of brown-headed cowbird (*Molothrus ater*) 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 31 nests were checked for brown-headed cowbird parasitism. Of the 31 nests, 20 were flycatcher nests and 11 were surrogates. Parasitism was documented in six (two flycatcher nests and four surrogate nests were parasitized). The parasitism rate (i.e., the number of nests parasitized divided by the total number of nests checked) was 18.8%. Parasitism and brown-headed cowbird detections were spread out fairly evenly across the preserves and was not concentrated in any specific area.



Figure 12. Interior view of occupied, nonnative-dominated flycatcher habitat at the Fort Thomas Preserve.

Rockhouse Demonstration Site

A total of 42 flycatchers, 20 pairs at 22 territories, with 1 nest found (Figure 13) were documented at the Rockhouse Demonstration Site in 2014 (Table 9). These numbers continue to climb from the previous protocol survey in 2012 where 25 flycatchers, 11 pairs at 14 territories were documented. The Rockhouse Survey Report can be found in Appendix C.



Figure 13. Approximately 6-day old flycatcher nestlings, Rockhouse Demonstration Site, territory 9, July 9, 2014.

Camp Verde Riparian Preserve

A total of 10 flycatchers, 3 pairs at 7 territories, with 1 nest found were documented at the Camp Verde Riparian Preserve in 2014 (Table 9). These numbers also increased from the previous protocol survey in 2012 where 5 flycatchers, 2 pairs at 3 territories were documented. The Camp Verde Riparian Preserve Survey Report can be found in Appendix D.

Table 9. Summary of flycatcher territories by property, 2014.

Preserve	Residents	Pairs	Territories	Nests	Non-residents
Fort Thomas Preserve	166	69	97	23	26
Rockhouse Demonstration Site	42	20	22	1	0
Camp Verde Riparian Preserve	10	3	7	1	0
Total	218	92	126	25	26

2. Western Yellow-billed Cuckoo Surveys

Fort Thomas Preserve

Twenty-four total cuckoo detections (Table 10) were recorded for the Fort Thomas Preserve during 5 protocol surveys of the area (Figure 14). Based on an examination of the cuckoo detection records made during surveys in 2014, 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 6 to 7 pairs were present in the study area (Appendix B).



Figure 14. Exterior view of occupied, native-dominated cuckoo habitat on the Fort Thomas Preserve.

Rockhouse Demonstration Site

There were a total of 4 detections (1 suspected pair) at the Rockhouse Demonstration Site in 2014. All 4 detections came on the same day (July 9, 2014) and all 4 detections were made incidentally after the protocol survey had been completed while flycatcher surveys were being conducted at the site. These detections are similar in location to the 6 documented in 2012. The Rockhouse Survey Report can be found in Appendix C.

Camp Verde Riparian Preserve

There were a total of 5 detections (1 pair) at the Camp Verde Riparian Preserve in 2014 (Table 10). This was a much lower detection rate than 2012, when 10 cuckoo detections were documented at the Preserve. The Camp Verde Riparian Preserve Survey Report can be found in Appendix D.

Table 10. Summary of cuckoo detections by property, 2014.

Parcel	Incidental	Survey					Total
		1	2	3	4	5	
Fort Thomas Preserve	0	7	4	3	10	0	24
Rockhouse Demonstration Site	4*	0	0	0	0	**	4
Camp Verde Riparian Preserve		1	2	1	1	**	5
Total	4	8	6	4	11	0	33

*All 4 incidental detections at Rockhouse occurred on 07/09/14; 2 cuckoos counter calling.

** Only conducted 4 protocol surveys

3. Ridgeway's Rail Surveys

Arlington Wetlands, Arlington Wildlife Area

Protocol surveys were not conducted at the Arlington Wetlands by SRP staff in 2014. A site visit conducted on April 3, 2014 documented an unsolicited clapper rail “kekking” in the northwest cell. Also detected were American coots (*Fulica americana*) and common moorhens (*Gallinula chloropus*).

C. Management Obligations

The primary goal for management of these properties is to provide ecological and conservation benefits to the flycatcher, cuckoo, 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. SRP also takes 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 and included in Table 11:

- 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, as needed.
- 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 habitats 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 11. Status of management obligations for mitigation properties.

Mitigation Area	Site Manager	Management Plan	Fire Plan Status	Fencing	Water Rights	Conservation Easement
Adobe	TNC	Completed	Update contacts	Completed	In process	
Black Farm	TNC	Completed	Update contacts	Completed	In process	
Spirit Hollow	TNC	Completed	Updated	Completed	Not Required	Completed USBR
Spirit Hollow Annex	TNC	Completed	Updated	Completed	Not Required	n/a USBR land
Stillinger	TNC	Completed	Update contacts	Completed	Not Required	
Camp Verde Riparian Preserve	SRP contractor	Completed	Update contacts	Completed	Not Required	
Fort Thomas	TNC	Completed	Draft complete	Completed	Not Required	Partial
Rockhouse	SRP contractor			Completed	Completed	n/a USBR land
Arlington Wetland	AGFD	AGFD	AGFD	Completed	Completed	n/a AGFD land
San Pedro Preserve	TNC	Completed	Completed	Completed	In Process	Completed USBR

TNC = The Nature Conservancy; AGFD = Arizona Game and Fish Department; USBR = US Bureau of Reclamation; n/a = Not applicable to the HCP

1. Management Actions—Common to All Properties

2014 Actions:

SRP staff submitted comment letters in response to the FWS's Proposed Rule for threatened status for the Western Distinct Population Segment of the Yellow-billed cuckoo and Proposed Rule designating critical habitat for the Western Distinct Population of the yellow-billed cuckoo.

SRP staff also submitted a comment letter in response to the TNF Travel Management Draft Environmental Impact Statement. The main proposed action within the TNF Travel Management Plan includes re-designating many of the roads and trails on the Forest.

SRP staff presented at the Tamarisk Coalition annual meeting in February 2014, which was held in Grand Junction, Colorado. The presentation focused on the successes of our Rockhouse Demonstration Site on the Salt River. In addition to giving this presentation, we attended to stay abreast of current topics related to tamarisk (*Tamarix* spp.), tamarisk treatments and removals, and riparian restoration techniques post-treatment, as well as to follow the current status of the tamarisk beetle distribution.

SRP staff attended the 2014 Southwest Riparian Restoration Workshop in Yuma in March. This three day workshop included a full day of classroom instruction followed by two days of hands on experience in the field. The workshop focused on project planning, removal of non-native species, and restoration and management of native riparian plant communities in the arid southwest.

SRP staff attended the Marsh Bird Training Workshop in Yuma in March. This three day workshop included a brief classroom portion followed by four separate field sessions. These

field sessions were the focus of the workshop so that participants could hear the individual birds that they would be surveying for in a field based setting.

SRP staff participated in the annual Southwestern Willow Flycatcher Survey Training in Dudleyville on May 8 and 9. Staff presented a power point on the biology of the flycatcher including topics on general avian behaviors, nesting behavior, nest identification, cowbirds, and flycatcher migration timing. In addition to the classroom portion of the training, SRP staff led a field trip to the San Pedro River to look and listen for the flycatcher.

SRP staff attended the 2014 Arizona Water Law Conference in August. This Conference provided current information on the state of water law and policy in Arizona. Some of the topics covered included: the Clean Water Act, Colorado River Drought Response and Sustainability, General Stream Adjudication Update, the Central Arizona Groundwater Replenishment District, Navigability and the Public Trust Doctrine in Arizona, and Climate Change and Water.

SRP staff attended the Arizona Riparian Council's Annual Conference in Tucson in October. This conference focused on riparian protection and restoration at the local level. Discussions focused on stakeholder engagement in riparian protection and restoration; local implementation of regulations, policies, and laws for riparian protection and restoration; and collaboration for riparian protection and restoration.

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 as needed. SRP has revised maps in several of the documents (see Appendix E for most up to date aerial images). See Appendix F for updated management activity implementation matrices. Fixed point photography was repeated for the Rockhouse Demonstration Site and the Camp Verde Riparian Preserve properties in 2014 and can be found in Appendix D.

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

Contractor, Property

Tim Wheeler, Maratimo Construction	Rockhouse Demonstration Site
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, property managers work to get them removed from the property and attempt to find where they entered the property and repair any fence line breach.
- Weed management and control are on-going activities. Property managers 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.

2015 Actions:

Site Management: We anticipate all management arrangements will remain unchanged in 2015.

