2011 RANID SURVEY OF THE ROSEMONT HOLDINGS AND VICINITY

Prepared for: Rosemont Copper Company
Prepared by: WestLand Resources, Inc.
Date: December 23, 2011
Project No.: 1049.23 A 300

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Rosemont Copper Company is having delivered by courier, the following materials in hard copy format as were previously submitted electronically. One (1) hard copy of each is being delivered to both the Forest Service and SWCA.

- *2011 Ranid Survey of the Rosemont Holdings and Vicinity* dated December 23, 2011 by WestLand Resources, Inc. Three (3) hardcopies and one (1) cd to FS and two (2) hardcopies and one (1) cd to SWCA.

Please do not hesitate to contact me should you require anything further.
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1. INTRODUCTION AND BACKGROUND

Rosemont Copper Company (Rosemont) proposes to develop an open-pit copper mine with associated processing facilities and waste disposal sites within the Rosemont Holdings, which encompass patented and unpatented claims and fee lands within privately owned, USDA Forest Service (Forest), and Bureau of Land Management (BLM) lands on the northeast side of the Santa Rita Mountains (Figure 1). Rosemont has authorized WestLand Resources, Inc. (WestLand) to conduct a variety of baseline biological studies within the Rosemont Holdings. As part of the baseline biological studies, WestLand has conducted surveys of the Rosemont Holdings and their vicinity for ranids, particularly the Chiricahua leopard frog (Rana [Lithobates] chiricahuensis), which is listed by the U.S. Fish and Wildlife Service (USFWS) as threatened under the Endangered Species Act (ESA), and the lowland leopard frog (Rana [Lithobates] yavapaiensis), which is considered a sensitive species by the Forest and the BLM.

Reconnaissance was conducted during the 2006 survey season, and reconnaissance and USFWS-recommended-protocol-level ranid surveys were conducted during the 2008, 2009, 2010 and 2011 survey seasons. The objective of the 2011 survey effort was to determine whether ranids were present in the Rosemont Holdings, its vicinity, and areas downstream from the Rosemont Holdings (along Davidson, North, and Oak Tree Canyons).

This report documents the findings of WestLand’s 2011 ranid survey efforts in the Rosemont Holdings and vicinity and is presented in five sections:

**Section 1. Introduction and Background.** This section briefly describes the ranid surveys previously conducted in the Rosemont vicinity and identifies the report purpose and organization.

**Section 2. Survey Methods.** This section identifies the methods used to search for surface water and survey for ranids.

**Section 3. Survey Results.** This section identifies the dates that each feature was surveyed in 2011, provides a brief description of each feature visited and/or surveyed in 2011, identifies the findings of the ranid survey, and describes the observations that were made at each feature that was visited and/or surveyed.

**Section 4. Discussion.** This section provides an overview of the previous ranid survey findings in the Rosemont Holdings and surrounding areas, discusses the potential effects of monsoon rainfall on the dispersal of Chiricahua leopard frogs in the Rosemont vicinity, and describes the distribution of ranids in the northeastern Santa Rita Mountain Range.

**Section 5. References Cited.** This section provides a list of the references that were cited in the report.
2. **SURVEY METHODS**

2.1. **IDENTIFICATION OF SURVEY FOCUS AREAS**

In 2011 WestLand focused ranid survey efforts within those areas that had supported surface water during previous efforts (*Figure 2*). WestLand also searched for surface water along Davidson Canyon, Oak Tree Canyon, and North Canyon downstream from the Rosemont Holdings to Cienega Creek. Features with the potential to support surface water were visited to determine whether surface water was present. If surface water was present, surveys for ranids were conducted.

2.2. **SURVEY PROTOCOL**

2.2.1. **Visual Encounter Survey Method**

Surveys were conducted from April 11 to May 23, August 15 to September 18, and on November 4, 2011, and were completed under U.S. Fish & Wildlife Service (USFWS) Permit No. TE-834782-0 and Arizona Game & Fish Department (AGFD) Scientific Collecting License No. SP596216 using ranid survey protocols developed by the AGFD and recommended by the USFWS. At each survey site supporting surface water for each visit, a Chiricahua Leopard Frog Visual Encounter Survey Form was completed to document the survey findings in accordance with the USFWS-recommended survey protocol. For safety reasons, the majority of surveys were conducted diurnally. However, a limited number of nocturnal surveys were conducted in areas with some probability of ranid occupancy, especially if diurnal surveys failed to detect ranids in areas where they were expected. Sites supporting surface water were surveyed twice when possible. Some dry sites were revisited after precipitation events to ensure that adequate survey coverage was provided when sites supported surface water.

Surveys of lentic systems included thoroughly scanning the perimeter of the water body with binoculars and listening for frog vocalization prior to approaching the surface water feature. The perimeter of the surface water feature was then traversed on foot while slowly looking for frogs, tadpoles, and egg masses and listening for audible “plops” as frogs retreat into the water. Special attention was given to sites where frogs might find cover, including vegetation, rocks, and downed branches. A dip net was used as appropriate to search for the presence of amphibian larvae, fish, and aquatic insects and to capture frogs to confirm identification.

Surveys of lotic systems included moving upstream from a starting point and searching banks, surrounding vegetation, and water for a minimum of 0.25 mile (400 m) along the stream channel. Special attention was given to sites where frogs might find cover, including vegetation, rocks, and downed branches. A dip net was used within suitable habitats to search for the presence of amphibian larvae, fish, and aquatic insects and to capture frogs to confirm identification.

During these surveys, observations of potential predators were recorded, including predatory aquatic insects, other amphibians, garter snakes, predatory mammals, and wading birds. The search also focused on invasive exotic predators or competitors, including bullfrogs, crayfish, and introduced sport fish.
2.2.2. Call Playback Search Method

A CD playback system was used to locate or elicit responses from frogs when frogs were observed but could not be captured. Chiricahua leopard frog calls were recorded from a master CD provided by the AGFD at the 2005 Chiricahua Leopard Frog Certification Workshop (taken from Davidson [1996]) and calls were recorded over for continual calling. Calls were played onsite with a handheld CD player or wildlife caller for 1 minute followed by a 2- to 5-minute listening period. This method was used until frogs were identified based on their response to the recorded leopard frog call.

2.2.3. Disease Prevention

Chytridiomycosis, an amphibian skin disease caused by the chytrid fungus, is known to infect at least nine species of amphibians in Arizona, including the Chiricahua leopard frog and the lowland leopard frog. In order to prevent the spread of chytrid fungus, appropriate measures generally following the Declining Amphibians Population Task Force Field Work Code of Practice (dated 2002) were taken. Quaternary ammonia, following label instruction for dilution, was used to sterilize surveyor shoes and all equipment used at each site before and after each survey.
3. SURVEY RESULTS

3.1. DESCRIPTION OF 2011 SURVEY AREAS

During the 2011 ranid survey effort, WestLand biologists surveyed 62 features in the vicinity of the Rosemont Holdings and along Davidson Canyon, North Canyon, Oak Tree Canyon, Empire Gulch, Box Canyon, Mulberry Canyon, and north and south Sycamore Canyons. In search of surface water, Westland biologists visited approximately 40 miles (64 km) of ephemeral and intermittent stream channels. No perennial streams occur in the 2011 survey area. Survey dates and brief descriptions of the features visited or surveyed (if surface water was present) during the 2011 ranid survey efforts are provided in Table 1.

Table 1. Features Surveyed – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.

Feature locations are depicted in Figure 2. The proposed project footprint referenced in this table is the currently recognized preferred alternative for the project (Barrel Only Alternative).

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Dates of Site Visit and/or Survey and Description of Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>4066 Tank</td>
<td>525521</td>
<td>3518660</td>
</tr>
<tr>
<td>Waterer at 4066 Tank</td>
<td>525506</td>
<td>3518733</td>
</tr>
<tr>
<td>Adobe Tank</td>
<td>527862</td>
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<td>Andrada Tank</td>
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<tr>
<td>Big Pond</td>
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<td>3524243</td>
</tr>
<tr>
<td>Blacktail Tank</td>
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<td>3528579</td>
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<tr>
<td>Feature Name</td>
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<td>Dates of Site Visit and/or Survey and Description of Feature</td>
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<td>-------------------------</td>
<td>----------------------------------------------------------</td>
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<tr>
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<td>Bowman Tank</td>
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<td>Box Canyon Tank 1</td>
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<tr>
<td>Box Canyon Tank 2</td>
<td>521981</td>
<td>3518152</td>
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<td>Box Canyon Tank</td>
<td>521063</td>
<td>3518146</td>
</tr>
<tr>
<td>Box Canyon (Lower Reach) Containing Pools</td>
<td>519164</td>
<td>3518196</td>
</tr>
<tr>
<td>Box Canyon (Upper Reach) Containing Box Canyon Dam</td>
<td>521002</td>
<td>3518099</td>
</tr>
<tr>
<td>California Gulch Tank East</td>
<td>523290</td>
<td>3516852</td>
</tr>
<tr>
<td>California Gulch Tank West</td>
<td>522711</td>
<td>3516861</td>
</tr>
<tr>
<td>Cemetery Tank</td>
<td>430974</td>
<td>3528470</td>
</tr>
<tr>
<td>Davidson Canyon Tank at Diversion Dam</td>
<td>533069</td>
<td>3536974</td>
</tr>
</tbody>
</table>
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<td>Easting</td>
<td>Northing</td>
</tr>
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<td></td>
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<tr>
<td>Davidson Canyon (Lower Reach)</td>
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<td>Deering Spring and Tanks</td>
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<td>3519260</td>
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<td>East Dam</td>
<td>527343</td>
<td>3522747</td>
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<tr>
<td>East Dam Outfall</td>
<td>527322</td>
<td>3522860</td>
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<td>Fig Tree Spring</td>
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<td>3525012</td>
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<tr>
<td>Granite Mountain Tank</td>
<td>522717</td>
<td>3513980</td>
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<tr>
<td>Granite Tank</td>
<td>521117</td>
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<tr>
<td>Lower Granite Mtn. Tank</td>
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<td>Greaterville Tank</td>
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<td>522779</td>
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<tr>
<td>North Greaterville Tank</td>
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<td>3515592</td>
</tr>
<tr>
<td>Gunsight Tank</td>
<td>523271</td>
<td>3523299</td>
</tr>
<tr>
<td>Highway Tank</td>
<td>527594</td>
<td>3519158</td>
</tr>
<tr>
<td>Lower Stock Tank</td>
<td>523166</td>
<td>523171</td>
</tr>
<tr>
<td>Old Mining Leach Tank (formerly referred to as Lower Stock Tank Waterer)</td>
<td>523249</td>
<td>3522139</td>
</tr>
<tr>
<td>McCleary Canyon; including Stock Tank and McCleary Dam</td>
<td>523745</td>
<td>525548</td>
</tr>
<tr>
<td>McCleary Stock Tank</td>
<td>523451</td>
<td>3523593</td>
</tr>
<tr>
<td>Mulberry Canyon; including Mulberry Spring, Crucero Spring, and Lower Mulberry Spring</td>
<td>528266</td>
<td>527237</td>
</tr>
</tbody>
</table>
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<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>North Basin Tank</td>
<td>524743</td>
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<td>North Canyon</td>
<td>527433</td>
<td>3520422</td>
</tr>
<tr>
<td>North Canyon Guzzler</td>
<td>532242</td>
<td>3529854</td>
</tr>
<tr>
<td>Oak Tree Canyon</td>
<td>538534</td>
<td>3520920</td>
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<tr>
<td>Oak Tree Canyon Tank</td>
<td>526904</td>
<td>3519365</td>
</tr>
<tr>
<td>Unnamed tank at head of Oak Tree Canyon</td>
<td>525430</td>
<td>3519442</td>
</tr>
<tr>
<td>Oak Tree Trough at Windmill</td>
<td>529885</td>
<td>3518746</td>
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<tr>
<td>Well in Ophir Gulch</td>
<td>522909</td>
<td>3514041</td>
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<tr>
<td>Papago Canyon</td>
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<td>Papago Springs</td>
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<td>Questa Spring</td>
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<td>Rosemont Crest Tank</td>
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<tr>
<td>Rosemont Spring</td>
<td>524864</td>
<td>3521381</td>
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<tr>
<td>Scholefield Spring</td>
<td>526505</td>
<td>3525222</td>
</tr>
<tr>
<td>Scholefield Canyon–Unnamed Spring</td>
<td>525584</td>
<td>3525629</td>
</tr>
<tr>
<td>South Lower “Stock Tank”</td>
<td>523082</td>
<td>3522112</td>
</tr>
<tr>
<td>South Sycamore Canyon</td>
<td>521993</td>
<td>3518882</td>
</tr>
<tr>
<td>South Sycamore Canyon-Unnamed Spring</td>
<td>526504</td>
<td>3525655</td>
</tr>
<tr>
<td>South Upper Stock Tank</td>
<td>522985</td>
<td>3522138</td>
</tr>
<tr>
<td>Sycamore Spring</td>
<td>522521</td>
<td>3527566</td>
</tr>
</tbody>
</table>
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<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>Thurber Tank 1</td>
<td>525946</td>
<td>3517062</td>
</tr>
<tr>
<td>Thurber Tank 2</td>
<td>525852</td>
<td>3517030</td>
</tr>
<tr>
<td>Thurber Tank 3</td>
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<td>3518121</td>
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<tr>
<td>Upper Stock Tank</td>
<td>523061</td>
<td>3522167</td>
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<td></td>
<td>523084</td>
<td>3522151</td>
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<tr>
<td>Unnamed Tank 1</td>
<td>529259</td>
<td>3529409</td>
</tr>
<tr>
<td>Unnamed Tank 2</td>
<td>531485</td>
<td>3530705</td>
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</table>

3.2. 2011 Ranid Survey Findings from the Rosemont Holdings and Vicinity

No ranids were noted within the proposed Rosemont Project footprint or the Rosemont Holdings during the 2011 survey efforts. Chiricahua leopard frogs were noted by WestLand biologists in the Greaterville area at California Gulch Tank East (approximately 0.5 miles [0.8 km] south-southeast of the Rosemont Holdings), California Gulch Tank West (approximately 1 mile [1.6 km] south-southeast of the Rosemont Holdings), Bowman Tank (approximately 1.0 mile [1.6 km] south of the Rosemont Holdings), Greaterville Tank (approximately 2.5 miles [4 km] south of the Rosemont Holdings), North Greaterville Tank (approximately 2 miles [3.2 km] south of the Rosemont Holdings, the well in Ophir Gulch and Granite Tank (approximately 3 miles [5.5 km] south of the Rosemont Holdings, and along Box Canyon and its associated tanks (approximately 1.5 miles southeast of Rosemont Holdings). No lowland leopard frogs were observed by WestLand within the survey area in 2011.

WestLand’s 2011 Ranid survey findings and other notable observations are described in Table 2.
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.
Copies of the Chiricahua Leopard Frog Visual Encounter Survey Form for each survey are included in Appendix B.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>4066 Tank</td>
<td>525521</td>
<td>3518660</td>
</tr>
<tr>
<td>Waterer at 4066 Tank</td>
<td>525503</td>
<td>3518730</td>
</tr>
<tr>
<td>Adobe Tank</td>
<td>527862</td>
<td>3521479</td>
</tr>
<tr>
<td>Andrada Tank</td>
<td>531902</td>
<td>3519444</td>
</tr>
<tr>
<td>Barrel Spring</td>
<td>530144</td>
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</tr>
<tr>
<td>Barrel Tank</td>
<td>524774</td>
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<td>Big Pond</td>
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<td>Blacktail Tank</td>
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<td>3528579</td>
</tr>
<tr>
<td>Bowman Tank</td>
<td>524574</td>
<td>3516390</td>
</tr>
</tbody>
</table>
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Copies of the Chiricahua Leopard Frog Visual Encounter Survey Form for each survey are included in Appendix B.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box Canyon Tank No. 1</td>
<td>521594 3518143</td>
<td>A concrete stock tank with a surface area of about 1.5 m by 5 m with some submerged algae and moss and a canopy of oak and batamote. No riparian herpetofauna observed. (Appendix A, Photos 20-21)</td>
</tr>
<tr>
<td>Box Canyon Tank No. 2</td>
<td>521981 3518152</td>
<td>Tank supporting a surface area of about 1.5 m by 5 m. On August 23 at 1530 hours a single Chiricahua leopard frog was observed in this tank. This frog was still present when the site was revisited on the night of September 5. (Appendix A, Photos 22-23)</td>
</tr>
<tr>
<td>Box Canyon Tank</td>
<td>521063 3518144</td>
<td>This simple metal spring box has a water surface area of approximately 0.7 m by 0.3 m. No riparian herpetofauna were observed. (Appendix A, Photo 34)</td>
</tr>
<tr>
<td>Box Canyon (Lower Reach) – Containing Pools</td>
<td>519164 3518196</td>
<td>During the May 16, the entire 1.2 mile (1.9 km) stream segment was dry. Vegetation consisted of batamote, grasses and mimosa around the perimeter and 25 percent canopy of sycamore, Gooding’s willow, ash and mesquite. By the August 24 visit monsoon rains had resulted in perennial flows along the upstream portion of this reach. Over 100 Hylid tree frog tadpoles were observed on August 24 but no Ranids were observed at that time. A subsequent survey conducted the night of September 12 documented the occurrence of a single adult Chiricahua leopard frog as well as two adult red spotted toads. (Appendix A, Photos 24-33)</td>
</tr>
<tr>
<td>Box Canyon (Upper Reach) – Containing Box Canyon Tank</td>
<td>521002 3518099</td>
<td>During both the August 24 and September 5 site visits the majority of this reach was dry with the exception of Box Canyon Tank and a small excavated pool and adjacent surface flows immediately upstream of Box Canyon Dam. One Chiricahua leopard frog was observed in the excavated pool on August 25 and two Chiricahua leopard frogs were observed at the same location the night of September 5. Hylid frog tadpoles were also observed in pools. (Appendix A, Photo 34)</td>
</tr>
<tr>
<td>California Gulch Tank East</td>
<td>523290 3516852</td>
<td>This stock tank was dry during the May 4 site visit when no riparian herpetofauna were observed. Monsoon rains had filled the pond by the August 30 visit; water surface area was approximately 30 m by 20 m. Perimeter vegetation of upland grasses encompassed 90% of the pond’s circumference. Five adult Chiricahua leopard frogs were observed at that time. (Appendix A, Photos 35-36)</td>
</tr>
<tr>
<td>California Gulch Tank West</td>
<td>522711 3516861</td>
<td>This large stock tank is fed by stormwater runoff supplemented by water piped in by the Thurber/Rosemont Ranch for ranid conservation purposes. During the survey the pond contained approximately 120 m by 70 m of surface water. Over 150 adult Chiricahua leopard frogs and one large black necked garter snake were observed on August 30. (Appendix A, Photo 37)</td>
</tr>
<tr>
<td>Cemetery Tank</td>
<td>430974 3528470</td>
<td>This tank was nearly dry during the May 20 visit and totally dry during the August 26 survey. No aquatic fauna was noted on either survey. (Appendix A, Photos 38-39)</td>
</tr>
<tr>
<td>Davidson Canyon (Lower Reach)</td>
<td>533367 3538422</td>
<td>This segment of Davidson canyon was dry in 2011. No riparian herpetofauna were observed. (Appendix A, Photos 41-42, 45-48)</td>
</tr>
</tbody>
</table>
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.
Copies of the Chiricahua Leopard Frog Visual Encounter Survey Form for each survey are included in Appendix B.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>Davidson Canyon</td>
<td>533069</td>
<td>3536974</td>
</tr>
<tr>
<td>Tank at Diversion Dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deering Spring and Tanks</td>
<td>522709</td>
<td>3519260</td>
</tr>
<tr>
<td>East Dam</td>
<td>527384</td>
<td>3522672</td>
</tr>
<tr>
<td>East Dam Outfall</td>
<td>527323</td>
<td>3522868</td>
</tr>
<tr>
<td>Fig Tree Spring</td>
<td>523960</td>
<td>3525012</td>
</tr>
<tr>
<td>Granite Tank</td>
<td>521117</td>
<td>3514218</td>
</tr>
<tr>
<td>Granite Mtn. Tank</td>
<td>522717</td>
<td>3513980</td>
</tr>
<tr>
<td>Lower Granite Mtn Tank</td>
<td>522805</td>
<td>3514041</td>
</tr>
</tbody>
</table>
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.
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<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greaterville Tank</td>
<td>522772 3514693</td>
<td>Greaterville Tank contained approximately 40-m by 30-m surface water area in April when over 75 adult Chiricahua leopard frogs were observed. Chiricahua leopard frogs were continuously observed at the tank throughout the survey season. However, lack of sufficient winter rains and ongoing drought caused the water level of this pond to drop precipitously prior to the onset of the summer monsoon. Furthermore, on May 2, 2011 the area was impacted by the Greaterville fire, which burned over 1,800 acres surrounding this tank (Figure 2). Concern over the potential effects on Chiricahua leopard frogs due to ongoing pond desiccation and impending ash laden runoff during the coming monsoon led to the implementation of conservation measures by Rosemont. The measures implemented are discussed further in the Discussion section of this report (Section 4.2). Chiricahua leopard frogs were found to be extant within Greaterville Tank after it was refilled during the August and September rains. (Appendix A, Photos 73-79)</td>
</tr>
<tr>
<td>North Greaterville Tank</td>
<td>522467 3515592</td>
<td>This tank contained approximately 50 m by 80 m of surface water when visited on August 25, 2011. At that time 47 adult Chiricahua Leopard frogs were observed. (No Photo)</td>
</tr>
<tr>
<td>“Gunsight Pass” Tank</td>
<td>523279 3523302</td>
<td>This tank was dry during both the April 12 and August 17 surveys. No aquatic fauna was noted on either survey. (Appendix A, Photo 80)</td>
</tr>
<tr>
<td>Highway Tank</td>
<td>527542 3519369</td>
<td>This tank was dry during both the April 11 survey when no aquatic wildlife was observed. By August 18, the pond had partially filled with Monsoon runoff when surface water area was approximately 15 m by 10 m. The site was also surveyed at night on August 25. One ranid, likely a Chiricahua leopard frog, but unconfirmed, was found at this tank in 2008. No riparian herpetofauna were observed here in 2011. (Appendix A, Photos 81-82)</td>
</tr>
<tr>
<td>Lower Stock Tank</td>
<td>523171 3522125</td>
<td>During the initial site visit on April 11, surface water was limited to a small puddle approximately 3 m by 4 m in size. At that time the site exhibited severe, ongoing OHV damage. By August, monsoon rains had increased the surface area of the pond to 20 m by 50 m. No riparian herpetofauna were observed during either visit. (Appendix A, Photos 85-87)</td>
</tr>
<tr>
<td>Old Mining Leach Tank (formerly referred to as Lower Stock Tank Waterer)</td>
<td>523226 3522129</td>
<td>Over 100 larval toads (spadefoot toads [Scaphiopus sp.]) were noted in this waterer. Dragonflies and boatmen were also noted. No ranids were observed. (Appendix A, Photos 88-90)</td>
</tr>
<tr>
<td>McCleary Canyon; including Tank and McCleary Dam</td>
<td>523745 525548 3523954 3522968</td>
<td>Various features along McCleary Canyon were visited once in April and three times in August. Dragonflies, boatmen, and beetles were noted. No riparian herpetofauna were observed. (Appendix A, Photos 91-98)</td>
</tr>
</tbody>
</table>
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.
Copies of the Chiricahua Leopard Frog Visual Encounter Survey Form for each survey are included in Appendix B.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>McCleary Stock Tank</td>
<td>523451</td>
<td>3523593</td>
</tr>
<tr>
<td>Mulberry Canyon; including Mulberry Spring, Crucero Spring, and Lower Mulberry Spring</td>
<td>528254</td>
<td>3525720</td>
</tr>
<tr>
<td>North Basin Tank</td>
<td>524774</td>
<td>3519769</td>
</tr>
<tr>
<td>North Canyon</td>
<td>527433</td>
<td>3520422</td>
</tr>
<tr>
<td>North Canyon Guzzler</td>
<td>532242</td>
<td>3529854</td>
</tr>
<tr>
<td>Oak Tree Canyon</td>
<td>538534</td>
<td>3520920</td>
</tr>
<tr>
<td>Oak Tree Canyon Tank</td>
<td>526904</td>
<td>3519365</td>
</tr>
<tr>
<td>Unnamed tank at head of Oak Tree Canyon</td>
<td>525430</td>
<td>3519442</td>
</tr>
<tr>
<td>Oak Tree Trough at Windmill</td>
<td>529885</td>
<td>3518746</td>
</tr>
</tbody>
</table>
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.  
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.  
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<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well in Ophir Gulch</td>
<td>522909 3514041</td>
<td>A stone well measuring approximately 2 m by 2 m and about 6.5 m deep. The water level of this well is typically 3 m or more below the surface, effectively trapping any frogs that may enter this feature. In April one large black necked gartersnake was observed in the well. Subsequently in May three Chiricahua leopard frogs were observed. By September the monsoon rains had elevated the water level in the well to the point where trapped frogs could escape and no Chiricahua leopard frogs were seen at that time. (Appendix A, Photos 120-121)</td>
</tr>
<tr>
<td>Papago Canyon</td>
<td>528009 3525690</td>
<td>This ephemeral drainage was dry when visited in May. No riparian herpetofauna were observed. (Appendix A, Photo 122)</td>
</tr>
<tr>
<td>Papago Springs</td>
<td>527245 3526601</td>
<td>This spring was dry when visited in May. No riparian herpetofauna were observed. (Appendix A, Photo 123)</td>
</tr>
<tr>
<td>Questa Spring</td>
<td>529549 3521879</td>
<td>Water was present in round concrete stock tank in both April and August. Dragonflies and beetles were observed. No riparian herpetofauna were observed. (Appendix A, Photos 124-125)</td>
</tr>
<tr>
<td>Rosemont Crest Tank</td>
<td>523484 3524554</td>
<td>This tank contained 10 m by 2.5 m of surface water in April and 14 m by 8 m in August. Perimeter vegetation consisted mainly of grasses. Dragonflies and tadpole shrimp were noted. This tank was heavily used by cattle in August and water depth was &lt; 5 cm and surface water was largely confined to hoof prints. No riparian herpetofauna were observed. (Appendix A, Photo 126)</td>
</tr>
<tr>
<td>Rosemont Spring</td>
<td>524864 3521381</td>
<td>This feature consisted of a few small pools and minimal surface flows along approximately 60-100 m of the drainage downstream of the spring. The remaining drainage was dry. Vegetation along the pools consisted of perimeter grasses, willow, and juniper. The site was heavily impacted by ungulates, including horses, cattle, deer, and javelina. No riparian herpetofauna were observed. (Appendix A, Photos 127-129)</td>
</tr>
<tr>
<td>Scholefield Spring</td>
<td>526496 3525228</td>
<td>This feature contained no surface water in either May or August. No riparian herpetofauna were observed. (Appendix A, Photos 130-131)</td>
</tr>
<tr>
<td>Scholefield Canyon – Unnamed Spring</td>
<td>525584 3525629</td>
<td>This site contained water when visited in August and four white tailed deer, 2 does and 2 spotted fawns, were seen drinking at the seep. No riparian herpetofauna were observed. (Appendix A, Photo 132)</td>
</tr>
<tr>
<td>South Lower “Stock Tank”</td>
<td>523082 3522112</td>
<td>This site was dry during two of the three site visits and nearly so when visited on August 16. At that time surface water consisted of a puddle approximately 2 m by 3 m in size. No riparian herpetofauna were observed. (Appendix A, Photos 133-135)</td>
</tr>
</tbody>
</table>
Table 2. Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.
Features where ranids were noted are shown in bold type. Feature locations are depicted in Figure 2.
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<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature and Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
</tr>
<tr>
<td>South Sycamore Canyon – Upstream and Downstream Portions</td>
<td>521993</td>
<td>3518882</td>
</tr>
<tr>
<td>South Upper Stock Tank</td>
<td>522985</td>
<td>3522138</td>
</tr>
<tr>
<td>Sycamore Spring</td>
<td>522521</td>
<td>3527566</td>
</tr>
<tr>
<td>Thurber Tank 1</td>
<td>525946</td>
<td>3517062</td>
</tr>
<tr>
<td>Thurber Tank 2</td>
<td>525852</td>
<td>3517030</td>
</tr>
<tr>
<td>Thurber Tank 3</td>
<td>524865</td>
<td>3518121</td>
</tr>
<tr>
<td>Upper Stock Tank</td>
<td>523061</td>
<td>3522167</td>
</tr>
<tr>
<td>Unnamed Tank #1</td>
<td>529259</td>
<td>3529409</td>
</tr>
<tr>
<td>Unnamed Tank #2</td>
<td>531485</td>
<td>3530705</td>
</tr>
</tbody>
</table>
3.3. **OTHER WILDLIFE OBSERVATIONS**

Herpetofauna species noted during WestLand’s site visits and survey efforts in addition to Chiricahua and lowland leopard frogs are listed in *Table 3*. Numerous canyon tree frog (*Hyla arenicolor*) and unidentified toad tadpoles were observed in a number of locations including Box Canyon, Old Mining Leach Tank (formerly referred to as Lower Stock Tank Waterer), and East Dam outfall. Other notable wildlife observations are listed in *Table 4*. 
### Table 3. Other Herpetofauna Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.

<table>
<thead>
<tr>
<th>Species</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-necked gartersnake (<em>Thamnophis cyrtopsis</em>)</td>
<td>West California Gulch Tank and the Well at Ophir Gulch</td>
</tr>
<tr>
<td>Sonoran whipsnake (<em>Masticophis taeniatus</em>)</td>
<td>East Dam Outfall</td>
</tr>
<tr>
<td>Gila monster (<em>Heloderma suspectum</em>)</td>
<td>Mulberry Canyon</td>
</tr>
<tr>
<td>Ridge-nosed rattlesnake (<em>Crotalus willardi</em>)</td>
<td>Oak Tree Canyon</td>
</tr>
<tr>
<td>Western diamondback rattlesnake (<em>Crotalus atrox</em>)</td>
<td>Highway Tank</td>
</tr>
<tr>
<td>Canyon treefrog (<em>Hyla arenicolor</em>)</td>
<td>Box Canyon</td>
</tr>
<tr>
<td>Red spotted toad (<em>Bufo punctatus</em>)</td>
<td>Box Canyon</td>
</tr>
<tr>
<td>Colorado river toad (<em>Bufo alvarius</em>)</td>
<td>South Sycamore Canyon</td>
</tr>
<tr>
<td>Spadefoot toad (<em>Scaphiopus sp.</em>)</td>
<td>Old Mining Leach Tank (formerly referred to as Lower Stock Tank Waterer)</td>
</tr>
</tbody>
</table>

### Table 4. Other Notable Wildlife Observations – 2011 Ranid Survey of the Rosemont Holdings and Vicinity.

<table>
<thead>
<tr>
<th>Observation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>American black bear (<em>Ursus americanus</em>) tracks and visual encounter</td>
<td>Box Canyon, South Sycamore Canyon, Deering Springs and Tanks, McCleary Canyon</td>
</tr>
<tr>
<td>Bobcat (<em>Felis rufus</em>) tracks</td>
<td>Blacktail Tank, Granite Mountain Tank</td>
</tr>
<tr>
<td>Coati (<em>Nasua narica</em>) tracks</td>
<td>Blacktail Tank, Box Canyon, Deering Springs and Tank, Greaterville Tank, McCleary Canyon</td>
</tr>
<tr>
<td>Gray Fox (<em>Urocyon cinereoargenteus</em>) tracks</td>
<td>Blacktail Tank, Box Canyon, California Gulch Tank, Deering Springs and Tank, South Sycamore Canyon, Big Pond, Fig Tree Springs, Gunsight Pass Tank</td>
</tr>
<tr>
<td>Great blue heron (<em>Ardea herodias</em>) and tracks</td>
<td>Big Pond, California Gulch Tank, Unnamed Tank #2, Greaterville Tank</td>
</tr>
<tr>
<td>Javelina (<em>Pecari tajacu</em>) tracks</td>
<td>Box Canyon, Cemetery Tank, Rosemont Crest Tank, Blacktail Tank, East Dam Outfall, South Sycamore Canyon, California Gulch Tank, Mulberry Canyon</td>
</tr>
<tr>
<td>Mountain lion (<em>Puma concolor</em>) tracks</td>
<td>Questa Spring, Box Canyon</td>
</tr>
<tr>
<td>Mule deer (<em>Odocoileus hemionus</em>) and tracks</td>
<td>Blacktail Tank, California Gulch Tank, Greaterville Tank, Cemetery Tank, Lower Stock Tank, North Canyon, Oak Tree Canyon</td>
</tr>
<tr>
<td>White-tailed deer (<em>O. virginianus couesi</em>) and tracks</td>
<td>Greaterville Tank, Mulberry Canyon, Fig Tree Springs, Unnamed Spring in Scholefield Canyon, Rosemont Crest Tank, Rosemont Spring, South Upper Stock Tank, and Gunsight Pass Tank</td>
</tr>
<tr>
<td>Raccoon (<em>Procyon lotor</em>) tracks</td>
<td>Cemetery Tank, Greaterville Tank, Davidson Canyon Dam, Big Pond, and Granite Mountain Tank</td>
</tr>
<tr>
<td>Skunk (<em>Mephitidae</em>) tracks</td>
<td>Fig Tree Springs and Tank</td>
</tr>
<tr>
<td>Spotted skunk (<em>Spilogale gracilis</em>) carcass</td>
<td>Big Pond</td>
</tr>
<tr>
<td>Zone-tailed hawk (<em>Buteo albonotatus</em>)</td>
<td>Sycamore Springs</td>
</tr>
<tr>
<td>Gould’s Turkey (<em>Meleagris gallopavo mexicana</em>)</td>
<td>Box Canyon</td>
</tr>
</tbody>
</table>
4. DISCUSSION

4.1. CHIRICAHUA LEOPARD FROG OCCUPANCY IN THE VICINITY OF THE ROSEMONT PROJECT

Leopard frog (Rana pipiens) was reported within the Rosemont Mine project area in 1976, 1977, and 1978 as “common to abundant.” The following account is provided by Lowe and Johnson (1978):

Rana pipiens. Leopard Frog. Common to abundant. At larger earthen-dam stock tanks, especially in the mesquite grasslands and in the oak-juniper of Wasp Canyon. On a year-round basis, this is the conspicuous amphibian of the Site, though it “estivates” in the Spring and early Summer when stock tanks are dry, as occurred in 1976.

More recent records of Chiricahua leopard frogs in the northern Santa Rita Mountain range include areas mostly south of the Rosemont Project along Adobe Canyon, Big Casa Blanca Canyon, Gardner Canyon, Temporal Gulch, East and West Sawmill Canyons, Fish Canyon, Louisiana Gulch, Los Posos Gulch, Ophir Gulch, Empire Gulch, Oak Tree Canyon, California Gulch, Enzenberg Canyon, and Box Canyon (AGFD 2009 and WestLand 2008, 2009, and 2010).

As described in Section 3 of this report, no ranids were noted within the proposed Rosemont Project footprint or the Rosemont Holdings during the 2011 survey efforts (Figure 2). Chiricahua leopard frogs were noted by WestLand biologists in the Greaterville area at California Gulch Tank East (approximately 0.5 miles [0.8 km] south-southeast of the Rosemont Holdings), California Gulch Tank West (approximately 1 mile [1.6 km] south-southeast of the Rosemont Holdings), Bowman Tank (approximately 1.0 mile [1.6 km] south of the Rosemont Holdings), Greaterville Tank (approximately 2.5 miles [4 km] south of the Rosemont Holdings), North Greaterville Tank (approximately 2 miles [3.2 km] south of the Rosemont Holdings, the well in Ophir Gulch and Granite Tank (approximately 3 miles [5.5 km] south of the Rosemont Holdings, and along Box Canyon and its associated tanks (approximately 2 miles southeast of Rosemont Holdings). No lowland leopard frogs were observed by WestLand within the study area in 2011.

Chiricahua leopard frogs were observed within the Rosemont Holdings in 2008, but no Chiricahua leopard frogs were noted within the proposed Rosemont Project footprint or the Rosemont Holdings during 2009, 2010, or 2011 survey efforts (Table 5). In 2008, single frogs were observed in 3 stock ponds within the Rosemont Holdings (East Dam, Oak Tree Canyon Tank, and Highway Tank). At one tank in 2008, Lower Stock Tank, which occurs within the Rosemont Project footprint, two frogs were observed (Table 5). Frogs have not been observed within the Rosemont Holdings during survey efforts since 2008.

In 2008, surveyed reaches of Box Canyon (located outside the Rosemont Holdings) had a total of nine observed frogs in intermittent pools along about 1.2 miles of channel. Box Canyon was again surveyed in 2009 and 2010, and no frogs were observed (Table 5). In 2011, WestLand again documented Chiricahua leopard frogs in Box Canyon; a nocturnal survey conducted within lower Box Canyon in September

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1Leopard frogs observed on the Rosemont site are identified as Rana pipiens. This, of course, is prior to the splitting of the Rana group into various species including Chiricahua leopard frog. We have assumed here that the species identified in 1976, 1977, and 1978 by Lowe and Johnson during their surveys would be identified today as Chiricahua leopard frog in accordance with current taxonomic practice.
resulted in the detection of a single adult Chiricahua leopard frog. Chiricahua leopard frogs were also observed in Upper Box Canyon and associated tanks in August and September. Based on survey data provided by the AGFD, Chiricahua leopard frogs were also recorded from Box Canyon in 1979 and 1999. Surveys were also conducted along Box Canyon by AGFD and others in 1989, 1994, 1995, and 2006, but no Chiricahua leopard frogs were observed along the canyon. In 2008, two ranids (not confirmed to be, but likely Chiricahua leopard frogs) were also observed by WestLand in Sycamore Canyon (identified in this report as South Sycamore Canyon), a tributary of Box Canyon located outside the Rosemont Holdings, but no frogs were observed during 2009, 2010, or 2011 survey efforts. There are no survey records from Sycamore Canyon prior to 2008.

Table 5 summarizes and Figure 3 depicts survey information collected by WestLand in 2008, 2009, 2010, and 2011 surveys within the Rosemont Holdings and vicinity. Figure 3 also includes depictions of sites that were surveyed by the FROG Conservation Project in 2010 (FROG Conservation Project 2010). Figure 3 illustrates the presence of lowland leopard frogs on the regional landscape at lower elevations within and surrounding the Las Cienegas National Conservation Area (FROG Conservation Project 2010) and Chiricahua leopard frogs at higher elevations in the Santa Rita Mountain range.