Site Maintenance: Regular patrols of properties and fences will continue weekly, on average. All other activities listed in 2014 actions will continue through 2015.

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).

2. Management Actions by Property

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 2014 and a discussion of proposed actions for 2015.

San Pedro River

General Watershed Activities

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. These discussions can begin in earnest once AGFD has decided what they would like to do with the ASARCO transferred lands. In the meantime, SRP provided updated land ownership maps to allow managers to draw in their fence lines. This will enable SRP to assess where and how many cross-river fences exist and are planned. Collaborative management/maintenance will be considered. SRP is awaiting confirmation on fencing locations.

Piezometer Installations. SRP installed 10 piezometers on mitigation properties in January 2011. Two more still need to be installed on the Spirit Hollow Preserve. SRP is trying to coordinate installation timing with Resolution Copper's planned installation of piezometers on the 7B Ranch property allowing sharing of mobilization costs. SRP will continue to coordinate with them. Our target for installation is 2015.

TNC Coordination. In December of 2013, SRP renewed the agreement for another 5-year term with TNC for the management of the San Pedro and Gila River conservation properties.

Lower San Pedro Working Group. SRP staff attended the April 29, 2014 working group meeting at TNC's San Pedro River Preserve. Major topics of discussion included land management, data collection and monitoring activities, other watershed activities, and external activities. Scott Wilbur (University of Arizona) gave a presentation on his Master's work—Ecosystem Conservation Assessment of the Lower San Pedro Watershed. David Kahrs (Environmental Planning Group) gave an update on the SunZia Project and discussed their voluntary avian mitigation plan.

Christmas Bird Count. On January 4, 2014, Dan Wolgast, SRP's Preserve Manager ("Preserve Manager"), participated in the Dudleyville Christmas Bird Count (at Black Farm and the adjacent agricultural fields). Twenty-eight species were tallied, with a total of approximately 265 individuals. The juvenile dark-morph red-tailed hawk (*Buteo jamaicensis*) that was detected in 2013 was documented again this year. Sparrow numbers were similar to 2013 and included five vesper sparrows (*Pooecetes gramineus*), six rufous-crowned sparrows (*Aimophila ruficeps*), and 64 white-crowned sparrows (*Zonotrichia leucophrys*).

Lower San Pedro Nature Festival. SRP co-sponsored the May 3, 2014 San Pedro Riverfest, a community supported Nature Festival. SRP staff assisted in the preliminary planning for the 2014 event with Audubon Arizona, TNC, the Copper Corridor Economic Development group, and the Town of Winkelman. SRP has committed to assist with planning and, possibly, providing funds again for the 2015 event.

North American Migration Count. On May 10, 2014, the Preserve Manager participated in the annual North American Migration Count conducting counts at Adobe Preserve and Bureau of Reclamations adjacent Cook's Lake property. Forty-two species were documented totaling approximately 409 individuals. Six willow flycatchers were detected. Other notable sightings included one MacGillivray's warbler (*Geothlypis tolmiei*), one Wilson's warbler (*Cardellina pusilla*), one common black-hawk (*Buteogallus anthracinus*), and one Harris's hawk (*Parabuteo unicinctus*).

TNC's Annual Wet/Dry Mapping Effort. SRP participates in the wet/dry mapping on the San Pedro River by allowing the conservation properties to be mapped and included on the maps. On June 20, 2014, wet and dry portions of the four San Pedro properties were mapped as part of the annual effort. Of the four, only Stillinger, which had a wetted-reach throughout, had any surface water present.

Equipment Upgrades. A tractor was purchased for use on the five conservation properties, per the renewed TNC-SRP Cooperative Agreement. The tractor is a 1986 Mercedes-Benz Unimog U1200AG, a truck-tractor-hybrid, capable of performing all of the functions of a tractor, but also capable of travelling among disparate properties at near-highway-speed (45-50 mph). Additionally, an arm-mounted flail mower was purchased for use with the Unimog. This also will allow the operator to mow around and under obstacles with a greater degree of precision, as well as to mow along and in difficult areas such as fences and irrigation ditches, respectively. This includes mowing from the far-side of a long obstacle, making mowing possible in previously inaccessible areas.

Monsoon update. The 2014 monsoon season lasted from July through September, prolonged by a series of almost-weekly tropical storms which started in mid-September and lasted into October. The July–September rainfall total was 6.06", with 1.92" in July, 2.91" in August, and 1.23" in September (measured at Black Farm). The total for the water-year is 8.39", with only 2.33" falling in the nine months prior to July 1, 2014. Storms were so widespread and frequent, that the San Pedro and Aravaipa Creek flowed often and consistently high.

a. Adobe Preserve, San Pedro River, Pinal County

Habitat Conditions: This reach of the river still supports a diverse Fremont cottonwood (*P. fremontii*)-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 and Fremont cottonwood, representing a few major recruitment events that occurred in the early to mid-1990s. The gallery trees have matured past the optimum size and density preferred by flycatchers and the steady decrease in territory numbers reflects this. Mid- and understory development is increasing in patches where the canopy has opened as a result of tree mortality, largely from trees falling over due to the force of flood waters or high winds during recent storm events. However, in the extant gallery forest the dense canopy essentially shades out most potential mid- and understory growth.

The seep area along the eastern side of the channel remains dominated by a diverse and dense native riparian forest supporting extensive mid- and understory vegetation. Patches of tamarisk and mesquite (*Prosopis* spp.) persist on drier channel bars throughout the flood plain interspersed with sandy areas.

Dam-building by beaver (*Castor canadensis*) on the San Pedro River at Adobe was noted on January 2, 2014 (Figure 15). The location of this new dam is approximately 150 meters downstream of last year's dam. A wildlife camera was trained on the resultant pond to monitor for beaver activity and construction progress.



Figure 15. Three month's work on beaver dam. Photograph taken March 18, 2014.

High and consistent flows in the San Pedro River during the 2014 monsoon season altered the trajectory of the active channel, but the most profound alteration came as the result of Tropical Storm Odile. While only dropping trace amounts of rainfall in the Lower San Pedro River Valley, Odile dumped over 9 inches of rain in some of the upper-most parts of the San Pedro River

watershed. This resulted in a flow of almost 18,500 cubic feet per second (cfs) at the International Border. This increased somewhat to almost 20,000 cfs as it flowed north, due to contributions from flooding tributaries. Though it fell below 4,000 cfs by the time it reached the Reddington area, flow was still strong enough to completely realign the active channel at the north end of the Adobe Preserve.

2014 Actions:

Fencing and Trespass Livestock. All fences have been intact since the end of the 2013 monsoon season through December 2013, but fresh sign of at least one horse inside the Adobe Preserve fence was found late in December 2013. The south fence was bolstered, and no new fresh sign has been found through the end of 2013. In the early spring, one episode of livestock trespass occurred, as evidenced by hoof-prints and droppings, but no animals were ever seen. A small fence breach was repaired and the height of a portion of the river bottom fence was raised. Four head of cattle were seen, via wildlife camera, to pass through the property from May 5 to May 7; they have not been seen on the property since this time. No additional sign of livestock have been detected post-monsoon through October 2014.

Weed Control. The over-crowded mesquites along the north side of the property entrance driveway were thinned in the fall and winter of 2013; this work continued through the spring and summer of 2014. Roughly 75% of the mesquites were removed from both the north and south sides of the driveway, to improve visibility and to provide a fire-break. During the early spring, mesquite saplings and trees which had grown up around the old ranch house were also cut, and the stumps treated with Garlon 4Ultra. Trees of every size within twenty feet of the house were cut and treated. The slash was later chipped and spread in the same general area.

Native Plantings and Restoration Activities. SRP will be implementing a program of establishing native grasses and shrubs in the abandoned pastures. In early June 2014, 100 assorted one-gallon grass plantings (spike pappusgrass [*Enneopogon desvauxii*], Arizona cottontop [*Digitaria californica*], feather fingergrass [*Chloris virgate*], tanglehead [*Heteropogon contortus*], and alkali sacaton [*Sporobolus airoides*]) were planted by hand in the old agricultural fields adjacent to the riparian bottom. In September 2014, an additional 1,600 plugs of alkali sacaton were planted in the south-most field (Figure 16). The area was first prepared with a 5-shovel plow pulled by the Unimog, to loosen the soil to a depth of approximately 6 inches. The mechanical planter is then pulled through this softened soil, depositing a plug about every foot or so, in two rows roughly 4 feet apart. A pair of wheels on either side of the plug conveyers presses the soil together, firming it around each newly planted plug. Four people operate the planter, two on each plug conveyer, to balance the implement and to keep pace with the speed of the conveyers.



Figure 16. Left: Preparing the soil for planting. Right: Planted rows. Photographs taken September 23 and 25, 2014, respectively.

2015 Actions:

Fencing and Trespass 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 and maintenance of fences is an on-going activity. SRP will continue to explore options with neighboring landowners 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.

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 develop a plan to introduce demonstration plantings and get more native grasses established on the eastern terrace.

Monitoring. Depth-to-groundwater 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 eighth year that native grasses have received no supplemental water. The spring and early summer were extremely dry but the grasses in the fields responded vigorously to the late monsoon moisture with abundant new growth and prolific seed. Some of this seed will be harvested and stored for future seeding efforts.

Aravaipa Creek flowed uninterrupted at Black Farm since monsoons began in July 2013 until February 10, 2014, at which time it went completely dry until February 17, 2014, when it returned to its previous discharge rate. By February 28, 2014, flow had ceased and all that remained were a series of puddles at Black Farm. A storm on March 1 and 2, 2014, delivered 0.41 inches, which caused a brief pulse-flow of approximately 40 cfs (Figure 17). Flows in Aravaipa Creek diminished to nothing by March 11, 2013, and remained dry till the start of the 2014 monsoon season in July.



Figure 17. Brief pulse in flow in Aravaipa Creek resulting from storm of 1-2 March. Photograph taken March 2, 2014

2014 Actions:

Weed Control. Weed management in the native grass fields required a near constant effort. All patches of Russian thistle (*Salsola* spp.) were mowed or cut with a brushcutter in late 2013. While some patches of other weeds, such as carelessnessweed (*Amaranthus palmeri*) and goosefoot (*Chenopodium* sp.) were left standing to encourage visitation by sparrows and other passerine birds. Invasive trees such as mesquite and the exotic tree-of-heaven (*Ailanthus altissima*) were also treated, either mechanically or chemically. Mesquite saplings in the fields were treated using the basal-bark spray method, with a 1:4 mixture of Garlon 4Ultra and B99 biodiesel. As this treatment was done late in the season, plants will be assessed in the spring for effectiveness of treatment. Tree-of-heaven was removed from the fence line along the west side of the property, and damaged portions of the fence were repaired. However, no stumps were treated with herbicide.

Despite the extremely dry winter conditions (0.48 inches total from January to March; 2.33 inches total from October 2013 to March 2014), and mild temperatures allowed for early onset of Russian thistle growth. This has been easily managed, due to the fact that most of the growth is in areas where the soil has been recently disturbed. Individual plants are easily removed, and dense or extensive patches are still mowable. Late spring growth of Russian thistle occurred along some field edges, though due to the extreme dryness this was much reduced compared to previous years. What remained was mowed or removed periodically throughout the spring and early summer 2014. Sapling mesquites in a small portion of the east field were treated with Element 3A, a generic of Garlon 3A (triclopyr amine), on May 26, 2014. A combination of cut-stump and basal-bark treatments was used; both treatments appear to be effective on Velvet mesquite at sapling-size, using a 50/50 mix of Element 3A and water. The cut-stump method was the more labor-intensive and time-consuming, while the basal-bark method was the more

consumptive of chemical. In the coming quarter, treatments will be made using Element 4, a generic of Garlon 4Ultra, in a 1:5 tank mix with B99 biodiesel.

Native Grasses. Bureau of Land Management staff in Safford, AZ, with help from Gila Watershed Partnership (GWP) and Eastern Arizona College staff, grew several thousand grass plugs of several species in the greenhouse at Eastern Arizona College's Discovery Park. These were made available to interested parties with lands suitable for planting. 4,400 alkali sacaton and 420 blue grama (*Bouteloua gracilis*) were provided to SRP for planting at Black Farm and the Adobe Preserve. TNC's mechanical planter was used to plant the plugs, and a crew from the Arizona Conservation Corps which had been trained to operate the planter was sent along to help (Figure 18). A total of 2,800 alkali sacaton and 420 blue grama were planted at Black Farm, in a 0.75 acre strip at the north end of the north-west field, an area that had been left untreated during previous plantings.



Figure 18. Left: Preparing the soil for planting. Right: AZ Conservation Corps crew members operating the mechanical planter. Photographs taken Sept 22 and 25, 2014, respectively.

Facility upgrades. In July, E&K Construction removed and replaced the deteriorating domestic well pumphouse at Black Farm (Figure 19). E&K also re-graveled the floor of the barn, poured a small slab to house a cabinet, and installed an additional pallet shelf for storage (Figure 20). Both projects will improve the reliability and functionality of the facilities infrastructure.



Figure 19. Left: Pumphouse at Black Farm removed down to slab. Right: Rebuilt pumphouse. Photographs taken July 14 and 25, 2014, respectively.



Figure 20. Left: Barn with new gravel floor and poured slab for cabinet. Right: New pallet shelves in barn. Photographs taken July 31, 2014.

Shortly after completion of the pumphouse, a pin-hole leak was discovered in the domestic pressure tank and old-style hydro-pneumatic unit. The tank was replaced with a new diaphragm tank. However, this disturbance to the water supply system caused damage to the tankless water heater in the residence, which then was also replaced.

2015 Actions:

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 Russian thistle, goosefoot, and amaranth. Tree-of-heaven treatment will continue near the house as needed to treat re-sprouting.

Monitoring. Depth-to-groundwater measurements will be recorded monthly at all piezometers. Time periods when Aravaipa Creek has surface flow will be recorded and occasional stream flow measurements will be taken when there is adequate surface flow.

c. Stillinger Preserve, San Pedro River, Pinal County

Habitat Conditions. This portion of the San Pedro River channel retains the course it has had for the last several years and remains incised with a deep sediment load on the bottom. Heavy runoff from Tropical Storm Odile (Figure 21) caused additional incision of the channel at Stillinger by roughly 18 inches.



Figure 21. High flow in San Pedro River at Stillingers. Photograph taken August 14, 2014.

The habitat along the banks of the channel consists of a thin stringer of mixed native and non-native trees whose structure remains suitable for flycatchers and cuckoos. There appears to be some slight drying and die-off of trees, especially near the northern, downstream end of the preserve in the areas beyond the immediate bank-side vegetation. Beaver activity was apparent with both willows and tamarisk showing signs of beaver chew.

2014 Actions:

Fencing and Trespass Livestock. The gap fences were closed following the 2013 monsoon season, initially some cattle were trapped inside, but these were quickly removed. Cattle trespass at Stillingers has been light and infrequent throughout the year, with entry usually occurring at the water-gaps or through gates that have inadvertently been left open. Neighbors have been responsive and helpful, even proactive in regaining their stock. Damage to fences was minimal following Tropical Storm Odile, despite overbank flow.

2015 Actions:

Fencing and Trespass 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 and maintenance of fences is an on-going activity. SRP will continue to explore options with neighboring landowners 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.

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

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

Habitat Conditions. This reach of the river continues an apparent drying trend with surface flows only occurring as run-off after upstream precipitation events. Many larger trees, both willows and cottonwoods, appear to be moisture-stressed; some are dying and starting to fall. The main channel remains in the middle of the floodplain, with multiple secondary flow channels located throughout. Although the main channel is scoured of vegetation, many of the secondary and tertiary channel bottoms are covered with a dense growth of grasses and forbs. In August, the river overflowed the main channel and flooded the entire floodplain with run-off from Tropical Storm Odile (Figure 22).



Figure 22. High flow in the San Pedro River at Spirit Hollow Preserve and annex. Photograph taken August 14, 2014.

2014 Actions:

Fencing, Trespass, and Trespass Livestock. As of December 2013, all wash and river gap fences were closed; however, several portions of the fence experienced some degree of burial in 2013. In most cases this is slight, with sediment just reaching the bottom-most strand, but in one case the fence is buried to the top strand (Figure 23). All stretches were repaired or re-stranded in 2014.



Figure 23. Buried fence at Spirit Hollow, near southeast corner. Where the fence disappears into the vegetation, the top wire is at ground level. This fence was repaired in 2011, at which time the top strand was 42 inches above the ground. Photograph taken December 6, 2013.

In February 2014, a full fence patrol was conducted, revealing several problem areas, which were immediately addressed. This patrol also revealed the presence of three large-mammal live-traps, distributed along the north side of the property east of the river. The traps were dismantled and placed outside a nearby gate, which had been used to access the property to place the traps. The traps were picked up within a few days, no additional traps have been found on the property since.