According to the USFWS (2003), reasonable ranid dispersal distances (established by USFWS for the purpose of assessing impacts for projects containing suitable habitats for ranids) are: 1) within 1 mile (1.6 km) over land, 2) within 3 miles (4.8 km) along ephemeral or intermittent drainages, and 3) within 5 miles (8 km) along a perennial stream. In 2011, Chiricahua leopard frogs were noted by WestLand biologists in the Greaterville area at California Gulch Tank East (approximately 1.3 miles [2.0 km] southwest of the proposed project footprint), California Gulch Tank West (approximately 1.4 miles [2.2 km] southwest of the proposed project footprint), Bowman Tank (approximately 1.5 miles [2.4 km] south of the proposed project footprint), Greaterville Tank (approximately 2.6 miles [4.2 km] south-southwest of the proposed project footprint), North Greaterville Tank (approximately 2.1 miles [3.4 km] south-southwest of the proposed project footprint), the well in Ophir Gulch (approximately 2.5 miles [4.0 km] south of the proposed project footprint), Granite Tank (approximately 3.3 miles [5.3 km]) southwest of the proposed project footprint); and along Box Canyon and its associated tanks (approximately 1 mile [1.6 km] southwest of the proposed project footprint).
Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF – Lowland leopard frog (Lithobates yavapaiensis)

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature</th>
<th>2008 Findings</th>
<th>2009 Findings</th>
<th>2010 Findings</th>
<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4066 Tank</td>
<td>525521</td>
<td>3518660</td>
<td>Small ephemeral tock tank formed by an earthen dam that impounds storm water flows. This feature is outside the project footprint.</td>
<td>No ranids or other herpetofauna observed.</td>
<td>No ranids or aquatic fauna detected. Tank was dry on site visit in August.</td>
<td>No ranids or other herpetofauna detected. No vegetation and perimeter grasses were present.</td>
</tr>
<tr>
<td>Waterer at 4066 Tank</td>
<td>525506</td>
<td>3518733</td>
<td>Galvanized steel round tank in corral adjacent to 4066 tank. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
</tr>
<tr>
<td>Adobe Tank</td>
<td>527862</td>
<td>3521479</td>
<td>Tank is a stock tank formed by an earthen dam that impounds storm water flows. This feature is outside the project footprint.</td>
<td>No ranids observed. Black-necked gartersnake observed.</td>
<td>No ranids or aquatic fauna detected.</td>
<td>No ranids or other herpetofauna detected. Boatmen, dragonflies, and great blue heron tracks were also observed.</td>
</tr>
<tr>
<td>Andraida Tank</td>
<td>531902</td>
<td>3519444</td>
<td>Two immediately adjacent tanks are formed by an earthen dam that impounds storm water flows. Upper Andraida tank serves as a silt trap for lower Andraida Tank and its surface area is much smaller than the lower tank. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>No ranids detected. On July 28th visit no other herpetofauna detected. However, approximately 20 spade foot toads observed in September. Dragonflies were also observed on both visits.</td>
</tr>
<tr>
<td>Barrel Spring</td>
<td>530144</td>
<td>3525699</td>
<td>This feature is formed by a spring fed pipe that conveys water to a bedrock tinaja utilized by livestock and wildlife. This feature is outside the project footprint.</td>
<td>No ranids observed. Site was dry.</td>
<td>No ranids observed. No vegetation. No aquatic fauna observed.</td>
<td>No ranids or other herpetofauna detected. No vegetation and no aquatic fauna observed in September. Water boatmen observed in July.</td>
</tr>
<tr>
<td>Barrel Tank</td>
<td>524774</td>
<td>3519769</td>
<td>Tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>No ranids observed. Site was dry.</td>
<td>No ranids observed. No vegetation or aquatic fauna observed. Site was mostly dry during September visit.</td>
<td>No ranids or other herpetofauna detected. Dragonflies observed at the site. Site was dry in late September.</td>
</tr>
<tr>
<td>Big Pond</td>
<td>530079</td>
<td>3524243</td>
<td>This large pond is formed by an earthen dam that impounds storm water flows. This feature is outside the project footprint.</td>
<td>No ranids observed. Largemouth bass, channel catfish, and sunfish reported to be present.</td>
<td>No ranids or other herpetofauna detected. A great blue heron and dragonflies observed. Tracks of coyote and raccoon were present in the mud. Largemouth bass, channel catfish, and sunfish reported to be present.</td>
<td>No ranids observed. Aquatic wildlife observed included largemouth bass and approximately 8-10 Colorado river toads. A great blue heron and dragonflies were also observed.</td>
</tr>
</tbody>
</table>
### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (*Lithobates chiricahuensis*); LLF = Lowland leopard frog (*Lithobates yavapaiensis*).

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<tr>
<td><strong>Easting</strong></td>
<td><strong>Northing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blacktail Tank</td>
<td>529748</td>
<td>3528579</td>
<td>This large pond is formed by an earthen dam that impounds storm water flows at the head of a canyon. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>Not surveyed.</td>
<td>On second survey there was a single, clear response a tape playback that was a probable LLF. A subsequent visit conducted on October 22 failed to detect any ranid and a one hour search conducted but no ranids were located. A great blue heron observed.</td>
</tr>
<tr>
<td>Bowman Tank</td>
<td>524574</td>
<td>3516390</td>
<td>This tank is formed by an earthen dam that impounds storm water flows in California Gulch. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Site was visited with AGFD and Frog Conservation Project representatives. No ranids or other herpetofauna observed. Aquatic wildlife observed included leeches.</td>
</tr>
<tr>
<td>Box Canyon (Dam Structure)</td>
<td>521029</td>
<td>3518099</td>
<td>This feature is formed by a large stone dam that impounds ephemeral and sub-surface flows in Box Canyon. The area above the dam is largely silted in. However, livestock operators use heavy equipment to excavate a small pond in order to provide surface water for cattle. This feature is outside the project footprint.</td>
<td>See Box Canyon Lower Reach Findings.</td>
<td>See Box Canyon Lower Reach Findings.</td>
<td>See Box Canyon Lower Reach Findings.</td>
</tr>
<tr>
<td>Box Canyon Tank 1</td>
<td>521893</td>
<td>3518337</td>
<td>A concrete stock tank in Box Canyon. Feature contains emergent vegetation. This feature is outside the project footprint.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Boatmen and backswimmers observed.</td>
</tr>
<tr>
<td>Box Canyon Tank 2</td>
<td>521909</td>
<td>3518358</td>
<td>A concrete stock tank in Box Canyon. Located outside project area. This feature is outside the project footprint.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Boatmen and backswimmers observed.</td>
</tr>
<tr>
<td>Box Canyon Tank at Dam</td>
<td>521063</td>
<td>3518144</td>
<td>A simple metal springbox along intermittent portions of Box Canyon. This feature is outside the project footprint.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>See Box Canyon Upper Reach Findings.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
</tr>
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### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF = Lowland leopard frog (Lithobates yavapaiensis)

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<tr>
<td>Box Canyon (Lower Reach)</td>
<td>520760/3517910</td>
<td>Intermittent drainage outside project area. Box Canyon is southwest of the Rosemont Holdings just on the east side the Santa Rita Mountain Range.</td>
<td>One nocturnal survey was conducted. Seven adult CLFs observed, all within wet segments of survey reach. Also observed Sonoran desert toads and canyon tree frogs. No ranids observed. Black-necked garter snakes and coyote tracks observed along these pools. Coats observed along the north bank of the canyon. Perimeter vegetation included grasses and coyote willow, and canopy vegetation included sycamore, ash, cottonwood, willow, and mesquite. Red spotted toads (<em>Bufo punctatus</em>) observed. No ranids observed. During August visit, one adult canyon tree frog and a black-necked garter snake were identified and photographed, and 20+ unidentified tadpoles observed. On September visit 20+ Hylid tree frog tadpoles were present. One to two CLFs observed during site visits. (See also Box Canyon Dam Structure). It was noted that bears, coatis, coyotes, dogs, deer, foxes, turkeys, and mountain lions frequent the area. Over one hundred tadpoles observed. The species of tadpole was uncertain, but it was believed to be from a toad or canyon tree frog.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Box Canyon Pools</td>
<td>531641/3518196</td>
<td>Feature along intermittent stream outside project area. This feature is outside the project footprint.</td>
<td>See Box Canyon Lower Reach Findings.</td>
<td>See Box Canyon Lower Reach Findings.</td>
<td>See Box Canyon Lower Reach Findings.</td>
<td>See Box Canyon Lower Reach Findings.</td>
</tr>
<tr>
<td>Box Canyon (Upper Reach)</td>
<td>522185/3518265</td>
<td>Intermittent stream outside project area. Box Canyon is southwest of the Rosemont Holdings just on the east side the Santa Rita Mountain Range.</td>
<td>One nocturnal survey conducted. Two adult CLFs observed. Number of adult CLFs is not provided. Reach was mostly dry except for one tank. No aquatic fauna was noticed. No ranids observed. On August site visit probable canyon tree frog tadpoles were observed. Site was 95 percent dry during September visit. No ranids, other herpetofauna, or aquatic wildlife detected. This reach was dry in Spring and early Summer 2011.</td>
<td>No ranids observed. Numbers of adult CLFs is not provided. Reach was mostly dry except for one tank. No aquatic fauna was observed. No ranids observed. On August site visit probable canyon tree frog tadpoles were observed. Site was 95 percent dry during September visit. No ranids, other herpetofauna, or aquatic wildlife detected. This reach was dry in Spring and early Summer 2011.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA Gulch Tank West</td>
<td>522711/3516861</td>
<td>This tank is formed by an earthen dam that impounds storm water flows in California Gulch. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Over 150 CLFs observed. One black-necked garter snake was also detected. Other aquatic wildlife included water boatmen, dragonflies, and beetles. Five CLFs observed during the 2011 survey. Other aquatic wildlife noted included water boatmen, dragonflies, beetles, and belostomatids. Deer, coyotes, and javelina also frequented the tank.</td>
</tr>
<tr>
<td>CA Gulch Tank East</td>
<td>523261/3516875</td>
<td>This tank is formed by an earthen dam that impounds storm water flows in California Gulch. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>One CLF was positively identified during the second visit to this site in 2010. No ranids detected in a subsequent visit. No other herpetofauna or aquatic wildlife observed.</td>
<td>Five CLFs observed during the 2011 survey. Other aquatic wildlife noted included water boatmen, dragonflies, beetles, and belostomatids. Deer, coyotes, and javelina also frequented the tank.</td>
</tr>
<tr>
<td>Cemetery Tank</td>
<td>430974/3528470</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. Well-developed riparian shoreline vegetation. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna observed during visits. Leeches, boatmen, backswimmers, beetles, dragonflies, and evidence of deer javelina, and racoons observed. No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included leeches, water boatmen, beetles, and dragonflies. Numerous deer, dog, cattle, javelina, bobcat, coyote, and racocon tracks were present. Great blue heron tracks were noted during the May visit. Water levels were very low during site visits.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included leeches, water boatmen, beetles, and dragonflies. Numerous deer, dog, cattle, javelina, bobcat, coyote, and racocon tracks were present. Great blue heron tracks were noted during the May visit. Water levels were very low during site visits.</td>
</tr>
<tr>
<td>Cienega Creek (Lower Reach)</td>
<td>533427/3542677</td>
<td>A reach of lower Cienega Creek from upstream of Davidson Canyon to just downstream of Davidson Canyon that supports intermittent flows and pooling. Emergent vegetation present.</td>
<td>Not surveyed.</td>
<td>LLFs observed. No CLFs observed. Other notable wildlife observations included zone-tailed hawks (<em>Buteoalbigaster</em>), great blue heron (<em>Ardea herodias</em>), and various species of dragonflies.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
</tr>
</tbody>
</table>
## Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF = Lowland leopard frog (Lithobates yavapaiensis)

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<tr>
<td>Cienega Creek (Upper Reach)</td>
<td>5338768 5338889</td>
<td>A reach of upper Cienega Creek from downstream of Empire Gulch to North Canyon. Generally east of the project.</td>
<td>Not surveyed.</td>
<td>No ranids were detected. Dry with the exception of a few pools along an incised channel. These pools were occupied by cinnamon teals (Anas cyanoptera) and Mexican ducks (Anas occidentalis). Great blue heron and egret (Ardea sp.) were also noted.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
</tr>
<tr>
<td>Crucero Spring</td>
<td>527340 3527318</td>
<td>This feature is a spring in the headwaters of a tributary to Mulberry Canyon. This feature is outside the project footprint.</td>
<td>See Mulberry Canyon Findings.</td>
<td>See Mulberry Canyon Findings.</td>
<td>See Mulberry Canyon Findings.</td>
<td>No ranids or other herpetofauna detected during this survey. Water boatmen, dragonflies, and beetles observed. Coyote and raccoon tracks were present in the mud.</td>
</tr>
<tr>
<td>Davidson Canyon Tank at Diversion Dam</td>
<td>533069 3536974</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Davidson Canyon. This feature is outside the project footprint.</td>
<td>See results from Davidson Canyon (Upper Reach).</td>
<td>See results from Davidson Canyon (Upper Reach).</td>
<td>No ranids or other herpetofauna, or aquatic wildlife detected during this survey. Water boatmen, dragonflies, and beetles observed.</td>
<td>No ranids or other herpetofauna detected during this survey. Water boatmen, dragonflies, and beetles observed. Approximately 20 feral goldfish observed.</td>
</tr>
<tr>
<td>Davidson Canyon Windmill</td>
<td>533187 3536466</td>
<td>This feature is a metal livestock waterer fed by a windmill driven pump. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna detected during this survey. Water boatmen, dragonflies, and beetles observed. Approximately 20 feral goldfish observed.</td>
</tr>
<tr>
<td>Davidson Canyon (Upper Reach)</td>
<td>528600 527978 3521851 3521553</td>
<td>Ephemeral segment of Davison Canyon. This feature is outside the project footprint.</td>
<td>No ranids detected.</td>
<td>Dry except for one tank created by a diversion dam along the main channel of the canyon. One ranid tadpole (species undetermined, but likely LLF) was noted.</td>
<td>No ranids detected.</td>
<td>No ranids detected.</td>
</tr>
<tr>
<td>Davidson Canyon (Lower Reach)</td>
<td>533711 533429 3542497 3538561</td>
<td>Mesoriparian segment of drainage with intermittent flows. This feature is outside the project footprint.</td>
<td>Four LLFs in small pond (20 by 8 ft [6 by 2.5 m]) on west side of channel, upstream from confluence with Cienega Creek. One captured to photograph and confirmed identification, and then released.</td>
<td>One LLF detected at the confluence with Cienega Creek. This reach was dry except for 2 areas, the confluence with Cienega Creek and a small reach approximately 3 miles upstream from Cienega Creek. Other aquatic wildlife observations included zone-tailed hawks, great blue heron, and various species of dragonflies.</td>
<td>No ranids detected. Approximately 12 red spotted toads were positively identified on September 10 visit, and approximately 15 adults and numerous tadpoles observed on September 21.</td>
<td>No ranids detected. Over 100 non-ranid tadpoles (potentially canyon tree frog tadpoles) observed as well as dragonflies.</td>
</tr>
<tr>
<td>Deering Springs and Tanks</td>
<td>522709 3519260</td>
<td>This feature consists of a spring fed pipe that reports to a large concrete cistern that provides water to a small round tank approximately 50 meters downstream. This feature is outside the project footprint.</td>
<td>No ranids detected.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed include dragonflies and water boatmen.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed include dragonflies and water boatmen.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included water boatmen, belostomatids, and beetles. Coati, fox, lion, bobcat, and deer tracks observed along with Gambel’s quail. A small black bear observed in a tree on the night of September 5th.</td>
</tr>
</tbody>
</table>
### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

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<tr>
<td>East Dam</td>
<td>527384 3522672</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down the wash. This feature is outside the project footprint.</td>
<td>One CLF responded to tape playback, but it could not be found in search of water’s edge.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Pond was dry in 2010.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Tank was dry during site visits.</td>
</tr>
<tr>
<td>East Dam Outfall</td>
<td>527232 3522868</td>
<td>This feature is immediately downgradient of the East Dam and is formed by seepage flowing over bedrock allows for surface flow that supports a ribbon of riparian vegetation. This feature is outside the project footprint.</td>
<td>No ranids detected.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies and backswimmers.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies.</td>
<td>No ranids observed. Other herpetofauna observed included over 500 non-ranid tadpoles and a large Sonoran whipsnake. Other aquatic wildlife noted included dragonflies, and beetles.</td>
</tr>
<tr>
<td>Empire Gulch – Unnamed Tank</td>
<td>537902 3517949</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Empire Gulch. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies. Cinnamon teals and Mexican ducks were noted.</td>
<td>Four to six CLFs observed. Other aquatic wildlife observed were dragonflies.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Tank was dry during site visits.</td>
</tr>
<tr>
<td>Empire Gulch Pools</td>
<td>534586 334118 3516948 3516971</td>
<td>A reach of Empire Gulch appears to support intermittent flows and contains a series of relatively deep pools along approximately 300 feet (100 m). Vegetation included large cottonwood and willow, sedges, cattails, and duckweed.</td>
<td>Not surveyed.</td>
<td>Numerous CLFs were noted. Tadpoles and egg masses were noted. Other wildlife observations included dragonflies, belostomatids, black-necked garter snake, and zone-tailed hawk.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
</tr>
<tr>
<td>Fig Tree Spring</td>
<td>523960 3525012</td>
<td>This is a spring at the head of Sycamore Canyon. It formerly conveyed water via a pipe to a galvanized steel tank that has rusted out and no longer hold water. The spring supports a small area of surface water, wetland vegetation, and an exotic fig tree. This feature is outside the project footprint.</td>
<td>Not surveyed. Site was dry.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
</tr>
<tr>
<td>Granite Tank</td>
<td>521117 3514218</td>
<td>Tank formed by an earthen dam that impounds storm water flows. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Not surveyed, but numerous CLFs of multiple age classes observed in Summer 2010 (Frog Conservation Project 2010).</td>
<td>CLFs were present in Spring 2011. One CLF observed during Summer 2011. Tank dried in Spring-early Summer 2011. Tank refilled with Summer monsoon rains.</td>
</tr>
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### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011

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<tr>
<td>Granite Mtn Tank</td>
<td>522717/3513980</td>
<td>Tank formed by an earthen dam that impounds storm water flows conveyed down Ophir Gulch.</td>
<td>Ten CLFs observed, calling spontaneously. Identification confirmed based on calls and visual observations with binoculars.</td>
<td>Numerous small CLFs observed. Aquatic wildlife observed included dragonflies, water boatmen, and beetles.</td>
<td>Four confirmed and one unconfirmed CLFs detected in 2010. Aquatic wildlife observed included dragonflies, water boatmen, and beetles.</td>
<td>No ranids or other herpetofauna detected during this survey. Deer, bobcat, and raccoon tracks observed in the mud. This tank had dried Spring – early Summer in 2011. Tank refilled with Summer monsoon rains.</td>
</tr>
<tr>
<td>Lower Granite Mtn Tank</td>
<td>522805/3514041</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Ophir Gulch.</td>
<td>Not surveyed. No surface water was present.</td>
<td>Not surveyed. No surface water was present during visits.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed includes dragonflies.</td>
<td>No ranids or other herpetofauna detected during survey.</td>
</tr>
<tr>
<td>Greaterville Tank</td>
<td>522772/3514693</td>
<td>This tank is formed by an earthen dam that impounds storm water flows.</td>
<td>Thirty-seven CLFs observed, four captured by net, two photographed. All appeared to be sub-adult to adult based on their size.</td>
<td>Numerous CLFs of various sizes observed. No tadpoles observed, but two egg masses were noted. The AGFD reported having released frogs to this tank in August 2009.</td>
<td>Four ranids observed on July 30 which could not be positively identified, but were probable CLFs due to their bright green coloring and the positive identification of nine CLFs at this location on August 20.</td>
<td>Over 75 individual CLFs observed. Other aquatic wildlife observed included water boatmen, dragonflies, belostomats, and beetles. Tracks of deer, dog, great blue heron, coyote, and javelina were present in the mud.</td>
</tr>
<tr>
<td>North Greaterville Tank</td>
<td>522467/3515592</td>
<td>This tank is formed by an earthen dam that impounds storm water flows.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Not surveyed by WestLand. Surveyed by Frog Conservation Project. No ranids noted.</td>
<td>Forty seven CLFs observed. No other aquatic wildlife detected.</td>
</tr>
<tr>
<td>Gunight Tank</td>
<td>523271/35232992</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Ophir Gulch.</td>
<td>No ranids detected.</td>
<td>No ranids or other herpetofauna detected during this survey Aquatic wildlife observed included dragonflies. Tracks of bear, deer, and turkey vulture were present.</td>
<td>No ranids or other herpetofauna detected during this survey Aquatic wildlife observed included dragonflies and boatmen.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Tank was dry during site visits.</td>
</tr>
<tr>
<td>Highway Tank</td>
<td>527542/3519369</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Oak Tree Canyon.</td>
<td>Single adult frog observed on each visit, but unable to capture for positive identification. No vocalizations, no response to call playback of <em>chiricahuensis</em> or <em>yavapaiensis</em>.</td>
<td>No ranids or other herpetofauna detected during 2009. Tank was dry in August. Thousands of tadpole shrimp (<em>Triops cancrowformis</em>) were noted on last visit of September 29.</td>
<td>No ranids or other herpetofauna detected during 2010. Water boatmen and dragonflies observed. Site was dry in September.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected during the spring survey when the pond was dry. After summer monsoon rains partially filled this tank, aquatic wildlife observed included beetles and dragonflies. No ranids or other herpetofauna observed during the post-monsoon surveys.</td>
</tr>
<tr>
<td>Locust Spring</td>
<td>522006/3518886</td>
<td>A damp seep with a short but dense riparian gallery along South Sycamore Canyon.</td>
<td>No ranids detected.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic fauna noted includes dragonflies, boatmen, and backswimmers.</td>
<td>No surveyed.</td>
<td>Not surveyed.</td>
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</tr>
<tr>
<td>Lower Fagan Lake</td>
<td>529225 3530653</td>
<td>Large tank formed by an earthen dam that impounds storm water flows. This feature is outside the project footprint.</td>
<td>No ranids. Dry in early September.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies, water boatmen, belostomatids, warm water fish and wading birds.</td>
<td>Not surveyed.</td>
</tr>
<tr>
<td>Lower Stock Tank</td>
<td>523171 3522125</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. Site is within Rosemont’s patented claim property. This feature is within the project footprint.</td>
<td>No frogs observed on 8/8/08. Two frogs seen on 8/25/08, but could not be captured for identification. Two frogs on 8/28/08, responded to tape playback, confirmed to be CLF's. Two frogs responded to tape playback on 9/5/08, identification confirmed with binoculars.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included water boatmen and dragonflies.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included water boatmen and dragonflies.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included water boatmen and dragonflies. This site has suffered severe OHV damage in 2011. Observed water levels fluctuated widely in 2011.</td>
</tr>
<tr>
<td>Old Mining Leach Tank (formerly referred to as Lower Stock Tank Waterer)</td>
<td>523226 3522129</td>
<td>This feature is a roofless concrete block structure with a trough that collects rain water. Trough is approximately 1.5 ft deep and 30 ft long. This feature is within the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids observed during this survey. In 2009 this site supported hundreds of juvenile Couch’s spadefoot toad (<em>Scaphiopus couchi</em>). Dragonflies, beetles, and boatmen were also present.</td>
<td>No ranids observed during this survey. Six juvenile Couch’s spadefoot toads observed. Dragonflies and boatmen were also noted.</td>
<td>No ranids observed during this survey. Over 100 spade foot toad tadpoles were present, along with boatmen, dragonflies, and beetles.</td>
</tr>
<tr>
<td>McCleary Canyon</td>
<td>523745 3523954 3522968</td>
<td>Search conducted for surface water. No ranids observed.</td>
<td>Search conducted for surface water. No ranids observed.</td>
<td>Search conducted for surface water. No suitable habitat for ranids found.</td>
<td>Search conducted for surface water. No ranids observed.</td>
<td>Search conducted for surface water. No ranids observed.</td>
</tr>
<tr>
<td>McCleary Stock Tank</td>
<td>523451 3523593</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down McCleary Canyon. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or other herpetofauna detected. Aquatic wildlife observed was limited to dragonflies.</td>
<td>No ranids or other herpetofauna detected. Aquatic wildlife observed was limited to dragonflies.</td>
<td>No ranids or other herpetofauna detected. Aquatic wildlife observed included water boatmen and dragonflies. Tank is used as a migrant watering station.</td>
</tr>
<tr>
<td>Mulberry Canyon</td>
<td>527717 3526388</td>
<td>This feature is a mesoriparian canyon with ephemeral flows. One area of perennial flows exists at the UTM coordinates provided. This area is adjacent to a cave-adit and supports a modest grove of riparian vegetation. This feature is outside the project footprint.</td>
<td>No ranids observed. No surface water present.</td>
<td>No ranids or other herpetofauna detected. Belostomatid beetle were the only aquatic wildlife observed. Several zone-tailed hawks and two great horned owls observed. Canyon was dry on second visit in September.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Three zone-tailed hawks and deer tracks were noted along the canyon.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies.</td>
</tr>
<tr>
<td>Mulberry Spring</td>
<td>527237 3527987</td>
<td>This feature is a spring at the head of Mulberry Canyon. A pipe feeds a round tank adjacent to spring. There is a mine adit next to this spring that is heavily used by illegal aliens and/or smugglers. This feature is outside the project footprint.</td>
<td>No ranids observed. Red-spotted toads noted.</td>
<td>See Mulberry Canyon Findings.</td>
<td>No ranids observed. Remains of at least 2 white-tailed deer were noted (possible mountain lion kill).</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
</tr>
</tbody>
</table>
Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF = Lowland leopard frog (Lithobates yavapaiensis)

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>UTM Coordinate (NAD 83)</th>
<th>Description of Feature</th>
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<th>2009 Findings</th>
<th>2010 Findings</th>
<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Mulberry Spring</td>
<td>527533</td>
<td>3526850</td>
<td>This feature is a spring at the headwaters of a tributary to Mulberry canyon. This is the site of a bandit camp. This feature is outside the project footprint.</td>
<td>No ranids observed. No surface water present.</td>
<td>See Mulberry Canyon Findings.</td>
<td>See Mulberry Canyon Findings.</td>
</tr>
<tr>
<td>North Basin Tank</td>
<td>524774</td>
<td>3519769</td>
<td>This feature is a concrete lined trough that collects conveyed storm water flows. This feature is within the project footprint.</td>
<td>No ranids observed. Tank was dry.</td>
<td>No ranids observed. Tank was dry.</td>
<td>No ranids observed. Tank was dry.</td>
</tr>
<tr>
<td>North Canyon</td>
<td>538651</td>
<td>3521213</td>
<td>This feature is a well-developed xeroriparian drainage that flows from the eastern foothills of the Santa Rita Mountains. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. The canyon was mostly dry. The only surface water present is an AGFD wildlife guzzler.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Entire reach of canyon was dry in 2010.</td>
</tr>
<tr>
<td>North Canyon Guzzler</td>
<td>532242</td>
<td>3529854</td>
<td>This feature is a wildlife drinker constructed by the AZGFD. Rainwater is collected in a large metal sheet, conveyed to a cistern, on fed into a concrete trough. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna detected during this survey. The pool contained numerous predatory insects. Water boatmen, backswimmers, beetles, and aquatic walking sticks were present.</td>
<td>No ranids or other herpetofauna detected during this survey. The pool contained numerous predatory insects. Water boatmen, backswimmers, and beetles were present.</td>
</tr>
<tr>
<td>Unnamed Tank at head of Oak Tree Canyon</td>
<td>525430</td>
<td>3519442</td>
<td>This feature is an artificial livestock waterer fed by water piped up to the crest of a ridge at the head of Oak Tree Canyon. This feature is just outside the project footprint.</td>
<td>No ranids observed. Tank was dry.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
</tr>
<tr>
<td>Oak Tree Canyon Tank</td>
<td>526904</td>
<td>3519365</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down Oak Tree Canyon. This feature is outside the project footprint.</td>
<td>One CLF confirmed.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included leeches.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies.</td>
</tr>
</tbody>
</table>

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WestLand Resources, Inc.
Engineering and Environmental Consultants
### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF = Lowland leopard frog (Lithobates yavapaiensis).

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<th>2010 Findings</th>
<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oak Tree Trough at Windmill</td>
<td>Easting: 529885</td>
<td>This feature consists of a windmill driven well and associated livestock waterers; a concrete trough and a large circular cistern. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
</tr>
<tr>
<td></td>
<td>Northing: 3518746</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oak Tree Canyon</td>
<td>Easting: 538708</td>
<td>This feature is a well-developed xeroriparian drainage that flows from the eastern foothills of the Santa Rita Mountains. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected.</td>
</tr>
<tr>
<td></td>
<td>Northing: 526254</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Easting: 5319240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northing: 3519516</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well in Ophir Gulch</td>
<td>Easting: 522909</td>
<td>This feature is a deep well in Ophir Gulch. Water level is typically greater than 6 feet below gradient. Frogs that are entrapped here cannot escape until water levels rise to a point near the surface. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>Four CLFs observed in the well on July’s survey, and two were seen in August. No other herpetofauna or other aquatic wildlife observed.</td>
<td>Three adult CLFs observed in May. One large adult black necked gartersnake was also observed at that time. No other aquatic wildlife observed. By early September, significant monsoonal storms had caused the water level to rise to a point where frogs could escape the well. No ranids were present at that time.</td>
</tr>
<tr>
<td></td>
<td>Northing: 3514041</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papago Spring</td>
<td>Easting: 527245</td>
<td>This feature consists of a spring adjacent to the headwaters of Papago Canyon. This feature is outside the project footprint.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Spring was dry during site visits.</td>
</tr>
<tr>
<td></td>
<td>Northing: 3526601</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papago Canyon</td>
<td>Easting: 528009</td>
<td>This feature is a xeroriparian ephemeral drainage. This feature is outside the project footprint.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>Papago Canyon was dry during site visits.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Cayman was dry during site visits.</td>
</tr>
<tr>
<td></td>
<td>Northing: 3525690</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questa Spring</td>
<td>Easting: 529549</td>
<td>This feature consists of a spring that is pipe-fed into a round concrete stock tank. This feature is outside the project footprint.</td>
<td>Spring was dry during site visits.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies and beetles.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies and beetles.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies, water boatmen, and beetles. Evidence of cattle, deer, coyotes, mountain lions, and various birds were present</td>
</tr>
<tr>
<td></td>
<td>Northing: 3521879</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rosemont Crest Tank</td>
<td>Easting: 523494</td>
<td>This tank is formed by an earthen dam that impounds storm water flows conveyed down gradient. This tank is frequently dry. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies, water boatmen, and backswimmers. This tank is heavily used by deer and javelina.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies, water boatmen, and backswimmers. This tank is heavily used by deer and javelina.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies and tadpole shrimp.</td>
</tr>
<tr>
<td></td>
<td>Northing: 3524567</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Notes: Features shown in bold print have been occupied or may have been occupied by ranid frogs. CLF = Chiricahua leopard frog (Lithobates chiricahuensis); LLF – Lowland leopard frog (Lithobates yavapaiensis)

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<tr>
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<th>2010 Findings</th>
<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosemont Spring</td>
<td>524864 3521381</td>
<td>This feature is a spring within a small canyon with a short reach of surface water that supports modest riparian vegetation. This feature is within the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids or other herpetofauna detected. Dragonflies observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
</tr>
<tr>
<td>Scholefield Spring</td>
<td>526496 3525228</td>
<td>This tank is formed by an earthen dam that impounds spring seepage in Scholefield Canyon. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Spring was dry in 2010.</td>
<td>No ranids or aquatic wildlife detected. Spring was dry during site visits.</td>
</tr>
<tr>
<td>Scholefield Canyon – Unnamed Spring</td>
<td>525314 3525655</td>
<td>This feature consists of a spring that is pipe fed into livestock waterer. This feature is outside the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Spring was dry in 2010.</td>
<td>No ranids or aquatic wildlife detected.</td>
</tr>
<tr>
<td>South Lower Stock Tank</td>
<td>523082 3522112</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids or other herpetofauna detected. Dragonflies observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
</tr>
<tr>
<td>South Sycamore Canyon</td>
<td>521885 3518360</td>
<td>This is a well-vegetated meso-riparian drainage with intermittent surface flows and a nearly perennial spring. This feature is outside the project footprint.</td>
<td>Two ranids observed approximately ½ mile (0.8 km) upstream from confluence with Box Canyon during other field efforts. When site was revisited for focused ranid survey, none were noted.</td>
<td>No ranids observed. Aquatic wildlife noted included dragonflies and water beetles. Other observations included coyote and coyote tracks.</td>
<td>No runs observed. Aquatic wildlife noted included dragonflies and water beetles. Other observations included deer, bear, fox, coyote and coyote tracks.</td>
<td>No runids observed. A single Colorado river toad was identified in August. Deer, black bear, coatis, and javelina use the water source. Beetles and dragonflies were present in August but not in April.</td>
</tr>
<tr>
<td>South Sycamore Canyon – Unnamed Spring</td>
<td>521903 3529088</td>
<td>This feature is a spring-fed perennial reach of Sycamore Canyon that supports a well-developed grove of riparian gallery trees consisting of sycamore, oak, willows, and mesquite. The watered canyon bottom is covered with horsetails and other riparian herbaceous plants. This feature is outside the project footprint.</td>
<td>See South Sycamore Canyon Findings.</td>
<td>No ranids or aquatic wildlife detected. This spring was dry in 2009.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Dry in September 2010.</td>
<td>No ranids, other herpetofauna, or aquatic wildlife detected. Spring was dry during site visits.</td>
</tr>
</tbody>
</table>
### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

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<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Upper Stock Tank</td>
<td>522985</td>
<td>3522138</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids or other herpetofauna detected. Dragonflies observed.</td>
</tr>
<tr>
<td>Sycamore Spring</td>
<td>522521</td>
<td>3527566</td>
<td>This feature consists of a pipe-fed spring box within a mesotoparian drainage that supports a well-developed grove of large sycamore trees. This feature is outside the project footprint.</td>
<td>No ranids observed. Black-necked gartersnakes and Sonoran Desert toads observed.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies. Tracks of coati and deer were noted.</td>
<td>No ranids or other herpetofauna detected during this survey. Aquatic wildlife observed included dragonflies.</td>
</tr>
<tr>
<td>Thurber Tank 1</td>
<td>525946</td>
<td>3517062</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
</tr>
<tr>
<td>Thurber Tank 2</td>
<td>525852</td>
<td>3517030</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
</tr>
<tr>
<td>Thurber Tank 3</td>
<td>524865</td>
<td>3518121</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
<td>Not surveyed</td>
</tr>
<tr>
<td>Upper Stock Tank</td>
<td>523061</td>
<td>3522167</td>
<td>This tank is formed by an earthen dam that impounds storm water flows. This feature is within the project footprint.</td>
<td>No ranids observed.</td>
<td>No ranids or aquatic wildlife detected.</td>
<td>No ranids or other herpetofauna detected. Dragonflies observed.</td>
</tr>
<tr>
<td>Unnamed Tank 1</td>
<td>529259</td>
<td>3529469</td>
<td>Reservoir located just west of Davidson Canyon, northeast of project area. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna observed. Dragonflies and wading birds observed.</td>
</tr>
</tbody>
</table>
### Table 5. Ranid Survey Results for the Rosemont Holdings and Vicinity - 2008 through 2011.

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<th>2011 Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easting</td>
<td>Northing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unnamed Tank 2</td>
<td>331485</td>
<td>3530705</td>
<td>Reservoir with small canopy of Gooding’s willow and mesquite. Located just west of Davidson Canyon, northeast of project area. This feature is outside the project footprint.</td>
<td>Not surveyed.</td>
<td>Not surveyed.</td>
<td>No ranids or other herpetofauna observed. Warm water fish abundant; largemouth bass were visible as well as mosquitofish and sun fish. Insect life consisted of boatmen, backswimmers, dragonflies, belostomatids and beetles. Great blue herons were also observed.</td>
</tr>
</tbody>
</table>
4.2. PRECIPITATION DATA

It has been observed that ranid site occupancy changes or fluctuates, particularly at stock tanks and other small dynamic aquatic systems, due to immigration and colonization, which usually occur during warmer, wetter months (USFWS 2003). Precipitation, particularly during the summer rainy season, appears to have an important influence on the dispersal capabilities of ranid frogs (AGFD 2006).

Total monsoon rainfall in the Rosemont Area from 2009 through 2011 has been low in comparison with the 2008 monsoon (Table 6). A summary of Rosemont precipitation data from October 2010 through September 2011 is presented in Table 7. Data collected in 2011 shows lower than average precipitation throughout the year, with light winter and spring rainfall December through April, and a relatively dry monsoon season. Exhibit 1 illustrates monthly precipitation from October 2010 through September 2011.

Table 6. Total Monsoon Rainfall in the Rosemont Area 2008 through 2011.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Monsoon Rainfall (inches)</th>
<th>(cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>13.06</td>
<td>33.17</td>
</tr>
<tr>
<td>2009</td>
<td>7.12</td>
<td>18.10</td>
</tr>
<tr>
<td>2010</td>
<td>7.47</td>
<td>18.97</td>
</tr>
<tr>
<td>2011</td>
<td>8.07</td>
<td>20.50</td>
</tr>
</tbody>
</table>

Table 7. Monthly Summary of Rosemont Precipitation Data, October 2010 through September 2011.

Precipitation data are available from a weather station maintained by Rosemont in the Study Area approximately 1.2 miles (1.9 km) west of Rosemont Junction. Data provided by Applied Environmental Consultants. April, May, and September 2011 data have been supplemented by regional data from the National Climactic Data Center due to missing data from the weather station.

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Precipitation (inches)</th>
<th>12-Month Sum (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2010</td>
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</table>
4.3. CONSERVATION MEASURES IMPLEMENTED IN 2011

In 2011, two environmental factors, drought and fire, posed potential threats to the Chiricahua leopard frog population in the Greaterville area. Two stock tanks known to support breeding ranids, Greaterville Tank and California Gulch Tank West, were in danger of drying prior to the onset of monsoon rains. WestLand biologists were in contact with various agencies/groups, including Arizona Game and Fish Department (AGFD), USFWS, Coronado National Forest, and the Frog Conservation Project, in an effort to manage the stock tanks in the Greaterville area due to the drought and fire. In response to the drying of the tanks, water levels at California Gulch Tank West were supplemented by piped water provided by the Thurber/Rosemont Ranch, and AGFD and others had numerous water deliveries via truck to Greaterville Tank in order to maintain water levels sufficient for ranid survival.

The “Greaterville Fire” began May 2, 2011. The fire burned approximately 1,800 acres near Greaterville Road and the burn area encompassed the lands surrounding Greaterville Tank as well as the headwaters of its watershed (Figures 2 and 3). Resource agency personnel expressed concern that the erosion of large amounts of ash-laden runoff into Greaterville Tank might reduce the water quality at Greaterville Tank to the extent that it would negatively impact the Chiricahua leopard frogs there. WestLand conducted field reconnaissance on July 1, 2011, to evaluate the fire’s potential impacts on local frogs. As a result of the reconnaissance, Rosemont directed WestLand to implement efforts aimed at reducing ash runoff into Greaterville Tank in order to minimize potential impacts on the frogs. Straw wattle barriers were installed by WestLand on July 5, 6, and 7, 2011, in an effort to reduce runoff and erosion from an unnamed drainage to Greaterville Tank. A total of 1,075 feet (328 m) of straw wattle were installed along the
unnamed drainage. The wattle reduced ash flow into the tank through surface runoff by forming a permeable barrier that reduced the velocity of the stormwater and filtered suspended ash from the runoff.

On August 15, WestLand visited Greaterville Tank and found that monsoon rains had refilled the pond, and that some of the wattle had washed downstream. The burned-over landscape throughout the watershed surrounding the tank resulted in a high volume of runoff being deposited in the tank. The runoff formed a mat of floating debris that covered approximately half the pond’s surface area. Several Chiricahua leopard frogs were observed at that time, indicating that the post-runoff water quality was sufficient for ranid survival. A formal survey subsequently conducted by WestLand on August 31 resulted in the detection of 48 Chiricahua leopard frogs. Greaterville Tank was last visited by WestLand the night of September 17. Spontaneous Chiricahua leopard frog vocalizations were heard at that time.

In addition to the water supplementation and placement of erosion-control structures, in anticipation of the impending desiccation of Greaterville Tank and the potential adverse effects of ash-laden runoff on Chiricahua leopard frogs occupying the tank, AGFD removed a number of frogs from Greaterville Tank and translocated them to suitable locations, including California Gulch Tank West, Louisiana Gulch, and at the confluence of Sawmill and Gardner Canyons.
5. REFERENCES CITED


FROG Conservation Project. 2010. Survey data provided by FROG Conservation Project.