Due to the dry conditions, livestock trespass was high throughout the late spring and early summer. Mr. Doug Bingham, the southern neighbor, offered permission for access through his corrals, to make fence repair and delivery of hay and water to the cattle trap more efficient. Mr. Bingham permitted the clearing of trees through his corrals to provide year-round access to the south fence of the preserve.

2015 Actions:

Wildfire Abatement. SRP will work with USBR on updating the fire management plan for this Preserve. The USBR has completed federal wildfire response agreements for all their lands, including the Annex parcel.

Monitoring. SRP is proposing to install additional piezometers at this location to monitor groundwater levels. Depth-to-groundwater 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.

Verde River

General Watershed Activities

SRP has been actively participating in the Verde Watershed Restoration Coalition, a citizen's group engaged in the implementation of a Comprehensive Invasive Plant Management Plan for the Verde River. SRP sits on the Steering Committee, the Planning & Implementation Subcommittee, and co-chairs the Research & Monitoring Subcommittee. SRP's participation with the group will continue in 2015.

SRP hosted a two-day Bioengineering Workshop that focused on erosion control post non-native eradication along the Verde River and its tributaries. The workshop consisted of two full days (April 16 and 17) and was presented by regional experts in the field of streambank erosion control: Chris Hoag, retired plant ecologist, Natural Resources Conservation Service Aberdeen Plant Materials Center, and Stephanie Yard, Mark Wirtanen, and Allen Haden, Natural Channel Design, Inc. The classroom portion of the workshop was held at the Cottonwood Recreation Center and the field practicum occurred at Oak Creek Estates along Spring Creek near the confluence with Oak Creek. Thirty-five people attended from the Verde Watershed Restoration Coalition, Friends of the Verde Greenway, Forest Service, Arizona State Parks, Vetraplex, Coconino Rural Environment Corps, Gila Watershed Partnership, Tamarisk Coalition, Walton Family Foundation, FWS, and AGFD.

SRP has been involved in initial discussions with the Town of Camp Verde (September 2013) regarding a pedestrian trail along the north bank of the Verde River from the Interstate 17 (I-17) Bridge downstream to Black Bridge. These discussions are likely to continue in earnest in the coming year as the Town of Camp Verde recently received a grant for \$50,000 from the Friends of the Verde River Greenway and a \$30,000 Rivers, Trails, and Conservation Assistance Grant from the National Parks Service to develop a River Recreation Master Plan.

e. 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 detected.

Additional stands of willows are becoming established on the downstream portion of the property, while existing stands along the River continue to persist and thrive along the entire length from the I-17 Bridge to the downstream extent of the property. Flycatchers were documented using these more robust stands along almost the entire length of the property in 2014 (see *Willow Flycatcher Detection map*, Camp Verde Riparian Preserve, 2014 Survey Report, Appendix D).

2014 Actions:

Bird Surveys. SRP staff conducted both flycatcher and cuckoo protocol-based surveys in 2014. Ten resident flycatchers were documented at 7 territories and 5 cuckoos were detected (see Section B *Monitoring Results* above).

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

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

- SRP was a corporate sponsor of the Verde River Runoff.
- SRP was a sponsor for and 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.

2015 Actions:

Trespass/Vandalism. SRP will continue to patrol the property and work with the community to minimize instances of malicious trespass and vandalism. SRP will setup a meeting with the Town Marshall and will continue to work with the Town of Camp Verde to address vehicle access issues under the I-17 Bridge on to SRP property.

Invasive Weed Control/Wildfire Abatement: Mowing adjacent to I-17 will be continued, as necessary, and the property will be patrolled regularly to identify and minimize fire hazards. SRP will continue to use a combination of mowing and herbicide application on the north (river left) terrace to minimize weed growth. This north terrace has become more overgrown over the last several years with tall, weedy invasives. SRP will work to reduce this weedy vegetation in the coming year.

Future Pedestrian Trail: SRP will continue to work with the Town of Camp Verde on their planning and implementation for a potential pedestrian path along the north bank of the Verde River from the I-17 Bridge downstream to Black Bridge.

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. SRP plans to participate again in the Verde River Runoff and Verde River Days. SRP will continue to participate in the invasive weed management planning efforts and other planning efforts that will assist in protecting the riparian ecosystem.

Upper Gila River

General Watershed Activities

SRP staff regularly attended the GWP meetings in 2014. In addition, SRP staff sit on the GWP Restoration Steering Committee and has been working closely with the GWP as they move forward on potential restoration projects. SRP has been coordinating with the GWP, Stillwater Sciences, and the 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 to arrive in the area in the next few years. SRP staff has given tours of the Fort Thomas Preserve to GWP staff, Walton Family Foundation staff, and researchers from Stillwater Sciences to discuss restoration efforts on the property. SRP has put in place a data sharing agreement with the GWP and the Stillwater Science team for the sharing of survey data, aerial photographs, baseline inventories, and management plans. SRP intends to continue participation with this group and focus on Walton Family Foundation funded restoration efforts in the watershed. This will entail taking part in meetings and working on committees, being actively involved in restoration decisions that might affect our lands and flycatcher populations in the area, and keeping abreast of what is going on with the tamarisk leaf beetle and with other restoration projects in the Safford Valley.

SRP staff attended the Upper Gila Watershed Riparian Restoration and Planning meeting hosted by the GWP on April 15, 2014. This meeting brought together Gila Watershed partners and the FWS to discuss permitting processes for conducting restoration on the Gila River in areas that may be currently occupied by flycatchers or adjacent to occupied flycatcher habitat. The beetle is expected to arrive on this stretch of the Gila River by the summer of 2016 and will likely impact flycatcher habitat in this area. The FWS suggested that the GWP pursue a 10a(1)(a) Recovery Permit for habitat enhancement activities, which includes removal of tamarisk that may be occupied by flycatchers and replacing it with native riparian tree plantings. SRP will continue to coordinate with the GWP and will stay involved in the riparian habitat restoration process that the group is pursuing.

In May and August 2014, SRP staff met with the Southwest Conservation Corp project manager, Justin Johnson, to discuss harvesting native vegetation (coyote willow [*Salix exigua*] poles) from the Fort Thomas Preserve agricultural return ditches and from neighboring irrigation ditches for use in the GWP native plant proration nursery. SRP staff will continue to work with Conservation Corp and GWP staff to facilitate native vegetation collection on the Fort Thomas Preserve as opportunity permits.

In July, SRP staff participated in a GWP Restoration Planning Meeting in Tucson. This day-long meeting included individuals from the GWP, FWS, Army Corps of Engineers, Northern Arizona University, Walton Family Foundation, Stillwater Sciences, SWCA Environmental Consultants, and the Tamarisk Coalition. The objective was to determine a definable path and timeline to move forward with restoration activities on the Gila River in the Safford Valley, as well as to assign specific tasks to individuals to reach the specified goals.

f. Fort Thomas Preserve, Gila River, Graham County

Habitat Conditions. Vegetation on this Preserve is comprised of a patchwork of dense tamarisk stands and mixed native and exotic riparian vegetation (Fremont cottonwood, Goodding's willow, coyote willow, tamarisk, and seep willow [*Baccharis salicifolia*]). Several large stands of Fremont cottonwood-Goodding's willow gallery forest occur on this Preserve, especially in the southern portion. Large patches of coyote willow occur along edges between dense vegetation and open riparian strand. Water in the agricultural runoff channels for the Fort Thomas Preserve ran intermittently and at various levels, depending on the irrigation regime in the adjacent fields west of the study areas. Water levels in the Gila River fluctuated throughout the year, running dry on the southern end of the preserves; while further downstream, flows were very low and steady earlier in the season and completely dependent on agricultural run-off, with increasing fluctuations in flows later in the season following rain events upstream of the Preserve.

Following the wildfire that burned unoccupied habitat at the Fort Thomas Preserve in 2011 (River 3 & 4 fires), SRP and the TNC began an experiment controlling re-sprouting tamarisk and native plantings. The experiment established four test plots utilizing several prescriptive treatments including tamarisk cutting, herbicide treatment, and native woody plant re-establishment. Despite early successes with all methods of tamarisk treatment, trees in the cut stump test plots are now re-sprouting vigorously and those in the basal-bark treatment plot show little or no adverse effects from the treatment.

Extensive leaf damage on tamarisk burned in the Clay fire (March 2013) was observed again this year. No sign of the tamarisk beetle has been found; the damage appears to be caused by weevils (Superfamily *Curculionoidea*) and leafhoppers (Family *Cicadellidae*). Damage is significant, often affecting whole trees as well as affecting large numbers of individual trees in the fire area (Figures 24 and 25). Tamarisk in adjacent, unburned areas show little or no such damage. Native vegetation in this area continues to rebound, with saltbushes (*Atriplex* spp.) and

Goodding's willows making a surprisingly strong showing, as well as *Datura* sp., *Helianthus* sp. and seep willow.



Figure 24. Tamarisk in Clay Fire area, showing fire and insect damage, and partial regrowth. Photograph take June 2014.



Figure 25. Regrowth following the Clay Fire. Saltbush and Goodding's willow are visible among the Tamarisk. Photograph taken August 13, 2014.

On January 30, 2014, it was discovered that, in the process of clearing a major irrigation return ditch on the Preserve, the neighboring farmer inadvertently cleared a portion of one of the restoration planting plots (Figures 26 and 27). The farmer was contacted, and after discussing both the farmers' needs regarding the ditch and SRP's needs and responsibilities regarding the surrounding habitat, it was agreed that there would be greater coordination among the farmers, SRP, and the TNC land management contractors for the control and clearing of weeds and brush along the ditch.



Figure 26. Clearing along a large irrigation return ditch. Photograph taken January 30, 2014.



Figure 27. Clearing work extending into FTP C, an area planted with saltbush and other 1-gal potted plants. Photograph taken January 30, 2014.

2014 Actions:

Fencing and Trespass Livestock. Fencing damaged by late 2013 monsoon flooding (Figure 28) was dismantled to allow farmers of the adjacent fields to rebuild their access roads. Road maintenance took longer than expected but now that it is complete fence repair and replacement has begun and should be completed by mid-November 2014.



Figure 28. Showing damage to fence caused by flooding and overflow from adjacent field. Photograph taken October 9, 2013.

Bird Surveys. SRP contracted with EcoPlan Associates Inc., to conduct protocol based surveys at Fort Thomas in 2014. Survey results are including above in Section B. *Monitoring Results* and in Appendix B, Fort Thomas Survey Results.

Fort Thomas Post-Fire Restoration Report. SRP initiated a review of the post-fire treatments that have occurred to date at the Fort Thomas Preserve following the February 2011, Rivers 3 & 4 fires and the March 2011 Hancock II fire. This report documents the tamarisk treatment activities and native plantings at the Fort Thomas Preserve from February 2011 to present. Included in the report are detailed descriptions of the tamarisk treatment actions and the subsequent results, as well as the location and species lists for all native plant plantings and the success of those plantings. Also included is a lessons learned section detailing what has worked and what has not worked in regard to these post fire activities, as well as recommendations for future restoration activities.

Tamarisk Treatment Test Plot Monitoring. In the winter of 2012, final applications of herbicide were applied to the test plots. All plots were monitored for re-sprout through 2014. Of the three tamarisk herbicide treatments used (cut-stump, cut-stub, and basal bark), the cut-stub method seems to be the most effective. Despite several retreatments, the cut-stump individuals continue to re-sprout vigorously. The basal bark individuals (which received several rounds of retreatment) have all either re-leafed from older growth or re-sprouted from the base, or both. While the cut-stub individuals show some re-sprout, on the whole, the treatment appears to have killed the most individual tamarisk plants.

Native Planting Test Plot Monitoring. Seeded areas have returned mixed results. Some areas have experienced little if any success from the seed mix, while other areas (planted on the same schedule) are becoming crowded with saltbush, which has shown the greatest success of all seed mix species.

2015 Actions:

SRP plans to conduct the following management actions in 2015 on the Fort Thomas Preserve:

- Finalize the fire management plan after USBR review.
- Continue to monitor both the tamarisk and native planting test plots, documenting the results of both activities.
- Finalize the Fort Thomas Post-Fire Restoration report.
- Continue to coordinate with Bureau of Land Management regarding fencing of the riparian area.
- Continue on-the-ground management activities.
- Continue to actively participate in the GWP and work closely with the Stillwater Sciences and Walton Family Foundation staff on potential restoration projects.

g. Created Wetlands, Arlington Wildlife Area

Habitat Conditions: This is the sixth 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 (*Typha* sp.), with only a little giant bulrush (*Schoenoplectus californicus*) and sedges (Family *Cyperaceae*) growing primarily along the east margin of the cell (Figure 29).



Figure 29. Arlington Wetlands, looking southeast across the SRP cell. Photograph taken October 28, 2014.

2014 Actions:

Surveys: No marshbird surveys were conducted by SRP staff in 2014. A site visit conducted on April 3, 2014, documented an unsolicited clapper rail “kekking” in the northwest cell.

Operations: Over the past several years, SRP has initiated a number of activities to improve water supply reliability and decrease the number of man hours required to operate the groundwater well pump-motor.

SRP has installed a new control panel (Figure 30) on the motor that will start and stop the motor on a pre-programmed schedule and added fuel storage capacity (Figure 31)—reducing the number of personnel visits and maintaining more consistent water levels. SRP staff completed the Arlington Wildlife Management Area, Well Motor and Pump Operations Plan. This Plan includes information on the equipment upgrades that have recently been completed, the results of SRP's flow testing, and most importantly, the operations plan for the wetlands. This operations plan includes the pump run-time schedule as well as the updated re-fueling schedule.



Figure 30. Arlington Wetland. New control panel on the well pump. Photograph taken October 28, 2014.



Figure 31. Fuel tanks for the Arlington Wetland well pump, showing increased fuel capacity. Photograph taken October 28, 2014.

As in previous reports a variety of maintenance activities occurred on the Wildlife Area in 2014 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 tamarisk was 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 small mammal holes was also averted or repaired.

2015 Actions:

A contractor will be hired to conduct routine motor maintenance throughout the year. Continued management and maintenance activities as needed to be completed by AGFD.

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

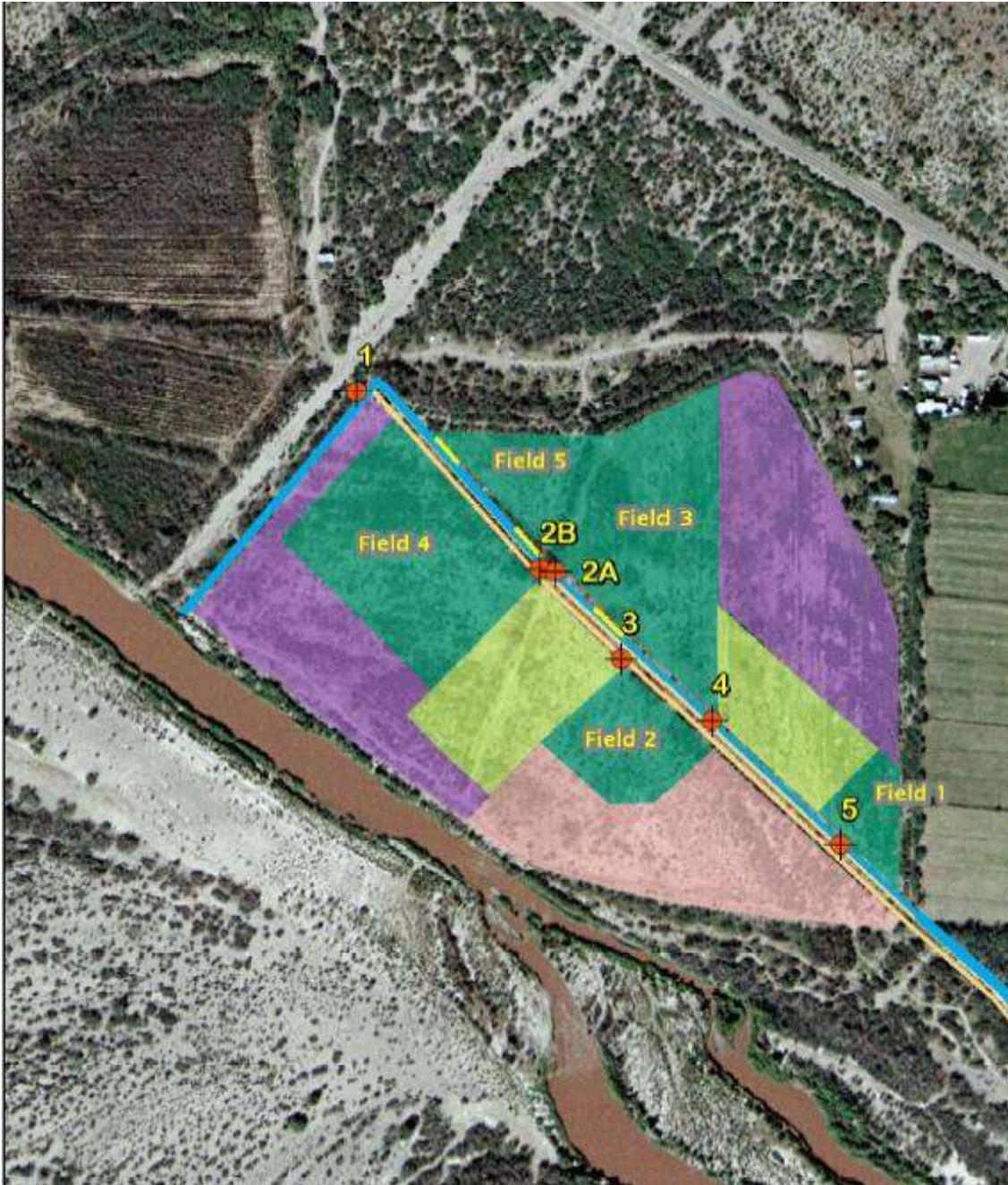
- Halterman, M., M. Johnson and J. Holmes. 2009. Draft western yellow-billed cuckoo natural history summary and survey methodology. Southern Sierra Research Station and Colorado Plateau Research Station, Weldon, California and Flagstaff, Arizona.
- Salt River Project. 2002. Roosevelt Habitat Conservation 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. Cowbird Management Plan.
- 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, 2012. Unpublished data. Arizona Game and Fish Department, Phoenix, AZ.
- Southwest Bald Eagle Management Committee, 2013. Unpublished data. Arizona Game and Fish Department, Phoenix, AZ.
- Southwest Bald Eagle Management Committee, 2014. 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.