SOUTHEAST PIMA COUNTY

Approximate Scale 1" = 10 Miles

PROJECT LOCATION

Pima County, Arizona
Mt. Fagan, Empire Ranch,
Corona de Tucson,
Helvetia, The Narrows &
Spring Water Canyon
USGS 7.5 Minute Quadrangles

ROSEMONT PROJECT
2011 RANID SURVEY OF THE
ROSEMONT HOLDINGS AND VICINITY

Vicinity Map
Figure 1
2011 RANID SURVEY OF THE ROSEMONT HOLDINGS AND VICINITY
2011 Survey Coverage

Legend
- Ranid Survey Conducted, No Ranids Observed
- Search Conducted for Surface Water
- Rosemont Holdings
- Coronado National Forest
- Bureau of Land Management
- State Trust
- Rosemont Project Boundary
- Greaterville Fire Boundary
- BAER Imagery Support, Forest Service Region 3
Note: The proposed utility alignment is based on the Barrel Only planning to date. Engineering design is not complete.

Ranid Survey Conducted, No Ranids Observed

Legend

-(project area)
- BAER Imagery Support, Forest Service Region 3
- Search Conducted for Surface Water
- Lowland Leopard Frog
- American Bullfrog

Figure 3

ROSEMONT HOLDINGS AND VICINITY
2008-2011 Survey Coverage

Figure 3
Q:

Jobs 1000’s

1049.23

Task 300

Ranid Survey 2011

Final 2011

Final 2011 122211 Submittal

photo pages 122111.docx

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Photo 1. 4066 Tank 5/17/2011


Photo 2. 4066 Tank 8/18/2011

Photo 5. Adobe Tank 8/18/2011

Photo 3. Waterer at 4066 Tank 8/18/2011

Photo 6. Andrada Tank 4/15/2011

---

ROSEMONT COPPER COMPANY

2011 Ranid Survey

PHOTOSHEET 1
Photo 7. Andrada Tank 8/19/2011


Photo 10. Barrel Tank 5/16/2011

Photo 11. Barrel Tank 8/15/2011

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ROSEMONT COPPER COMPANY
2011 Ranid Survey
PHOTOSHEET 3

Photo 20. Box Canyon Tank No. 1 4/29/2011

Photo 21. Box Canyon Tank No. 1 8/24/2011

Photo 22. Box Canyon Tank No. 2 8/24/2011

Photo 23. Box Canyon Tank No. 2 8/24/2011
Adult Chiricahua leopard frog (*Rana chiricahuensis*) in leaf litter on tank bottom

Photo 24. Box Canyon Dam 8/24/2011
Photo 25. Box Canyon Dam 8/24/2011
Canyon treefrog (*Hyla arenicolor*) tadpole

Photo 26. Pools in Box Canyon Lower Reach 5/16/2011

Photo 27. Pools in Box Canyon Lower Reach 5/16/2011

Photo 28. Pools in Box Canyon Lower Reach 5/16/2011

Photo 29. Pools in Box Canyon Lower Reach 8/24/2011

Photo 30. Box Canyon Lower Reach 5/16/2011
Photo 31. Box Canyon Lower Reach 8/24/2011

Photo 32. Box Canyon Lower Reach 8/24/2011
Canyon treefrog tadpole (*Hyla arenicolor*)

Photo 33. Box Canyon Lower Reach 9/12/2011
Chiricahua leopard frog (♀) observed during night survey

Photo 34. Box Canyon Tank 8/24/2011


Photo 36. California Gulch Tank 8/30/2011
Photo 37. California Gulch Tank West 8/30/2011

Photo 38. Cemetery Tank 5/20/2011


Photo 40. Crucero Spring 5/18/2011

Photo 41. Davidson Canyon 8/26/2011

Photo 42. Davidson Canyon 8/26/2011
Q: Jobs
1000's
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Task 300
Ranid Survey
2011
Final 2011
122211 Submittal
photo pages 122111.docx

Photo 43. Davidson Canyon Tank 5/23/2011

Photo 44. Davidson Canyon Tank 8/26/2011

Photo 45. Davidson Canyon Windmill 8/25/2011

Photo 46. Davidson Canyon Windmill 8/25/2011
Goldfish (Carassius auratus)

Goldfish (Carassius auratus)

Photo 47. Davidson Canyon (Upper Reach) 5/23/2011

Photo 48. Unnamed tank at Davidson Canyon 5/23/2011

ROEMONT COPPER COMPANY
2011 Ranid Survey
PHOTOSHEET 8
Photo 49. Deering Spring and Tanks
Cement Cistern 8/23/2011

Photo 50. Deering Spring and Tanks
Metal drinker 5/4/2011

Photo 51. Deering Spring and Tanks
Metal drinker 8/23/2011

Arizona giant sedge in upper right


ROSEMONT COPPER COMPANY
2011 Ranid Survey
PHOTOSHEET 9
Photo 61. East Dam Outfall – pool above dam 8/16/2011

Photo 62. East Dam Outfall 8/16/2011
Mexican spadefoot (*Spea multiplicata*) tadpoles


Photo 64. East Dam Outfall – pool below dam 11/4/2011


Photo 66. Unnamed Tank at Empire Gulch 8/21/2011
Chiricahua leopard frog (*Rana chiricahuensis*) observed during night survey.
Q:

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Task 300

Ranid Survey 2011

Final 2011

Final 2011 122211 Submittal

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Photo 73. Greaterville Tank 4/15/2011

Photo 76. Greaterville Tank 4/15/2011

Chiricahua leopard frog late-stage tadpole

Photo 74. Greaterville Tank 4/15/2011

Chiricahua leopard frog - metamorph

Photo 77. Greaterville Tank 7/1/2011

Photo 75. Greaterville Tank 4/15/2011

Chiricahua leopard frog – posterior thigh pattern

Photo 78. Greaterville Tank 8/15/2011

ROSEMONT COPPER COMPANY

2011 Ranid Survey

PHOTOSHEET 13
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ROSEMONT COPPER COMPANY
2011 Ranid Survey
PHOTOSHEET 14
Photo 85. Lower Stock Tank 4/11/2011

Photo 86. Lower Stock Tank 8/29/2011

Photo 87. Lower Stock Tank 11/4/2011

Photo 88. Old Mining Leach Tank 4/11/2011

Photo 89. Old Mining Leach Tank 8/29/2011

Photo 90. Old Mining Leach Tank 11/4/2011
Photo 91. Lower McCleary Canyon at metal tank 4/27/2011

Photo 92. Lower McCleary Canyon at Dam 4/27/2011

Photo 93. Lower McCleary Canyon at Dam 4/27/2011

Photo 94. Lower McCleary Canyon at metal tank 8/16/2011

Photo 95. Upper McCleary Canyon at cement well-head 4/27/2011

Photo 96. Upper McCleary Canyon at cement drinker 4/27/2011

ROSEMONT COPPER COMPANY

2011 Ranid Survey
PHOTOSHEET 16
Photo 97. Upper McCleary Canyon at unnamed spring 4/27/2011

Photo 98. McCleary Tank 4/18/2011

Photo 99. Mulberry Canyon 5/18/2011

Photo 100. Mulberry Canyon at Cave 8/30/2011

Photo 101. Mulberry Canyon at Cave 8/30/2011

Photo 102. Mulberry Spring 5/18/2011
Photo 115. Oak Tree Trough at Windmill 8/19/2011

Photo 116. Oak Tree Trough at Windmill 8/19/2011

Photo 117. Oak Tree Trough at Windmill 8/19/2011

Photo 118. Oak Tree Canyon 4/28/2011

Photo 119. Oak Tree Canyon 8/18/2011

Photo 120. Well in Ophir Gulch 4/15/2011
Q:

Jobs:

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Task 300

Ranid Survey 2011

Final 2011

Final 2011 122211 Submittal

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Photo 121. Well in Ophir Gulch 4/15/2011


Photo 122. Papago Canyon 5/20/2011

Photo 125. Questa Springs 8/18/2011

Photo 123. Papago Springs – Arizona giant sedge

5/20/2011

Photo 126. Rosemont Crest Tank 4/12/2011

ROEMONT COPPER COMPANY

2011 Ranid Survey

PHOTOSHEET 21
Photo 127. Rosemont Spring 5/16/2011

Photo 128. Rosemont Spring 8/15/2011

Photo 129. Rosemont Spring 8/15/2011

Photo 130. Scholefield Spring – Arizona giant sedge 5/17/2011

Photo 131. Scholefield Spring 5/17/2011

Photo 132. Unnamed Spring (WNW) of Scholefield Spring 8/26/2011
Q: Jobs

1000's

1049.23

Task 300

Ranid Survey 2011

Final 2011

Final 2011 122211 Submittal

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Photo 133. South Lower Stock Tank 4/11/2011

Photo 134. South Lower Stock Tank 8/16/2011

Photo 135. South Lower Stock Tank 8/29/2011


Photo 137. South Sycamore Canyon – common monkey flower (Mimulus guttatus) 4/29/2011

Photo 138. South Sycamore Canyon 4/29/2011

Photo 135. South Lower Stock Tank 8/29/2011

Photo 138. South Sycamore Canyon 4/29/2011
Q: Jobs 1000's

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Task 300

Ranid Survey 2011

Final 2011

Final 2011 122211 Submittal

photo pages 122111.docx

Photo 139. South Sycamore Canyon 8/23/2011

Photo 140. South Sycamore Canyon 8/23/2011

Photo 141. South Sycamore Canyon 8/23/2011

Photo 142. Sycamore Spring at spring box 4/12/2011.

Note: Arizona giant sedge on right

Photo 143. Thurber Tank 2 9/17/2011

Mexican spadefoot (*Spea multiplicata*)

Photo 144. South Upper Stock Tank 4/11/2011

Photo 142. Sycamore Spring at spring box 4/12/2011.

Note: Arizona giant sedge on right

Photo 143. Thurber Tank 2 9/17/2011

Mexican spadefoot (*Spea multiplicata*)

Photo 144. South Upper Stock Tank 4/11/2011
Photo 145. South Upper Stock Tank 8/16/2011

Photo 146. South Upper Stock Tank 11/4/2011

Photo 147. Upper Stock Tank 4/11/2011

Photo 148. Upper Stock Tank 8/16/2011

Photo 149. Upper Stock Tank 11/4/2011

Photo 150. Unnamed Tank No. 1 9/18/2011
APPENDIX B

2011 CHIRICAHUA LEOPARD FROG VISUAL ENCOUNTER SURVEY DATA
**SITE:** 4066 Trunk

**LOCATION:** Rosentr

**ELEV:** 1555 ft

**H2O CLASS:** Lentic Lotic

**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** AZ 63 to FS 4072; FS 4072 to 4066 Trunk

**DATE:** 05/17/2011

**START:** 10:43

**STOP:** 10:53

**SEARCH TIME:** 10 min

**OBSEVERS:** M. Cross/ B. Ruchman

**EFFORT:** Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback

**T Air:** 90 F

**T Water:** 70 F

**EC:** µs

**pH:**

**RH:** %

**H2O CLARITY:**

**WIND:** ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-16 mph 17-20 mph 21-24 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None

**LENTIC LENGTH:** m

**LENTIC WIDTH:** m

**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

** RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >60 m

**SUBSTRATE:** Mud/Silt Sand Gravel Cobbles Boulder Bedrock Artificial

**VEGETATION:**

**PROMINENT SPECIES:** No Vegetation

**PREDATORS:** (include scat and tracks)

Leeches Boatmen/Backswimmers Dragonflies Beficolmatids Bees Warm water fish Cold water fish Tiger salamanders Bullfrogs Mud turtles Gartersnakes Wading birds Hawks, black & zone-tailed Mammals Crayfish

**OTHER ORGANISMS:**

**SITE / SURVEY NOTES:** Dry Site

**SPECIES:**

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<th>LIFE STAGE</th>
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**COMMENTS:** No Riparian Herpetofauna Observed
**SITE:** 4066 Tank

**QUAD:** Emory Fush

**ELEV:** 4905 ft

**H2O CLASS:** Lentic

**H2O TYPE:** Canal

**UTM ZONE:** 11

**UTM EASTING:** 525553

**UTM NORTHING:** 3518637

**YEAR:** 1996

**ST-CNTY:** AZ-Pima

**Directions:** Out at 4072. From Kress Rd., follow Old Hwy 65 south.

**Visit Conditions**

**DATE:** 08/18/1996

**START:** 11:00

**STOP:** 11:05

**SEARCH TIME:** 5 min

**OBERVERS:** Mike Cross, Ken Warner

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**DRY:** N

**RELEASE:** Y

**T Air:** 33 °C

**T Water:** 13 °C

**EC:** 260 µS

**pH:** 7.6

**RH:** 85%

**H2O CLARITY:** Extremely clear

**WIND:** 1-7 mph

**PRECIPITATION:** Intermittent rain

**LENTIC LENGTH:** 45 m

**LENTIC WIDTH:** 1.5 m

**LOTIC WIDTH:** 0.5-1 m

**SUBSTRATE:** Mud/Silt

**Vegetation:** Brown grass in bed, which is damp. Bed surveyed for potential amphibians.

**Predators:** (Include scat and tracks)

Leeches, Rattlesnakes, Dragonflies, Bees, Warm water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hams, black & zone-tailed Mammals, Crayfish

**Site/ Survey Notes:** End is Org. Green grass in bed which is damp. Bed surveyed for potential amphibians.

**Riparian Herpetofauna Observations**

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**Comments:** Do Riparian Herpetofauna Observed
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Water at 4066 Tank  
**SITE AT:** Roserai

**UTM ZONE:** 11  
**UTM EASTING:** 525506  
**UTM NORTING:** 3518733

**QUAD:** East  
**MIN:** 7.5  
**YEAR:** 1996  
**ST-CNTY:** AZ - PIMA

**ELEV:** 560 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow

**DIRECTIONS:** AZ 83 to FS 4072; FS 4072 to

Visit Conditions

**DATE:** 05/17/2001  
**START:** 1050  
**STOP:** 1057  
**SEARCH TIME:** 5 min  
**OBSERVERS:** M. CROSS/B. Radclu

**EFFORT:** 25 meters  
**PERIMETER:** Total Perimeter  
**PARTIAL PERIMETER:** Left Bank  
**RIGHT BANK:** Both Banks  
**SEARCH METHODS:** Dipnet  
**SEINE:** Trap  
**HAND EXPLORATION:** Snorkel  
**VEHICLE:** Boat  
**CELL PLAYBACK:** Other  
**DRY:** Y  
**RELEASE:** Y

**T_AIR:** 90°F  
**T_WATER:** 60°F  
**EC:** µS  
**pH:** 6  
**RH:** %  
**H2O CLARITY:** Extremely clear

**WIND:** ≤ 1 mph  
**CLOUD COVER:** 0-20%  

**PRECIPITATION:** Intermittent rain  
**SPECIES:** R. aviventeris

**LENGTH:** 2.5 m  
**LENTIC WIDTH:** 0-2 m  
**LOTIC WIDTH:** 0-2 m  
**RIPARIAN WIDTH:** 3-5 m

**GEOGRAPHIC:** No tape

**VOTED SPECIES:**

**PREDATORS:**

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE/SURVEY NOTES:** 4066 Tank/Reservoir

Riparian Herpetofauna Observations

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<th>LIFE STAGE</th>
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<tr>
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<td>Egg Larvae Juvenile Adult</td>
</tr>
</tbody>
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**COMMENTS:**

No Riparian Herpetofauna observed.
RACH / Riparian Herp VES Datasheet

**SITE:** Steeltank at 4066 Tank

**UTM ZONE:** 11
**UTM EASTING:** 525523
**UTM NORTING:** 3518.730

**Quadrat:** Empire Point

**Elevation:** 4922 ft

**H2O CLASS:** Lentic (Lotic)

**H2O TYPE:** Canal plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**Directions:** AEZ 31 to FS 6072; FS 6072 to Tank.

**Visit Conditions**

**DATE:**

**Start:**

**Stop:** 11/5 11/30

**SEARCH TIME:** 10 min

**Observers:** Mike, Chris, En, Warren

**Search Methods:** Dipnet, Seine, Trap, Hand, Snorkel, Boat, Calm playback

**Dry:** Y

**Release:** Y

**WIND:** <1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**Cloud Cover:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**Precipitation:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**Lentic Length:** 3 m

**Lentic Width:** 3 m

**Lotic Width:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**Riparian Width:** 1-3 m, 3-5 m, 5-10 m, 11-20 m, 21-50 m, >50 m

**Substrate:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation:** Floating, Submerged, Emergent, Perimeter, Canopy

**Prominent Species:** Z

**Other Organisms:** Coral, Bees

**Other Org. Notes:** Road Tank (behind) just upgradient of 4066 Tank in coral.

**Riparian Herpetofauna Observations**

<table>
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<tr>
<th>Species</th>
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<td>Nu Ripar in Herpetofauna</td>
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</table>

Continued on another sheet? Y N
**Locality Data**

- **SITE**: Adobe Tank
- **SITE AT**: Pima

**UTM ZONE**: 11S
- **UTM EASTING**: 527872
- **UTM NORTING**: 3521486
- **NAD83**
- **NAD27**

**NEW SITE NUM**: __________

**ELEV**: 4762 ft

**H2O CLASS**: Lentic
**H2O TYPE**: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS**: Az 83 to Fs 4065; Fs 4065 to Tank

**Visit Conditions**

- **DATE**: 29/1/2001
- **START**: 9:00
- **STOP**: 9:15
- **SEARCH TIME**: 15 min

**EFFORT**: M. Cross / R. Ward

**SEARCH METHODS**: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

- **T Air**: 28°C
- **T Water**: 28°C
- **EC**: 28 mS
- **pH**: 7.8
- **RH**: 50%
- **H2O CLARITY**: Very turbid
- **WIND**: <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph
- **CLOUD COVER**: 0-20% 21-40% 41-60% 61-80% 81-100%
- **PRECIPITATION**: None
- **LENTIC LENGTH**: 0-2 m
- **LENTIC WIDTH**: 0-5 m
- **LOTIC WIDTH**: 6-10 m
- **SUBSTRATE**: Mud/Silt Sand Gravel/Cobble Boulder Bedrock Artificial

**VEGETATION WIDTH**: 2-5 m

- **Floating**: No Vegetation
- **Submerged**: No Vegetation
- **Emergent**: No Vegetation
- **Perimeter**: No Vegetation
- **Canopy**: No Vegetation

**OTHER ORGANISMS**: DRY Site

**PREDATORS**: Leeches Boitmers/Baor streamers Dragonflies

**Riparian Herpetofauna Observations**

- **SPECIES**: Uncertain Certain
- **CERTAINTY**: Egg Larvae Juvenile Adult
- **LIFE STAGE**: #
- **COMMENTS**: No Riparian Herpetofauna observed.

Continued on another sheet? Yes
**SITE:** Adobe Tuck
**SITE AT:** Rosemont

**NEW SITE:**
**NUM:**

**UTM ZONE:** 11
**EASTING:** 527837
**NORTHING:** 352150

**QUAD:** Empire Ranch
**MIN:** 75
**YEAR:** 1996
**ST-CNTY:** AZ-Pima

**ELEV:** 4370 ft
**H2O CLASS:** Lentic Lotic
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock Tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** 42.83 to 71065; 71065 E to 200 m. Tuck in w utm

**DATE:** 28/12/2011
**START:** 1405
**STOP:** 1410
**SEARCH TIME:** 4 min
**OBSERVERS:** Eric Wallace

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback

**DRY:** Y
**RELEASE:** Y

**WIND:** ≤1 mph 1-5 mph 6-12 mph 13-16 mph 17-24 mph >24 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**LENTIC LENGTH:** m
**LENTIC WIDTH:** m
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**VEGETATION:** %
**PROMINENT SPECIES:**

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:** Pond is dry.

**SITES / SURVEY NOTES:**

**RIPARIAN HERPETOFAUNA OBSERVATIONS**

**SPECIES:**
Uncertain
Certain

**CERTAINTY:**
Egg
Larvae
Juvenile
Adult

**LIFE STAGE:**

**NUMBER:**

**COMMENTS:**
N Riparian Herpetofauna observed.
**Site:** Andrada Tank

**Site at:** North Canyon

**UTM Zone:** 11S

**UTM Easting:** 2,013,932

**UTM Northing:** 351,965

**NAD83**

**Quad:** Empire Ranch

**Min:** 7B

**Year:** 1981

**ST-Cnty:** AZ-Pima

**Elev:** 4,783 ft

**H2O Class:** Lotic

**H2O Type:** Plant outflow

**Directions:** Hwy 88 to Empire Ranch entrance, Empire Ranch Road to L.C. 901

---

**Visit Conditions**

**Date:** 4/15/2011

**Start:** 08:05

**Stop:** 08:33

**Search Time:** 20 min

**Observers:** Rich Ward, Ben Reckham

**Vouchers:** Specimen Photos: 23

**Bryophytes:** Y

**Specimen:** Y

**Specimen #:** 12

**Dry:** Y

**Release:** Y

**Search Methods:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**Air:** [Data]

**Water:** [Data]

**EC:** [Data]

**pH:** [Data]

**RH:** [Data]

**H2O Clarity:** Extremely clear, Moderately clear, Extremely turbid

**Wind:** [Data]

**Precipitation:** None

**Lentic Length:** 0-2 m

**Lotic Width:** 0-2 m

**Riparian Width:** 0-2 m

**Vegetation:** [Data]

**Prominent Species:** [Data]

**Substrate:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

---

**Vegetation:** [Data]

**Site/Survey Notes:**

Oat grass blend with scattered mesquite, grazing cattle more abundant than previous year.

---

**Riparian Herpetofauna Observations**

**Species:** [Data]

**Certainty:** [Data]

**Life Stage:** [Data]

**#**

**Comments:** [Data]
**SITE: Andrew’s Tank (Upper) Lower** | **SITE AT:** Roosevelt

For use by central data repository only:

**NEW SITE:** | **NUM:**

**QUAD:** Empire Pk | **MIN:** 7.5

**ELEV:** 4590 ft | **YEAR:**

**H2O CLASS:** Lotic | **ST-Cnty:**

**H2O TYPE:** Plant outflow | **SEARCH TIME:**

**DIRECTIONS:** As S3 to Empire Pk Rd; Empire Pk Rd to Oak tree, Cypress Rd. Oak tree Cypress Rd N wth Cypress Rd

**DATE:** 08/18/2011 | **START:** 1220

**EFFORT:** Traps Partial Perimeter | **SEARCH METHODS:**

**SEARCH METHODS:** Seine | **TAX: 31 °C**

**TAX:**

**EC:** 25 us | **pH:**

**RH:** % | **H2O CLARITY:** Extremely clear

**WIND:** 4-7 mph | **CLOUD COVER:** 0-20%

**PRECIPITATION:** Intermittent rain | **21-40%**

**LENTIC LENGTH:** 15 m | **LOTIC WIDTH:** 0-2 m

**RIPARIAN WIDTH:** 0-20 m | **SUBSTRATE:** Mudflat, Sand, Gravel

**VEGETATION:** % | **PROMINENT SPECIES:** Duckweird

Floating | Leeches

Submerged | Dragonflies

Emergent | Belosoma

Perimeter | Cold water fish

Canopy | Tiger salamander

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:** Hawks, black & zone-tailed Mammals Crayfish

**SPECIES:** Egg Larvae Juvenile Adult

**CERTAINTY:** Uncertain Certain

**LIFE STAGE:**

**COMMENTS:** No Riparia Vegetates
**SITE:** Barbel Spring  
**SITE AT:** Rosemont

**NEW SITE:** Y  
**NUM:** -- --

**UTM ZONE:** 11  
**EASTING:** 550,110  
**NORTHING:** 33,255,788

**UTM:** NAD83  
**ZONE:** NAD27

**QUAD:** Emry Pines Ranch  
**MIN:** 15  
**YEAR:** 1987  
**ST-CNTRY:** AZ - PLMA

**ELEV:** 1,229 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal

**DIRECTIONS:** AZ 63 to Dr. RD @ 3304401352-5826. Go east 1000 ft.  
Continue on Oak Creek Canyon Gorge road 1000 ft.  
Continue on Oak Creek Spring  

**DATE:** 05.10.12  
**START:** 14:15  
**STOP:** 14:20  
**SEARCH TIME:** 0 min  
**OBSERVERS:** MCROSS, J. ARCHEN

**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet  
**H2O CLARITY:** Clear

**WIND:** < 1 mph  
**PRECIPITATION:** None  
**LENTIC LENGTH:** 10 m  
**LENTIC WIDTH:** 0.2 m  
**LOTIC WIDTH:** 3-5 m  
**SUBSTRATE:** Sand/Gravel  
**RIPIRAN WIDTH:** 21-50 m  

**VEGETATION:** N/A  

**OTHER ORGANISMS:** None  

**SITE / SURVEY NOTES:** Dry Site

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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<tr>
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<td>Egg Larvae Juvenile Adult</td>
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<td>No Riparian Herpetofauna</td>
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</tbody>
</table>

Continued on another sheet? Y | N
### RACH / Riparian Herp VES Datasheet

**Locality Data**

- **SITE**: Proud Springs
- **GPS**: Cany
- **SITE AT**: 20.15

**UTM ZONE**: 11 (12) 3
**UTM EASTING**: 530414
**UTM NORTING**: 3525758
**ST-CNTY**: AZ - D10A

**NEW SITE**: EMPIRE
**NUM**: ___
**MIN**: 7.5 15
**YEAR**: 15 5 6
**H2O TYPE**: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS**: AZ 83 to Dirt Rd at 350410/35257525 to Davids Canyon Take Huss Stem to Tank

**Visit Conditions**

- **DATE**: 06/21/2011
- **START**: 1420
- **STOP**: 1430
- **SEARCH TIME**: 5 min
- **OBSERVERS**: Mike ~ Piek

**SEARCH METHODS**: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

**T-Air**: 37° F
**T-Water**: 29° F
**EC**: μS
**pH**: 6
**RH**: %

**H2O CLARITY**: Extremely clear Moderately clear Extremely turbid

**WIND**: 0-1 m/s 1-3 m/s 4-7 m/s 8-12 m/s 13-18 m/s 19-24 m/s >24 m/s

**CLOUD COVER**: 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION**: None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH**: 0 m
**LENTIC WIDTH**: 0 m
**LOTIC WIDTH**: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH**: 0 m 1-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**SUBSTRATE**: (mark 1-3)
- Mud/Silt
- Sand
- Gravel
- Cobble
- Boulder
- Bedrock
- Artificial

**VEGETATION**: %
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**PRONOMINENT SPECIES**: No Vegetation

**OTHER ORGANISMS**: None

**OTHER ORG. NOTES**: Sprigs red pipe8 convey H2O to Bedrock Tank A

**Riparian Herpetofauna Observations**

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**Notes**

Springs red pipe convey H2O to Bedrock Tank A.
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Barcel Tank  *SITE AT: Rosemint

*UTM ZONE: 11  *UTM EASTING: 530176  *UTM NORTHING: 382555.6  NAD83

*MIN: 7.5  *YEAR: 1981  *ST-CNTY: AZ - Pima

*QUAD: HELVETIA  *ELEV: 423 ft  *H2O CLASS: Lentic  *H2O TYPE: Stock tank

DIRECTIONS: A883 to FS 231; FS 231 to FS 4058; FS 4058 to 524103/359605; Park and walk SE to Tank

Visit Conditions

DATE: 05/16/2011  **START: 1524  **STOP: 1524  **SEARCH TIME: 0 min  **OBSERVERS: M. Cross, B. Reckman

*EFFORT: Total Perimeter  Perimeter Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Cell playback

*TAR: °C  °F  EC: μS  pH:  RH: %  *H2O CLARITY: Extremely clear Moderately clear Extremely turbid

*WIND: ≤1 mph 1-3 mph  4-7 mph  8-12 mph  13-18 mph  19-24 mph >24 mph  **CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: None  Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: m  **LENTIC WIDTH: m  **LOTIC WIDTH: 0-2 m 3-5 m 5-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  *SUBSTRATE: (mark 1-3) Mud/Wet Sand Gravel Cobble Boulder Bedrock Artificial

*VEGETATION: Floating  Submerged  Emergent  Perimeter  Canopy

**PROMINENT SPECIES:

*PREDATORS: (include scat and tracks) Leeches  Boatmen/Backswimmers  Dragonflies  Belostomatids  Reptiles  Warm water fish  Cold water fish  Tiger salamanders  Bullfrogs Mud turtles  Garter snakes  Wading birds  Hawks, black & zone-tailed  Mammals  Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES: Tank is dry

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES:</th>
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</table>
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Baret Tank  
*SITE AT: Rosamont

For use by central data repository only:

NEW/SITE:  
NUM:  

*UTM ZONE: 11 (W)  
*UTM EASTING: 524,418  
*UTM NORTING: 351,240  
(NAD83 NAD27)

*QUAD: Empire Ranch  
*MIN: (7.5) 15  
*YEAR: 1996  
*ST-CNTY: AZ - PIMA

ELEV: 5160 ft  
*H2O CLASS: Lentic  
*H2O TYPE: Canal Plant outflow Riverine Wetland Stock tank Lake Reserve Small metal/concrete tanks or drinkers

DIRECTIONS: AE - 83 to FS 231; FS 231 to FS 4064; FS 4064 to FS 4058 Park and walk up drainage

Visit Conditions

DATE: 08/15/2011  
*START: 12:15  
*STOP: 12:25  
*SEARCH TIME: 10 min  
*OBSEVERS: M. Cross

*EFFORT: Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Drier

*VOUCHERS: Specimen Photos: Habitat Photos: 142

*T Air: 26°C  
*T Water: [ ]  
EC:  
*pH:  
RH:  
*H2O CLARITY: (+)  
Extremely clear  
Moderately clear  
Extremely turbid

*North:  
*WIND: 1-3 mph  
4-7 mph  
6-12 mph  
13-18 mph  
19-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: None  
Intermittent rain  
Steady light rain  
Steady heavy rain  
Snow/Sleet

*Lentic Length:  
*Lentic Width:  
*Lotic Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: (mark 1-3) Mud/Silt Sand/Gravel Cobble Boulder Bedrock Artificial

VEGETATION: %  
PROMINENT SPECIES:

Floating

Submerged

Emergent

Perimeter

Canopy

*PREDATORS: (include scat and tracks)

Leeches  
Boatmen/Backswimmers  
Dragonflies  
Belostomatids  
Beetles  
Warm water fish  
Cold water fish  
Tiger salamanders  
Lungfish  
Mud turtles  
Gartersnakes  
Wading birds  
Hawks, black & zone-tailed  
Mammals  
Crayfish

OTHER ORGANISMS:  
OTHER ORG. NOTES:

SITE / SURVEY NOTES:  
Dry Tank

Continued on another sheet? Y

Riparian Herpetofauna Observations

*SPECIES:  
CERTAINTY: Uncertain Certain  
LIFE STAGE: Egg Larvae Juvenile Adult

#  
COMMENTS: No Riparian Herpetofauna observed

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult

Uncertain Certain  
Egg Larvae Juvenile Adult
**Locality Data**

- **SITE**: Barrel Tank
- **SITE AT**: Roosevelt

**Visit Conditions**

- **DATE**: 05/02/22
- **START**: 11:00
- **STOP**: 11:15
- **SEARCH TIME**: 5 min
- **OBSERVERS**: Luke Cross

**SEARCH METHODS**: Dipnet, Seine, Trap, Hand exploration, Snorkel

**DATE**

- **m**: 05
- **d**: 10
- **y**: 22

**SEARCH MATERIALS**

- **H2O CLASS**: Lotic
- **H2O TYPE**: Canal, Plant outflow, Riverrine, Wetland, Steak tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS**: A = 536 ft A = 331 ft A = 331 ft A = 405 ft, Go under fence and walk up, then tank.

**VEGETATION**: Floating, Submerged, Emergent, Perimeter, Canopy

**PROMINENT SPECIES**: Leeches, Boatmen/Backswimmers, Dragonflies, Belostomatids, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Garter snakes, Wading birds, Hawks, black & zone-tailed Mammals, Crayfish

**PREDATORS**: (include scat and tracks)

**Other Organisms**: Other org. notes: Dry, Tired

**Site / Survey Notes**: Dry, Tired

**Riparian Herpetotauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
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</table>
**RACH / Riparian Herp VES Datasheet**

**Locality Data**
- **SITE**: Barrel Tank
- **SITE AT**: Roosevelt
- **UTM ZONE**: 11
- **UTM EASTING**: 52440
- **UTM NORTING**: 3519214
- **ELEV**: 5690 ft
- **H2O CLASS**: Lentic
- **H2O TYPE**: Canal outflow
- **YEAR**: 1996
- **ST-CNTY**: AZ - PIMA
- **DIRECTIONS**: FS 231 to 4064, 4064 to 4058, park @ 5241 03 / 3519605

**Visit Conditions**
- **DATE**: 1/12/2011
- **START**: 1330
- **STOP**: 1335
- **SEARCH TIME**: 5 min
- **OBSERVERS**: E. Wallace
- **SEARCH METHODS**: Digenet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other
- **TAR**: 23° C
- **TWEET**: 0
- **EC**: 0 µS
- **pH**: 7
- **RH**: 80%
- **H2O CLARITY**: Extremely turbid
- **WIND**: <1 mph
- **PRECIPITATION**: None

**Riparian Width**: 0.2 m, 2.5 m, 3.5 m
- **Lentic Width**: 2 m, 3.5 m, 6.0 m, 11-20 m, 21-50 m, >50 m
- **Lotic Width**: 0.2 m, 3.5 m, 6-10 m, 11-20 m, 21-50 m, >50 m
- **SUBSTRATE**: Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation**: Floating, Submerged, Emergent, Perimeter, Canopy

**Prominent Species**
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**Other Organisms**:
- **Site / Survey Notes**: Dry. Recently (<2mos) held H2O based on drying mud (pic 837)

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
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**Comments**
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**SITE:** Big Pond  
**SITE AT:** Roosevelt

**NEW SITE:** Y  
**NUM:** ———  
**QUAD:** Em  
**MIN:** 15  
**YEAR:** 1998  
**ST-CNTY:** AZ-PIMA

**ELEV:** 1373 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal, outflow, riverine, wetland, reservoir, tank, small metal/concrete tanks or drinkers

**DIRECTIONS:** A 83, F 5, 4061 E 4061 W 47 83.

**DATE:** 04-12-97  
**START:** 1345  
**STOP:** 14:25  
**SEARCH TIME:** 25 min  
**OBSERVERS:** M. Grey, P. Wipp

**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet, seine, trap, hand exploration, snorkel, boat

**T AIR:** 76°F  
**T WATER:** 27°C  
**EC:** 600  
**pH:** 7.0  
**RH:** 76%  
**H2O CLARITY:** Extremely clear

**WIND:** ≤1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph  
**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PRECIPITATION:** None, intermittent rain, steady light rain, steady heavy rain, snow/sleet

**LENTIC LENGTH:** 40 m  
**LENTIC WIDTH:** 50 m  
**LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, >50 m

**RIPARIAN WIDTH:** 0-2 m, 11-20 m, 21-50 m, >50 m

**VEGETATION:** Floating: 5% Algae  
**PROMINENT SPECIES:** Leeches, Boatmen/Backswimmers, Dragonflies, Beleostomatids, Beelites, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish

**OTHER ORGANISMS:** Green Sunfish, Great Blue Heron, Spotted Skunk, Raccoon, fox, Bobcat, deer, couple tracks, ducks

**SITE/SURVEY NOTES:** Large slide pond with warmwater fish (Green Sunfish), numerous GSF fingerlings and one small adult sampled with dipnet

**Riparian Herpetofauna Observations**

**SPECIES:** Uncertain  
**CERTAINTY:** Certain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**COMMENTS:** No Riparian Herpetofauna observed.
**SITE**: Bluff Pond  
**UTM ZONE**: 11S  
**UTM EASTING**: 53,007.0  
**UTM NORTHING**: 3,524,206  
**ELEV**: 4225 ft  
**MIN**: 7.5  
**YEAR**: 1996  
**ST-CNTY**: AZ-Pima  
**H2O CLASS**: Canai Plant outflow  
**H2O TYPE**: Riverine Wetland  
**STOCK TANK**: Lake Reservoir  
**DIRECTIONS**: AE 83 10 FS 4061  

**DATE**: 08-21-11  
**START**: 1325  
**STOP**: 1355  
**SEARCH TIME**: 20 min  
**EFFORT**: Total Perimeter  
**SEARCH METHODS**: Dipnet Seine Trap Hand exploration Snorkel Boat  
**T-AIR**: °C  
**T-WATER**: °F  
**EC**: μS  
**pH**: 7  
**RH**: %  
**H2O CLARITY**: Extremely clear  
**WIND**: ≤ 1 mph  
**PRECIPITATION**: None  
**LENTIC LENGTH**: 20 m  
**LENTIC WIDTH**: 20 m  
**LOTIC WIDTH**: 0-2 m  
**SUBSTRATE**: Sand  
**VEGETATION**: Grass  

**PREDATORS**: Leeches Beelteens Backswimmers Dragonflies  
Belostomatids Beetles Warm water fish  
Cold water fish Tiger salamanders Bullfrogs  
Wall lizards  
**OTHER ORGANISMS**:  

**SITE / SURVEY NOTES**: Pond was been low in previous years; now it has a high level. Numerous Green Sunfish in pond

**PROMINENT SPECIES**: Grass, Turf, Frogs, Lemmings  

**OTHER ORG. NOTES**: Great Blue Heron Tracks  

Riparian Herpetofauna Observations

**SPECIES**: Uncertain Certain  
**CERTAINTY**: Egg Larvae Juvenile Adult  
**LIFE STAGE**:  
**COMMENTS**: No Ripper Herpetofauna observed
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Blacktail Tank
SITE AT: Roosevelt

ELEV: 1258 ft
H2O CLASS: Lentic
H2O TYPE: Canal
DIRECTIONS: AZ 83 to Courthouse Rd; Courthouse Rd to Tank.

Visit Conditions

DATE: 05/20/2011
*START: 05:45
*STOP: 05:45
*SEARCH TIME: 0 min
*OBERVERS: J. Cross & B. Rudder

SEARCH METHODS:
- Diamond:
- Seine:
- Trap:
- Hand exploration:
- Snorkel:
- Boat:
- Call playback:
- Other:

WIND: < 1 mph, 1-3 mph, 4-7 mph
- 8-12 mph, 13-18 mph, 19-24 mph, > 24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

RIPARIAN WIDTH: 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- 51-100 m
- > 100 m

SUBSTRATE:
- Mud/silt
- Sand
- Gravel
- Boulder
- Bedrock
- Artificial

VEGETATION:
- Floating:
- Submerged:
- Emergent:
- Perimeter:
- Canopy:
- Grasses:

*PREDATORS: (include scat and tracks)
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Garter snakes
- Water birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

OTHER ORG. NOTES: Tracks in mud (dried)
SITE / SURVEY NOTES: Dry site.

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE: # LIFE STAGE: #
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult
Uncertain Certain: Egg Larvae Juvenile Adult

COMMENTS: No Riparian Herpetofauna

Continued on another sheet? Y (N)
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Backyard Tule
**SITE AT:** Roses

*NEW SITE:* Y
**NUM:** 

**UTM ZONE:** 11
**UTM EASTING:** 525,768
**UTM NORHTING:** 382,605

**QUAD:** Mt Fawn
**MIN:** 15
**YEAR:** 2001
**ST-CNTRY:** AZ - Pima

**ELEV:** 405 ft
**H2O CLASS:** Lentic
**H2O TYPE:** Canal

DIRECTIONS: Az 83 to T12S,R16E, go west on Camino Del Rey, St. to Right until yu reach Tule

**DATE:** 08/12/2001
**START:** 1305
**STOP:** 1315
**SEARCH TIME:** 10 min
**OBSERVERS:** Mike Cross

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand, Snorkel, Boat, Call playback, Other

**WIND:** 21 mph, 3-12 mph, 16-24 mph, >24 mph
**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-100%

**TEMPERATURE:** 84°F
**EC:** 
**pH:** 
**RH:** 
**H2O CLARITY:** NA

**PRECIPITATION:** None
**LENTEC LENGTH:** 3-5 m
**LENTEC WIDTH:** 6-10 m
**LOTIC WIDTH:** 0-2 m
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:**%

**PROMINENT SPECIES:**

**PREDATORS:** Leeches, Boatswimmen, Backswimmen, Dragonflies

OTHER ORGANISMS:

**OTHER ORG. NOTES:**

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

**SPECIES:**

Uncertain

**CERTAINTY:**

Uncertain

**LIFE STAGE:**

Egg Larvae Juvenile Adult

**#**

**COMMENTS:**

No Riparian Herpetofauna observed
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Bowman Tank

*SITE AT: Rosemont

*UTM ZONE: 11

*UTM EASTING: 524574

*UTM NORTHING: 3516890

*NAD83

*UTM EASTING: 524574

*UTM NORTHING: 3516890

*NAD27

*QUAD: Helvetia

*MIN: 15

*YEAR: 1981

*ST-CNTY: AE - Plm

*ELEV: 1523 ft

*H.O. CLASS: Lentic

*Lotic

*H.O. TYPE: Canal

Plant outflow

Riverine

Wetland

Stock tank

Lake

Reservoir

Small metal/concrete tanks or drinkers

DIRECTIONS: AZ 83 to Greentown Rd, Greentown Rd to FS 62; FS 62 & 200 w, Cutt Rd RT, walk 200 yd to Tank

Visit Conditions

DATE: 05/17/2001

*START: 1215

*STOP: 1230

*SEARCH TIME: 10 min

*OBSERVERS: McCross & B. Palka

*EFFORT: 600 meters

Partial Perimeter

Total Perimeter

*SEARCH METHODS: Dipped

Seine

Trap

Hand exploration

Snorkel

Boat

Call playback

Other

DRY: Y

RELEASE: Y

*T Av. °F: 85

T Water °F: 69

EC: 1 µS

pH: 7

RH: 1%

*H 2 O CLARITY: Extremely clear

Moderately clear

Extremely turbid

*WIND: ≤1 mph

1-3 mph

4-7 mph

8-12 mph

13-18 mph

19-24 mph

>24 mph

*CLOUD COVER: 0-20%

21-40%

41-60%

61-80%

81-100%

*PRECIPITATION: None

Intermittent rain

Steady light rain

Steady heavy rain

Snow/Sleet

*LENTIC LENGTH: 10 m

*LENTIC WIDTH: 0.2 m

*Lotic Width: 0-2 m

3-5 m

6-10 m

11-20 m

21-50 m

>50 m

*SUBSTRATE: Mud/Silt

Sand

Gravel

Cobble

Boulder

Bedrock

Artificial

VEGETATION: %

Floating

Submerged

Emergent

Perimeter

Canopy

PROMINENT SPECIES:

No Vegetation

*PREDATORS: (include scat and tracks)

Leeches

Boatmen/Backswimmers

Dragonflies

Belostomatids

Beetles

Warm water fish

Cold water fish

Tiger salamanders

Bullfrogs

Mud turtles

Gartersnakes

Wading birds

Hawks, black & zone-tailed

Mammals

Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE/ SURVEY NOTES:

Pond is low, shallow, "muddy", and full of leeches.

No vegetation except algae bloom in H 2 O.

Continued on another sheet? Y N

Riparian Herpetofauna Observations

*SPECIES:

Uncertain

Certain

Egg

Larvae

Juvenile

Adult

# COMMMENTS:

No Riparian Herpetofauna

Observed.
**Locality Data**

- **SITE:** Fullerton Creek/Empire Trail
- **SITE AT:** Rossmert
- **UTM ZONE:** 11
- **UTM EASTING:** 524,550
- **UTM NORTING:** 351,239
- **QUAD:** Q334
- **MIN:** 15
- **YEAR:** 75
- **ST-CNTY:** AZ - Yuma
- **ELEV:** 418.40 ft
- **H2O CLASS:** Lotic
- **H2O TYPE:** Canal outflow/riverine/wetland/pond/tank/lake/reservoir
- **DIRECTIONS:** AZ 83 to Gracerville Rd; Gracer Rd to Fork at FS 62; Pow Rd to NE.

**Visit Conditions**

- **DATE:** 09/05/2011
- **START:** 2240
- **STOP:** 2320
- **SEARCH TIME:** 30 min
- **EFFORT:** Total Perimeter
- **SEARCH METHODS:** Sight
- **T Air:** °C
- **T Water:** °C
- **EC:** µs
- **pH:** 7
- **DRAINAGE:** Extremly clear
- **WIND:** 1-3 mph
- **PRECIPITATION:** Intermittent rain
- **LENTIC LENGTH:** 50 m
- **LENTIC WIDTH:** 30 m
- **LOTIC WIDTH:** 0-2 m
- **SUBSTRATE:** Mudflat, Sand, Gravel
- **VEGETATION:** Floating, Submerged, Emergent, Perimeter, Canopy

**OTHER ORGANISMS:**

- Wild turkey, Black Bear, Bobcats, Beaver, Coyote, Snakes, Birds

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Certain</td>
<td>Egg</td>
<td>23</td>
<td>3 RACH responded to call playback</td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Larvae</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Juvenile</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Adult</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Egg</td>
<td>23</td>
<td>3 RACH responded to call playback</td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Larvae</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Juvenile</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Box Canyon

SITE AT: Roosevelt

NEW SITE: Y
NUM: ___

*UTM ZONE: 12
*UTM EASTING: S21029
*UTM NORTHING: 3518099

QUAD: Heluita

MIN: 7.5
YEAR: 1981
ST-CNTY: AZ - PIMA

ELEV: 4560 ft
H2O CLASS: Lentic
H2O TYPE: Canal

DIRECTIONS: AZ 83 to Casa Grande Rd. Casa Grande Rd to PS62, PS 62 to present camera to above coordinates.

Visit Conditions

DATE: 08 24 12
START: 1215
STOP: 1230
SEARCH TIME: 10 min

EFFORT: 10 meters

SEARCH METHODS: Dredge

WIND: 5-1 mph
PRECIPITATION: None

LENTIC LENGTH: 0-2 m
LENTIC WIDTH: 0-2 m
LOTIC WIDTH: 3-5 m

VEGETATION: %
Floating 0
Submerged 10
Emergent 2
Perimeter 0
Canopy 100

PROLIFIC SPECIES:

*PREDATORS: (include small and tracked)
Leeches
Batrachian/Backswimmers
Dragonflies
Beleostomids
Beetles
Warm water fish
Cold water fish
Tiger salamanders
Bullfrogs
Mud turtles
Garthesnakes
Wading birds
Hawks, black & zone-tailed
dMammals
Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

Other Herpetofauna Observations

*SPECIES:

CERTAINTY:
Uncertain
Certain

LIFE STAGE:
Egg
Larvae
Juvenile
Adult

COMMENTS:

25 + Tony help

Continued on another sheet? Y

One small pool (3 x 6m) and a narrow stream of flowing water with reports to Ugan behind dam.
**Locality Data**

<table>
<thead>
<tr>
<th>Site</th>
<th>Site At</th>
<th>UTM Zone</th>
<th>UTM Easting</th>
<th>UTM Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box Canyon</td>
<td>Dam (above)</td>
<td>11</td>
<td>521030</td>
<td>3518104</td>
</tr>
</tbody>
</table>

**Quad:** Helokia  
**Min:** 8/15  
**Year:** 1994  
**ST-Cnty:** AZ-Plama

**Elevation:** 2621 ft  
**H2O Class:** Lentic-Lotic  
**H2O Type:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** See comments

**Visit Conditions**

<table>
<thead>
<tr>
<th>Date</th>
<th>Start</th>
<th>Stop</th>
<th>Search Time</th>
<th>Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/24/2011</td>
<td>1845</td>
<td>1900</td>
<td>15 min</td>
<td>E. Wells</td>
</tr>
</tbody>
</table>

**Effort:** Flat Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**Search Methods:** Plant Seine Trap Hand exploration Snorkel Boat Call playback Other

**T Air:** 24°C  
**T Water:** 24°C  
**EC:** 1 mS/cm  
**PH:** 7.0  
**RH:** 70%  
**H2O Clarity:** Extremely clear Moderately clear Extremely turbid

**Wind:** <1 mph  
**Precipitation:** None  
**Cloud Cover:** 0-20% 21-40% 41-60% 61-80% 81-100%

**Lentic Length:** 5 m  
**Lentic Width:** 5 m  
**Lotic Width:** 0-2 m 3-5 m 5-10 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**Riparian Width:** 0-2 m 3-5 m 5-10 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**Substrate:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**Vegetation:** Floating Submerged Emergent Perimeter Canopy

**Prominent Species:** Eddy Willow

**Other Organisms:**

**Org Notes:**

**Site/Survey Notes:** Pit recently dug out from substrated gravel bank. Temporary will refill with wet, substantial flow event. Sand 0-3 m deep.

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Uncertain</td>
<td>Egg Larvae</td>
<td>1</td>
<td>Leached + plugged from 0.</td>
</tr>
<tr>
<td>HUA</td>
<td>Uncertain</td>
<td>Egg Larvae</td>
<td>1</td>
<td>20 mm TL</td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
**SITE:** Boy Canyon Dam  
**QUAD:** Helvetia  
**ELEV:** 4560 ft  
**H2O CLASS:** Lentic Lotic  
**H2O TYPE:** Canal Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers  
**DIRECTIONS:** At S3 to Canaday Rd; Canaday Rd to FS 62 to Dam.

### Visit Conditions

**DATE:** 06/05/2011  
**START:** 2100  
**STOP:** 2115  
**SEARCH TIME:** 10 min  
**OBSERVERS:** Mike Cross  
**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hard exploration, Snorkel, Boat  
**WIND:** ≤1 mph  
**CLOUD COVER:** 0-20%  
**TEMP:** 84°F  
**EC:** 18 µS  
**pH:** 7  
**RH:** 10%  
**T AIR:** 18°C  
**T WATER:** 18°C  
**H2O CLARITY:** Extremely clear  
**WATER INTENSITY:**  
**PREPARATION:** Intermittent rain  
**PREDATORS:** Leeches, Boatmen/Backswimmers  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial  
**VEGETATION:** Floating: 0%, Submerged: 10%, Emergent: 2%, Canopy: 100%  
**OTHER ORGS:** Other Org: Notes: Zach seen in pool.

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Uncertain</td>
<td>Egg Larvae Juvenile</td>
<td>2</td>
<td>Z, 2 RACH in pool</td>
</tr>
</tbody>
</table>
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Tank at Box Sycamore Confluence

*SITE AT: Rosemunt

For use by central data repository only:

NEW SITE: Yes

NUM: 123

*UTM ZONE: 11

*UTM EASTING: 521,895

*UTM NORTING: 351,183,4

*NAD83

*NAD27

*QUAD: 1

*MIN: 75.15

*YEAR: 1981

*ST-CNTY: AZ

DIRECTIONS: NE 83 to Griderville Rd; Griderville Rd to PS 62; PS 62 to Confluence of Box and Sycamore Canyons

DATE: 04/12/01

*START: 1250

*STOP: 1255

*SEARCH TIME: 5 min

*OBERVERS: M. Cross, R. Ward

*EFFORT: 10 meters Total Perimeter, 3 meters Partial Perimeter

Left Bank, Right Bank, Both Banks

*SEARCH METHODS: Dipnet, Seine, Trap, Hand collection, Snorkel, Boat, Call playback, Other

*VOUCHERS: Specimen Photos, Habitat Photos

*TAXONOMIC DRY: Y

*RELEASE: Y

*SEARCH CLARITY: Extremely clear

*WIND: 1-3 mph

*PRECIP: None

*LENTIC LENGTH: 5 m

*LENTIC WIDTH: 3 m

*Lotic Width: 0-2 m

*SUBSTRATE: Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

VEGETATION: %

Prominent Species:

Floating: 0

Submerged: 10

Emergent: 10

Perimeter: 5

Canopy: 50

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

Concrete, Stock Tank

Riparian Herpetofauna Observations

*SPECIES: Uncertain Certain

*CERTAINTY: Egg, Larvae, Juvenile, Adult

*LIFE STAGE: #

*COMMENTS: No Riparian Herpetofauna

Continued on another sheet? Y

4-29 Tank at Box Sycamore Confluence
**SITE**: Tule 1 at Box Cuyar

**LOCALITY**: GCS CANYON

**SITE AT**: Rosemont

---

**NEW SITE**: Tule 1 at Box Cuyar

**NUM**: 1

**QUAD**: Helenta

**MIN**: 79.15

**YEAR**: 1981

**ST-CNTY**: AZ - Pima

**ELEV**: 4694 m

**H2O CLASS**: Lentic Lotic

**H2O TYPE**: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir

**DIRECTIONS**: AZ 83 to Coolidge-Ft. Thomas Rd. to AZ 62, 62 to Coolidge of Box 4 Speckman Cuyar Tule South

---

**DATE**: 03/23/2011

**START**: 1305

**STOP**: 1315

**SEARCH TIME**: 5 min

**OBSERVERS**: Mike Cross, Richardo

**VOUCHERS**: Specimen Photos: 0, Habitual Photos: 168

**SEARCH METHODS**: Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**DRY**: Y

**RELEASE**: Y

**WIND**: ≤1 mph (1-3 mph) 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**CLOUD COVER**: 80-85%, 61-80%, 81-100%

**TAir**: 26 °C

**TWater**: 25 °F

**EC**: 1 μS

**pH**: 7

**RH**: 1%

**H2O CLARITY**: Extremly clear

**PRECIPITATION**: Intermittent rain

**LENTIC LENGTH**: 1 m

**LENTIC WIDTH**: 4 m

**LOTIC WIDTH**: 0.2 m 3-5 m 6-10 m 1-20 m 11-50 m >50 m

**RIPARIAN WIDTH**: 1-20 m 21-50 m 51-100 m >100 m

**SUBSTRATE**: Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock

**VEGETATION**: %

- Floating: 0
- Submerged: 10 Grasses
- Emergent: 20 Grasses
- Perimeter: 10 Grasses, Catatamitum, Jumper
- Canopy: 50 Jumper, Oak, Catatamitum

**PREDATORS**: (Include salamanders, leeches, boatmen, backswimmers, dragonflies, blenny, warm water fish, tiger salamanders, bullfrogs, mud turtles, gartersnakes, Wading birds, hawks, black & zone-tailed, mammals, Crayfish)

**OTHER ORGANISMS**: None

**OTHER ORG. NOTES**: None

**SITE/SURVEY NOTES**: Stole Tule 1 at Box Cuyar

---

**SPECIES**: Uuncertain

<table>
<thead>
<tr>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS**: No Riparian Herpetofauna

---

Continued on another sheet? Y

---
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: But Canyon Spring Box No. 2
*SITE AT: Cement abutment, drinkers

NEW SITE: N  Y  **NUM: ________
*UTM ZONE: 11
*UTM EASTING: 521,891
*UTM NORTHING: 351,834
*QUAD: Helvetia
*MIN: 15
*YEAR: 1991
*ST-CNTY: AZ PIMA

DIRECTIONS: Upstream of Tank #2 by ~500'

Visit Conditions

DATE: 08/12/91
*START: 1600
*STOP: 1615
*SEARCH TIME: 15' min
*OBSERVERS: E Wallace

*EFFORT: meters
- Partial Perimeter
- Total Perimeter

*SEARCH METHODS: Net
- Dippnet
- Seine
- Trap
- Hand explotation

T_Air: 32.4°F
T_WATER: 53.5°F
EC: μS
pH: 7.0
RH: 30%
*H2O CLARITY:
- Extremely Clear
- Moderately clear
- Extremely Turbid

*WIND: <1 mph
- 1-5 mph
- 4-7 mph
- 8-12 mph
- 13-18 mph
- 19-24 mph
- >24 mph

*CLOUD COVER:
- 0-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%

*PRECIPITATION:
- None
- Intermittent rain
- Steady light rain
- Steady heavy rain
- Snow/Sleet

*LENTIC LENGTH: 4.0 m
*LENTIC WIDTH: 1.0 m
*Lotic Width:
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- 51-100 m
- >100 m

*RIPARIAN WIDTH:
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- >50 m

VEGETATION: %
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

PROMINENT SPECIES:

*PREDATORS:
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Bees
- Warm water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Garter snakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:
- 0.35 m deep
- Spring on R.'s left - @ edge of channel - ~50 m below Box Cyn. Spr. No. 1

Riparian Herpetofauna Observations

*SPECIES: Uncertain
*CERTAINTY: Certain
*LIFE STAGE: Egg Larvae Juvenile Adult
#

COMMENTS:

Continued on another sheet? Y N
### CHIRICAHUA LEOPARD FROG SURVEY FORM

**Site:** Box Canyon Turtle #1  
**Site At:** Rosemont

**New Site:** Y  
**UTM Zone:** 11  
**Easting:** 521,893  
**Nortthing:** 381,833  
**Elevation:** 4649

**Quad:** Goodenalla  
**Min:** 15  
**Year:** 2011  
**State-County:** AZ - Pima

**Directions:** AZ 83 to Goodenalla Rd. Goodenalla Rd to FS 67, FS 67 to Box Canyon Rd. Box Canyon Rd to study site 1

**Date:** 09/05/2011  
**Start Time:** 10:00  
**Stop Time:** 15:00  
**Search Time:** 04:10  
**Observers:** Mike Cross

**Effort:** Total Perimeter  
**H2O Class:** Lotic  
**H2O Type:** Canal  
**Search Methods:** Dip net  
**T Air:** 31°C  
**T Water:** 26°C  
**Runoff:**  
**Turbidity:** Very clear

**Length:** 1 m  
**Width:** 0.7 m  
**Primary Substrate:** Mud/Silt  
**Riparian Width:** 0-2 m  
**Wind:** 13-18 mph

**Precipitation:** None  
**Vegetation:** Prominent Species:  
**Floating:**  
**Submerged:**  
**Emergent:**  
**Perimeter:**  
**Canopy:**  
**Other Organisms:**  
**Predators:** (include scat and tracks)

**Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td></td>
<td>10 Ponds observed</td>
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</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Larvae</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Juvenile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Juvenile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Site/Survey Notes:** Willed Survey

**Continued on back?** Y
RACH / Riparian Herp VES Datasheet

Locality Date: GPS cam 4

*SITE: Tick S at Box Canyon  *SITE AT: Rosemont

NEW SITE: Y M  *UTM ZONE: 5 116
NUM: | *UTM EASTING: 52 192 13
*UTM NORTHING: 35 1253 5
NAD83 NAD27

*QUAD: Helveta  *MIN: 10  *YEAR: 19 81  *ST-CNTRY: AZ Linn

*ELEV: 4 687  *H2O CLASS: Lentic  *H2O TYPE: Canal Plant outflow
4687 D | Riverine Wetland Stock tank Lake Reservoir
Small metal/concrete tanks or drinkers

DIRECTIONS: 17 33 to Greatville Rd; Greatville Rd W 175 F S 62 5
G 6 to Continuation of Segovia & Box Canyon; Tick n Bixcany

DATE: 05 23 20 11  *START: 1250  *STOP: 1300  *SEARCH TIME: 5 min

*EFFORT: meters 12  *SEARCH METHODS: Dipnet  Seine  Trap  Hand
Perimeter  Partial Perimeter  Left Bank  Right Bank  Both Banks

*VOUCHERS: Specimen Photos:  Habitat Photos:

*SEARCH METHODS: Snorkel  Boat  Call playback  Other

DRO Y N  *RELEASE: Y

*WIND: 51 mph 1-3 mph 4-7 mph 8-12 mph 13-16 mph 19-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: None  Intermittent rain  Steady light rain  Steady heavy rain  Snow/Sleet

*LENTIC LENGTH: 5 m  *LENTIC WIDTH: 1 m

*RIPARIAN WIDTH: 0-2 m  3-5 m  6-10 m  11-20 m  21-50 m  51-100 m  >100 m

*Lotic Width: 0-2 m  3-5 m  6-10 m  11-20 m  21-50 m  51-100 m  >100 m

*SUBSTRATE: (mark 1-3) Mud/Silt  Sand  Gravel  Cobble  Boulder  Bedrock  Artificial

VEGETATION: Floating  % 0 
Submerged  0 
Emergent  0 
Perimeter  Canopy  100 % Oak

OTHER ANIMALS: None

OTHER ORG. NOTES:
Concrete driveway in Box Canyon

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th></th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain Certain Egg Larvae Juvenile Adult</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
### Tank 2

#### Locality Data
- **SITE:** Box Canyon Spring Box No.7
- **SIT AT:** Cement, above ground drinker
- **NEW SITE:** Y (N)
- **NUM:** 1
- **UTM ZONE:** 11
- **UTM EASTING:** 521.909
- **UTM NORTHING:** 351833.58
- **H unavoidable data:** NAD83
- **MIN:** 75
- **YEAR:** 1991
- **ST-CNTRY:** A2-P1-M1

#### DIRECTIONS:
- Downstream of Tank #1 by ~50'淡定

#### Visit Conditions
- **DATE:** 08/12/99
- **START:** 1530
- **STOP:** 1545
- **SEARCH TIME:** 15 min
- **OBSERVERS:** Eric Walron

#### Search Methods:
- **VES:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Cell playback

#### Water Quality:
- **T Air:** 33°C
- **T Water:** 25.7°C
- **EC:** 8.0 μS
- **pH:** 8.0
- **RH:** ~30%

#### Hydrography:
- **H2O CLARITY:** Extremely clear
- **H2O TYPE:** Lotic

#### Hydrology:
- **WIND:** 1-4 mph
- **CLOUD COVER:** 0-25%

#### Elevation:
- **ELEV:** 753 m

#### Vegetation:
- **URENT SPECIES:** Oak

#### Other Organisms:
- Hawks, black & zone-tailed Mammals, Crayfish

#### Site/ Survey Notes:
- Spring box on River left edge of channel.
- 0.1m deep - open H2O to substrate. 20.1m of organic matter on bottom (terrestrial H2O)

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VACH</td>
<td>Uncertain</td>
<td>Egg</td>
<td>1</td>
<td>Obsd,探讨 in leaf litter or bottom</td>
</tr>
</tbody>
</table>
**SITE:** Bar Canyon Tank Z  
**SITE AT:** Paseo

**QUAD:** Helvetia  
**ST-CNTY:** AZ-Pima

**ELEV.** 467 ft  
**H2O TYPE:** Canal  
**H2O CLASS:** Lentic/Lotic

**DIRECTIONS:** Az 83 to Grantville Rd, Grantville Dr to FS 62; FS 62 to bridge over Susan Creek, Tank Z to South upstring of Zone

**DATE:** 09/05/2011  
**START:** 2010  
**STOP:** 2020  
**SEARCH TIME:** 8 min  
**OBSERVERS:** Mila Cross

**SEARCH METHODS:** Dipnet  
**EFFECT:** 6 Perimeter

**T/Air:** °C  
**T/Water:** °C  
**EC:** —  
**pH:** 7  
**RH:** —%

**WIND:** ≤5 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** 9 m  
**LENTIC WIDTH:** 3 m  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:**  
**PROMINENT SPECIES:**

**OTHER ORGANISMS:**

**SITE / SURVEY NOTES:** Small concrete tank. One RACH seen previously. RACH still present today. Site survey.

**PREDATORS:** (include scalp and tracks) Leeches, Boa, Backswimmers, Dragonflies, Beelystomatis, Beetles, Water fish, Cold water fish, Turtles, Salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish

---

**SPECIES**  
**CERTAINTY**  
**LIFE STAGE**  
**#**  
**COMMENTS**

RACH  
Uncertain  
Egg  
Larvae  
Juvenile  
Adult  
1  
RACH in tank.
RACH / Riparian Herp VES Datasheet

**SITE:** Bozeman Canyon Tank

**NEW SITE:**
- **NUM:** 123
- **UTM ZONE:** 11
- **UTM EASTING:** 521,063
- **UTM NORTHING:** 351,814.6
- **ELEV:** 4576 ft
- **H2O CLASS:** Lentic
- **H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir
- **DIRECTIONS:** At 6370 Greendale Rd. Greendale Road to FS 625

**VISIT CONDITIONS**
- **DATE:** 8/2/2011
- **START:** 12:35
- **STOP:** 12:45
- **SEARCH TIME:** 5 min
- **EFFORT:** 4 meters
- **SEARCH METHODS:** Snorkel Seine Trap Hand exploration Snorkel Boat Call playback
- **WIND:** <1 mph 1-3 mph 3-12 mph 13-18 mph 19-24 mph >24 mph
- **PRECIPITATION:** Intermittent rain Steady light rain Steady heavy rain Snow/Sleet
- **LENTIC LENGTH:** 17 m
- **LENTIC WIDTH:** 25 m
- **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
- **RIPARIAN WIDTH:** 11-20 m 21-50 m

**VEGETATION:**

- **% PROMINENT SPECIES:**
  - Floating: 0%
  - Submerged: 0%
  - Emergent: 0%
  - Perimeter: 0%
  - Canopy: 0%

**OTHER ORGANISMS:**

- **OTHER ORG. NOTES:** None

**SITE / SURVEY NOTES:**

Small metal driveway fed by spring

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>/</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>/</td>
</tr>
</tbody>
</table>

**COMMENTS:**

No Riparian Herpetofauna

Observed
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

- **SITE:** Pools & Box Canyon, Loomis
- **NEW SITE:** Y
- **NUM:** __________
- **UTM ZONE:** 11 (NAD83)
- **UTM EASTING:** 520,794 (NAD27)
- **UTM NORTHING:** 351,811
- **ELEV:** 1398 ft
- **H2O CLASS:** Lentic/Loic
- **H2O TYPE:** Canal Plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** At 83 to Greendale Rd; Greendale Rd to FS 62 to Bridge at W, FS 62; Walk 2K upstream in Box Canyon

**Visit Conditions**

- **DATE:** 05/16/2011
- **START:** 11:50
- **STOP:** 12:00
- **SEARCH TIME:** min
- **OBSERVERS:** M. Cross, B. Zackham

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**DRY:** Y

**RELEASE:** N

**T Air:** 13°C
**T Water:** 13°C
**EC:** 6 µS
**pH:** 8
**RH:** 90%

**H2O CLARITY:** Very turbid

**WIND:** 1-3 mph
**CLOUD COVER:** 0-20%

**PRECIPITATION:** None

**LENTIC LENGTH:** m
**LENTIC WIDTH:** m
**LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**RIPARIAN WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** %
- Floating
- Submerged
- Emergent
- Perimeter: Grasses
- Canopy

**PROMINENT SPECIES:**
- *PREDATORS:* Leeches, Beavers, Backswimmers, Dragonflies, Baistomatids, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish

**OTHER ORGANISMS:**

**SITE / SURVEY NOTES:**

- **Pools are dry; normally bedrock slot contains standing water.**

**SPEICES:**
- Uncertain
- Certain
- Egg
- Larvae
- Juvenile
- Adult

**LIFE STAGE:**
- Egg
- Larvae
- Juvenile
- Adult

**#**

**COMMENTS:**

- **No Riparian Herpetofauna**

Continued on another sheet? Y N
**SITE:** Box Canyon

**UTM ZONE:** 11

**UTM EASTING:** 519159

**UTM NORTHING:** 3318179

**ELEV:** 7.5 ft

**H₂O CLASS:** Lentic

**H₂O TYPE:** Plant outflow

**DIRECTIONS:** At S3 to S4 Coalbedsville Rd; Coalbedsville Rd to F502; F502 to F501; Box Canyon

**DATE:** 05/16/2011

**START:** 10:29

**STOP:** 11:47

**SEARCH TIME:** 78 min

**EFFORT:** 2000 meters

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Cell playback

**VOCUERS:** Specimen Photos, Habitats Photos

**SEARCH METHODS:**

**T_AIR:** 77°F

**T_WATER:** 77°F

**EC:** 0 µS

**pH:** 7.0

**RH:** 75%

**H₂O CLARITY:** NA

**WEATHER:**

- **WIND:** 1-3 mph, 1-3 mph, 4-7 mph, 6-12 mph, 13-18 mph, 19-24 mph, >24 mph

- **CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PREDATORS:**
- Leeches, Boatmen/Backswimmers, Dragonflies
- Belostomatids, Bees, Warm water fish
- Cold water fish, Tiger salamanders, Bullfrogs
- Mud turtles, Gartersnakes, Wading birds
- Hawks, black & zone-tailed, Mammals, Crayfish

**SUBSTRATE:**
- Mud/Silt
- Sand
- Gravel
- Cobble
- Boulders
- Bedrock
- Artificial

**VEGETATION:**
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**PROMINENT SPECIES:**
- Site dry

**OTHER ORG. NOTES:**
- Entire reach from bridge to pools of Box Canyon

**SPECIES:**
- Uncertain, Certain
- Species: Egg Larvae Juvenile Adult
- No Riparian Herpetofauna observed
**SITE:** Box Cyn, Lower

**UTM ZONE:** 11

**UTM EASTING:** 519200

**UTM NORTING:** 351872

**ST-Cnty:** AE - Pima

**DATE:** 08/24/2011

**START:** 0930

**SEARCH TIME:** min

**EFFECT:** 2000

**SEARCH METHODS:** Dipped, Seen, Trapped

**T Air:** 29° F

**T Water:** 29° F

**EC:** 2500 µS

**pH:** 7

**RH:** %

**H2O CLARITY:** Extremely clear

**LENTIC LENGTH:** m

**LENTIC WIDTH:** m

**Lotic Width:** 0-2 m

**Riparian Width:** 0-2 m

**Vegetation:** Floating 0, Submerged 0, Emergent 1

**Predators:** Leeches, Boatmen/Backswimmers, Dragonflies

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**Species:** Toad, Green Anole

**Comments:** See previous
**SITE:** Boron Canyon Lower Reach  
**SITE AT:** Rosemont

---

**NEW SITE:** Y N  
**NUM:**  
**UTM ZONE:** 11 12 13  
**UTM EASTING:** 518158  
**UTM NORTHING:** 3518191  
**NAD 83:** NAD27

---

**ELEV:** 1600 ft  
**Txd:** 22°C  
**Twater:** 20°C  
**EC:** 2 µS  
**pH:** 7  
**RH:**  
**% H2O CLARITY:** Extremely clear

---

**DIRECTIONS:** AZ 83 to Overtonville Rd; Overtonville Rd to FS 62 (Box Canyon Rd); FS 62 to point where Stream is Box Canyon Crossing.

---

**DATE:** 09/12/2011  
**START:** 1930  
**STOP:** 2100  
**SEARCH TIME:** 210 min  
**OBSERVERS:** Mike Crossman!

---

**SEARCH METHODS:** X Seine  
**SWIM METHODS:**  
**VOUNTERS:** Specimen Photos: 1  
**SPECIMENS:**  
**HABITAT PHOTOS:** 1

---

**WIND:** 1-3 mph  
**CLOUD COVER:** 0-20%  
**PRECIPITATION:** None  
**PREDATORS:** (include eel and trout)

---

**LENTIC LENGTH:**  
**LENTIC WIDTH:**  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt  
**PERIMETER:**  
**VEGETATION:** %  
**ARTIFICIAL:**

---

**OTHER ORGANISMS:**

---

**SITE/SURVEY NOTES:** Night survey during monsoon event. Steady rain early clearing up 6:230. Lots of recent runoff. Events. Linear transect: Box Canyon dam to Box Canyon Bridge.

---

**COMMENTS:**

---

**SPECFICIES:**  
**CERTAINTY:** Uncertain  
**LIFE STAGE:**  
**#:**  
**REMARKS:**  
**RACH**

---

**Riparian Herpetofauna Observations**
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Pools at Box Canyon  
**SITE AT:** Roosevelt

NEW SITE:  
NUM:  
**UTM ZONE:**  
**UTM EASTING:** 162050  
**UTM NORTING:** 3518720  
**ELEV:** 4495 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal, outflow  
**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA

DIRECTIONS:  
AZ 88 -> Greenville Rd; Greenville Rd to FS 62; FS 62

Visit Conditions

**DATE:** 08/21/2001  
**START:** 11:25  
**STOP:** 11:50  
**SEARCH TIME:** 15 min  
**OBSERVERS:** Mike Casey, Rivelbar

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat

**EFFORT:** Total Perimeter 100 meters  
**DRAIN:** Off bank  
**SEARCH:** Intermittent rain  
**DRY:** Steady light rain  
**RELEASE:** Steady heavy rain  
**WIND:** Calm  
**EC:** 25 C

**T-TEMP:** 35 C  
**T-WATER:** 25 C  
**EC:** 25 C  
**pH:** 6

**VEGETATION:**
- Floating: 0%
- Submerged: 20% - Algae, Aquatic
- Emergent: 0%
- Perimeter: 10% - Giant reed/grass
- Canopy: 0%

**RIPARIAN WIDTH:**
- 0-2 m  
- 2-5 m  
- 5-10 m  
- 10-20 m  
- 20-50 m  
- >50 m  

**LENTIC WIDTH:**
- 0-2 m  
- 2-5 m  
- 5-10 m  
- 10-20 m  
- 20-50 m  
- >50 m  

**PREDATORS:**
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Garter snakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

Other Organisms:
- Sapsuckers
- Coyotes
- Foxes

Site/Survey Notes: A series of major pools in a stair step, cascading array passing over ledge.

Continued on another sheet? Y

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPecies</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Todd</td>
<td>Uncertain</td>
<td>Egg</td>
<td>20</td>
<td>Apparent Tadpoles in pool</td>
</tr>
<tr>
<td></td>
<td>Certain</td>
<td>Larvae</td>
<td></td>
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<tr>
<td></td>
<td>Uncertain</td>
<td>Juvenile</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adult</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Uncertain | Egg       | Larvae     | Juvenile | Adult |
| Uncertain | Egg       | Larvae     | Juvenile | Adult |
| Uncertain | Egg       | Larvae     | Juvenile | Adult |
| Uncertain | Egg       | Larvae     | Juvenile | Adult |
| Uncertain | Egg       | Larvae     | Juvenile | Adult |
**SITE:** California Guld-Tunk  
**SITE AT:** Rosemont  
**QUAD:**  
**ELEV:** ft  
**H₂O TYPE:** Canal Plant outflow  
**H₂O CLASS:** Lentic Lotic  
**DIRECTIONS:** AZ 83 to Crewerville Rd; Crewerville Road to FS 62; Park at California Gulch and walk to tank  

**DATE:** 05 10 21  
**START:** 0900  
**SEARCH TIME:** min  
**EFFORT:**  
**SEARCH METHODS:** Dipsnet Seine Trap Hand exploration Snorkel Boat Call playback Other  
**DETRITUS:** Y N  
**RELEASE:** Y N  
**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet  
**WIND:**  
**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%  
**TEMPERATURE:**  
**EC:** μS  
**pH:**  
**R.H.:** %  
**H₂O CLARITY:** Extremely clear Moderately clear Extremely turbid  
**LENGTH:** m  
**WIDTH:** m  
**SUBSTRATE:** Mud/Silt Silt/Sand Gravel Cobble Boulder Bedrock Artificial  

**VEGETATION:** %  
**PROMINENT SPECIES:** No Vegetation  
**OTHER ORG. NOTES:** Dead/low - vultures  
**SITE SURVEY NOTES:** Dry  

<table>
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<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td>No Riparian Herpetofauna observed</td>
</tr>
</tbody>
</table>
### RACH / Riparian Herpetofauna Datasheet

**SITE:** Cul-n Farm  
**SITE AT:** Rosemont

**NEW SITE:** Y  
**NUM:** ———  
**UTM ZONE:** 11  
**UTM EASTING:** 523,261  
**UTM NORTHING:** 3,516,825  
**H° CLASS:** Lotc  
**H° TYPE:** Canal  
**ST-CNTY:** AZ-Pima  

**QUAD:**  
**MIN:**  
**YEAR:** 91  
**ST-CNTY:** AZ-Pima  

**ELEV:** m  
**H° WATER:** Canal  
**SLOPE:** Deck  
**SOUTH:**  
**DIR:** AT 83^°  
**MIN:**  
**FIN:**  
**ST-CTY:** AZ-Pima  

**DIRECTIONS:** AT 83^°, Go 4  
**MIN:**  
**FIN:**  
**ST-CTY:** AZ-Pima  

**DATE:** 6/14/01  
**START:** 1315  
**STOP:** 1330  
**SEARCH TIME:** 10 min  
**OBSERVERS:**  

**VEGETATION:**  
**PROMINENT SPECIES:**  

**FRESHWATER:**  
**SUBSTRATE:**  

**OTHER ORG. NOTES:** Tank is 1/2 full. Several fish observed.

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Uncertain</td>
<td>Egg</td>
<td>5</td>
<td>5 adult</td>
</tr>
</tbody>
</table>

Continued on another sheet? Y
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: California - Tulare *GEOID: Tulare

For use by central data repository only:


*QUAD: Great Valley *MIN: 63 15 *YEAR: 1981 *ST-CNTRY: AZ - Pima


DIRECTIONS: At 83 4 Great Valley Rd, Great Valley Rd to FS 4.25 miles west to FS, take up righthand spur. Continue up FS through 2 apple-filled orchards.

Visit Conditions

DATE: 08/13/01 (2:25) *START: 11:30 *STOP: 12:40 *SEARCH TIME: 40 min *OBSERVERS: Mike Mass / Mark Word

*SEARCH METHODS: *EFFORT: Total Perimeter, Partial Perimeter, Left Bank, Right Bank, Both Banks

VOUCHERS: Specimen Photos: Specimen #: Habitat Photos: Habitat Photos:


*WIND: < 5 mph *Precipitation: None *LOM LENGTH: 170 m *LOM WIDTH: 70 m *LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: *Vegetation: % Prominent Species:

Floating 40 Darkweed

Submerged 0

Emergent 5 Grasses

Perimeter 0 Grasses

Canopy 5 Okra, Shapes

OTHER ORGANISMS: 1 Black-necked Cooter Snake

OTHER ORG. NOTES: Fox, Snail, Javelina

SITE / SURVEY NOTES: RACH present in track. RACH responded to tape playback. Numerous frogs present. Many large individuals.