APPENDIX A

PHOTO POINTS OF CONSERVATION PROPERTIES UPDATED 2014

PHOTO POINT MONITORING RESULTS
ROCKHOUSE DEMONSTRATION SITE

Photo Point Locations
Rockhouse Demonstration Site



Rockhouse Photo Point Record
Photo Point 1- View 1



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 1- View 2



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 1- View 3



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 1- View 4



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 1



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 2



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 3



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 4



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 5



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 6



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2A- View 7



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2B- View 1



October 13, 2005



August 25, 2014

Rockhouse Photo Point Record
Photo Point 2B- View 2



October 13, 2005



August 25, 2014

Rockhouse Photo Point Record
Photo Point 3- View 1



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 3- View 2



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 3- View 3



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 1



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 2



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 3



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 4



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 5



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 4- View 6



October 13, 2005



August 25, 2014

Rockhouse Photo Point Record
Photo Point 5- View 1



May 3, 2004



August 25, 2014

Rockhouse Photo Point Record
Photo Point 5- View 2



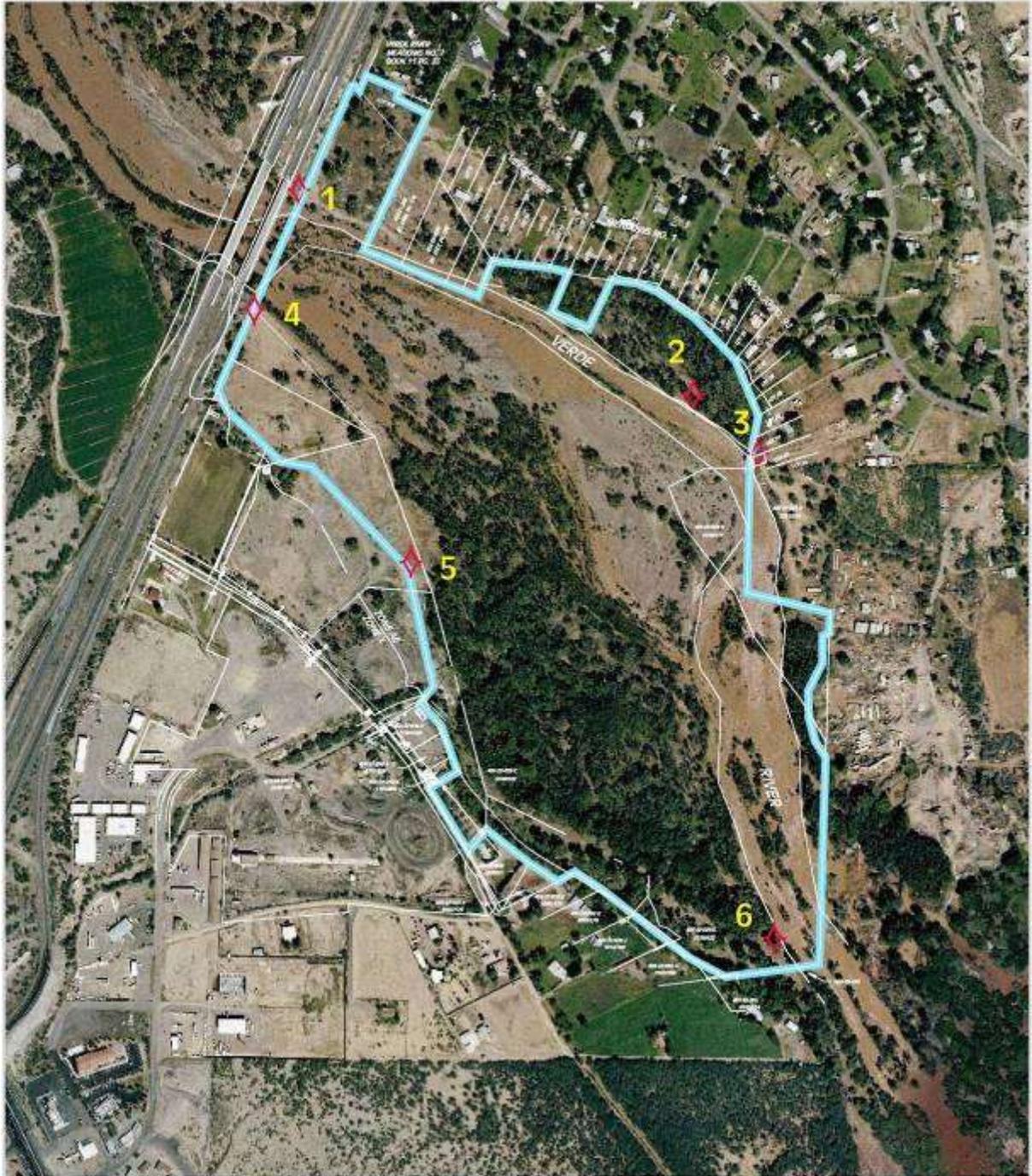
May 3, 2004



August 25, 2014

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

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005

NO PHOTO POINT TAKEN IN 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



June 7, 2005



October 15, 2014

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



August 10, 2007 (photo point was moved from 2005 location)



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

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



August 25, 2005



October 15, 2014

APPENDIX B

SOUTHWESTERN WILLOW FLYCATCHER AND WESTERN YELLOW-BILLED CUCKOO SURVEYS FORT THOMAS PRESERVE, 2014 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.

This page intentionally left blank.

APPENDIX C

SOUTHWESTERN WILLOW FLYCATCHER AND YELLOW-BILLED CUCKOO SURVEYS AT THE ROCKHOUSE DEMONSTRATION SITE 2014 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.

This page intentionally left blank.

APPENDIX D

SOUTHWESTERN WILLOW FLYCATCHER AND YELLOW-BILLED CUCKOO SURVEYS AT THE CAMP VERDE RIPARIAN PRESERVE 2014 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.

This page intentionally left blank.

APPENDIX E

**AERIAL PHOTOGRAPHS OF
MITIGATION PROPERTIES**

This page intentionally left blank.