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Certain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td>150+</td>
<td>&gt;150 ADULT RACH. MANY LARGE ADULTS</td>
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<td>BNCS</td>
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<td>Black-necked Cooter Snake ≤ 30 cm</td>
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<td>Certain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
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<td>Egg, Larvae, Juvenile, Adult</td>
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<td>Certain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
### RACH / Riparian Herp VES Datasheet

#### Locality Data

- **SITE:** Cemetery Spring
- **SITE AT:**
- **UTM ZONE:** 11
- **UTM EASTING:** 530976
- **UTM NORTING:** 3525468
- **NAD83:** NAD27
- **QUAD:** MT F981 W
- **MIN:** 7.5 15
- **YEAR:**
- **ST-CNTY:** AZ - PIMA

#### DIRECTIONS:
- AZ 83 to Ghost Dance Rd; Ghost Dance Rd to Blk Turpin Rd; Blk
  - Blk - Road to Turpin

#### Visit Conditions

- **DATE:** 05/12/2000
- **START:** 1000
- **STOP:** 1053
- **SEARCH TIME:** 40 min
- **OBSERVERS:** M. Crook, B. Puklum
- **VOUCHERS:** Specimen Photos: L Habitat Photos: 866
- **EFFECT:** meters 150
- **SEARCH METHODS:** Dipnet, Seine, Trap, Exploration, Snorkel, Boat, Call playback
- **DRY:** 30
- **RELEASE:**
- **TAir:** 80 °C
- **TWater:** 60 °C
- **EC:** µS
- **pH:** 7
- **RH:** %
- **H2O CLARITY:** Extremely clear
- **WIND:** < 1 mph
- **PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet
- **LENTIC LENGTH:** 50 m
- **LENTIC WIDTH:** 50 m
- **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
- **EVEGETATION:** %
  - Floating: 5 Algae
  - Submerged: 50 Algae
  - Emergent: 15 Coleoptera
  - Perimeter: 40 Correllus Willig, Batamme
  - Canopy: 5 Correllus Willig

#### Other Organisms:
- Deer, Dog, Cattle, Javelina
- **Other Org. Notes:** Tracks in mud
- **Site/Survey Notes:** Pond holds H2O. However, H2O level much lower than that observed in 2010.

#### Riparian Herpetofauna Observations

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<th>LIFE STAGE</th>
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<th>COMMENTS</th>
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<tbody>
<tr>
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<td>Egg Larvae Juvenile Adult</td>
<td></td>
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</tr>
</tbody>
</table>
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

- ***SITE:*** Green Spring
- ***SITE AT:*** Rosemont
- ***UTM ZONE:*** 11
- ***UTM EASTING:*** 527,540
- ***UTM NORTING:*** 352,731
- ***NAD83:*** NAD27
- ***MIN:*** 7:15
- ***YEAR:***
- ***ST-CNTRY:*** AZ - Pima

**ELEV: [ft / m]:**
- **H2O CLASS:** Canal, Plant outflow, Riverine
- **H2O TYPE:** Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:**
- AZ 83 to Hickey Valley, Ranch Rd, CHRD, HUE to AZ trail; AZ trail to where it crosses walking canyon; walk up canyon.

**Visit Conditions**

- **DATE:** 05/12/2017
- **START:** 12:25
- **STOP:** 12:27
- **SEARCH TIME:** 0 min
- **OBSERVERS:** M. Cross; B. Rackham

**SEARCH METHODS:**
- Total Perimiter: 0.00, Partial Perimiter: 0.00, Left Bank: 0.00, Right Bank: 0.00, Both Banks: 0.00

**T AIR:**
- **T WATER:**
- **EC:**
- **pH:**
- **RH:**
- **H2O CLARITY:**
- **WIND:** 5-13 mph, 1-3 mph, 4-7 mph, 8-12 mph
- **CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PRECIPITATION:**
- None

**LENTIC LENGTH:**
- **LENTIC WIDTH:**
- **LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, >50 m

**RIPARIAN WIDTH:**
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:**
- Floating: 0%
- Submerged: 0%
- Emergent: 0%
- Perimeter: 10
- Canopy: 5

**PROMINENT SPECIES:**
- Moccasins / Grasses

**EGG NOTES:**
- Sprigs bottom willowed; 1 pup

**PREDATORS:**
- Leeches, Boatsmen/Backswimmers, Dragonflies, Belostomats, Beetles, Warm water fish, Cold water fish, Turtles, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish

**OTHER ORGANISMS:**
- Castle, deer, javelin

**SITE / SURVEY NOTES:**
- Spring recently dry; water still present. Algae heavily impacted by Castle and Javelina. Several large young willows at site.

**Continued on another sheet?** Y N

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**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
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<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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</thead>
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<tr>
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<td>Egg Larvae Juvenile Adult</td>
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<tr>
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<tr>
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<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**

- No Riparian Herpetofauna Observed
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Daviess County - Turkey
*SITE AT: Roseman

For use by central data repository only

JEW SITE
NUM: _____ _____

*NW CORNER UTM ZONE: 11
*UTM EASTING: 0533052
*UTM NORTING: 35327230
*NAD83

*QUAD: MT

*ELEV: 3615 ft

*H2O CLASS: Lentic

*H2O TYPE: Canal

DIRECTIONS: At 83 to Old Smokey Hwy. Drt West to Tank

Visit Conditions

DATE: 05.23.2011

*START: 12:45
*STOP: 12:51

*SEARCH TIME: 0 min

*OBERVERS: M. Cross, M. Wendell

SEARCH METHODS: Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

*DRY: Y
*RELEASE: N

SEARCH METHODS:

T Air: 70°F
T Water: 64°F
EC: µS
pH: 7.9
RH:%

H2O CLARITY: NA

WIND: 1-3 mph 4.7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

PRECIPITATION: None

Lentic Length: 0.6 m
Lentic Width: 2.5 m
Lotic Width: 0-2 m

Riparian Width: 0-2 m

Vegetation:

FLoating
Submerged
Emergent
Perimeter
Canopy

PROMINENT SPECIES:

Floating
No Vegetation

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

Dry Site

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Continued on another sheet? Y N

Observed
**RACH / Riparian Herp VES Datasheet**

**Site:** Davidson Cyn

**Site At:** Rosemont

**Locality Data**

- UTM Zone: 11
- UTM Easting: 528,371
- UTM Northing: 3,333,449
- H2O Type: Canal

**Environment**

- Plant inflow
- River
- Wetland
- Stock tank
- Lake
- Reservoir
- Small metal/concrete 30g or drinkers

**Directions:** At S3 to FS 406S, L to 406S to Davidson Cyn. Drive down Cyn to PC Conservation Area, Bravington.

**Visit Conditions**

- Date: 02/26/2011
- Start: 0900
- Stop: 1230
- Search Time: 120 min

**Weather**

- Temperature: 60°F
- Wind: 5 to 10 mph
- Precipitation: None
- Cloud Cover: Mostly cloudy

**Vegetation:**

- Prominent Species: *pondweed, willow, buckeye, willow-

- Other Organisms:
  - Ephemeral Stream
  - Intermittent Flows
  - Lentic: 10-20 m, 0-5 m, 5-10 m
  - Lotic: 10-20 m, 26-30 m, 11-20 m, 21-50 m, >100 m

**Other Notes:**

- All other areas within surveyed reach dry.

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### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ephemeral Stream</em></td>
<td>Intermittent Flows</td>
<td>15</td>
<td>100</td>
<td>Don Reiner, field notes</td>
</tr>
<tr>
<td><em>Ephemeral Stream</em></td>
<td>Intermittent Flows</td>
<td>15</td>
<td>100</td>
<td>Don Reiner, field notes</td>
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<td>Intermittent Flows</td>
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<td>15</td>
<td>100</td>
<td>Don Reiner, field notes</td>
</tr>
</tbody>
</table>
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Laguna Padre de Cuyam
*SITE AT: Rosamunt

*UTM ZONE: 11
*UTM EASTING: 0527720
*UTM NORTING: 3521561

*QUAD: Engle Rd

*MIN: 13
*YEAR: 1981

*ELEV: 470 ft
*H2O CLASS: Lentic
*H2O TYPE: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small met/aggregate tanks or drinkers

DIRECTIONS: AZ 63 to FS 4065; 4065 leads to man without a name.

Visit Conditions

DATE: 5/12/2011
*START: 1030
*STOP: 
*SEARCH TIME: 15 min

*EFFORT: Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

T Air: °C
T Water: °C
EC: µS
PH: 
RH: %

*H2O CLARITY: Extremely clear Moderately clear Extremely turbid

WIND: <1 mph 1-3 mph 4-12 mph 13-18 mph 19-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: m
*LENTIC WIDTH: m
*LOTIC WIDTH: m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

EGERATION: %

PROMINENT SPECIES:

*PREDATORS: (include scat and tracks)

SITE / SURVEY NOTES: Canyon is dry. One well provides H2O in
wetland.

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Continued on another sheet? Y
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Windmill Vista, Davidson Dam
SITE AT: Rosemount

UTM ZONE: 11
UTM EASTING: 0533191
UTM NORTING: 35364417
NAD83 NAD27

QUAD: MT FAG W
MIN: 7:5
YEAR: 
ST-CNTRY: AZ-PIMA

ELEV: m
H2O CLASS: Lent Lotic
H2O TYPE: Canal
Plant outflow
Riverine
Wetland
Stock tank
Lake
Reservoir
Small metal/concrete tanks or drinkers

DIRECTIONS: AZ 83 to Old Saturn Hwy. Take Old Road to

Visit Conditions

DATE: 05/23/21
START: 12:35
STOP: 12:45
SEARCH TIME: 10 min
OBSERVERS: M. COX / M. WENDL

EFFORT: Total Perimeter
Partial Perimeter
Left Bank
Right Bank
Both Banks

SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

WIND: <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

PRECIPITATION: None Intermittent rain Steady light rain Steady heavy rain Snow/Ice

LENTIC LENGTH: m
LENTIC WIDTH: m
LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

SUBSTRATE:
(marsh 1-3)
Mud/Silt Sand Gravel Cobble Boulder Bedrock

EGEETATION: %

PROMINENT SPECIES:
No Vegetation

PREDATORS: Leeches Boletoma pockets Bald Eagles

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:
Simple Stark Water at 9:00

Riparian Herptofauna Observations

SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Continued on another sheet? Y
RACH / Riparian Herp VES Datasheet

**SITE:** Weckmuller-Davidson Canyon  
**LOCALITY DATE:** 05-08-2009

**NEW SITE:** N  
**NUM:** 243  
**UTM ZONE:** 11  
**UTM EASTING:** 533,187  
**UTM NORTING:** 3,536,496  
**NADES:** NAD27

**ELEV.:** 353 ft  
**H2O CLASS:** Lentic/Lotic  
**H2O TYPE:** Canal Plant outflow  
**MIN:** 15°C  
**YEAR:** 1981  
**ST-CNTY:** AZ - PBC

**DIRECTIONS:** AE 83 to Old Sonora Hwy. 0515 to Rodeo Rd.  

**DATE:** 05-25-2009  
**START:** 11:41  
**STOP:** 11:57  
**SEARCH TIME:** 10 min  
**OBSERVERS:** Mike Cross, Perk

**EFFORT:** Partial Perimeter  
**SEARCH METHODS:** Dipnet  
**T Air:** 27°C  
**T Water:** 30°C  
**EC:** 2 μS  
**pH:** 7  
**RH:** 8%  
**H2O CLARITY:** Moderately clear  
**WIND:** 1-3 mph  
**PRECIPITATION:** 0.25 in

**LENTIC LENGTH:** 3 m  
**LENTIC WIDTH:** 3 m  
**LOTIC WIDTH:** 0-2 m  
**RIPARIAN WIDTH:** 2-5 m  
**SUBSTRATE:** Sand

**VEGETATION:** 0%  
**PROMINENT SPECIES:** No vegetation

**OTHER ORGANISMS:** 0 Goldfish  
**OTHER ORG. NOTES:** 0 Goldfish in Tank

**SITE SURVEY NOTES:** Smooth metal tule, height of 0.95 m may be to high for round access to 160

**PREDATORS:** Leeches, Boatmen, Backswimmers, Dragonflies, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed Mammas, Crayfish

**Riparian Herpetofauna Observations**

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<th>#</th>
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</tr>
</thead>
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<tr>
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<td>Certain</td>
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<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Adult</td>
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</tr>
</tbody>
</table>

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RACH / Riparian Herp VES Datasheet

Location Data
*SITE: Unnamed Spring along Darby Creek
*SITE AT: Rosemont
*UTM ZONE: 11
*UTM EASTING: 0530757
*UTM NORTHING: 35225540
*NAD83 NAD27
*ELEV: 4242 ft
*H2O CLASS: Lotic
*H2O TYPE: Canal, Plant outflow, Riverine, Wetland, Stock Tank, Lake, Reservoir
*QUAD: Engle Rd
*MINS: 7.5
*YEAR: 1982
*ST-CNTY: AZ, Pima
DIRECTIONS: AZ 83 to PS 4065; Take Darby Creekown downstream SE to a point 1/4 mile downstream of 1st Bridge.

Visit Conditions
DATE: 05/23/2021
*START: 11:00
*STOP: 11:07
*SEARCH TIME: 5 min
*OBSERVERS: M. Cross / M. Wirlall

*EFFORT: 5

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand Collection, Snorkel, Boat
**干:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet
**WIND:** ≤1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**WIND:** ≤1 mph
**H2O CLARITY:** Extremely clear
**EC:** 14 µS
**pH:** 7
**RH:** 78%
**TEMP:** T Air: 86 °C, T Water: 78 °C

**LENTIC LENGTH:** 1 m
**LENTIC WIDTH:** 1
**LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**VEGETATION:** Floating, Submerged, Emergent, Perimeter, Canopy

**PROMINENT SPECIES:** Water milfoil

**VEGETATION:** 0%

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**PREDATORS:** Leeches, Boatermen/Backswimmers, Dragonflies, Belostomatids, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artifical

**RIPARIAN WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**OTHER ORG. NOTES:** Simple metal stake tube tied by well

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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</tr>
</tbody>
</table>

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Deering Springs Tank  
**SITE AT:** Rosemont

For use by central data repository only:

NEW SITE:  
NUM: ___  
*UTM ZONE:  
11  
*UTM EASTING:  
522,712  
*UTM NORTHING:  
35,19,255  
NAD83 NAD27

*QUAD: Helvetia

**ELEV:** 618 ft  
*mH2O CLASS:  
Lentic Lotic

**H2O TYPE:** Canal Plant outflow  
Rivine Wetland  
Stock tank Lake Reservoir  
Small metal/concrete tanks or drinkers

**DIRECTIONS:**  
Take FS 231 to 40m past Creek into canyon and walk to tank.

Visit Conditions

DATE: 05/10/91  
**START:** 1235  
**STOP:** 1300  
**SEARCH TIME:** 10 min  
**OBSERVERS:** M. Cross / C. Arbuckle

*EFFORT:  
meters 15
  Partial perimeter
  Left Bank
  Right Bank
  Both Banks

*SEARCH METHODS:  
Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

*VOUCHERS:  
Specimen Photos:  
Habitat Photos:  
Specimen(s): N

*SEARCH METHODS:  
TAn: 3.0 F  
TWater: 18 C  
EC: 210  
US:  
pH: 7  
%  
*H2O CLARITY:  
Exremely clear

**WIND:** <1 mph  
>3 mph

**CLOUD COVER:** 0-20% 20-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None

*LENTIC LENGTH: 7 M  
*LENTIC WIDTH: 7 M  
*LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE:  
(mark 1-3)

Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

VEGETATION: %  
PROMINENT SPECIES:
Floating 5  
Algae
Submerged 50  
Algae
Emergent 0

Premier Organisms:
Canopy 10  
Sugar, Oak, Mesquite, Sage

Other Organisms:


Other Org. Notes:  

SITE / SURVEY NOTES:  

Riparian Herpetofauna Observations

**SPECIES:**  
**CERTAINTY:**  
**LIFE STAGE:**  
#  
**COMMENTS:**

Uncertain Certain Egg Larvae Juvenile Adult

Continued on another sheet? Y

(Continued text not visible)
**SITE:** Lower Deerings Spring Tank  
**SITE AT:** Rosemuh

**UTM ZONE:** 11 (N)  
**UTM EASTING:** 522739  
**UTM NORTHING:** 3519227  
**COORDS:** NAD83 NAD27

**NEW SITE:** Yes  
**NUM:** _________  
**UTM ZONE:** 11 (N)  
**UTM EASTING:** 522739  
**UTM NORTHING:** 3519227  
**COORDS:** NAD83 NAD27

**ELEV:** m ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Stock tank  
**DIRECTIONS:** AZ 83 to Greererville rd; Greererville rd to fs 62; Fs 62 to Fs 231; Go 4 mi on rd; take to camp and walk to tank

**DATE:** 05/10/2011  
**START:** 1200  
**STOP:** 1300  
**SEARCH TIME:** 5 min  
**OBSERVERS:** Micross & Atkin

**EFFORT:** 10 meters  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**T Air:** °C  
**T Water:** °C  
**EC:** µS  
**pH:** 7  
**RH:**  
**H2O CLARITY:** Extremely clear  
**WIND:** ≤1 mph  
**PRECIPITATION:** None  
**CLOUD COVER:** 0-20%  
**LENTIC LENGTH:** 4 m  
**LENTIC WIDTH:** 2 m  
**LOTIC WIDTH:** 0-2 m  
**RIPARIAN WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt  
**VEGETATION:** %  
**PROLIFIC SPECIES:** Algae, Water milfoil  
**PREDATORS:** Leeches, Boatmen/Bark swimmers, Dragonflies, Bilescionides, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed  
**OTHER ORGANISMS:** Contig, deer, Ground squirrel, at spring  
**OTHER ORG. NOTES:** Contig, fox, deer tracks  
**SITE/ SURVEY NOTES:** Secondary tank fed by pipe from main creek, spring tank 80' away  

Continued on another sheet? Y

**SPECIES:**  
**CERTAINTY:** Uncertain, Certain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult  
**COMMENTS:** No Riparian Herpetofauna Observed
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Lower Deepve Spring Tank  **SITE AT:** Rosemont

**NEW SITE:** Y (N)  **NUM:** — — — — — — — — — — — — — —

**UTM-ZONE:** 11  **UTM-EASTING:** 522,742  **UTM-NORTHING:** 351,922.3  **ST-CNTY:** AZ - Pima

**ELEV:** 462.5 ft  **H2O-C.L.A.S.S.:** Lotic  **H2O TYPE:** Riverine Wetland Stock Tank Lake Reservoir

**MIN:** 10°F  **MAX:** 79°F  **YEAR:** 1981  **ST-CNTY:** AZ - Pima

**DIRECTIONS:** FS 231. Proceed 2.2 mi up FS 231. Park and walk up canyon to left (w).

Visit Conditions

**DATE:** 03/23/2011  **START:** 0810  **STOP:** 0813  **SEARCH TIME:** 3 min  **OBSERVERS:** Mike Cason / Rick Ward

**EFFORT:** meters 10  **SEARCH METHODS:** Diurnal Seine Trap Hand exploration Snorkel Boat Call playback Other

**T Air:** °C  **T Water:** °C  **EC:** μS  **pH:** —  **RH:** %  **H2O CLARITY:** Extremely clear Moderately clear Extremely turbid

**WIND:** 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph 24+ mph  **CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None  Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** 0-5 m  **LENTIC WIDTH:** 0-5 m  **LOTIC WIDTH:** 0-2 m 3-5 m 5-10 m 10-20 m 20-50 m  >50 m

**VEGETATION:** 0-5% 5-10% 10-20% 20-50%  >50%

**PROMINENT SPECIES:** *Not Specified*  **SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

Other Organisms:

<table>
<thead>
<tr>
<th>Floating</th>
<th>Submerged</th>
<th>Emergent</th>
<th>Perimeter</th>
<th>Canopy</th>
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<tr>
<td>10</td>
<td>70</td>
<td>0</td>
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*From Bees; Black Bear; Deer (deer)

Site / Survey Notes:

*Thermometri Breaker; Fresh Bear sign. Well vegetated

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES:</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
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<td>Juvenile</td>
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<td>Uncertain</td>
<td>Certain</td>
<td>Adult</td>
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<td>—</td>
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</tbody>
</table>

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RACH / Riparian Herp VES Datasheet

**SITE:** Deer Springs  
**SITE AT:** Rosemont

**NEW SITE Y (N):** Y  
**NUM:** _________

**UTM-ZONE:** 11  
**EASTING:** 522771  
**NORTHING:** 3519257  
**YEAR:** 2011  
**ST-CNTY:** AZ - PIMA

**ELEV:** 4430 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal Plant outflow  
**DIRECTIONS:** From 15:20 to Guadalupe Rd; Guadalupe Rd to US 62, then to FS 231; Proceed 2.6 miles to FS 231; Park and walk up canyon to location.

### Visit Conditions

<table>
<thead>
<tr>
<th>DATE</th>
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<th>STOP</th>
<th>SEARCH TIME</th>
<th>OBSERVERS</th>
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<td>08/23/2011</td>
<td>09:15</td>
<td>09:30</td>
<td>10 min</td>
<td>Mike, Amy, Bo, C. B.</td>
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</table>

**EFFECT:** 40 meters  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Data playback  
**VOUCHERS:** Specimen Photos:  
**SPECIMEN(S):** Yes  
**DRY:** Y  
**RELEASE:** Y

**T_{Air}:** 28°F  
**T_{Water}:** 78°F  
**EC:** 1 µS  
**pH:** 7  
**RH:** /%

**WIND:** 4-7 mph  
**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PRECIPITATION:** Intermittent rain  
**LENTIC LENGTH:** 5 ft  
**LENTIC WIDTH:** 5 ft  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:**  
**PROMINENT SPECIES:** Agave

**OTHER ORG. NOTES:** None

**SITE / SURVEY NOTES:** Large rock and concrete structure fed by spring pipe. No fish or amphibious present

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th><em>SPECIES:</em></th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
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</tr>
</tbody>
</table>

Continued on another sheet? Y N
**SITE:**  Deans Spr. *up
**W-SITE:***NUM:__
**UTM ZONE:**__
**UTM EASTING:**__
**UTM NORTTHING:**__
**QUAD:** Caweltville
**MIN:__
**YEAR:__1981
**ST-CNTY:*AZ - *Pima
**ELEV:** m ft
**H2O CLASS:** Lentic Lotic
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir
**DIRECTIONS:** A Z 85 to Caweltville Rd; Caweltville Rd to FS 62; FS 62 to PS 231; PS 231 x 400 m. Dark Shrubbery Cline to west; Walk up to spring

**DATE:** 09/05/2017
**START:** 2145
**STOP:** 2155
**SEARCH TIME:** 5 min
**OBSERVERS:** Mike Cress

**EFFORT:** Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**SEARCH METHODS:** Diving Seine Trap Hand exploration Snorkel Boat playback Other

**T AIR:** °C
**T WATER:** °C
**EC:** µS
**pH:** 7
**RH:**%
**H2O CLARITY:** Extremely clear Moderately clear Extremely turbid

**WIND:** ≤ 1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** m
**LENTIC WIDTH:** m

**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**MISARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**VEGETATION:**%
Floating 5
Submerged 50
Emergent 0
Perimeter 2
Canopy 10

**PROMINENT SPECIES:**
Algae
Algae Shells
Bullfrog
Jumper
Oaks, Sycamore, Sycamore

**PREDATORS:** (include scat and tracks)
Leeches
Boatmen / Backswimmers
Dragonflies
Belostomatids
Beetles
Warm water fish
Cold water fish
Tiger salamanders
Bullfrogs
Mud turtles
Garter snakes
Wading birds
Hawks, black & zone-tailed
Mammals
Crayfish

**OTHER ORGANISMS:** BEAR

**OTHER ORG. NOTES:** BEAR IN TREE

**SITE/SURVEY NOTES:** One small black bear in tree

**SPECIES:** CERTAINTY:
Egg Larvae Juvenile Adult
Uncertain Certain

**LIFE STAGE:**
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult

**COMMENTS:**
No Riparian Herpetofauna Observed

Continued on another sheet? Y N
**SITE:** Deering Springs & Tanks  
**SITE AT:** Rosemont

**UTM ZONE:** 11  
**UTM EASTING:** 522634  
**UTM NORthing:** 2519227

**ELEV:** 5193 ft  
**H-O CLASS:** Canal  
**H-O TYPE:** Riverine  
**DIRECTIONS:** F562, F523, F528, North from Deering  
**MIN:** 15  
**YEAR:** 1993  
**ST-CNTY:** AZ-Cl MA

**DATE:** 11/04/2011  
**START:** 1420  
**STOP:** 1500  
**SEARCH TIME:** 40 min  
**OBSERVERS:** E. Wheelard

**SEARCH METHODS:** Dipnet  
**SPECIMENS:** Specimen Photo:  
**DRY:** T-T-M  
**RELEASE:** Y N

**WIND:** 8-12 mph  
**PH:** 8-10  
**H2O CLARITY:** Extremely clear  
**PRECIPITATION:** None  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt  
**VEGETATION:** Floating  

**VEGETATION:** Submerged  
**PLANT:** Emergent  
**Canopy:**  

**OTHER ORGANISMS:** N/A  
**OTHER ORG NOTES:**

**SPECIES:** None  
**CERTAINTY:** Uncertain

**LIFE STAGE:** Egg Larvae Juvenile Adult

**COMMENTS:**
- Spring consists of 3 small  
- Eggs (steps) each ~ 0.5 m
- Dipnet: 50% of lower tank
- More algae in upper tank @ surface - visually clear
- Very little standing water - mud turtles, garter snakes, wading birds, hawks & black & zone-tailed
- Raised concrete base @ springsource - very little standing water - clear

**Riparian Herpetofauna Observations**

**SITE/SURVEY NOTES:**

**SPECIES:** None  
**CERTAINTY:** Uncertain

**LIFE STAGE:** Egg Larvae Juvenile Adult

**COMMENTS:**
- Spring consists of 3 small  
- Eggs (steps) each ~ 0.5 m
- Dipnet: 50% of lower tank
- More algae in upper tank @ surface - visually clear
- Very little standing water - mud turtles, garter snakes, wading birds, hawks & black & zone-tailed
- Raised concrete base @ springsource - very little standing water - clear
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

- **SITE:** East Dam Tank
- **UTM ZONE:** 11
- **UTM EASTING:** 527,338
- **UTM NORTHING:** 352,276.5
- **NEW SITE:** Y
- **NUM:** ________
- **UTM MIN:** 75
- **UTM YEAR:** 1996
- **ST-CNTY:** AZ - Pima
- **ELEV:** 4633 ft
- **H2O CLASS:** Lentic
- **H2O TYPE:** Plant outflow
- **DIRECTIONS:** As 83 to 45 231; 45 231 to parking area/strike within
- **Visit Conditions**
  - **DATE:** 09/11/2011
  - **START:** 13:13
  - **STOP:** 13:20
  - **SEARCH TIME:** 0 min
  - **OBSEVERS:** M. Cross / P. Wap
  - **EFFORT:** Partial Perimeter
  - **SEARCH METHODS:** Dipnet, Seine, Trap
  - **TAv:** 26 °C
  - **TWater:** 26 °C
  - **PH:** 7.5
  - **EC:** 0.250
  - **RS:**
  - **H2O CLARITY:** μA
  - **CLOUD COVER:** 0-20%
  - **WIND:** ≤1 mph
  - **PRECIPITATION:** Intermittent rain
  - **LENTIC LENGTH:** 0 m
  - **LENTEIC WIDTH:** 0 m
  - **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
  - **RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
  - **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
  - **VEGETATION:** %
  - **PROMINENT SPECIES:**
  - **OTHER ORGANISMS:**
  - **OTHER ORG. NOTES:**
  - **SITE/SURVEY NOTES:** Pond is dry. Perimeter supports seep willow and 3 small Gooding willow. Pond Bed has cocklewils.

**Riparian Herpetofauna Observations**

- **SPECIES:** Uncertain
- **CERTAINTY:** Certain
- **LIFE STAGE:** Egg, Larvae, Juvenile, Adult
- **#**
- **COMMENTS:** No herpetofauna observed.
**SITE:** East Dawn  
**SITE AT:** Rosemont

**3W SITE:**  
**NUM:** _____

**UTM ZONE:** 11  
**UTM EASTING:** 527335  
**UTM NORTHING:** 3522762

**ELEV:** 4433 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Lotic  
**TANK:** Small metal/concrete tanks or drinkers

**QUAD:** Emague Bench  
**MIN:** 3  
**YEAR:** 1996  
**ST-CNTY:** AZ - Pima

**DIRECTIONS:**
AZ 83 to FS 231: FS 231 to FS 231A FS 231A to Parking Area

**DATE:** 09/16/2011  
**START:** 12:00  
**STOP:** 12:05  
**SEARCH TIME:** 5 min

**OBERVERS:** Mike Cross / Rick Ward

**SEARCH METHODS:** Dredge, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**DRY:** Y  
**RELEASE:** N

**TAir:** 33 °C  
**TWater:** 6 °C  
**EC:** --  
**pH:** --  
**RH:** --  
**H2O CLARITY:** extremely clear

**WIND:** ≤1 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** 11-20 m  
**LENTIC WIDTH:** >100 m

**RIPIANARIAN WIDTH:** 2-6 m  
**LOTIC WIDTH:** 0-2 m

**SUBSTRATE:** Mud/Silt/Sand  
**VEGETATION:** %

**PROMINENT SPECIES:** Dry Pond

**OTHER ORGANISMS:**

**HABITAT:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:**

**SPECIES:**  
**CERTAINTY:** Uncertain  
**LIFE STAGE:** Egg Larvae Juvenile Adult

**COMMENTS:**

---

**Riparian Herpetofauna Observations**

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<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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<td>Adult</td>
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</table>
**Locality Data**

- **SITE**: East Dam
- **SITE AT**: Rosemont
- **UTM ZONE**: 11 (C/D)
- **UTM EASTING**: 527244.0
- **UTM NORTING**: 35227724
- **H2O TYPE**: Canal
- **H2O CLASS**: Lentic
- **ELEV**: ft
- **MIN**: 7.5
- **YEAR**: 1986
- **ST-CNTY**: AZ - PLAIN
- **QUAD**: Emory RU
- **DIRECTIONS**: AE 53 to FS 231; FS 231 to Furnace Peaking (at walkway trail to tank)

**Visit Conditions**

- **DATE**: 09-10-2011
- **START**: 09:15
- **STOP**: 10:15
- **SEARCH TIME**: 15 min
- **OBSERVERS**: Mike Cross
- **VOUCHERS**: Specimen Photos:
- **DRY**: Y
- **RELEASE**: Y
- **WIND**: 4-7 mph
- **T-LENTIC LENGTH**: m
- **T-LENTIC WIDTH**: m
- **LOTIC WIDTH**: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
- **SUBSTRATE**: Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial
- **VEGETATION**: %
- **PROMINENT SPECIES**: *PREY*:
- **PREDATORS**: (include scat and tracks)
- **OTHER ORGANISMS**:
- **OTHER ORG. NOTES**:

**Site/Survey Notes**: Dry Tank; recent rains and significant stormwater runoff

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td>No Riparian Herpetofauna</td>
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<tr>
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<td>Egg Larvae Juvenile Adult</td>
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<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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<td></td>
</tr>
</tbody>
</table>
**SITE:** East Dam Tank  
**SITE AT:** Rosemont

**UTM ZONE:** 11  
**EASTING:** 527 316  
**NORTHING:** 35 223 44  
NAD83  
NAD27

**UTM ZONE:** 11  
**EASTING:** 527 316  
**NORTHING:** 35 223 44  
NAD83  
NAD27

**ELEVATION:** 4600 ft  
**H2O CLASS:** Canal  
**H2O TYPE:** Plant outflow  
Riverine  
Wetland  
Stock tank  
Lake  
Reservoir  
Small metal/concrete tanks or drinkers

**DIRECTIONS:** PS 231 to parking area at corral.

---

### Visit Conditions

**DATE:** 1/4/01  
**START:** 11:00  
**STOP:** 13:30  
**SEARCH TIME:** 2:30  
**OBSERVERS:** E. Wallace

**EFFORT:** Partial Perimeter  
**SEARCH METHODS:** Minate  
Seine  
Trap  
Hand exploration  
Snorkel  
Boat  
Call playback  
Other

**TAN:** 21°F  
**TIDE:** 14.5  
**EC:** 1100  
**PH:** ~ 7  
**RH:** ~ 70%  
**H2O CLARITY:** Moderately clear  
**CLOUD COVER:** 60-80%

**WIND:** <1 mph  
**PRECIPITATION:** Intermittent rain  
**LENTIC LENGTH:** 50 m  
**LENTIC WIDTH:** 40 m  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Sand/Silt  
**VEGETATION:** Floating  
Submerged  
Emergent  
Perimeter  
Canopy  
**PREDATORS:** Leeches  
Dragonflies  
Beetles

---

**OTHER ORGANSMS:**  
**OTHER ORG. NOTES:**

---

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
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<th>COMMENTS</th>
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<td>Larvae</td>
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<td>Juvenile</td>
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<tr>
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<td>Egg</td>
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<td>Certain</td>
<td>Larvae</td>
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<td>Adult</td>
<td>0</td>
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<td>Larvae</td>
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<tr>
<td>Mole</td>
<td>Certain</td>
<td>Juvenile</td>
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<td>Mole</td>
<td>Certain</td>
<td>Juvenile</td>
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<tr>
<td>Mole</td>
<td>Certain</td>
<td>Adult</td>
<td>0</td>
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</tr>
</tbody>
</table>

Continued on another sheet? Y N

---

**SITE SURVEY NOTES:** Surveyed entire perimeter - Dipnetted shallows extensively - through dead cockle bars, visibility through shallows, light turbidity - vis. obs. of Thermistes beetles (no. dead obs. or dipnetted & moderate.
# RACH / Riparian Herp VES Datasheet

## Locality Data

**SITE:** Fast Dam Outfall  
**SITE AT:** Rosemont

**NEW SITE:** Y  
**NUM:** _____  
**UTM ZONE:** 11  
**UTM EASTING:** 522731  
**UTM NORTING:** 3522284  
**MIN:** 7.5  
**YEAR:** 1996  
**ST-CNTY:** AZ - PIMA

**ELEV:** 460  
**H2O CLASS:** Lotic  
**H2O TYPE:** Lotic

**DIRECTIONS:** AZ 83 to FS 931, FS 931 to parking area near stock watering/itching posts at Equestrian Site. Park and walk up wash to dam

## Visit Conditions

**DATE:** 11/12/2011  
**START:** 1300  
**STOP:** 1310  
**SEARCH TIME:** 10 min  
**OBERVERS:** M. Cross / R. Warn

**EFFORT:** Perimeter  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel

**T_AIR:** 60°F  
**T_WATER:** 66°F  
**EC:** 200 us/cm  
**pH:** 7  
**RH:** 80%  
**H2O CLARITY:** Moderately clear

**WIND:** 5-10 mph  
**CLOUD COVER:** 40-60%  
**PRECIPITATION:** Intermittent rain

**LENTIC LENGTH:** 2 m  
**LENTIC WIDTH:** 3-5 m  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulders, Bedrock, Artificial

**VEGETATION:** %

- Floating: 0%
- Submerged: No Vegetation
- Emergent:
- Perimeter:
- Canopy:

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:** Site is dry

## Riparian Herpetofauna Observations

**SPECIES:**  
**CERTAINTY:** Uncertain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult  
**#**  
**COMMENTS:** No Riparian Herpetofauna observed
**SITE:** East Dam Outfall  
**SITE AT:** Rosemont

**NEW SITE:**  
**NUM:**  

**QUAD:** Empire Pk  
**MINI:**  
**YEAR:** 1956  
**ST-CNTY:** AZ - PIMA

**ELEV:** 440.5 ft  
**H₂O CLASS:** Lentic  
**H₂O TYPE:** Canal, Plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir

**DIRECTIONS:**  
AZ 53 to FS 231; FS 231 to FS 231B; FS 231B to __________

---

**DATE:** 08/16/2011  
**START:** 14:45  
**STOP:** 12:04  
**SEARCH TIME:** 15 min  
**OBSERVERS:** [Names]  
**EFFORT:** 40 meters  
**SEARCH METHODS:** Fish, Seine, Trap, Hand Exploration, Snorkel, Boat, Call playback

**T_air:** 35 °C  
**T_water:** 30 °F  
**EC:** 1.6 us  
**pH:** 8  
**RH:** 80%  
**H₂O CLARITY:** Moderately clear  
**WIND:** 51 mph  
**PRECIPITATION:** Intermittent rain  
**LENTIC LENGTH:** 0-2 m  
**LENTIC WIDTH:** 0-2 m  
**LOTIC WIDTH:** 3-5 m  
**SUBSTRATE:** Mudflat, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:**  
Floating  
Submerged  
Emergent  
Perimeter  
Canopy

**PROMINENT SPECIES:**  
[Species list]

**PREDATORS:** (include salamanders)  
Leeches  
Belostomatids  
Cold water fish  
Mud turtles  
Hawks, black & zone-tailed Mammals

**OTHER ORGANISMS:** Arrowhead whiptail

**SITE / SURVEY NOTES:** N WR above dam turbid, below dam clear.

---

**SPECIES:**  
**CERTAINTY:** Uncertain  
**LIFE STAGE:** Egg, Larva, Juvenile, Adult  
**#**  
**COMMENTS:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Toad</td>
<td>Certain</td>
<td>Egg, Larva, Juvenile, Adult</td>
<td>500+</td>
<td>Nannina NON-Venomous (non-parasitic) Tadpoles</td>
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<tr>
<td>Sonoran whiptail</td>
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</table>

Continued on another sheet? Y
**SITE:** East Dam 
**SITE AT:** Reservoir

**QUAD:** Empire Rush

**ELEV:** 4416 ft 
**H₂O CLASS:** Lentic

**H₂O TYPE:** Canal Plant outflow

**DIRECTIONS:** 72 S 3 to FS 231; FS 231 to Equestrian Parkers turn on 
South side of FS 231. Park and settle up canyon.

**DATE:** 24.02.12 LL
**START:** 0910
**STOP:** 0940
**SEARCH TIME:** 20 min
**OBSERVERS:** Mike Cross

**EFFORT:** Total Perimeter

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Caliper playsack Other

**T₂Air:** °F 
**T₂Water:** °F 
**EC:** μS
**pH:** 7 
**RH:** %

**WIND:** ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** m
**LENTIC WIDTH:** m
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 0-2 m 6-10 m 11-20 m 21-50 m >50 m

**SUBSTRATE:** (mark 1-3)

**PROMINENT SPECIES:**

**PREDATORS:** (include scent and tracks)

<table>
<thead>
<tr>
<th>Floating</th>
<th>Submerged</th>
<th>Emergent</th>
<th>Perimeter</th>
<th>Canopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20</td>
<td>80</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Vegetation:** %

**OTHER ORGANISMS:**

**Herpetofauna:**

**OTHER ORG. NOTES:** Significant Stormwater drainage from this area.

**SPECIES:**

<table>
<thead>
<tr>
<th>Life Stage</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg Larvae Juvenile Adult</td>
<td>50+ turtles</td>
</tr>
</tbody>
</table>

**Riparian Herpetofauna Observations**

*Continued on another sheet? Y N*
**SITE:** East Dam Outfall  
**SITE AT:** Rosemont  
**UTM ZONE:** 11 12 13  
**UTM EASTING:** 527 814  
**UTM NORTHING:** 352 5946  
**QUAD:** Empire Ranch  
**MIN:** 7.25  
**YEAR:** 1994  
**ST-CNTY:** AZ - PIMA  
**ELEV:** 650 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow  
**DIRECTIONS:** FS 231 to FS 2519, to Parking Area @ corr. H20 Starts @ 6902  

**DATE:** 1/1/04  
**START:** 1200  
**STOP:** 1200  
**SEARCH TIME:** 25 min  
**EFFORT:**  

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand, Snorkel, Boat, Cell, Playback, Other  
**VOUCHERS:** Specimen Photos, Specimen(s): Y N  
**DRY:** Y  

**TAWK:** 22.5°F  
**TEMP:** 41°F  
**EC:** 14.5  
**PH:** ~20  
**H2O CLARITY:** Extremely clear, Moderately clear, Extremely turbid  
**WIND:** < 1 m/s 1-3 m/s 4-7 m/s 8-12 m/s 12-18 m/s 19-24 m/s > 24 m/s  
**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%  
**PRECIPITATION:** None  
**LENTIC LENGTH:** 0 m  
**LENTIC WIDTH:** 0 m  
**LOTIC WIDTH:** 0-2 m  
**RIPARIAN WIDTH:** 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m > 100 m  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial  
**VEGETATION:** Floating, Submerged, Emergent, Perimeter, Canopy  

**PROLIMNION SPECIES:**  
Floating: 0%  
Submerged: 10%  
Emergent: 5%  
Perimeter: 30%  
Canopy: 45%  

**PREDATORS:** (include scat and tracks)  
Leeches, Bees, Water striders, Dragonflies, Bees, Unidentified aquatic insects  
Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs,  
Mud turtles, Garter snakes, Wading birds, Hawks, black & zone-tailed, Mammals, Crayfish  

**S鉴于/SURVEY NOTES:**  
WP 02 - start trap flow: all the way to Dam. *200 m of surface flow from dam downstream*  
Dipnetted all pools, Thermocline at 40 ft, (Dytiscid, beetles)  

**SPECIES:**  
Uncertain  
Certainty: Certain  
Life Stage: Egg, Larvae, Juvenile, Adult  

**COMMENTS:**
**Locality Data**

*SITE: Fig Tree Springs

**SITE AT:** Rosemary

**NEW SITE:**
- Y
- N

**NUM:**
- 1

**UTM ZONE:** 11

**UTM EASTING:** 5239460

**UTM Northing:** 3325012

**MIN:** 7315

**YEAR:** 1991

**ST-CNTRY:** AZ - PIMA

**H2O CLASS:** Lentic

**H2O TYPE:** Canal

**MIN:** 7315

**YEAR:** 1991

**ST-CNTRY:** AZ - PIMA

**H2O TYPE:** Lentic

**H2O CLASS:** Lentic

** DIRECTIONS:**
- AZ 85 to FS 251, FS 251 to FS 4051, FS 4051 to FS 4834.
- Take US 60 past Rosemary Crest, 2.5 miles past Rosemary Crest, walk to Spring.

**Visit Conditions**

**DATE:** 04/17/2011

**START:** 11:15

**STOP:** 11:25

**SEARCH TIME:** 5 min

**OBSERVERS:** M. Cislo, S.

**SEARCH METHODS:**
- Dipnet
- Seine
- Trap
- Hand
- Exploration
- Snorkel
- Boat
- Call
- Playback
- Other

**DRY:** Y

**RELEASE:** N

**WIND:** <1 mph

**Temperature:** 74° F

**T Air:** 74° F

**T Water:** 74° F

**EC:** 14 mS

**pH:** 6.5

**RH:** 5%

**H2O CLARITY:** Extremely clear

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None

**REFRESHMENT:** Intermittent rain

**Riparian Width:** 2.5 m

**Lentic Length:** 2.5 m

**Lentic Width:** 0.3 m

**Lotic Width:** 0-2 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation:**
- Floating: 0%
- Submerged: 50%
- Emergent: 20%
- Perimeter: 75%
- Canopy: 50%

**PROMINENT SPECIES:**
- Floating: 0%
- Submerged: 50% Algae
- Emergent: 20% Grass, Fig tree, Saguaro, Faucet, Tumbleweed, Fabaceae, Cacti
- Perimeter: 75% Grass, Fig tree, Musk grass, (Kochia), Fula, [Other]
- Canopy: 50% Box Elder, Rg, Rg. Clark

**Other Organisms:**
- Fox, Skunk, Deer

**Other Organ Notes:**
- For tracks, skunk tracks, deer tracks

**Site/Survey Notes:**
- Isolated springs at headwaters of Sycamore Canyon. Site has one water source that is not permanent. Spring fills basin and leads to springs.
- Continued on another sheet? Y

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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<tbody>
<tr>
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<td>Egg</td>
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<td>Juvenile</td>
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<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
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</tbody>
</table>
**SITE AT:** Rosemont

**NEW SITE:** Tree Spruce

**UTM ZONE:** 11
**UTM EASTING:** 523,658
**UTM Northing:** 3,625,071
**NAD83**
**NAD27**

**QUAD:**

**ELEV:** 511
**H₂O CLASS:** Lentic
**H₂O TYPE:** Canal
**MIN:** 7.5
**YEAR:**
**ST-CNTY:** AZ - Pima

**DIRECTIONS:** AZ 53 to 531; 531 to 186 to 60; 60 to Rosemont

**VISIT CONDITIONS**

**DATE:** 05/17/2001
**START:** 11:00
**STOP:** 11:20
**SEARCH TIME:** 5 min

**EFFORT:** Total Perimeter

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Other

**TAI:** 34
**Tₗ₃:** 24
**EC:** 1,090
**pH:** 7
**R.H.:**
**H₂O CLARITY:** Extremely clear, Moderately clear, Extremely turbid

**WIND:** ≤2 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, >18 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**LENTIC LENGTH:** 0-2 m
**LENTIC WIDTH:** 0-2 m

**LOTIC WIDTH:** 3-5 m, 5-10 m, 10-20 m, 20-50 m, >50 m

**RIPARIAN WIDTH:**

**VEGETATION:** Floating 60% Algae, Submerged 20% Grass, Emergent 10% Grass, Perimeter 80% Arizona Sedge, Canopy 75%

**PROMINENT SPECIES:**

**PREDATORS:** Leeches, Boatmen Backswimmers, Dragonflies, Belostomatids, Beeltes, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed Mammals, Crayfish

**OTHER ORG. NOTES:**

**SITE/SURVEY NOTES:**

**Riparian Herpetofauna Observations**

**SPECS:** Uncertain, Certain, Egg, Larvae, Juvenile, Adult

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**COMMENTS:** No Riparian Herpetofauna
**SITE:** Granite M. Tank  
**NUM:**  
**UTM ZONE:** 11  
**UTM EASTING:** 5273.06  
**UTM Northing:** 2513.98  
**ST-CNTY:** AZ - PIMA  
**ELEV:** 535 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers  
**DIRECTIONS:** At 83 to Greenville Rd; Greenville Rd to 5227; 5229 to 154008 W  

**QUAD:** Empire Ranch  
**MIN:** 7.5  
**YEAR:** 1986  
**NAD83:** NAD27  

**EOL:**  
**OBSEVERS:** R. Ward B. Johnson  
**SEARCH METHODS:** D Paige Seine Trap Hand exploration Snorkel Boat All  
**SEARCH TIME:** 10 min  
**DATE:** 01/11/2011  
**STOP:** 13:00  
**START:** 12:55  

**VOCATION:** Specimen Photos: Habitat Photos  
**SPECIMEN(S):** Y  
**SPECIMEN #:**  

**WIND:** <2 mph  
**CLOUD COVER:** None  
**TEMP:** 62°F  
**HUMIDITY:**  
**PH:** 0.0  
**T WATER:** 82°F  
**EC:** 0.0  

**DEEP:**  
**SALT:**  

**PROTEND:**  
**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial  

**VEGETATION:** Floating Submerged Emergent Perimeter Canopy  
**PERCENT:**  

**PROMINENT SPECIES:** No Vegetation  

**LENTIC:** 50 m  
**LOTIC:** 10 m  

**RIPARIAN:** 3-5 m  

**PREDATORS:** Leeches Boatinmen/Backswimmers Dragonflies Belosomiatds Beettles Warm water fish Cold water fish Tiger salamanders Bullfrogs Mud turtles Gartersnakes Wading birds Hawks, black & zone-tailed Mammals Crayfish  

**OTHER ORGANISMS:**  

**SITE / SURVEY NOTES:**  

**OTHER ORG. NOTES:**  

**COMMENTS:** 

**SPECIES:** Uncertain Certain Egg Larvae Juvenile Adult  
**CERTAINTY:** 

**LIFE STAGE:** 

**#:** 

**COMMENTS:**  

**Riparian Herpetofauna Observations**  

---  

Continued on another sheet? Y N
**SITE:** Granite Mtn. Tank
**SITE AT:** Roosevelt
**QUAD:** Greaterville
**MIN:** 15
**YEAR:** 03
**ST-CNTRY:** AZ - PIMA

**ELEV:** 5165 ft
**H2O CLASS:** Lotic
**H2O TYPE:** Canals, inflow
**TANK:** Rivetine, Wetland, Stock tank, Lake, Reservoir

**DIRECTIONS:** AZ 85 to Greaterville RD, Greaterville RD to FS 295, FS 295

**DATE:** 04/31/2011
**START:** 10:55
**STOP:** 11:30
**SEARCH TIME:** 35 min
**OBSERVERS:** Mark Caso, Rick McPherson

**EFFECT:** Total, Partial
**SEARCH METHODS:** Seine, Trap, Hand exploration, Snorkel, Boat, Safety playscape, Slick, Other

**T AIR:** 32 °C
**T WATER:** 18 °C
**EC:** 7 us
**pH:** 7
**RH:** 1%
**H2O CLARITY:** Extremely clear, Moderately clear, Extremely turbid

**WIND:** 4-7 mph
**PECIPITATION:** Note
**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**LENTIC LENGTH:** 60 m
**LENTIC WIDTH:** 30 m
**LOTIC WIDTH:** 0-2 m
**SUBSTRATE:** Mud, Silt, Shelly, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** %

**FLOATING:** 100% Algae

**OTHER ORGANISMS:** Bear, Bubba, deer, Mammals, use H2O

**SITE/SURVEY NOTES:** Pond is very full and significant recent stormwater inflows

---

**RIPARIAN HERPETOFAUNA OBSERVATIONS**

<table>
<thead>
<tr>
<th>SPECIES: Uncertain</th>
<th>CERTAINTY: Certain</th>
<th>LIFE STAGE: Egg, Larvae, Juvenile, Adult</th>
<th>#</th>
</tr>
</thead>
</table>

**COMMENTS:** No Riparian Herpetofauna Observed

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Corrals M. Time

ENMR SITE: N
NUM: ______

*UTM ZONE: 11
*UTM EASTING: 522717
*UTM NORTING: 3533930

*NAD83

*QUAD: Corralsville

*ELEV: m

*H2O CLASS: Lotic

*H2O TYPE: Canal

DIRECTIONS: AZ 83 to Corralsville Rd; Corralsville Rd to FS 229; FS 229 to Tank

Visit Conditions

DATE: 09/11/2011

*START: 2035

*STOP: 2130

*SEARCH TIME: 50 min

*OBERVERS: Mike Cross

*SEARCH METHODS:

Dipnet  Seine  Trap  Hand exploration  Snorkel  Boat  Call playback  Other

*EFFORT: meters

T Air: °C

T Water: °C

EC:  μS

pH:

RH: %

*H2O CLARITY: Extremely clear

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*WIND: ≤ 1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

*PRECIPITATION: None

*LENTIC LENGTH: m

*LENTIC WIDTH: m

*LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: Mud/Silt  Sand  Gravel  Cobble  Boulder  Bedrock  Artificial

Vegetation:

Floating

Submerged

Emergent

Perimeter

Canopy

Vegetation: %

100  Agave

7  

5  Sycamore

100  Sycamore

20  Cactus

PROMINENT SPECIES:

*PREDATORS: (include scat and tracks)

Leeches  Boatmen/Backswimmers  Dragonflies

Belostomatids  Beetles  Warm water fish

Cold water fish  Tiger salamanders  Bullfrogs

Mud turtles  Gartersnakes  Wading birds

Hawks, black & zone-tailed  Mammals  Crayfish

OTHER ORGANISMS:

SITE / SURVEY NOTES: Night Survey. No reptiles observed.

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Uncertain  Certain  Egg  Larvae  Juvenile  Adult

Continued on another sheet? Y N
### RACH / Riparian Herb VES Datasheet

#### Locality Data

- **SITE:** Granite Tank  
- **SITE AT:** Roosevelt

#### NEW SITE:

- **NUM:**  
- **UTM ZONE:** 11  
- **UTM EASTING:** 521,131  
- **UTM NORTING:** 354,421  
- **NAD83:**  
- **NAD27:**

#### QUAD:

- **Corentville**  
- **MIN:** 71  
- **YEAR:** 1981  
- **ST-CNTY:** A2 Q1 MA

#### ELEV:

- **5426 ft**
- **H₂O CLASS:** Lentic  
- **H₂O TYPE:** Plant outflow  
- **STOCK:** Lake  
- **RESERVOIR:** Small metal/concrete tanks or drinkers

#### DIRECTIONS:

- AZ 83 to Corentville Rd; Corentville Rd to FS 255.75  
- 299 to FS 185; FS 165 to tank

#### Visit Conditions

<table>
<thead>
<tr>
<th>DATE</th>
<th><em>START</em></th>
<th><em>STOP</em></th>
<th>SEARCH TIME</th>
<th>OBSERVERS</th>
<th>VOUCHERS:</th>
<th>Specimen(s):</th>
<th>Specimen #:</th>
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</thead>
<tbody>
<tr>
<td>08/31/2011</td>
<td>11:00</td>
<td>11:30</td>
<td>20 min</td>
<td>20</td>
<td>Cross</td>
<td>1333</td>
<td></td>
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</table>

#### SEARCH METHODS:

- Total Perimeter  
- Partial Perimeter  
- Left Bank  
- Right Bank  
- Both Banks  
- Snorkel  
- Diving  
- Boat  
- Call playback  
- Other

#### EFFORT:

- Total Meters: 100  
- Perimeter: 20

#### SEARCH CLARITY:

- Extremely clear  
- Moderately clear  
- Moderately turbid  
- Extremely turbid

#### WIND:

- 5-7 mph  
- 8-12 mph  
- 13-18 mph  
- 18-24 mph  
- >24 mph

#### PRECIPITATION:

- None  
- Intermittent rain  
- Steady light rain  
- Steady heavy rain

#### LENTIC LENGTH:

- 0-2 m  
- 2-5 m  
- 6-10 m  
- 11-20 m  
- 21-50 m  
- >50 m

#### LENTIC WIDTH:

- 0-2 m  
- 2-5 m  
- 6-10 m  
- 11-20 m  
- 21-50 m  
- >50 m

#### LOTIC WIDTH:

- 0-2 m  
- 2-5 m  
- 6-10 m  
- 11-20 m  
- 21-50 m  
- >50 m

#### RIPARIAN WIDTH:

- 0-2 m  
- 2-5 m  
- 6-10 m  
- 11-20 m  
- 21-50 m  
- >50 m

#### VEGETATION:

- Floating  
- Submerged  
- Emergent  
- Perimeter  
- Canopy

**PROLIFIC SPECIES:**

- Leeches  
- Spiders/Spiders  
- Dragonflies  
- Beleostomata  
- Bees  
- Warm water fish  
- Cold water fish  
- Tiger salamanders  
- Bullfrogs  
- Mud turtles  
- Garter snakes  
- Wading birds  
- Hawks, black & zone-tailed  
- Mammals  
- Crayfish

#### OTHER ORGANISMS:

- Perch  
- Largemouth Bass  
- Sunfish  
- Bass  
- Trout  
- Mammals are 640

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
<td>Adult</td>
</tr>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
<td>Adult</td>
</tr>
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<td>Larvae</td>
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<td>Adult</td>
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<td>Adult</td>
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<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
<td>Adult</td>
</tr>
</tbody>
</table>

**SITE/SURVEY NOTES:** Pond was 640 m deep; now is totally filled.

Continued on another sheet? Y N
**SITE:** Carmel #2 Tink

**SITE AT:** Pecos

**UTM ZONE:** 11

**UTM EASTING:** 52117

**UTM NORTING:** 3514718

**NAD83**

**NAD27**

**QUAD:** Carrotville

**MIN:** 0815

**YEAR:** 1981

**ST-CNTY:** AZ - PLM

**ELEV:** m

**H2O CLASS:** Canals

**H2O TYPE:** Plant outflow

**DIRECTIONS:** A River to Carrotville Rd. Westcliffe Rd to FS 225; FS 225 to FS 406W; FS 406W to file.

**DATE:** 05/10/12

**START:** 0830

**STOP:** 1230

**SEARCH TIME:** 60 min

**OBSERVERS:** Mike Cross

**TOTAL EFFORT:** Total Perimeter

**SEARCH METHODS:** Seine, Trap, Hand exploration

**DRY:** Y

**RELEASE:** Y

**TEMPERATURE:**

- **T Air:** °C
- **T Water:** °C

**EC:** µS

**pH:** 7

**RH:** %

**H2O CLARITY:** Extremely clear

**WIND:** ≤1 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None

**LENTIC LENGTH:** m

**LENTIC WIDTH:** m

**LOTIC WIDTH:** m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m

**SUBSTRATE:** Mud/Silt/\^ Sand/Gravel/\^ Bobble/\^ Boulder/\^ Bedrock/\^ Artificial

**V E T E R A N T I O N:** %

**PROL M O N T E S S I P E C I E S:**

**PREDATORS:** (include scat and tracks)

- Leeches
- Boitmen/Backswimmers
- Dragonflies
- Beetles
- Mammals
- Crayfish
- Warm water fish
- Tiger salamanders
- Bullfish
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed

**OTHER ORGS. NOTES:**

**SITE / SURVEY NOTES:** One medium-sized Chironomus larval frog observed.

---

**SPECIES:**

<table>
<thead>
<tr>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
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<tbody>
<tr>
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<td>Egg Larvae</td>
<td>1</td>
</tr>
<tr>
<td>Certain</td>
<td>Juvenile</td>
<td></td>
</tr>
<tr>
<td>Certain</td>
<td>Adult</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Rosemont
*SITE AT: Rosemont

For use by central data repository only:

NEW SITE: 
NUM: 1110

*UTM ZONE: 11
*UTM EASTING: 102
*UTM NORTING: 7022

*QUAD: 24
*MIN: 5
*YEAR: 1981
*ST-CNTY: 24 - Pismo

*ELEV: 5
*H2O CLASS: Lentic
*H2O TYPE: Canal

DIRECTIONS: At S3 to Chorroville Rd; Chorroville Rd to S29, S5

Collecting:

DATE: 08/31/2011
*START: 0940
*STOP: 1020
*SEARCH TIME: 20 min
*OBSERVERS: }

**SEARCH METHODS:**

*EFFORT: Total Perimeter

Left Bank: Right Bank: Both Banks

Silted: Seine: Trap: Hand: Snorkel: Boat

**SEARCH TIME**:

*PREPARATION: }

**WIND:** <1 mph: 1-3 mph: 4-7 mph: 8-12 mph: 13-16 mph: 17-24 mph: >24 mph

**CLOUD COVER:** 0-20%; 21-40%; 41-60%; 61-80%; 81-100%

**RIPARIAN WIDTH:** 0-2 m: 3-5 m: 6-10 m: 11-20 m: 21-50 m: >50 m

**VENATION:**

Floating: 80 Submerged: 2
Emergent: 2 Perimeter: 100
Canopy: }

*PREDATORS:* (include salamanders and turtles)

Leeches: Boatmen/Mosquitoes: Dragonflies:
Beetles: Warm water fish
Cold water fish: Bullfrogs
Mud turtles: Garter snakes: Wading birds
Hawks, black & zone-tailed: Mammals: Crayfish

OTHER ORGANISMS:

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:
Uncertain: Certain
Egg: Larvae: Juvenile: Adult: No Riparian Herpetofauna

Continued on another sheet? Y N
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

<table>
<thead>
<tr>
<th>SITE</th>
<th>Lower Grandville MT Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>SITE AT:</em></td>
<td>Reservoir</td>
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</tbody>
</table>

**For use by central data repository only:**

<table>
<thead>
<tr>
<th>NEW SITE NUM</th>
<th>[ ]</th>
</tr>
</thead>
</table>

**UTM ZONE: 11 12 13**

**UTM EASTING: 522805**

**UTM NORTING: 3514041**

| NAD83 | NAD27 |

**ELEV:**

**H2O CLASS:**

**H2O TYPE:**

**DIRECTIONS:**

### Visit Conditions

**DATE:** 09.20.11

**START:** 2135

**STOP:** 2230

**SEARCH TIME:** 45 min

**OBSERVERS:** Mike Cross

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**T_AIR:** 60°F

**T_WATER:** 80°F

**EC:** μS

**pH:** 7

**RH:** %

**H2O CLARITY:**

**WIND:** ≤ 1 mph 1-3 mph 3-6 mph 6-12 mph 12-24 mph >24 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None

**LENTIC LENGTH:** 60 m

**LENTIC WIDTH:** 20 m

**LOTIC WIDTH:** 0-2 m 3-5 m 5-10 m 10-20 m 20-50 m >50 m

**RIPARIAN WIDTH:** 2 m 5 m 10 m 20 m 50 m >100 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation:**%

**Prominent Species:**

**Predators:** (include scat and tracks)

- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-billed
- Mammals
- Crayfish

**Other Organisms:**

**Other Org. Notes:**

**Site/Survey Notes:** Night survey

---

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td>7</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Larvae</td>
<td>7</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Juvenile</td>
<td>7</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Adult</td>
<td>7</td>
</tr>
</tbody>
</table>

**Comments:**

- No Riparian Herpetofauna Observed
**SITE:** Greaterville Tank  
**SITE AT:** Rosemount

**UTM ZONE:** 11  
**UTM EASTING:** 527,244  
**UTM NORTING:** 381,468  
**NAD83** NAD27

**QUAD:** Foundation  
**MIN:** 15  
**YEAR:** 1996  
**ST-CNTY:** AZ - PIMA

**ELEV:** 5318 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal, Plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** At \# 38 to Greaterville Rd; Greaterville Rd to F5249; F5165 to Tank.

**DATE:** 04/11/2011  
**START:** 10:40  
**STOP:** 11:40  
**SEARCH TIME:** 40 min  
**OBSERVERS:** IC, JG

**EFFORT:** 970 meters  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**T Air:** 20°F  
**T Water:** 89°F  
**EC:** 7 μS  
**pH:** 7  
**RH:** %  
**H2O CLARITY:** Extremely clear, Moderately clear, Extremely turbid

**WIND:** <1 mph, 1-3 mph  
**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PRECIPITATION:** None  
**LENTIC LENGTH:** 40 m  
**LENTIC WIDTH:** 32 m  
**LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, >50 m  
**SUBSTRATE:** Mudflat, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** %  
**PROMINENT SPECIES:**  
**PREDATORS:** Leeches, Bogemian/Beetles, Dragonflies, Bees, Warm-water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds

**OTHER ORGANISMS:** Deer, Dog, Turtles, Fox  
**OTHER ORG. NOTES:** Deer, Doc, GB Heron, Coot, Juvenile tracks on bank

**SITE/SURVEY NOTES:** Numerous adult chelonians observed frop bank. One large mudskipper collected and photographed. Attempts to capture adults failed.

2 Cams used: GPS 7 & 8 unsuccessful.

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RACH</td>
<td>Uncertain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td>&gt;75</td>
<td>Lots of adults; most specimens in SE section of pond; One turtle and one mudskipper collected.</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
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<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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</tr>
</tbody>
</table>
1415 Arrive at tank. Tank is full! One side is covered by mass of floating debris. Debris in water does not appear to be "ashy". Little black debris indicating chained vegetation.

Several CLFs seen at edge of pond.

GPS Cam 3 photos 1426, 1427, 1428.
### Locality Data

**SITE:** Cottonville Tank  
**UTM ZONE:** 11  
**UTM EASTING:** 527,276  
**UTM NORTING:** 331,491  
**YAD83**  
**ST-CNTY:** AZ - Pima  
**ELEV:** 1,050 m  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal Plant outflow  
**DIRECTIONS:** AZ 83 to Cottonville Rd, Cottonville Rd to FS 295, FS 295 to FS 1605, FS 1605 to Tank...  

### Visit Conditions

**DATE:** 08/13/2001  
**START:** 1140  
**STOP:** 1225  
**SEARCH TIME:** 30 min  
**OBSERVERS:** Mike Carlock  
**EFFORT:** 3.00 meters  
**SEARCH METHODS:** Dinner Snares Trap Hand exploration Snorkel Boat Call playback Other  
**H2O CLARITY:** Extremely clear  
**WIND:** 61 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph  
**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%  
**PRECIPITATION:** None  
**LENTIC LENGTH:** 125 m  
**LENTIC WIDTH:** 80 m  
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial  
**VEGETATION:** Floating 50% Submerged 0% Emergent 0.1% Perimeter 0% Canopy 5%  
**PROMINENT SPECIES:** <br>Lechees, Bees, Beavers, Dragonflies  
**PREDATORS:** (include all and tracks)  
**OTHER ORGANISMS:** Hawks, black & zone-tailed Mammals  
**OTHER ORG. NOTES:**  
**SITE/SURVEY NOTES:** Pond over flowing, Stormy runoff...  

### Riparian Herpofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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<tbody>
<tr>
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<td>45 Ratisch</td>
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</tr>
<tr>
<td></td>
<td>Uncertain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SITE:** North Greenville Tank
**SITE AT:** Rosemert

**ELEV.:** 5'05
**H₂O CLASS:** Lotic
**H₂O TYPE:** Canal

**DIRECTIONS:** At S 2 to Greenville Rd; Greenville Rd to FS 229; FS 229 to FS 4100 ac. Go to top of hill and wait to conclude.

**DATE:** 08/25/2011
**START:** 09:00
**STOP:** 10:15
**SEARCH TIME:** 1 hour

**QUALITY:** 1935

**SEARCH METHODS:** Diem, Traps, Hand exploration

**T AIR:** 70°F
**T WATER:** 72°F
**PH:** 7
**EC:** 240 µS

**VEGETATION:** Floating 68%, Submerged 0%, Emergent 0%, Perimeter 0%

**PROMINENT SPECIES:** Not live plants, flats, salamanders

**SUBSTRATE:** Mud/Silt

**PREDATORS:** Leeches, Dragonflies, Bolete

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**SITE / SURVEY NOTES:** Large staked tank in grassy canyon

**SPECIES:** RBCM
**CERTAINTY:** Uncertain, Certain
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult
**#:** 47

**COMMENTS:** Numerous adult RBCM
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Grasshopper Tank
SITE AT: Rosemont Tank
UTM ZONE: 11N
UTM EASTING: 0523248
UTM NORTHING: 352332

QUAD: Helvetia
MIN: 7.5
YEAR: 1981
ST-CNTY: AZ-PIMA

ELEV: 530 ft
H2O CLASS: Lentil
H2O TYPE: Canal
DIRECTIONS:

DATE: 04/12/92
START: 13:05
STOP: 13:15
SEARCH TIME: 0 min

EFFORT:
SEARCH METHODS:

SEARCH METHODS:

T Air: °C
T Water: °C
EC: µS
pH:
RH:
H2O CLARITY:

WIND: 0-1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

PRECIPITATION:

LENIENT LENGTH: 0 m
LENIENT WIDTH: 0 m
LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

SUBSTRATE: Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

VEGETATION:
Floating
Submerged
Emergent
Perimeter
Canopy

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

SPECIES:

CERTAINTY:

LIFE STAGE:

#:

COMMENTS:

Uncertain
Certain
Uncertain
Certain
Uncertain
Certain
Uncertain
Certain
Uncertain
Certain
Uncertain
Certain

Egg
Larvae
Juvenile
Adult

No Riparian Herpetofauna Observed
### Locality Data

**SITE:** Gussigut Pass Tank  
**SITE AT:** Rosemount

- **QUAD:** Helvetia  
- **ELEV:** 5250 ft
- **H₂O CLASS:** Lentic Lotic  
- **H₂O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**NEW SITE:**  
**NUM:** — —

**UTM ZONE:** 11  
**UTM EASTING:** 523271  
**UTM NORTHING:** 3523259  
**MIN:** 15  
**YEAR:** 1981  
**ST-CNTY:** AZ - Pima

**DIRECTIONS:** AZ 83 to FS 231; FS 231 to Gussigut Pass Road; Gussigut Pass Tank just beyond Gussigut Pass

### Visit Conditions

**DATE:** 08/11/2011  
**START:** 12:40  
**STOP:** 12:45  
**SEARCH TIME:** 5 min  
**OBSERVERS:** Mike Cross/Redward

**EFFORT:** Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

- **T Air:** 35 F
- **T Water:** °C
- **EC:** µs
- **pH:** NA
- **RH:** %
- **H₂O CLARITY:** NA

**WIND:** ≤ 1 mph 1-3 mph 4-7 mph 8-12 mph 13-15 mph 16-19 mph > 24 mph  
**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**RIPARIAN WIDTH:**  
**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Biotrack Artificial

**VEGETATION:** %  

**PROMINENT SPECIES:**  

**PREDATORS:** (include scat and tracks)

- Leeches
- Boomer/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:** Tank is dry

### Riparian Herpetofauna Observations

**SPECIES:**  
**CERTAINTY:** Uncertain Certain

**LIFE STAGE:** Egg Larvae Juvenile Adult

<table>
<thead>
<tr>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg</td>
<td></td>
</tr>
<tr>
<td>Larvae</td>
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</tr>
<tr>
<td>Juvenile</td>
<td></td>
</tr>
<tr>
<td>Adult</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**  

- No Riparian Herpetofauna Observed

- Continued on another sheet?
**SITE:** Huckleberry Tank  
**SITE AT:** Rosamont  
**UTM ZONE:** 11N  
**UTM EASTING:** 0527533  
**UTM NORTHING:** 3519333  
**QUAD:** Empire Ranch  
**MIN:** 15  
**YEAR:** 96  
**ST-CNTY:** A20L  
**ELEV:** m  
**H2O CLASS:** Lentic Lotic  
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks ordrinkers  
**DIRECTIONS:** AE 453 to mile post 43; Tank just off highway to East  

**DATE:** 04-11-12  
**START:** 1447  
**STOP:** 1453  
**SEARCH TIME:** 0 min  
**OBSERVERS:** Cross & Wood  
**VOUCHERS:** Specimen Photos: Habitat Photos:  
Specimen(s):  
**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other  
**DRY:** Y  
**RELEASE:** Y  
**T Air:** °C  
**T Water:** °C  
**EC:** US  
**pH:**  
**RH:** %  
**H2O CLARITY:** N/A  
**WIND:** ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph  
**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%  
**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet  
**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
**SUBSTRATE:** (mark 1-3) Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial  
**VEGETATION WIDTH:** 0-2 ft 3-5 ft 6-10 ft 11-20 ft 21-50 ft >50 ft  
**SUBSTRATE:** (mark 1-3) Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial  
**VEGETATION:** %  
**PROMINENT SPECIES:** No Vegetation  

**PREDATORS:** (include scat and tracks)  
Leeches Boatmen/Backswimmers Dragonflies  
Belostomatids Breathe Warm water fish  
Cold water fish Tiger salamanders Bullfrogs  
Water turtles Gartersnakes Wading birds  
Hawks, black & zone-tailed Mammals Crayfish  

**OTHER ORGANISMS:**  

**SITE / SURVEY NOTES:**  

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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<td>Unobserved Riparian Herpetofauna</td>
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<tr>
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<td>Certain</td>
<td>Larvae</td>
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<tr>
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<td>Juvenile Adult</td>
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</table>

Continued on another sheet? Y/N
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Tucson
SITE AT: Rosemont

NEW SITE: Y
NUM: ________-

UTM ZONE: 11
UTM EASTING: 527,533
UTM NORTHING: 35,1535

QUAD: Empire Ranch
MIN: 7.5
YEAR: 1996
ST-CNTY: AZ-Old Pima

ELEV: 4,820 ft
H.O. CLASS: Lotic
H.O. TYPE: Canal Plant outflow
DIRECTIONS: AZ 83 to FS 4022 Turn N.W. Park and Cross AZ 83; Tucson 0.5 mile SW of AZ 83.

Visit Conditions

DATE: 08/18/2011
START: 11:30
STOP: 12:30
SEARCH TIME: 50 min

EFFORT: Partial Perimeter
SEARCH METHODS: Dipnet, Seine

T_Air: 30°F
T_Water: 65°F
EC: 210 us

WIND: <1 mph
PRECIPITATION: None

LENTIC LENGTH: 15 m
Lotic Width: 10 m

RIPARIAN WIDTH: 0-6 m

VEGETATION: % PROLIMT SPECIES:
Floating 70 Algae
Submerged 40 Algae
Emergent 0
Perimeter 100 Grass

PREDATORS: (include scat and tracks)
Beak: Lizards, Boatmen/Backswimmers, Dragonflies, Beetles, Warm water fish, Cold water fish, Tiger Salamanders, Bullfrogs, Mud Turtles, Gartersnakes, Watering birds, Hawks, Black and Zone-tailed Hawks, Mammals, Crayfish

OTHER ORG. NOTES: None

SITE / SURVEY NOTES: Pond is partially filled.

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td>No Riparian Herpetofauna Observed</td>
</tr>
</tbody>
</table>
**SITE:** Yuma Tree Tent  
**SITE AT:** Roseman

For use by central data repository only:

**NEW SITE:**   
**NUM:**  
**QUAD:** Engel Park  
**UTM ZONE:** 11 (W) 3  
**ELEV:** 505 4m  
**H₂O CLASS:** Lentic  
**H₂O TYPE:** Canal outflow  
**MIN:** 15  
**YEAR:** 1996  
**ST-CNTRY:** AZ  
**NAD83:**  
**WGS84:**  

**DIRECTIONS:** 1 42 63 to mile post 43. Turn to East.

### Visit Conditions

|-------|-------------|---------|------|--------|------|---------------|--------|

**EFFORT: Total Perimeter**

**SEARCH METHODS:** Dipped, Seine, Trap, Hand exploration, Snorkel, Boat, Car pack, Other

**T_air:** 20°F  
**T_water:** 29°F  
**EC:** 1 us  
**pH:** 7  
**RH:** 1%  
**H₂O CLARITY:** Extremely clear  
**WIND:** 5-1 mph  
**CLOUD COVER:** 20-40%  

**PRECIPITATION:** Intermittent rain  

**LENTIC LENGTH:** 6 m  
**LENTIC WIDTH:** 3-5 m  
**LOTIC WIDTH:** 0-2 m  

**RIPARIAN WIDTH:** 6-10 m  

**VEGETATION:** Floating, Submerged, Emergent, Perimeter, Canopy

**PROMINENT SPECIES:**  

**SUBSTRATE:** Mud/Silt, Sand/Gravel, Cobble, Boulders, Bedrock, Artificial

**PREDATORS:** (include scat and tracks)

- Leeches
- Boasmen/Backswimmers
- Dragonflies
- Beasts
- Beetle
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORG. NOTES:** No Night-time Survey, No Reptiles

---

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES:</th>
<th>CERTAINTY:</th>
<th>LIFE STAGE:</th>
<th>#</th>
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<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
**SITE:** Lower Stock Tank  
**SITE AT:** Rosemont

**NEW SITE:**  
**NUM:**  
**UTM ZONE:**  
**UTM EASTING:**  
**UTM NORTHING:**  
**NAD83**  
**QUAD:** Helvrk  
**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ-PIMA  
**ELEV:** 5196 m  
**H2O CLASS:** Lentic, Lotic  
**H2O TYPE:** Canal, Plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** A2 63 to FS 231; FS 231 to FS 4051; FS 4051 to Tank

**Visit Conditions**

**DATE:** 04/11/2001  
**START:** 11:00  
**STOP:**  
**SEARCH TIME:** 0 min  
**OBSERVERS:** M. Cross, R. Ward

**EFFORT:**  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**SEARCH METHODS:**  
**T Air:** °F  
**T Water:** °F  
**EC:** μS  
**pH:**  
**RH:** %  
**H2O CLARITY:** Clear  
**WIND:** <1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph  
**CLOUD COVER:** 0-25% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None  
**LENTIC LENGTH:** 0 m  
**LENTIC WIDTH:**  
**LOTIC WIDTH:**  
**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**RIPARIAN WIDTH:**  
**VEGETATION:** %  
**PROMINENT SPECIES:** No Vegetation

**OTHER ORGANISMS:** N/A  
**SITE SURVEY NOTES:** Site is dry

**Riparian Herpetofauna Observations**

**SPECIES:** Uncertain  
**CERTAINTY:** Certain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult  
**#**  
**COMMENTS:** No Riparian Herp Fauna

Continued on another sheet? Y/N
**SITE:** Lower Stock Tank  
**SITE AT:** Roosevelt  

**NEW SITE:**  
**NUM:**  

**QUAD:** Helena  
**ELEV:** 4967 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:**  

**DIRECTIONS:** At 830, PS 231; FS 231 to FS 4501, to group of 4 tanks

---

**DATE:** 05/11/2011  
**START:** 0816  
**STOP:** 0838  
**SEARCH TIME:** 17 min  
**OBSERVERS:** Mike Glass/Phillip Ward

**EFFORT:**  
**SEARCH METHODS:** Diver, Seine, Trap, Hand exploration, Snorkel, Boat, Call, Playback, Other

**T Air:** 26°F  
**T Water:** 74°F  
**EC:** 0 ppm  
**pH:** 7  
**RH:** %  
**H2O CLARITY:** Extremely clear

**WIND:** <1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**LENTIC LENGTH:** 22 m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m, 2-5 m, 5-10 m, 10-20 m, 20-50 m, >50 m  
**SUBSTRATE:** (mark 1-3)

**VEGETATION:**  
**PROMINENT SPECIES:**  

**OTHER ORGANISMS:** None  
**OTHER ORG. NOTES:** None

**SITE / SURVEY NOTES:** Tank is full; some ATV abuse/trespass

---

**Riparian Herpetofauna Observations**

---

**SPECIES:** Uncertain  
**CERTAINTY:** Certain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult  
**#:**  
**COMMENTs:** No riparian herpetofauna observed.
### RANCH / Riparian Herp VES Datasheet

**Locality Data**

- **SITE:** Lower Stock Tank
- **SITE AT:** Rosemont
- **UTM ZONE:** 11 12
- **UTM EASTING:** 523191
- **UTM NORTHING:** 3522090
- **HOT2:** NAD83

**NEW SITE:**

- **NUM:** ———
- **QUAD:** Empire Ranch
- **MIN:** 7.5
- **YEAR:** 1996
- **ST-CNTY:** AZ-Pima

**ELEV:** 5020

- **H2O CLASS:** Lentic, Lotic
- **H2O TYPE:** Canal, Plant outflow, Rivarine, Wetland, Stock tank, Lake, Reservoir, Small met/Concrete tanks or dinkers

**DIRECTIONS:**

- A2 53 to FS 231; FS 231 to FS 4051; FS 4051

**Visit Conditions**

- **DATE:** 08/29/2011
- **START:** 0300
- **STOP:** 1400
- **SEARCH TIME:** 5 min
- **EFFORT:** Total: 30
- **SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback
- **DRY:**
- **RELEASE:**

**EC:**

- **TA:** °C
- **Twater:** °F
- **EC:** µS
- **pH:**
- **RH:** %
- **H2O CLARITY:** Extremely clear, Moderately clear, Extremely turbid

**WIND:**

- **WIND:** 
  - 0-1 mph
  - 1-3 mph
  - 3-5 mph
  - 5-7 mph
  - 7-12 mph
  - 13-18 mph
  - 19-24 mph
  - >24 mph

**PRECIPITATION:**

- **Lentic LENGTH:** 17 m
- **Lentic WIDTH:** 4 m
- **Lotic WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**Riparian WIDTH:**

- **VEGETATION:**
  - Floating 5
  - Submerged 0
  - Emergent 0
  - Perimeter 0
  - Canopy 15

**PROMINENT SPECIES:**

- A. elegans

**PREDATORS:**

- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Bleistomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Buffalos
- Mud turtles
- Garter snakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORG.:**

- Deer / small trails

**SITE SURVEY NOTES:**

- Small pond with receding water level

---

### Riparian Herpetofauna Observations

**SPECIES:**

- Uncertain
- Certain
- Egg
- Larvae
- Juvenile
- Adult

**LIFE STAGE:**

- #

**COMMENTS:**

- No Riparian Herpetofauna observed
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Lower Stock Tank  
**SITE AT:** Rosemont

**NEW SITE:** N  
**NUM:** 1  
**UTM ZONE:** 11  
**UTM EASTING:** 523194  
**UTM NORTING:** 3522116  
**MID:** 15  
**YEAR:** 1991  
**ST-CNTY:** AZ - PIMA

**ELEV.:** m  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow  
**QUALITY:** Stock tank  
**DIRECTIONS:** FS 231 to 4051, FS 4051 to Tank

Visit Conditions

**DATE:** 11/11/2001  
**START:** 1555  
**STOP:** 1610  
**SEARCH TIME:** 15 min  
**OBSERVERS:** E. Wallace

**EFFORT:** Total  
**SEARCH METHODS:** Perimeter  
**WATER:** 18F  
**EC:** 14  
**pH:**   
**RH:**  
**H2O CLARITY:** Extremely clear

**WIND:** 1-3 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** 20  
**LENTIC WIDTH:** 10  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Sand

**VEGETATION:** Floating  
**PROMINENT SPECIES:** Oak

**OTHER ORGANISMS:** Bird prints

**SITE SURVEY NOTES:** Water is being filled with sludge and mud. Berm looks.

**PREDATORS:**  
**OMEN:**  
**OTHER ORG. NOTES:**

**SPECIES:** None

Uncertain Certain

**CERTAINTY:** Egg Larvae Juvenile Adult

**LIFE STAGE:**  

**COMMENTS:**
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Lower Stower Tank Wetlands

SITE AT: Phoenix

For use by central data repository only:

NEW SITE: Y N
NUM: _______ _______

*UTM ZONE: 11 NAD83
*UTM EASTING: 512535
*UTM NORTING: 3520135

*QUAD: 17 18

*MIN: 17 18
YEAR: 2008

*ST-CNTY: AZ - PIMA

*ELEV: 5170

*H2O CLASS: water

*H2O TYPE: Canal

DIRECTIONS: A: 83 to FS 231; FS 231 to FS 405 to concrete drinker

Visit Conditions

DATE: 04/11/2001
START: 10:20 10:41

*SEARCH TIME: 15 min

*OBERVERS:

*EFFORT: 12.4 meters

SEARCH METHODS:

Dipnet
Seine
Trap
Hand exploration
Snorkel
Boat
Cell phone

DRY:

RELEASE:

*WIND:

*PRECIPITATION:

Lentic Length:

Lentic Width:

Lotic Width:

SUBSTRATE:

VEGETATION:

Predators:

Other Organisms:

Other Org. Notes:

Site/Survey Notes:

Concrete watering structure. "Trench" is 0.7 x 10 m x 0.5 m deep; water depth = 10 cm

Continued on another sheet? Y N

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
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<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td>No Riparian Herpetofauna Observed</td>
</tr>
</tbody>
</table>
### Locality Data

**SITE:** Lower Stock Tank Waterfall  
**SITE AT:** Rosamund

**NEW SITE:** Y N  
**NUM:**  
**UTM ZONE:** 11  
**UTM EASTING:** 523.255  
**UTM NORTING:** 33572.133  
**MIN:**  
**YEAR:**  
**ST-CNTY:** AZ-PIMA

**ELEV:** 4950 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal Prawn outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** N Side of Rd

### Visit Conditions

**DATE:** 08 1st 2011  
**START:** 0730  
**STOP:** 0800  
**SEARCH TIME:** 10 min  
**OBSERVERS:** Mike Crass, Rick Ward

**EFFORT:** meters 15  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**T Air:** 21  
**T Water:** 22  
**EC:** 72  
**pH:** 7  
**RH:** %  
**H2O CLARITY:** Extremely clear

**WIND:** 5-1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**PRECIPITATION:** None, intermittent rain, steady light rain, steady heavy rain, snow/sleet

**LENTIC LENGTH:** 12 m  
**LENTIC WIDTH:** 1 m  
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** % 0  
**PROMINENT SPECIES:** No Vegetation

**OTHER ORGANISMS:** Small Fish, Tadpoles

**OTHER ORGANIZATION:** Concrete Water Cutthroat

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frogs</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>100+</td>
<td>Lot of tadpoles</td>
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<tr>
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<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
### Locality Data

- **SITE:** Lower Soldier Tank Wash
- **SITE AT:** Rosewell
- **NEW SITE NUM:** ________
- **UTM ZONE:** 11
- **UTM EASTING:** 523,244
- **UTM NORTING:** 352,214
- **MIN:** 7:15
- **YEAR:** 1996
- **ST-CNTY:** AZ - Pima

### DIRECTIONS:
- A 83 to FS 237; FS 231 to FS 405

### Visit Conditions

- **DATE:** 08-25-2011
- **START:** 1335
- **STOP:** 1345
- **SEARCH TIME:** 5 min
- **SEARCH METHODS:** Dipnet, Seine, Trap, Hand
- **H2O TYPE:** Lentic
- **WIND:** <1 mph
- **EC:** 500 µS
- **EC:** 0.0
- **pH:** 6.0
- **RH:** 70%
- **H2O CLARITY:** Moderately clear
- **CLOUD COVER:** 0-20%
- **PRECIPITATION:** None
- **RIPARIAN WIDTH:** 0-2 m
- **LENTIC LENGTH:** 10 m
- **LENTIC WIDTH:** 0-2 m
- **LOTIC WIDTH:** 0.2 m
- **SUBSTRATE:** Mud/Silt
- **EGETATION:** Floating: 0, Submerged: 0, Emergent: 0, Perimeter: 0, Canopy: 0
- **PROMINENT SPECIES:** No Veg.