ADOBE PRESERVE, SAN PEDRO RIVER, PINAL COUNTY, AZ

153 ACRES



Aerial Photograph taken May 2013

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 Photograph taken May 2013

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

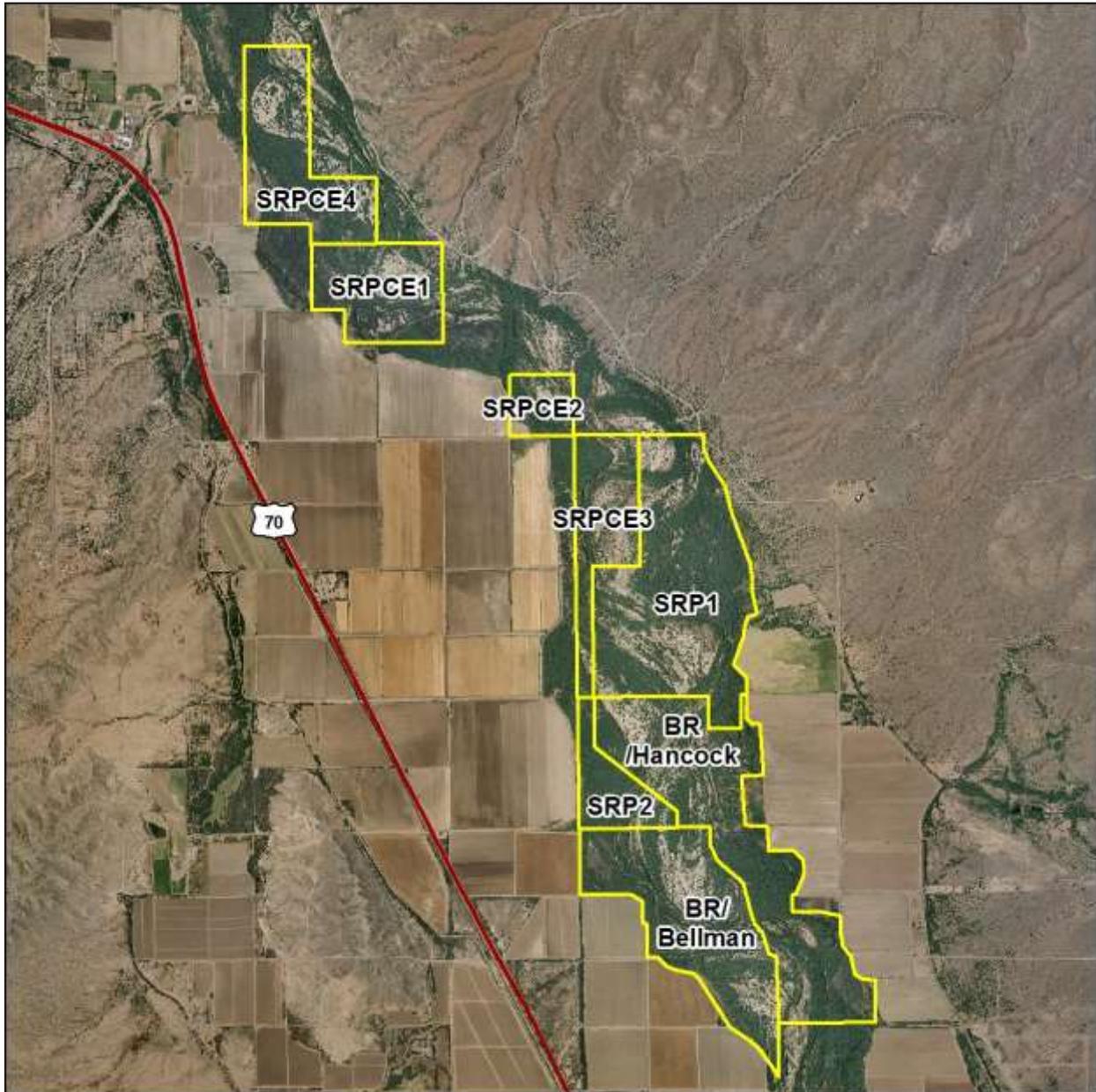


2013 NAIP aerial imagery

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

FORT THOMAS PRESERVE GILA RIVER, GRAHAM COUNTY, AZ

1,054 ACRES



Aerial Photograph taken June 2011

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

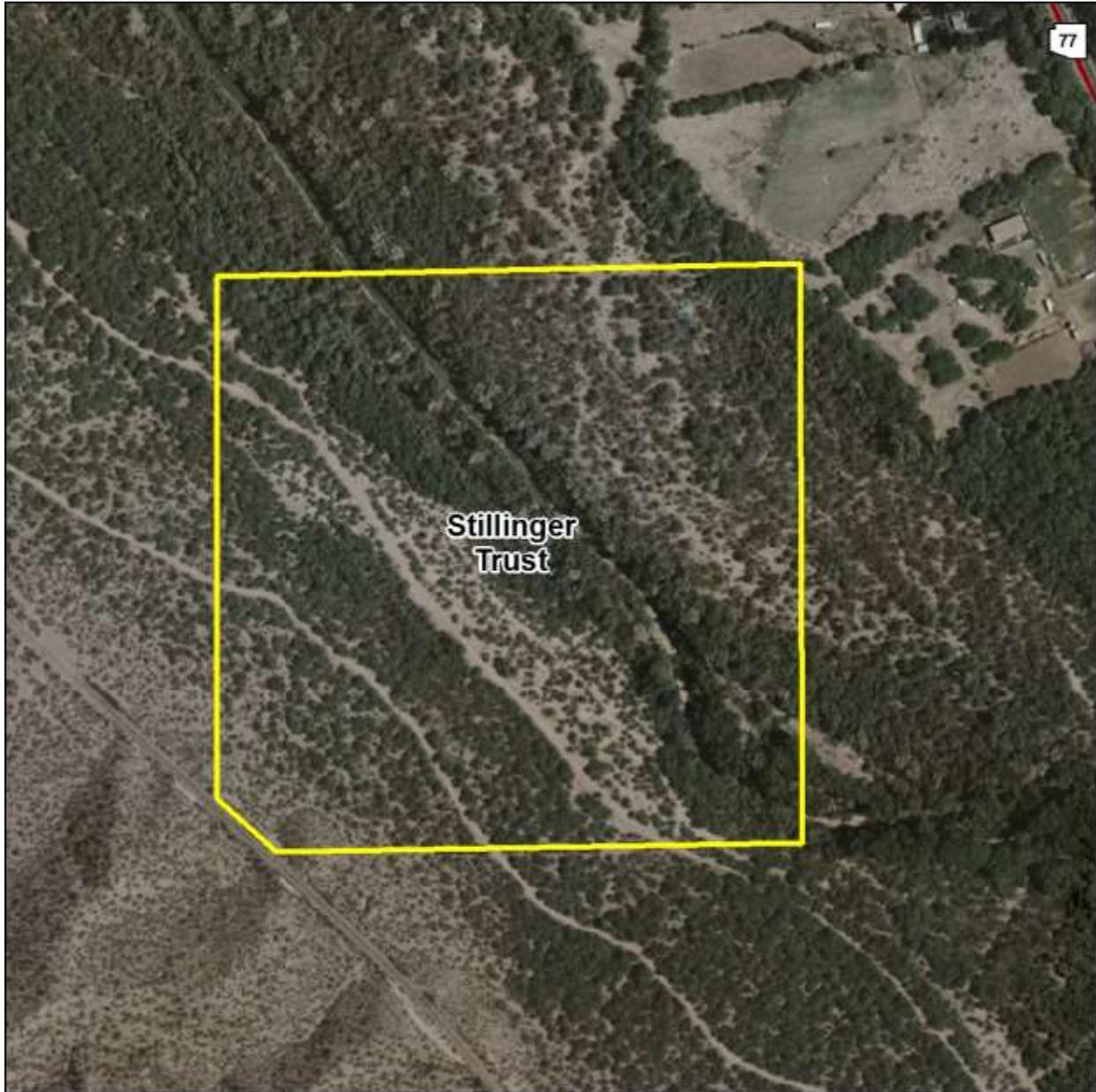


Aerial Photograph taken May 2013

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 Photograph taken May 2013

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

APPENDIX F

MANAGEMENT ACTIVITY IMPLEMENTATION MATRICES

This page intentionally left blank.