### Predators
- Leeches, Boatmen/Backswimmers, Dragonflies, Belostomatids, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed Mammals, Crayfish

### Other Organisms:
- Tulipes

### Other Org. Notes:
- Small lizards tough; toad tadpoles present.

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turtles</td>
<td>Uncertain</td>
<td>Egg</td>
<td>300</td>
<td>Minimum small toad tadpoles</td>
</tr>
</tbody>
</table>

Continued on another sheet? Y(N)
**SITE:** Lower Stock Tank Waters **SITE AT:** Rosemont

**UTM ZONE:** 12 **UTM EASTING:** 523247 **UTM NORTHING:** 3522189

**UTM NUM:** **MIN:** 15 **YEAR:** 1994 **ST-CNTY:** AZ-PI-MA

**QUAD:** Heloria **ELEV:** 5153 ft **H₂O CLASS:** Lentic **H₂O TYPE:** Stock tank

**DIRECTIONS:** Fill 231 & FS 4051 to an above ground concrete/cinder block structure or "drinker".

**DATE:** 04/04/2011 **START:** 1620 **STOP:** 1625 **SEARCH TIME:** 5 min **OBSERVERS:** E. Walleyn

**EFFORT:** Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

**T Air:** °F **T Water:** °F **EC:** μS **pH:** **RH:** % **H₂O CLARITY:** Exentially clear Moderately clear Extremely turbid

**WIND:** <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph **CLOUD COVER:** <25% 26-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** m **LENTIC WIDTH:** m **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**NIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m **SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**VEGETATION:** % **PROMINENT SPECIES:**

- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**OTHER ORGANISMS:**

**SITE / SURVEY NOTES:** Dry. Some deep mud in bottom of trash. Cement structure above appears to hold no water is full of rusting metal cans.

**SPECIES:** Egg Larvae Juvenile Adult

<table>
<thead>
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<th>#</th>
<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
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</tbody>
</table>
RACH / Riparian Herp VES Datasheet

**SITE:** Lower McCleary Tank

Locality Data

*SITE AT:* McCleary Canyon - Rosemont

**NEW SITE:**

*NUM:* ________

**UTM ZONE:**

11 12 13

**UTM EASTING:**

524966

**UTM NORTING:**

3523163

**NAD27**

**MIN:** 7.5

**YEAR:** 1981

**ST-CNTY:** AZ - PIMA

**ELEV:** 4815 ft

**H2O CLASS:** Lentic Lotic

**H2O TYPE:** Canal outflow, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** Hwy 83 to FS 281, then to FS 4051, then FS 4051A

Visit Conditions

**DATE:** 04/23/2011

**START:** 12:16

**STOP:** 12:37

**SEARCH TIME:** 20 min

**OBSERVERS:** R. Ward, L. Carny

**EFFORT:** meters 5

**SEARCH METHODS:** Dipping, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**SEARCH TIMES:**

- Day

**VOUCHERS:**

Specimen Photos: Y

Habitat Photos: Y

**SPECIES ANNEX: Y N**

**DRY:**

- Y

**RELEASE:**

- N

**TAR:**

- 24°C

**T WATER:**

- °C

**EC:**

- μS

**pH:**

- %

**RH:**

- %

**H2O CLARITY:**

- Extremely clear

**WIND:**

- <1 mph

**PRECIPITATION:**

- None

**CLOUD COVER:**

- 0-20%

**LENTIC LENGTH:**

- 0-2 m

**LENTIC WIDTH:**

- 0-2 m

**Lotic Width:**

- 3-5 m

**Lotic Width:**

- 6-10 m

**Lotic Width:**

- 11-20 m

**Lotic Width:**

- 21-50 m

**Lotic Width:**

- >50 m

**RIPARIAN WIDTH:**

- 0-2 m

**RIPARIAN WIDTH:**

- 3-5 m

**RIPARIAN WIDTH:**

- 6-10 m

**RIPARIAN WIDTH:**

- 11-20 m

**RIPARIAN WIDTH:**

- 21-50 m

**RIPARIAN WIDTH:**

- >50 m

**Veg:**

- Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**SUBSTRATE:**

- Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation:**

- Floating

- Submerged

- Emergent

- Perimeter

- Canopy

**Prominent Species:**

- LEAF LITTER

**Vegetation:**

- 60%

**Other Organisms:**

- Water bugs

**Site/Survey Notes:**

- 2 yrs ago - a small water hole w/bath tub, now pond is larger

**Other Org. Notes:**

- Gps can & water overttuns pond onto the road for ~45m

- Photos 810-815 - pond w/bath tub, other photos 810-815 - Gps can &

**Riparian Herpofauna Observations**

**Species:**

- Uncertain

- Certain

**Uncertainty:**

- Egg

- Larvae

- Juvenile

- Adult

**Life Stage:**

- #

- COMMENTS:

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<table>
<thead>
<tr>
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<tr>
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<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
</tr>
</tbody>
</table>

**COMMENTS:**

No Riparian Herpetofauna Observed.
**SITE:** LOWER McCleary Dam  
**SITE AT:** McCleary Canyon - Rosemont

**NEW SITE:** Y  
**NUM:**  
**QUAD:** Hewetia  
**MIN:** 7515  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA

**ELEV:** 4727  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow  
**DIRECTIONS:** At 63 3/4, then to FS 231, then to FS 4051, to FS 4051A

**DATE:** 04/23/2011  
**START:** 12:48  
**STOP:** 13:25  
**SEARCH TIME:** 34 min  
**OBSERVERS:** R. Ward, L. Carney

**EFFORT:** Partial Perimeter  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel

**Tair:** 25°C  
**Twater:**  
**EC:**  
**PH:**  
**RH:**  
**H2O CLARITY:** Extremely clear

**WIND:** 5-7 mph  
**CLOUD COVER:** 0-20%  
**PRECIPITATION:** None

**LENTIC LENGTH:**  
**LENTIC WIDTH:**  
**LOTIC WIDTH:**  
**SUBSTRATE:** Mud/Silt

**VEGETATION:**  
**PROLIFIC SPECIES:** Algae, Moss

**riparian width:**  
**OTHER ORG. NOTES:**

**SITE/SURVEY NOTES:** We walked approx 1/2 mile below dam searching water for tracks coming up the canyon. Search method binoculars

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
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<td>Egg Larvae Juvenile Adult</td>
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<td></td>
</tr>
</tbody>
</table>
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

| Site: | Rosemont |

**Site AT:**

**NEW SITE:**

| Num: | 1 |

**QUAD:**

| Empire Trail |

**ELEV:**

| 452 ft |

**H2O CLASS:**

| Lentic, Lotic |

**H2O TYPE:**

| Canal, Plant Outflow, Riverine, Wetland, Stock Tank, Lake, Reservoir, Small Metal/Concrete Tanks or Drinckers |

**DIRECTIONS:**

AZ 83 + FS 031 to FS 4057; FS 4057 to FS 4057A

**Visit Conditions**

| DATE: | 06/11/2011 |

**SEARCH TIME:**

| 10:15 |

**SEARCH METHODS:**

| Dipnet, Seine, Trap, Hand Exploration, Snorkel, Boat, Call Playback |

**DRY:**

| Y |

**RELEASE:**

| Y |

**PREPARATION:**

| Intermittent Rain, Steady Light Rain, Steady Heavy Rain, Snow/Sleet |

**LENGTH:**

| 0-2 m |

**WIDTH:**

| 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m |

**SUBSTRATE:**

| Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial |

**VEGETATION:**

| No Vegetation |

**PROMINENT SPECIES:**

| No Vegetation |

**PREDATORS:**

| (Include scat and tracks) |

**Other Organisms:**

| No Other Organisms |

**Site / Survey Notes:**

| Dry Tank |

**Riparian Herpetofauna Observations**

| Species | Certainty | Life Stage | # |

| Uncertain, Certain | Egg, Larvae, Juvenile, Adult |

| No Riparian Herpetofauna Observed |

| Comments: |

Continued on another sheet? Y
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: UPPER McCleary (Well Head Concrete Tank)  SITE AT: McCleary

For use by central data repository only:

NEW SITE: Y N  NUM: ________

*UTM ZONE: 11 12 13  *UTM EASTING: 524053  *UTM NORTING: 323180  

*QUAD: Helvetica  *MIN: 7.5 15  *YEAR: 19.8  *ST-CNTRY: AZ-PCA

'ELEV: 497 110  *H2O CLASS: Lentic Lotic  *H2O TYPE: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

DIRECTIONS: AT HWY 83, FS 231 TO FS 451

Visit Conditions


*EFFORT: 10  *SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkels Boat Call playback Other


*WIND: 5-15 mph  4-7 mph  8-12 mph  13-18 mph  19-24 mph  >24 mph  *CLOUD COVER: 0-20%  21-40%  41-60%  61-80%  81-100%

*PRECIPITATION: Intermittent rain Steady light rain Steady heavy rain Snow/Slush

*LENTIC LENGTH: 5.5 m  *LENTIC WIDTH: 5.5 m  *LOTIC WIDTH: 0.5 m  *SUBSTRATE: (mark 1-3) Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

VEGETATION: Floating Submerged Emergent Perimeter Canopy

50% MOSS  90% LEAF MOSS Bottom

*OBSERVERS: (include scale and ticks)

Leeches  Boatmen/Backswimmers  Dragonflies Belostomats  Bees  Warm water fish Cold water fish  Tiger salamanders  Bullfrogs Mud turtles  Garter snakes  Wading birds Hawks, black & zone-tailed  Mammals  Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

SEARCH WITH BINOCULARS:

GOOD UMPC OLD WELL SITE - PHOTO 806  CONCRETE TANK - PHOTO 807

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
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<td>Egg, Larvae, Juvenile, Adult</td>
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</tr>
</tbody>
</table>

Continued on another sheet? Y N
**SITE:** Granite Tank Upstream of Polo Field  
**NEW SITE:**  
**NUM:**  
**UTM ZONE:** 11 (13)  
**UTM EASTING:** 524087  
**UTM NORTING:** 3523155  
**ELEV:** 4770 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canals  
**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ-PS, P  
**ST-CNTY:**  
**DIRECTIONS:** to tank  

<table>
<thead>
<tr>
<th>DATE: mm/dd/yyyy</th>
<th><em>START:</em></th>
<th><em>SEARCH TIME:</em></th>
<th><em>OBSERVERS:</em></th>
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</thead>
<tbody>
<tr>
<td>05/12/2001</td>
<td>10:28</td>
<td>10:35</td>
<td>Mike Class/RB Wood</td>
</tr>
</tbody>
</table>

**EFFORT:**  
- Total Perimeter  
- Partial Perimeter  
- Left Bank  
- Right Bank  
- Both Banks  

**SEARCH METHODS:**  
- Dipnet  
- Seine  
- Trap  
- Hand exploration  
- Snorkel  
- Boat  
- Call playback  
- Other  

**T_Air:** 25°C  
**T_Water:** 25°C  
**EC:** 63 µS  
**pH:** 7.8  
**RH:** 95%  
**H2O CLARITY:** Extremely clear  
**WIND:** <1 mph  
**CLOUD COVER:** 0-20%  
**PRECEPITATION:** None  
**LENTIC LENGTH:** <15 m  
**LENTIC WIDTH:** 3-5 m  
**LOTIC WIDTH:** 2-3 m  
**RIPARIAN WIDTH:** 10 m  
**SUBSTRATE:** Mud/Silt  
**VEGETATION:**  
- Floating: 40%  
- Emergent: 0%  
- Canopy: 100%  
**PROMINENT SPECIES:**  
- Milfoil  
**OTHER ORGANISMS:**  
- Coyote, Fox, Deer, Birds  
**SITE/SURVEY NOTES:** Concrete tank in McClary Canyon  

**SPECIES:**  
- Certain  
- Uncertain  
- Larvae  
- Juvenile  
- Adult  

**CERTAINTY:**  
- Certain  
- Uncertain  

**LIFE STAGE:**  
- Larvae  
- Juvenile  
- Adult  

**PREDATORS:**  
- Leeches  
- Bats  
- Beetles  
- Warm water fish  
- Cold water fish  
- Tiger salamanders  
- Mud turtles  
- Garter snakes  
- Wading birds  
- Hawks, black & zone-tailed  

**COMMENTS:**
**SITE:** Upper McLeary Canyon #1  
**SITE AT:** McLeary Canyon - Rosemant

**NEW SITE:**  
**NUM:**  
**UTM ZONE:** 11  
**UTM EASTING:** 522719  
**UTM NORTHING:** 3523926  
**QUAD:** HELVETIA  
**ELEV:** 5103 ft  
**H2O CLASS:** Lentic Lotic  
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** Hwy 83 to FS Road 231, turn to FS4051, to FS 4839

**DATE:** 04/27/2011  
**START:** 1015  
**STOP:** 1025  
**SEARCH TIME:** 6 min  
**OBERVERS:** R. Ward, L. Carney

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Cali playback, Other

**T_AIR:** 20°C  
**T_WATER:** 6°C  
**EC:** 0 us  
**pH:** 7  
**RH:** 75%  
**H2O CLARITY:** Clear, Moderately turbid

**WIND:** <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**LENITC LENGTH:** m  
**LENITC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 5-10 m 5-15 m 15-20 m 20-50 m >50 m

**VEGETATION:**%
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**PROMINENT SPECIES:**

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**PREDATORS:** (include scat and tracks)
- Leeches
- Boatmotes
- Backswimmers
- Dragonflies
- Belostomatids
- Beettles
- Warm water fish
- Cold water fish
- Turtles
- Salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORGANISMS:**

**SITE / SURVEY NOTES:** Dry creek bed which also contains road

---

**Riparian Herpetofauna Observations**

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<td>Adult</td>
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RACH / Riparian Herp VES Datasheet

**SITE:** Upper McClarey Canyon

**LOCALITY DATA:**
- **SITE AT:** McClarey Canyon - Rosemont
- **NEW SITE:**
  - **NUM:**
  - **UTM ZONE:** 52
  - **EASTING:** 32371.8
  - **NORTHING:** 3523680
  - **MIN:** 7.5
  - **YEAR:** 1981
  - **ST-CNTY:** AZ - PIMA

**DIRECTIONS:** At Hwy 83, FS 231, FS 4051, to FS 48.34

**VISIT CONDITIONS:**
- **DATE:** 04/27/2011
- **START:** 1034
- **STOP:** 1100
- **SEARCH TIME:** 22 min
- **OBSERVERS:** R. Ward, L. Carney
- **EFFORT:**
  - **Total Effort:** 48
  - **Search Method:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Cali playback, Other
- **DRY:** Y
- **RELEASE:** Y

**T_AIR:** 20 °F
**T_WATER:** 68 °F
**EC:** 0.6 µS
**pH:** 7
**RH:**

**WIND:** <5 mph, 5-10 mph, 11-15 mph, 16-20 mph, 21-25 mph, 26-30 mph, >30 mph

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**LENTIC LENGTH:** 125.0 m
**LENTIC WIDTH:** 25 m

**LOTIC WIDTH:**
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- >50 m

**VEGETATION WIDTH:**
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- >50 m

**SUBSTRATE:**
- Mud/Silt
- Sand/Gravel
- Cobble
- Boulder
- Bedrock
- Artificial

**VEGETATION:**
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy 80%
- Oak

**PROMINENT SPECIES:**

**PREDATORS:**
- Leeches
- Boatmers/Batfish
- Dragonflies
- Coleoptera/Biennials
- Water beetles
- Tiger salamanders
- Bufo (Toads)
- Mud turtles
- Garter snakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**SITE/SURVEY NOTES:**
- INTERMEDIATE WATER FOR 48 in. Some standing pools
- SEARCH WITH BINOCULARS

**Riparian Herpetofauna Observations**

**SPECIES:**
- Uncertain
- Certain

**CERTAINTY:**
- Egg
- Larvae
- Juvenile
- Adult

**LIFE STAGE:**
- #

**COMMENTS:**

Continued on another sheet? Y N
**SITE:** McCleary Tank

**YEAR:** 1981

**ST-CNTY:** AZ - PIMA

**UTM ZONE:** 11

**UTM EASTING:** 524492

**UTM Northing:** 3523608

**ELEV:** 570 ft

**H2O CLASS:** Lentic

**H2O TYPE:** Plant outflow

**DIRECTIONS:** Az 83 to F5 231, F5 231 to F5 4051, F5 4051 to F5 4051

---

**DATE:** 04/12/1981

**START:** 1300

**STOP:** 1305

**SEARCH TIME:** 0 min

**EFFORT:** Total Perimeter

**SEARCH METHODS:** Dipnet, Seine, Trap

**T Air:** 27 °C

**T Water:** NA °F

**EC:** NA μS

**pH:** NA

**RH:** NA %

**H2O CLARITY:** NA

**WIND:** ≤1 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

---

**VEGETATION:** No Vegetation

**PROMINENT SPECIES:** No Prominent Species

**PREDATORS:** (include scat and tracks)

*Leeches*  *Boatmen/Backswimmers*  *Dragonflies*

*Belostomatids*  *Beetles*  *Warm water fish*

*Cold water fish*  *Tiger salamanders*  *Bullfrogs*

*Mud turtles*  *Garter snakes*  *Wading birds*

*Hawks, black & zone-tailed*  *Mammals*  *Crayfish*

---

**SITE / SURVEY NOTES:** Tack < Dry

---

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**SUBSTRATE:** Mud/Silt  Sand  Gravel/Cobble  Boulder  Bedrock  Artificial
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Dr. Cleary Bank

*SITE AT: Roosevelt

For use by central data repository only:

NEW SITE: Y (O) NUM: ___________

*UTM ZONE: 11 E (123456789) *UTM EASTING: 523.45

*UTM NORTING: 35 3 5 89 NAD83 NAD27

*QUAD: Nisho

*ELEV: 540 m H2O CLASS: Lentic *H2O TYPE: Canal

Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

DIRECTIONS: AZ 83 to CS 231; CS 231 to Gun Sight Pass Rd.

Visit Conditions

DATE: m m d d y y y y

*START: 12:25 *STOP: 12:45 *SEARCH TIME: 20 min

*OBSEVERS: Mike Orens / Rick Ubeda

*EFFORT: Total 50 meters Partial 0 Partial

Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other


*H2O CLARITY: Extremely clear Moderately clear Extremely turbid

*WIND: ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-80% 81-100%

*PRECIPITATION: None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: 0 m *LENTIC WIDTH: 0 m

*LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: (mark 1-3)

Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

VEGETATION: % PROMINENT SPECIES:

Floating 0 % No Vegetation

Submerged 0 %

Emergent 0 %

Perimeter 0 %

Canopy 0 %

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES: ATV tracks around perimeter

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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RACH / Riparian Herp VES Datasheet

**SITE:** Mullberry Canyon

**SITE AT:** To a summit

<table>
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<tr>
<th>ELEV.</th>
<th>H2O CLASS</th>
<th>H2O TYPE</th>
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</thead>
<tbody>
<tr>
<td>1357</td>
<td>Lentic</td>
<td>Lentic</td>
</tr>
</tbody>
</table>

**DIRECTIONS:** At 63 to Holden Valley Parking Lot, go 600 m and follow trail along ditches. Use tan in river for site.

**DATE:** 3/28/2011

**EFFORT:** Total Perimeter, Partial Perimeter, Left Bank, Right Bank, Both Banks

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand Exploration, Snorkel, Boat, Call playback

**T_Air:** 70°F

**T_Water:** 65°F

**EC:** 350 µS

**pH:**

**RH:**

**H2O CLARITY:** Moderately clear

**WIND:** <1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet

**LENTIC LENGTH:** m

**LENTIC WIDTH:** m

**LOTIC WIDTH:** 0-2 m

**RIPARIAN WIDTH:** 6-2 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artifical

**VEGETATION:** %

**PREMIUM SPECIES:**

**PREDATORS:** (include scat and tracks)

Leeches, Boatmen, Backswimmers, Dragonflies, Belostomatids, Beeltes, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed Mammals, Grayfish

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:** Most of Canyon is dry, here riparian conditions for all areas except for a flow near (527713/3576354). Bedrock pushes R20 to Surface adjacent to dry area. Area is heavily grazed by cattle. All ripari vegetation grazed; flushed trampled, muddy walls

**SPECIES:** Uncertain

**CERTAINTY:**

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**COMMENTS:** No Riparian Herpetofauna

Continued on another sheet? Y
**Locality Data**

- **SITE:** Mulberry Canyon at Cave
- **SITE AT:** Rosemont
- **NEW SITE:** Y
- **NUM:**
- **UTM ZONE:** 11
- **UTM EASTING:** 52771.7
- **UTM NORTHING:** 3526538
- **ZONE:** NAD83
- **MIN:** 15
- **YEAR:** 1994
- **ST-CNTY:** A-2 - Pima
- **ELEV:** 4500 ft
- **H2O CLASS:** Lentic
- **H2O TYPE:** Canal
- **DIRECTIONS:** At site, Happy Valley Rd. turns into Happy Valley Rd. immediately right turn canal. Walk up and do Mulberry Cave.

**Visit Conditions**

- **DATE:** 08/30/2011
- **START:** 09:50
- **STOP:** 10:10
- **SEARCH TIME:** 10 min
- **OBSERVERS:** Julie Cherr, Kirk Wise
- **EFFORT:** 30 meters
- **SEARCH METHODS:** Diving, Seine, Trap, Hand exploration, Snorkel, Boat, Cell Phone
- **T ambient:** 20°F
- **T water:** 72°F
- **EC:** 120 µS
- **pH:** 7.0
- **% H2O CLARITY:** Extremely clear
- **WIND:** 1-3 mph
- **PRECIPITATION:** Intermittent rain
- **LENTIC LENGTH:** 0-2 m
- **LENTIC WIDTH:** 3-6 m
- **LOTIC WIDTH:** 0-2 m
- **RIPARIAN WIDTH:** 2-6 m
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
- **VEGETATION:** 10%
- **PROMINENT SPECIES:**
  - Leeches
  - Boatmen/Backswimmers
  - Dragonflies
  - Belostomatids
  - Beetles
  - Warm water fish
  - Cold water fish
  - Tiger salamanders
  - Bullfrogs
  - Mud turtles
  - Gartersnakes
  - Wading birds
  - Hawks, black & zone-tailed Mammals
  - Crayfish

**OTHER ORGANISMS:**
- **OTHER ORG NOTES:** Gopher, horned Lizard, and Rabbitbrush saw signs of Mulberry Canyon irrigation. Mother Lot. 2009-2010 survey needs to be done.

**SITE/SURVEY NOTES:**

- No Riparian Herpetofauna observed.

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>COMMENT</th>
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</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
</tr>
</tbody>
</table>

Continued on another sheet? YES
**SITE:** Mulberry Springs  
**SITE AT:** Rosemont

**UTM ZONE:** 11  
**UTM EASTING:** 527237  
**UTM NORTHTING:** 3522982  
**ELEV:** 1524 ft  
**H₂O CLASS:** Lentic  
**H₂O TYPE:** Canal outflow  
**DIRECTIONS:** AZ 83 to Hidden Valley Raton Rd. Take AZ 81N till in town on old Brush Creek Rd. Take 83 to Hidden Valley Trail. **End of DIRECTIONS**

**DATE:** 09/01/2011  
**START:** 11:25  
**STOP:** 11:35  
**SEARCH TIME:** 5 min  
**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet  
**WIND:** ≤1 mph  
**PRECIPITATION:** None  
**LENGTH:** 0.2 m  
**WIDTH:** 3-5 m  
**SUBSTRATE:** Mudflats  
**EGEATION:** Floating  

**PROMINENT SPECIES:** Argus

**SITES & SURVEY NOTES:** Spring at head of Mulberry Canyon. Pipe fields to tank adjacent to spring. Rd where spring uses to be empties due to leak. **End of SITES & SURVEY NOTES**

**PREDATORS:** Dragonflies  
**OTHER ORGANISMS:** Mammals  
**OTHER ORG. NOTES:** Mammals observed

**SPECIES:** Egg Larvae Juvenile Adult  
**CERTAINTY:** Uncertain Certain  
**LIFE STAGE:**  

**COMMENTS:** No Riparian Herpetofauna Observed
**SITE:** Lower Millen Spring
**UTM ZONE:** 11
**UTM EASTING:** 527,533
**UTMNorthing:** 352,680
**ELEV:** 1427 ft
**QUAD:** MT FAWN
**MIN:** 7.5
**YEAR:**
**ST-CNTY:** AZ - Pima
**ELEVATION:** 1427 ft
**H2O CLASS:** Lentic
**H2O TYPE:** Canal outflow
**DIRECTIONS:** At 83 off Hidden Valley Rd; HUR to AB, West AB Trail to Millen Canyons. Walk up Canyon.

**DATE:** 03/18/2011
**START:** 9:30
**STOP:** 13:45
**SEARCH TIME:** 4 hr
**OBSERVERS:** N.Cross / B. Radcliff

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**T_AIR:** °C
**T_WATER:** °C
**EC:** µS
**pH:**
**RH:** %
**H2O CLARITY:**
**WIND:** 5-12 mph
**CLOUD COVER:** 0-20%
**PRECIPITATION:** None

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m

**PROMINENT SPECIES:**
- Oak/ Jumby grasses
- Cottonwood

**PREDATORS:** (include scat and tracks)
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORGANISMS:**
- Criminal Mice/Smugglers

**SITE/SURVEY NOTES:** Spring is dry. This is a Smuggler's Land. Camp - DO NOT GO HERE EVER.

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE:* North Basin Tule
*SITE AT:* Roseman

*UTM ZONE: 11
*UTM EASTING: 524,746
*UTM NORTHING: 351,9823

*NEW SITE:* Y
*NUM:* ----------------

*QUAD:* Harvest Empire Ranch
*MIL:* 15
*YEAR:* 1996
*ST-CNTY:* AZ-Pima

*ELEV:* 1518 ft
*H2O CLASS:* Lotic
*H2O TYPE:* Canal, Plant outflow, Riverine, Wetland, Stock tank, Lake, Reservoir

DIRECTIONS: AZ 83 +0 FS 231 +0 FS 231 +0 FS 406Y +0 FS 406Y +0 FS 405B +0 FS Post Ranch, Post Rd +0 Lef-

Visit Conditions

DATE: 05/31/2011
*START:* 13:30
*STOP:* 13:30
*SEARCH TIME:* 0 min
*OBSERVERS:* J. C. Cross / B. Rakun

*EFFORT:* meters 0
*SEARCH METHODS:* 0

*TAN:* Y
*TWATER:* °C
*EC:* µS
*pH:* %
*RH:* %

*H2O CLARITY:* Extremely clear

*WIND:* ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph
*CLOUD COVER:* 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION:* None

*LENTIC LENGTH:* m
*LENTIC WIDTH:* m
*LOTIC WIDTH:* 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*VEGETATION WIDTH:* 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m ≥50 m

*SUBSTRATE:* (mark 1-3) Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

*VEGETATION:* %

*PROMINENT SPECIES:*

*PREDATORS:* (include snake and lizards)
Leeches Boatmen/Backswimmers Dragonflies
Belostomats Beelies Warm water fish
Cold water fish Tiger salamanders Bullfrogs
Mud turtles Gartersnakes Wading birds
Hawks, black & zone-tailed Hawks Mammals Crayfish

OTHER ORGANISMS:

OTHER ORG. NOTES: Pond is dry

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

*SPECIES:* 
*CERTAINTY:* 
*LIFE STAGE:* 
# 

*COMMENTS:* No Riparian Herpetofauna Observed
**RACH / Riparian Herp VES Datasheet**

**Locality Data**
- **SITE:** North Basin Tank
- **SITE AT:** Rossmoor
- **UTM ZONE:** 11
- **UTM EASTING:** 524774
- **UTM NORTHING:** 3519771
- **NORTH:** NAD83
- **ELEV:** 200
- **H₂O CLASS:** Canal
- **H₂O TYPE:** Plant outflow
- **ST-CNTY:** AZ - PIMA

**DIRECTIONS:** At 83 ft FS 231, FS 231 to FS 4058; 4058 to 4064

**Visit Conditions**
- **DATE:** 08/15/2011
- **START:** 1105
- **STOP:** 1120
- **SEARCH TIME:** 15 min
- **EFFECT:** Total Perimeter
- **SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Cast playback
- **DRY:** None
- **WIND:** 1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph >24 mph
- **WATER:** "F"
- **EC:** US
- **PH:** %
- **H₂O CLARITY:** NA
- **CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%
- **PRECIPITATION:** None
- **LENITIVE LENGTH:** m
- **LENITIVE WIDTH:** m
- **LOTIC WIDTH:** m
- **RIPARIAN WIDTH:** m
- **LENTIC LENGTH:** m
- **LENTIC WIDTH:** m
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
- **PREDATORS:** Leeches, Bicutamen/Backswimmers, Dragonflies, Belostomatids, Beetles, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Snake, Wading birds, Hawks, Black & Zone-tailed, Mammals, Crayfish

**Vegetation:**
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**Other Organisms:**
- Turkey Varnish

**Site/Survey Notes:**
- Dry Tank; however, tank was potentially held by a wall as evidenced by muddy lake bed and debris.

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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<td>Egg Larvae Juvenile Adult</td>
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</tbody>
</table>
**SITE:** Unit Basin Tank  
**SITE AT:** Roosevelt

**W/N SITE:**  
**NUM:**  
**UTM ZONE:** 11 (N)  
**UTM EASTING:** 524725.3  
**UTM NORTHING:** 3512507  
**YEAR:** 1956  
**ST-CNTY:** AZ - PIMA

**ELEV:**  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal  
**DIRECTIONS:** AZ 83 to FS 93  
**DATE:** 09/22/2011  
**START:** 11:40  
**STOP:** 11:55  
**SEARCH TIME:** 5 min  
**OBSERVERS:** Mike Cross

**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

**TEMP:**  
**COND:**  
**PH:**  
**Turbidity:** Extremely clear  
**WIND:** 1-3 mph

**PRECIPITATION:** Intermittent rain  
**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** m  
**PARANIAN WIDTH:** m  
**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**VEGETATION:**  
**PROMINENT SPECIES:**

**OTHER ORG. NOTES:** Dry Tank

**PREDATORS:** (include scat and tracks)

**SPECIES:**  
**CERTAINTY:** Uncertain Certain  
**LIFE STAGE:** Egg Larvae Juvenile Adult  
**#**

**COMMENTS:**

---

**Riparian Herpetofauna Observations**

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<thead>
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<th>CERTAINTY</th>
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</table>

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RACH / Riparian Herp VES Datasheet

**SITE:** North Basin Tank  **SITE AT:** Roosevelt

**QUAD:** Empire Ranch  **MIN:** 7.5  **YEAR:** 1996  **ST-CNTY:** AZ PIMA

**ELEV:** 5023 ft  **H2O CLASS:** Lotic  **YEAR:** 1996

**DIRECTIONS:** FS 231 + to FS 4064, 4064 to 4058, past ranch ~ 1.13 km (0.7 mi)

**DATE:** 11/04/2011  **START:** 1245  **SEARCH TIME:** 10 min  **OBSERVERS:** E. Wallace

**SEARCH METHODS:** Seine  Trap  Hand exploration  Snorkel  Boat  Call playback  Other

**WIND:** 5-1 mph 1-3 mph 4-7 mph 8-12 mph 13-16 mph 19-24 mph 24+ mph  **CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None  **H2O CLARITY:** Extremely clear  Moderately clear  Extremely turbid

**LENTIC LENGTH:** 25 m  **LENTIC WIDTH:** 32 m  **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  **SUBSTRATE:** Mud/Silt  Sand  Gravel  Cobble  Boulder  Bedrock  Artificial

**VEGETATION:** Floating  Submerged  Emergent  Perimeter  Canopy

**PROMINENT SPECIES:**

**PREDATORS:** (Include coat and tracks)

Leeches  Boatsmen/Backswimmers  Dragonflies
Bleostomatids  Beetles  Warm water fish
Cold water fish  Tiger salamanders  Bullfrogs
Mud turtles  Gartersnakes  Wading birds
Hawks, black & zone-tailed Mammals  Crayfish

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:**

(Tank dry) Held H2O briefly this year (left last 1-2cm) based on dry mud

Ph 8.82 = Upper/silt/frag

Continued on another sheet? Y N

**SPECIES:**

<table>
<thead>
<tr>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Egg</td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>Larvae</td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>Juvenile</td>
<td></td>
</tr>
<tr>
<td>Uncertain</td>
<td>Adult</td>
<td></td>
</tr>
</tbody>
</table>

Riparian Herpetofauna Observations

**NEW SITE**

**NUM:**

**UTM ZONE:** 11  **UTM EASTING:** 524,761  **UTM NORTHING:** 351,976

**NAD27**

**H2O TYPE:** Canal  Riverine  Wetland  Stock tank  Lake  Reservoir

Small metal/concrete tanks or drinkers.
### RACH / Riparian Herp VES Datasheet

**Locality Data**

- **SITE:** North Canyon
- **SITE AT:** Rosemont
- **NEW SITE:** Y N
- **NUM:** ____________
- **UTM ZONE:** 11 12 13
- **UTM EASTING:** 53841.30
- **UTM NORTHING:** 2521025
- **MIN:** 75°
- **YEAR:** 1981
- **ST-CNTY:** AZ - PIMA
- **ELEV:** 4337 m
- **H₂O CLASS:** Lentic
- **H₂O TYPE:** Canal Plant outflow
- **DIRECTIONS:** AZ 83 R; Empire Rush Rd; Empire Rush Rd East to Blm 900 ft; Blm 900 ft to North Canyon, W of upstream.