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, Use, and Monitoring:			
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	Completed	January 2011	SRP
Monitor piezometers and stream flow	Ongoing	Monthly	SRP Contractor
Cowbird Management:			
Apply nest searching protocol concurrently with flycatcher surveys	On-going	On-going	SRP Env. Svc., Cooperators
Livestock grazing and recreational disturbance:			
Minimize human, vehicular, and livestock trespass	On-going	On-going	SRP Contractor
Install signage to deter human and vehicular trespass	On-going	As needed	SRP Env. Svc.
Remove all 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., SRP Contractor
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP Contractor

ADOBE PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Make initial contact & maintain coordination with wildfire response agencies, update local contact information	Pending	April 2015	SRP Env. Svc., SRP Contractor
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.
Fencing:			
Conduct regular fence patrol to check for breaches; Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP Contractor
Maintain and repair existing fences and gates	On-going	As needed	SRP Contractor
On-Site Management:			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP Contractor
Conduct general maintenance	On-going	As needed	SRP Contractor
Invasive Plant Control:			
Survey the property to determine presence and extent of invasive elements	Completed	October 2008	SRP Env. Svc., SRP Contractor
Develop plan to minimize or eliminate problem species	In process	See "Restoration of upland fields"	SRP Env. Svc., SRP Contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	SRP Env. Svc., SRP Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc., SRP Contractor

ADOBE PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Continue coordination with Lower San Pedro Working Group	On-going	On-going	SRP Env. Svc., SRP Contractor
Restoration of Upland Fields:			
Develop a shrub and grasses restoration plan for the upland fields at Adobe	In Process	Spring 2015	SRP Env. Svc.
Facilities Management:			
Implement actions for domestic well	On hold	TBD	SRP Env. Svc., SRP Contractor

BLACK FARM 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, Use, and Monitoring:			
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 Env. Svc.
Install piezometers	Completed	January 2011	SRP Env. Svc.
Monitor piezometers and stream flow	Ongoing	Monthly	SRP Contractor
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies	Completed	October 2004	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
Make initial contact & maintain coordination with wildfire response agencies, update local contact information	Pending	April 2015	SRP Env. Svc., SRP Contractor
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.
On-Site Management:			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Patrol property and fence lines	On-going	Weekly, on average	SRP Contractor
Conduct general maintenance	On-going	As needed	SRP Contractor

BLACK FARM PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Invasive Plant Control:			
Conduct mechanical removal of weeds from agricultural fields seeded with native grasses	On-going	As needed	SRP Env. Svc., SRP Groundwater, SRP Contractor
Community Support:			
Coordinate activities with adjacent landowners	On-going	On-going	SRP Env. Svc. SRP Contractor
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

SPIRIT HOLLOW PRESERVE–Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Baseline Inventory and Management Plan:			
Baseline Inventory–added new property	Completed	Spring 2013	SRP Env. Svc.
Management Plan–add new property	In-process	Spring 2015	SRP Env. Svc.
Water Monitoring:			
Install piezometers	Completed	January 2011	SRP
Monitor piezometers	On-going	Monthly	SRP Contractor
Cowbird Management:			
Apply nest searching protocol concurrently with flycatcher surveys	On-going	On-going	SRP Env. Svc., Cooperators
Livestock grazing and recreational disturbance:			
Minimize human, vehicular, and livestock trespass	On-going	On-going	SRP Contractor
Install signage to deter human and vehicular trespass	On-going	As needed	SRP Contractor
Remove all 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., SRP 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 with wildfire response agencies, update local contact information	Pending	April 2015	SRP Env. Svc., SRP Contractor

SPIRIT HOLLOW PRESERVE (cont'd)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Update fire plan to include USBR lands and protocols	In-process	October 2015	SRP Env. Svc., USBR
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.
Fencing:			
Conduct regular fence patrol to check for breaches; Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP Contractor
Maintain and repair existing fences and gates	On-going	As needed	SRP Contractor
On-Site Management:			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP Contractor
Conduct general maintenance	On-going	As needed	SRP Contractor
Invasive Plant Control:			
Survey the property to determine presence and extent of invasive elements	Completed	September 2008	SRP Env. Svc., SRP Contractor
Conservation Easement:			
Complete conservation easement	Completed	October 2006	SRP Env. Svc.
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc., SRP Contractor
Continue coordination with Lower San Pedro Working Group	On-going	On-going	SRP Env. Svc., SRP Contractor

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.
Water Monitoring:			
Install piezometers	Completed	January 2011	SRP
Monitor piezometers	On-going	Monthly	SRP Contractor
Cowbird Management:			
Apply nest searching protocol concurrently with flycatcher surveys	On-going	On-going	SRP Env. Svc., Cooperators
Livestock grazing and recreational disturbance:			
Minimize human, vehicular, and livestock trespass	On-going	On-going	SRP Contractor
Install signage to deter human and vehicular trespass	On-going	As needed	SRP Contractor
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., SRP Contractors
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	SRP Contractor

STILLINGER PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Make initial contact and maintain close coordination with wildfire response agencies, update local contact information	Pending	April 2015	SRP Env. Svc., SRP Contractor
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.
Fencing:			
Conduct regular fence patrol to check for breaches; Inspect fence line after every flood event.	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.	Completed	May 2011	SRP Contractor
On-Site Management:			
Hire a property maintenance technician	Completed		SRP Env. Svc.
Maintain and repair existing fences and roads	On-going	As needed	SRP Contractor
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		SRP Env. Svc., SRP Contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	SRP Env. Svc., SRP Land

STILLINGER PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc., SRP Contractor
Continue coordination with Lower San Pedro Working Group	On-going	On-going	SRP Env. Svc., SRP Contractor

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 concurrently with flycatcher surveys	On-going	On-going	SRP Env. Svc.
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., SRP 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	Pending	April 2015	SRP Env. Svc., SRP Contractor
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.
Mow vegetation to create fire break along I-17 boundary	On-going	After each winter and monsoon rainy season, as needed	SRP Contractor

CAMP VERDE RIPARIAN PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Boundary Issues / Fencing:			
Conduct regular fence patrol to check for breaches; Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP Contractor
Maintain and repair existing fences and gates	On-going	As needed	SRP Contractor
Install wildlife friendly barbed wire fencing along the southern boundary of property	Completed	December 2004	Contractor
Install signage at I-17 bridge and along fence lines	Completed	July 2005	SRP Env. Svc.
Install 'no hunting' signs	Completed	October 2011	SRP Env. Svc.
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., SRP contractors
Conduct general maintenance	On-going	As needed	SRP Env. Svc., SRP Contractors
Invasive Plant Control:			
Map invasive woody plants of concern	In-process	Spring 2015	SRP Env. Svc., Contractor
Conservation Easement:			
Locate an entity to hold the conservation easement	On hold	TBD	SRP Env. Svc., SRP Land

CAMP VERDE RIPARIAN PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc.
Verde River Planning with TNC, ASPB, FVG, USFS, and others*	On-going	On-going	SRP Env. Svc.
Support Verde Watershed Restoration Coalition	On-going	On-going	SRP Env. Svc.

*TNC – The Nature Conservancy, ASPB – Arizona State Parks Board, FVG – Friends of the Verde Greenway, USFS – US Forest Service

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
Apply nest searching protocol concurrently with flycatcher surveys	On-going	On-going	SRP Env. Svc., Cooperators
Livestock grazing and recreational disturbance:			
Minimize human, vehicular, and livestock trespass	On-going	On-going	SRP Contractor
Install signage to deter human and vehicular trespass	Completed	September 2008	SRP Contractor
Wildfire Abatement:			
Develop a fire management plan in coordination with fire management agencies and USBR	On-going	October 2015	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	Pending	April 2015	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.
Familiarize SRP employees with protocols	On-going	As needed	SRP Env. Svc.

FORT THOMAS PRESERVE (cont'd.)

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Post-fire restoration plan development and implementation	Initiated	Spring 2015	SRP Env. Svc.
Boundary Issues / Fencing:			
Conduct regular fence patrol to check for breaches; Inspect fence line after every flood event.	On-going	Conducted weekly, on average	SRP Contractor
Evaluate the property to determine fencing, signage and access needs	Completed	June 2007	SRP
Install fencing, signage on Hancock, Bellman boundary	Completed	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 Contractor
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	SRP Env. Svc., SRP Land
Community Support:			
Contact neighbors, maintain working relationships	On-going	On-going	SRP Env. Svc.
Continue coordination with Gila Watershed Partnership	On-going	On-going	SRP Env. Svc., SRP Contractor

ARLINGTON WILDLIFE AREA-Management Activity Implementation Matrix

MANAGEMENT ACTIONS	STATUS	TARGET DATE	DEPARTMENT
Operations:			
Operations Plan	Completed	February 2014	SRP Env. Svc.
Diesel motor maintenance	On-going		SRP Contractor
Diesel motor upgrades	Completed	Fall 2013	SRP Contractor
Wildfire Abatement:			
Patrol site regularly to identify and eliminate potential fire hazards; clearing, mowing, etc.	On-going	Conducted weekly, on average	AGFD
On-Site Management:			
Hire a property maintenance technician	Completed	March 2007	AGFD
Annual coordination and budget meeting	On-going	Annually	AGFD, SRP Env. Svc.
Maintain and repair existing roads	On-going	As needed	AGFD
Conduct general maintenance	On-going	As needed	AGFD