**Visit Conditions**

- **DATE:** 6/12/2011
- **START:** 14:45
- **STOP:** 16:00
- **SEARCH TIME:** 1:15
- **OBSERVERS:** M. Cross / R. Wuno
- **SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other
- **DRY:** Y N
- **RELEASE:** Y N
- **T Air:** 33°F
- **T Water:** 3°C
- **EC:** µS
- **pH:**
- **RH:** %
- **H₂O CLARITY:** Extremely clear
- **WIND:** ≤ 1 mph
- **INTERMITTENT RAIN:** None
- **LENTIC LENGTH:** m
- **LENTIC WIDTH:** m
- **LOTIC WIDTH:** 0-2 m
- **RIPARIAN WIDTH:** 0-2 m
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
- **VEGETATION:** Floating, Submerged, Emergent, Perimeter, Canopy
- **PROLENTIC SPECIES:** No Riparian Vegetation

**Other Organisms:**

**Other Org. Notes:**

**Site / Survey Notes:**

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td>No Riparian Herpetofauna Observed</td>
</tr>
</tbody>
</table>

Continued on another sheet? Y N
### RACH / Riparian Herp VES Datasheet

**Locality Data**

- **SITE:** North Canyon Guzzler
- **SITE AT:** North Canyon

- **UTM ZONE:** 11
- **UTM EASTING:** 532174
- **UTM NORTHING:** 3620602
- **NAD83:** NAD27

- **QUAD:** Empire Ranch
- **MINI:** 7.5
- **YEAR:** 1981
- **ST-CNTY:** A2-P1-00-A

**DIRECTIONS:** Hwy 83 to Empire Ranch Entrance; Empire Ranch Road to C.C. 901, then C.C. 902 to C.C. 905.

**Visit Conditions**

- **DATE:** 03/15/2011
- **START:** 08:40
- **STOP:** 09:10
- **SEARCH TIME:** 25 min
- **OBSERVERS:** Rick Word, Ben Beckham

- **EFFORT:** 8.0 total perimeter
  - Partial Perimeter
  - Left Bank
  - Right Bank
  - Both Banks

- **SEARCH METHODS:**
  - Dipnet
  - Seine
  - Trap
  - Hand exploration
  - Snorkel
  - Boat
  - Call playback
  - Other

- **DRY:**

- **RELEASE:**

- **WIND:** ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph
- **CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

- **PREDATORS:**
  - Leeches
  - Boaters/Backswimmers
  - Dragonflies
  - Belostomatids
  - Beetles
  - Warm water fish
  - Cold water fish
  - Tiger salamanders
  - Bullfrogs
  - Mud turtles
  - Garter snakes
  - Wading birds
  - Hawks, black & zone-tailed
  - Mammals
  - Crayfish

**Vegetation:**

- **Vegetation:**
  - **PROMINENT SPECIES:**
    - **FLOATING:**
      - Submerged
      - Emergent
      - Perimeter
      - Canopy
  - **LOTIC WIDTH:**
    - 0-2 m
    - 3-5 m
    - 6-10 m
    - 11-20 m
    - 21-50 m
    - >50 m

**Other Organisms:**

- **OTHER ORG. NOTES:**
  - Large stick nest & roosters up

**Site/ Survey Notes:**

- **SITE/ SURVEY NOTES:**
  - AGFD wildlife drinker constructed in lower grassland surrounded by mesquite and oak. Metal perimeter fence keeps out cattle.

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
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<tbody>
<tr>
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<td>Egg</td>
<td>1</td>
</tr>
<tr>
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<td>Larvae</td>
<td>Juvenile</td>
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</table>

**Continued on another sheet?** Y N
## Attachment 2: CHIRICAHUA LEOPARD FROG SURVEY FORM

### Locality Data

<table>
<thead>
<tr>
<th>SITE:</th>
<th>North Canyon Buzzle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE AT:</td>
<td>Ro Sissonant</td>
</tr>
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</table>

### New Site Data

<table>
<thead>
<tr>
<th>NEW SITE:</th>
<th>NUM:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### UTM Zone: 11 12 13

### Easting: 332147

### Northing: 2700067

### Elev: 4500

### Directions:

At Hwy 80 to Empire Ranch Rd (Blanca). Blanca Rd to Blanca Rd. Blanca Rd to Empic Ranch Rd to Bumblebee Rd to Bumblebee.

### Site and Visit Conditions

<table>
<thead>
<tr>
<th>DATE:</th>
<th>08/21/2001</th>
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<tbody>
<tr>
<td>START TIME:</td>
<td>10:10</td>
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<tr>
<td>STOP TIME:</td>
<td>10:07</td>
</tr>
<tr>
<td>SEARCH TIME:</td>
<td>5</td>
</tr>
<tr>
<td>OBSERVERS:</td>
<td>Male, Female, Rick, Paul</td>
</tr>
</tbody>
</table>

### Water Class: Lentic

### Water Type: Canal

### Search Methods: Snorkeling, Taping

### Rel Hum: %

### T Air: °F

### T Water: °F

### Water Clarity: Extremely Clear

### Lentic Length: m

### Lentic Width: m

### Lotic Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

### Riparian Width: 12-20 m 21-50 m >50 m

### Primary Substrate: (Mark 1-3)

### Wind: mph

### Cloud Cover: 0-20% 21-40% 41-60% 61-80% 81-100%

### Precipitation: None Intermittent Steady Light Steady Heavy Snow/Sleet

### Vegetation: %

### Prominent Species:

### Predators:

- Leeches
- Boatmen/Baetis snails
- Dragonflies
- beetles
- Warm water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Garter snakes
- Wading birds
- Blackhawk
- Mammals
- Crayfish

### Other Organisms:

### Other Organism Notes:

### Site/Survey Notes:

Artificial rain water catchment that fills a cavity

### Herpetofauna Observations

<table>
<thead>
<tr>
<th>Species:</th>
<th>Certainty:</th>
<th>Life Stage:</th>
<th>#</th>
<th>Comments:</th>
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<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
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<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
</tr>
</tbody>
</table>

Continued on back? Y

---

E-8
**SITE:** OAK TREE Canyon  
**SITE AT:** OAK TREE Canyon (Rosemont)

**NEW SITE:** Y (N)  
**NUM:** ________  
**UTM ZONE:** 11 12 13  
**UTM EASTING:** 538.5 34  
**UTM NORTHING:** 5520 902  
**H2O CLASS:** Lentic (Lotic)  
**H2O TYPE:** Canal  
**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA

**ELEV:** 460  
**DIRECTIONS:** AZ 83 to Empire Blvd. Exit on Empire South Rd to Blvd. 900; Empire Rd to Oak Tree Canyon Wildlife Management Area

**QUAD:** EMPIRE RANCH  
**MIN:** 15  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA

**ELEV:** 460  
**DIRECTIONS:** AZ 83 to Empire Blvd. Exit on Empire South Rd to Blvd. 900; Empire Rd to Oak Tree Canyon Wildlife Management Area

**EFFORT:** meters  
**SEARCH METHODS:** Dipnet  Seine  Trap  Hand exploration  Snorkel  Boat  Cell playback

**WIND:**  
**PH:**  
**EC:**  
**T_AIR:**  
**T_Water:**  
**RH:**

**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m

**RIPARIAN WIDTH:**  
**SUBSTRATE:** Sand  Gravel  Cobble  Boulder  Bedrock  Artificial

**VEGETATION:**  
**OTHER ORGANISMS:**  
**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:**

**VEGETATION:** %  
**PROMINENT SPECIES:** Us Aquatic vegetation

**PREDATORS:** (include scat and tracks)  
Leeches  Boatmen/Backswimmers  Dragonflies  
Belostomatids  Bees  Warm water fish  
Cold water fish  Tiger salamanders  Bullfrogs  
Mud turtles  Gartersnakes  Wading birds  
Hawks, black & zone-tailed  Mammals  Crayfish

**Riparian Herpetofauna Observations**

**SPECIES:** Uncertain  Certain  
**CERTAINTY:** Egg  Larvae  Juvenile  Adult  
**LIFE STAGE:**  
**COMMENTS:** No Riparian Herpetofauna.
**SITE:** Oak Tree Canyon  
**SITES AT:** Rosemont  
**UTM ZONE:** 11  
**UTM EASTING:** 556,152  
**UTM NORTING:** 251,812.6  
**ELEV:** 2,666 ft  
**H2O CLASS:** Lentic (Lotic)  
**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir  
**QUAD:** Empire Ranch  
**MIN:** 13  
**YEAR:** 1996  
**ST-CNTY:** AZ - Pima  
**DIRECTIONS:** At S3 to Empire Ranch Rd. At 4042 GPS coordinates, begin to walk up Oak Tree Canyon to Washmill  

**DATE:** 08/18/2001  
**START:** 9:40  
**STOP:** 11:50  
**SEARCH TIME:** 120 min  
**OBSERVERS:** Mike Cross  
**GOVERN:**  
**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback  
**T AIR:** 30 °C  
**T WATER:** 14 °C  
**EC:** 0 µS  
**pH:**  
**RH:**  
**H2O CLARITY:**  
**WIND:** 5-10 mph  
**PRECIPITATION:** None  
**LENTIC WIDTH:** 0-2 m  
**LOTIC WIDTH:** 3-5 m  
**RIPARIAN WIDTH:** 6-10 m  
**SUBSTRATE:** Sand/Silt  
**PREDATORS:** Fish, amphibians, reptiles  

**GETATION:**  
**PROMINENT SPECIES:**  

**OTHER ORGANISMS:**  

**SITE / SURVEY NOTES:** Walk up Oak Tree Canyon from 3 km to Oak Tree Wash. No signs of significant flow event in wash this season.

---

**SPECIES:**  
**CERTAINTY:** Uncertain Certain  
**LIFE STAGE:** Egg Larvae Juvenile Adult  
**COMMENTS:**  

---

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Oak Tree Trail

*SITE AT: Rosemont

For use by central data repository only:

NEW SITE: Y N
NUM: __________

*UTM ZONE: 11
*UTM EASTING: 52686
*UTM NORTHING: 3549369

*NAD83
NAD27

*QUAD: Empire Ranch

*MINY: 7.5
*YEAR: 1996
*ST-CNTY: AZ - PIMA

*ELEV: m
S121

*H2O CLASS: Lentic Lotic

*H2O TYPE: Canal Plant outflow Riverine Wetland Lake Reservoir Small metal/concrete tanks or drinkers

DIRECTIONS: AZ 83 to mile post 43, Take DS Hwy to trail West of AZ 83. Road is blocked by locked DS Gate. Pedestrian access permitted

Visit Conditions

DATE: 04/11/97

*START: 14:30

*STOP: 14:35

*SEARCH TIME: 0 min

*OBERVERS: R. Cross / R. Ward

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

*VOUCHERS: Specimen Photos: Habitat Photos: Specimen(s): Y R Specimen #s:

*EFFORT:

*meters

*PRECI PITATIONS:

None

Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*TAN: °C

27

*Twater: °F

NA

*EC: us

NA

*pH: N/A

*RH: %

H2O CLARITY

Extremely clear Moderately clear Extremely turbid

*WIND: ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-16 mph 17-24 mph >24 mph

*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*RIPARIAN LENGTH: m

*LOTIC WIDTH: m

SUBSTRATE: (mark 1-3)

Vegetation: %

Floating Submerged Emergent Canopy

Vegetation species: No Vegetation

*PREDATORS: (Include scat and tracks)

Leeches Boatmen/Backswimmers Dragonflies Belostomatids Beelies Warm water fish Cold water fish Tiger salamanders Bullfrogs Mud turtles Grebes Wading birds Hawks, black & zone-tailed Mammals Crayfish

Other Organisms:

Other org. notes:

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

*SPECIES:

Uncertain Certain Egg Larve Juvenile Adult

*CERTAINTY:

# COMMENTS:

No Riparian Herpetofauna Observed

Continued on another sheet? Y
**SITE:** Oak Tree Tunk  
**SITE AT:** Rosamont

**NEW SITE:** Y  
**NUM:** 5  
**UTM ZONE:** 11  
**UTM EASTING:** 526817.7  
**UTM NORTHING:** 3519.360  
**H2O CLASS:** Lotic  
**H2O TYPE:** Canal plant outflow Riverine Wetlands  
**MIN:** 15  
**ELEV:** 4860 ft  
**YEAR:** 1996  
**ST-CNTY:** AZ-Pima  
**QUAD:** Empire Pksh  
**DIRECTIONS:** AE 83 + FS 4072; FS 4072 to Tunk at 0.5

**DATE:** 08/18/2011  
**START:** 08:05  
**STOP:** 09:30  
**SEARCH TIME:** 20 min  
**OBERVERS:** Rich Wilcox, Bob Lawrence

**EFFORT:**  
- Partial Perimeter
- Left Bank
- Right Bank
- Both Banks

**SEARCH METHODS:**  
- Dipnet
- Seine
- Trap
- Hand exploration
- Snorkel
- Boat

**T Air:** 33°F  
**T Water:** 24°C  
**EC:**  
**pH:** 7  
**RH:**  
**H2O CLARITY:** Extremely clear

**WIND:** 1-3 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** 35 m  
**LENTIC WIDTH:** 15 m  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Mud/Silt Sand/Gravel Cobble Boulder Bedrock Artificial

**VEGETATION:**  
- Floating 100%  
- Submerged 0%  
- Emergent 100%  
- Perimeter 100%  
- Canopy 0%

**WATER OBSCURED BY:** Floating Debris

**PREDATORS:** Leeches Boa constrictors Dragonflies

**OTHER ORGANISMS:** Deer & birds using H2O

**SITE/SURVEY NOTES:** Pond is 0.25. Full cover over surface as well. 100% cup of chickweed.

---

**SPECIES:**  
- Uncertain  
- Certain

**CERTAINTY:**  
- Egg
- Larvae
- Juvenile
- Adult

**LIFE STAGE:**  
- #

**COMMENTS:**  
- No Riparian Herpetofauna

Continued on another sheet: Y

---

---
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Oak Tree Tank
*SITE AT: Lochmunt

NEW SITE: Y
NUM: _______ - _______

*UTM ZONE: 11
12 13
EASTING: 5 26 85
NORTHING: 38-13 947
NAD83
NAD27

*QUAD: Engine Rune
MIN: 05 15
*YEAR: 14 56
*ST-CNTY: AZ - Pima

*ELEV: 5121 ft
H2O CLASS: Lentic Lotic
H2O TYPE: Canal Plant outflow Riverine Wetland tidal Lake Reservoir Small metal/concrete tanks or drinkers

DIRECTIONS: AB 83.60 PS 4672.1 F3 4672 to Tank

Visit Conditions

DATE: 08/25/11
*START: 0750
*STOP: 1020
*SEARCH TIME: 25 min
*OBSERVERS: Mike Cross, Bruce

*EFFORT: Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Gear playback Other

T_air: 20 °C
T_water: 23 °C
EC: 6 µS
pH: 7
RH: 70%

*H2O CLARITY: Extremely clear Moderately clear Extremely turbid

*WIND: 0 MPH

*PRECIPITATION: Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: m
*LENTIC WIDTH: m
*LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 21 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*SUBSTRATE: (mark 1-3)

VEGETATION: %
PROMINENT SPECIES:

Floating 100
Submerged 0
Emergent 0
Perimeter 100
Canopy 0

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES: Nite time survey, no detections

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES:</th>
<th>CERTAINTY:</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td>No Riparian Herpetofauna Observed</td>
</tr>
</tbody>
</table>
**Locality Data**

- **SITE:** Unnamed tributary at head of Oak Tree Canyon
- **SITE AT:** Rosemont
- **UTM ZONE:** 11
- **UTM Easting:** 525,430
- **UTM Northing:** 321,942
- **UTM NAD83:** NAD27
- **MIN:** 7.5
- **YEAR:** 1996
- **ST-CNTY:** AZ - PIMA
- **DIRECTIONS:** At 83 to FS 4072, 4072 to well/tank at head of Oak Tree Canyon

**Visit Conditions**

<table>
<thead>
<tr>
<th>DATE</th>
<th><em>START</em></th>
<th><em>STOP</em></th>
<th><em>SEARCH TIME</em></th>
<th><em>OBSERVERS</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>05/13/2011</td>
<td>10:10</td>
<td>10:16</td>
<td>5 min</td>
<td>M. Cross/B. Racklin</td>
</tr>
</tbody>
</table>

**Search Methods:**
- Dippers
- Seine
- Trap
- Hand nets
- Exploration
- Snorkel
- Boat
- Call & playbacks

**Effort:** 3 meters

**Temperature:**
- T_{air}: 72°F
- T_{water}: 60°F

**EC:** 6.5 μS

**pH:** 6.5

**RH:** 70%

**H_{2}O CLARITY:** Extremely clear

**WIND:** ≤1 mph

**Precipitation:** None

**Lentic Length:** 1.5 m

**Lentic Width:** 0.5 m

**Lotic Width:** 0-2 m

**Substrate:** Mud/Silt

**Vegetation:**%
- Floating: 15%
- Submerged: 10%
- Emergent: 0%
- Perimeter: 0%
- Canopy: 0%

**Prominent Species:**
- Algae
- Watermilfoil

**Eggs:**
- Uncertain
- Certain

**Larvae:**
- Uncertain
- Certain

**Juvenile:**
- Uncertain
- Certain

**Adult:**
- Uncertain
- Certain

**Substrates:**
- Egg
- Larvae
- Juvenile
- Adult

**Predators:**
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Bectonides
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Garter snakes
- Wading birds
- Hawks, black & zone-tailed

**Other Organisms:**
- Wildlife & Cattle use tank

**Site/Survey Notes:**
- Stock tank adjacent to well at crest of ridge at head of Oak Tree Canyon. Off FS 4072.

**Riparian Herpetofauna Observations**

- *SPECIES:**
  - Egg
  - Larvae
  - Juvenile
  - Adult

- *CERTAINTY:**
  - Uncertain
  - Certain

- *LIFE STAGE:**
  - Egg
  - Larvae
  - Juvenile
  - Adult

- *COMMENTS:**
  - No Riparian Herpetofauna Observed

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Tuck at Head of Oak for Canyon
SITE AT: Roseman

NEW SITE: 
NUM: 
QUAD: 
ELEV: 500
H2O CLASS: Lotic
H2O TYPE: Plant outflow
DIRECTIONS: AFS $370 P5 407Z Take P5 4072 upstream (W) to headwaters divide, willow and Pinyon Juniper

Visit Conditions

DATE: 09/13/2011
START: 1013
STOP: 1030
SEARCH TIME: 15 min
OBSERVERS: Mike Crowe, Ben Walker

SEARCH METHODS: Dipnet, Seine, Trap, Partial Perimeter

T Air: 30°F
T Water: 23.5°F
EC: 
pH: 6.5
RH: %
H2O CLARITY: Extremely clear
WIND: 1-3 mph
PRECIPITATION: None
LENTIC LENGTH: 2 m
LENTIC WIDTH: 3-5 m
LOTIC WIDTH: 6-10 m
RIPARIAN WIDTH: 0-2 m
SUBSTRATE: (mark 1-3) Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Antilal

VEGETATION: %
Floating: 100 Algae
Submerged: 0
Emergent: 0
Perimeter: 0
Canopy: 0

PROMINENT SPECIES:

PREDATORS: (include scol and traces)
Leeches
Dipnet
Warm water fish

OTHER ORGANISMS: Migrats use as new

OTHER ORG. NOTES: Wyoming Rats, Bees

SITE/SURVEY NOTES: Snake tank at foot of ridge at headwaters of Oak

Riparian herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
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<td>Larvae</td>
<td>Juvenile</td>
</tr>
</tbody>
</table>

Continued on another sheet? Y
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Oak Tree Trail at Windmill

**SITE AT:** Rosemont

**NEW SITE:**

**NUM:**

**QUAD:** Empire Rush

**ELEV:** 483 ft

**H2O CLASS:** Lentic

**H2O TYPE:** Canal

**UTM ZONE:** 11

**UTM EASTING:** 529815

**UTM NORTING:** 3518940

**ST-CNTY:** AZ - PIMA

**MIN:** 7.5

**YEAR:** 1995

**ST-CNTY:** A7 - PIMA

**DIRECTIONS:** At 83 to Empire River Rd ( ), Empire Rd E to Leav; turn N to LC 902

**LC 902** up Oak tree cause to Windmill

Visit Conditions

**DATE:** 04/15/2011

**START:** 08:05

**STOP:** 09:20

**SEARCH TIME:** 7 min

**OBERVERS:** Shank, Cross, L. Casy

**EFFORT:** 50 meters

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand, Snorkel, Boat, Other

**T AIR:** 58°F

**T WATER:** 58°F

**EC:** 500 LS

**PH:** 7

**RH:**%

**H2O CLARITY:** Extremely clear

**WIND:** 4-7 mph

**CLOUD COVER:** 0-20%

**PRECIPITATION:** None

**LENTIC LENGTH:** 201.2 m

**LENTIC WIDTH:** 201.2 m

**LOTIC WIDTH:** 0-2 m

**SUBSTRATE:** Mud/Silt

**VEGETATION:** %

**FLOATING**

**30**

**SUBMERGED**

**Emergent**

**Perimeter**

**Canopy**

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

SITE SURVEY NOTES:

2 Round tanks associated with windmill. First is a large round concrete tank with an 8' 30" diameter and 5' depth. This feeds a smaller galvanized round metal water tank. Depth of 6' x 3' deep.

Continued on another sheet? Y

Riparian Herpetofauna Observations

**SPECIES:**

Uncertain

**CERTAINTY:** Certain

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**#**

**COMMENTS:** No Riparian Herpetofauna observed
RACH / Riparian Herb VES Datasheet

Locality Data

*SITE:* OAK TREE

*SITE AT:* OAK CREEK CANYON

For use by central data repository only:

*UTM ZONE:* 11

*UTM NORTHING:* 351873

*UTM EASTING:* 529805 NAD83

*NAD27

*NEW SITE:*

*NUM:* 1

*ELEV.* 493 ft

*CLASS:* Lentic

*H2O TYPE:* Canal inflow

*DIRECTIONS:* AZ 83 - EMPIRE RANCH RD. - ALONG OAK TREE CANYON

Visit Conditions

DATE: 08/11/201

*START:* 10:00

*STOP:* 10:40

*SEARCH TIME:* 30 min

*OBSEVERS:*

M CROSBY, R WARD

*EFFORT:*

meters

30

Total Perimeter

Partial Perimeter

Left Bank

Right Bank

Both Banks

*SEARCH METHODS:*

Dipnet

Seine

Trap

Hand exploration

Snorkel

Boat

Call playback

*DRY.*

Y

*RELEASE.*

Y

*WIND:* <1 mph

1-3 mph

4-7 mph

8-12 mph

13-18 mph

19-24 mph

>24 mph

*CLOUD COVER:* 0-20%

21-40%

41-60%

61-80%

81-100%

*PRECIPITATION:* None

Intermittent rain

Steady light rain

Steady heavy rain

Snow/Sleet

*LENTIC LENGTH:* 10 m

*LENTIC WIDTH:* 90 m

*Lotic Width:* 0-2 m

3-5 m

6-10 m

11-20 m

21-50 m

51-100 m

>100 m

*RIPARIAN WIDTH:* 5-2 m

3-5 m

6-10 m

11-20 m

21-50 m

>50 m

*SUBSTRATE:*

(mark 1-3)

Mud/Silt

Sand

Gravel

Cobble

Boulder

Bedrock

Artificial

*VEGETATION:*

% Floating

0

Emergent

0

Perimeter

0

Canopy

0

PROMINENT SPECIES:

N. bottei

*PREDATORS:* (include scat and tracks)

Leeches

Boatmen/Backswimmers

Dragonflies

Belostomatids

Beetles

Warm water fish

Cold water fish

Pike salamander

Bullfrogs

Mud turtles

Gartersnakes

Wading birds

Hawks, black & zone-tailed

Mammals

Crayfish

OTHER ORGANISMS:

None

OTHER ORG. NOTES:

None

SITE / SURVEY NOTES:

Roadside tank (D=6"'), one large circular concrete tank (D=10m). Both have H2O, no fish, insects or amphibians

Riparian Herpetofauna Observations

*SPECIES:* certain

*CERTAINTY:*

Egg

Larvae

Juvenile

Adult

#

COMMENTS:

N. bottei

Observed

Uncertain
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Well in Ophir Wash
SITE AT: Rosemont
UTM ZONE: 11 12 13
UTM EASTING: 52250.06
UTM NORTHING: 35190.35
NAD83
NAD27
NUM:
QUAD: Egdn Rush
MIN: 7.5 15
YEAR: 1996
ST-CNTY: AZ PIMA
ELEV: 5325 ft
H2O CLASS: Lotic
H2O TYPE: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir
DIRECTIONS: At 63 to FS 229; FS 229 to FS 4068W; FS 4068W to Truck Ophir Wash

Visit Conditions

DATE: 04/15/2001
START: 12:15
STOP: 12:15
SEARCH TIME: 10 min
OBSERVERS: D. Cates, R. Ecklund, R. Singletary
EFFORT: 3
SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Other
TAW: 24.5 °C
TWH: 14.5 °C
EC: 8 μS
pH: 8
RH:
H2O CLARITY: Extremely clear
DRY: Y
RELEASE: Y

LENTIC LENGTH: 2 m
LENTIC WIDTH: 1 m
LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

VEGETATION: %
Floating 0
Submerged 0
Emergent 0
Perimeter 0
Canopy 0

PROLIFIC SPECIES: No Vegetation

SUBSTRATE: Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

PREDATORS: Leeches Bostmrs/Backswimmers Dragonflies Beelostomatids Beetles Warm water fish Cold water fish Tiger salamanders Bullfrogs Mud turtles Gartersnakes Wading birds Hawks, black & zone-tailed Mammals Crayfish

OTHER ORGANISMS: Block needle? Gear
OTHER ORGS: Snake uv well

SITE / SURVEY NOTES: This was a deep well (20 deep to H2O). H2O depth & 8'. In 2010 there were 4 large adults. RACH; Today no sun & UV visible.
Large Gartersnake

Continued on another sheet? Y N

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES:</th>
<th>CERTAINTY:</th>
<th>LIFE STAGE:</th>
<th>#</th>
<th>COMMENTS:</th>
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</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>1</td>
<td>1 large Gartersnake uv well.</td>
</tr>
</tbody>
</table>
**SITE:** Well at Orphic Gulch  
**SITE AT:** Rosemont

**NEW SITE:** YN  
**NUM:** ___-___-___

**UTM ZONE:** 11  
**UTM EASTING:** 522,908  
**UTM NORTHING:** 35,140,31

**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ-PMAT

**ELEV.**  
**H₂O CLASS:** ft  
**H₂O TYPE:** Lotic  
**WELD Plant outflow Riverine Wetland Stock tank Lake Reservoir Seal/metal/concrete tanks or drinkers

**DIRECTIONS:** At 83 to Greendale Pl; Greendale Pl to FS 293; FS 293 to FS 165; FS 165 to Orphic Gulch; well on left

**DATE:** 8/5/04  
**START:** 10:45  
**STOP:** 11:00  
**SEARCH TIME:** 10 min  
**OBSERVERS:** M. Gross / C. Arden

**EFFORT:** meters  
**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Cail playback Other

**T-Air:** 30°C  
**T-Water:** 25°C  
**EC:** µS  
**pH:** 8  
**RH:** %  
**H₂O CLARITY:** Extremely clear Moderately clear Extremely turbid

**WIND:** ≤1 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:**  
**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**VEGETATION:** Floating Submerged Emergent Perimeter Canopy

**PROMINENT SPECIES:**

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:** 3 Adult Chiracahua Leopard Frogs in Well.

**PREDATORS:** (include scat and tracks)

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
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<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Uncertain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>3</td>
<td>3 Adult CLF</td>
</tr>
</tbody>
</table>
**SITE:** Well at Opazo Gulch
**SITE AT:** Rosomut

**ELEV:** 5132 ft  **H₂O CLASS:** Lentic  **H₂O TYPE:** Riverine
**UTM ZONE:** 11  **UTM EASTING:** 52290 6  **UTM NORTHING:** 3514036

**MIN:** 73.15  **YEAR:** 1981  **ST-CNTRY:** AZ - PIMA

**QUAD:** Gredenville  **UTM NAD83:** NAD27

**DIRECTIONS:** AT 83 to Gredenville Rd AT Gredenville Rd to 85256; 85256
to 85165; 85165 to Well

**DATE:** 03-31-2011  **START:** 09:05  **STOP:** 09:35  **SEARCH TIME:** 15 min  **OBSERVERS:** Mike Cross, Rick Ngan

**EFFORT:** 6  **SEARCH METHODS:** Net  **VOUCHERS:** Specimen Photos
**SEARCH TIME:** 15 min  **SPECIMEN:** Specimen Photos: Specimen #:

**T AIR:** 31°  **EC:** 68 uS  **RH:** 7%  **H₂O CLARITY:** Extremely turbid

**T WATER:** 61°  **PH:** 7  **CLOUD COVER:** 0-20% 3-40% 41-60% 61-80% 81-100%

**WIND:** 1-3 mph  4-7 mph  8-12 mph  13-18 mph  19-24 mph  25+ mph  **DRAINAGE:** No

**PRECIPITATION:** Intermittent rain  **DRY:** Y  **RELEASE:** Y

**LENTIC LENGTH:** 7 m  **LENTIC WIDTH:** 3-5 m  **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m 100+ m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m 100+ m

**VEGETATION:** 1%  **PROLIFIC SPECIES:** Algae + one floating plank

**VEGETATION WIDTH:** 0-20 m 21-50 m >50 m  **SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**OTHER ORGANISMS:** Other Org. Notes:

**SITE/SURVEY NOTES:** Well is full. H₂O level was rise to level of adjacent tailway. H₂O level is high enough to permit frogs to exit otherwise in escapable well. Overall signs of recent stromata hills exits

**PREDATORS:** Leeches, boatmen/backswimmers, dragonflies, beetles, warm water fish, cold water fish, tiger salamanders, bullfrogs, mud turtles, salamanders, wading birds, hawks, black & zone-tailed hawks, mammals, crayfish

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**CERTAINTY:** Uncertain, Certain

**COMMENTS:** Shallow stream; water well turfed algae observed on years visits.

**SPECIES:** Black snake, vegetation

<table>
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<tr>
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<th>LIFE STAGE</th>
<th>#</th>
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<tr>
<td>Black snake</td>
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<td>Egg</td>
<td>1</td>
<td>Shallow stream; water well turfed algae observed on years visits.</td>
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</table>
**SITE:** Well Creek
**SITE AT:** Rosemont

**UTM ZONE:** 11
**UTM EASTING:** 522510
**UTM NORTING:** 3514038

**MIN:** 75
**YEAR:** 2005

**ELEV:** 516 ft

**H2O CLASS:** Lentic
**H2O TYPE:** Well

**DIRECTIONS:** AS S3 to PS 229; FS 229 to PS 4068; FS 4068 to well in Cypress Creek.

**DATE:** 09/01/2011
**START:** 1445
**STOP:** 2005
**SEARCH TIME:** 15 min

**EFFORT:** Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Tank playback Clear

**WIND:** <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**CLOUD COVER:** 0-20% 21-40% 41-50% 61-80% 81-100%

**PECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** 2 m
**LENTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**LOTIC WIDTH:** 2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**SUBSTRATE:** Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

**Vegetation:** %

**PROMINENT SPECIES:**

**PREDATORS:**

**OTHER ORG. NOTES:**

**SITE/SURVEY NOTES:** No survey. No amphibians observed

---

### Riparian Herpetofauna Observations

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<th>#</th>
<th>COMMENTS</th>
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<tr>
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<td>No Riparian Herpetofauna observed</td>
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<td>Larvae Juvenile Adult</td>
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</tr>
</tbody>
</table>

Continued on another sheet? Y N
**SITE:** Rippaco Canyon  
**SITE AT:** Rosemont  

**UTM ZONE:** 11  
**UTM EASTING:** 528005  
**UTM NORTHING:** 3525690  

**QUAD:** N  
**MIN:** 00 15  
**YEAR:**  
**ST-CNTY:** AZ-PLMA  

**ELEV:** m  
**H2O CLASS:**  
**H2O TYPE:** Canal  
**H2O CLARITY:** Extremely turbid  

**WIND:** <1 mph  
**PRECIPITATION:** None  
**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** m  
**RIPARIAN WIDTH:**  
**SUBSTRATE:**  

**EGEATATION:** %  
**PROMINENT SPECIES:** 

**PREDATORS:** (include scat and tracks)  
Leeches  
Boatmen/Backswimmers  
Dragonflies  
Belostomatids  
Beetles  
Warm water fish  
Cold water fish  
Tiger salamanders  
Bullfrogs  
Mud turtles  
Gartersnakes  
Wading birds  
Hawks, black & zone-tailed  
Mammals  
Crayfish  

**OTHER ORG. NOTES:** 

**SITE / SURVEY NOTES:** Dry Canyon  

---

### Riparian Herpetofauna Observations

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<td>Certain</td>
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<td>No Riparian Herpetofauna</td>
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<td>Egg Larvae Juvenile Adult</td>
<td></td>
<td></td>
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</tbody>
</table>
RACH / Riparian Herp VES Datasheet

**SITE:** Papago Spring

**SITE AT:** Roosevelt

**W SITE:**

**NUM:**

**UTM ZONE:** 11

**UTM EASTING:** 527,241

**UTM NORTHING:** 33,266,071

**QUAD:** J8

**MIN:** 7.5

**ELEV:** 360 ft

**H2O CLASS:** Lentic

**H2O TYPE:** Canal

**DIRECTIONS:** A7 83 to Wide Valley Ranch Trail (CAIR, HVR to FS 4692)
FS 4692 to Park150 m from Dry Stream Walk up canyon

**DATE:** 05/12/2007

**START:**

**STOP:**

**SEARCH TIME:** min

**EFFORT:**

**SEARCH METHODS:**

**T Air:** °C

**T Water:** °C

**EC:** μS

**pH:**

**RH:** %

**WIND:** ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

**PRECIPITATION:** None

**CLONT:</p>

**Lentic Length:** m

**Lentic Width:** m

**Lotic Width:** m

**PREDATORS:**

**SUBSTRATE:**

**OTHER ORGS:**

**NOTES:**

**SPECIES:**

**CERTAINTY:**

**LIFE STAGE:**

**COMMENTS:**

 uncert. cert.

 Egg Larvae Juvenile Adult

 No Riparian Herpetofauna
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Quail Tank
SITE AT: Rosemont

NEW SITE: Num:   ___    ___
QUAD:   ___
ELEV: 4584 ft
H2O CLASS: Lentil
H2O TYPE: Canal
MIN: 7.5 15
YEAR: ___
ST-CNTY: AZ Pima
DIRECTIONS: A2 8.3 to FS 4065; FS 4065 to tank

Visit Conditions

DATE: 04/30/2014
START: 0945
STOP: 1000
SEARCH TIME: 10 min
OBSERVERS: M. Cross/R. Ward

EFFORT: Total Perimeter
SEARCH METHODS: Dipnet
WIND: ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph
PRECIPITATION: None
LENTIC LENGTH: 7 m
CLOUD COVER: 5-20% 21-40% 41-60% 61-80% 81-100%
LENTIC WIDTH: 7 m
LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m
VEGETATION: No Aquatic Vegetation
PREDATORS: (Include scat and tracks)

No aquatic organisms observed

OTHER ORGANISMS:
OTHER ORG. NOTES:

SITE / SURVEY NOTES:

Riparian Herpetofauna Observations

SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:
Uncertain Certain Egg Larvae Juvenile Adult
No Riparian Herpetofauna Observed

Continued on another sheet? ☑

H. M. Quail Tank
**Site:** Questa Springs  
**Primary site:** Roswell

**New Site:**  
**Num:**  
**Quad:** Empe Ranch

**Elev:** 4412 ft  
**H2O Class:** Lentic, Lotic  
**H2O Type:** Canal, Plant Outflow, River, Mall, Wetland, Stock Tank, Lake, Reservoir

**DIRECTIONS:**  
AZ 53 HWY 4065 take R to End.

**Locality Data**

<table>
<thead>
<tr>
<th>Date</th>
<th>Start</th>
<th>Stop</th>
<th>Search Time</th>
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<tbody>
<tr>
<td>08.15.2021</td>
<td>13:20</td>
<td>13:20</td>
<td>6 min</td>
<td>Erve Walters</td>
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</tbody>
</table>

**Visit Conditions**

**Date:** 08.15.2021  
**Start:** 13:20  
**Stop:** 13:20  
**Search Time:** 6 min  
**Observers:** Erve Walters

**Effort:** 4 meters  
**Search Methods:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

**T Air:** 32°F  
**T Water:** 78°F  
**EC:** 3 μS/cm  
**pH:** 7  
**RH:** 40%  
**H2O Clarity:** Extremely clear

**Wind:** 1-3 mph  
**Precipitation:** None  
**Lentic Length:** 7 m  
**Lentic Width:** 2 m  
**Lotic Width:** 0-2 m  
**Substrate:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**Vegetation:** %  
**Prominent Species:** No Aquatic Vegetation

**Riparian Width:** 3-5 m  
**Substrate:** (mark 1-3)

**Other Organisms:** Hawk and Cattle, Mule Deer

**Other Org. Notes:** Peru and twinkle fed by spring.

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
<th>#</th>
<th>Comments</th>
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</thead>
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</tbody>
</table>

Continued on another sheet? Y N
**Locality Data**

- **SITE:** Rosamond Coast Tule
- **SITE AT:** Rosamond

**NEW SITE:**
- **Y:** Yes
- **NUM:** 5

**QUAD:** Helvetia

**ELEV:** 5274 ft

**H2O CLASS:** Lentic

**H2O TYPE:** Water level

**DIRECTIONS:**
- AZ 83 to FS 231; FS 231 to FS 4051, FS 4051 to FS 4054, Tank is just below crest of ridge.

**Visit Conditions**

- **DATE:** 6/4/12
- **START:** 12:20
- **STOP:** 12:40
- **SEARCH TIME:** 5 min
- **OBSERVERS:** M. Cross, P. Ward

**SEARCH METHODS:**
- Dipping
- Seining
- Trap
- Hand exploration
- Snorkeling
- Boat
- Call playback

**TEMPERATURE (°F):** 72
**TEMPERATURE (°C):** 22
**EC:** 26 µS
**pH:** 5
**RH:** 34%

**WIND:** 1-3 mph
**PRECIPIATION:** None

**LENTIC LENGTH:** 10 m
**LENTIC WIDTH:** 2.5 m

**LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**SUBSTRATE:** (mark 1-3)
- Mud/Silt
- Sand
- Gravel
- Cobble
- Boulder
- Boulders
- Artificial

**VEGETATION:**
- Floating: No Vegetation
- Submerged
- Emergent
- Perimeter
- Canopy

**OTHER ORGANISMS:**
- Cattle/Deer tracks in mud.

**SITE/SURVEY NOTES:**
- Site was dry until recent rain storm (4-9-2011)
- Bed of tail in was mud levelly trampled by cattle. Standing water ~ 5 cm deep and largely confined to herbaceous plants.

**Riparian Herpetofauna Observations**

<table>
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<td>Egg Larvae Juvenile Adult</td>
</tr>
</tbody>
</table>

**COMMENTS:**
- No riparian herpetofauna observed

**PREDATORS:**
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Grayfish

**OTHER ORG. NOTES:**
- Cattle/Deer tracks in mud.
**SITE:** Rosemount Crest Tank  
**SITE AT:** Rosemount

**UTM ZONE:** 11N  
**UTM EASTING:** 523,350  
**UTM NORTHING:** 35,245,47

**QUAD:**  
**MIN:** 7.5  
**YEAR:**  
**ST-CNTY:** AZ - Plma

**ELEV:** 526 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal, Plant outflow

**DIRECTIONS:** AE 83 S 90S 231; S 83 E 304 R 240 S 8050 50

**DATE:** 04/12/2011  
**START:**  
**STOP:**  
**SEARCH TIME:** min

**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Diver, Seine, Trap

**T Air:** 34°F  
**T Water:** 52°F

**WIND:**  
**PRECIPITATION:** None

**LENTIC LENGTH:** 14 m  
**LENTIC WIDTH:** 5 m

**Lotic Width:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
**SUBSTRATE:** Mudflat, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** %  
**PROMINENT SPECIES:**
- Floating: Algae
- Submerged: Tubid
- Emergent: Some Grass
- Perimeter: Creek
- Canopy: 0

**PREDATORS:** (include scat and tracks)
- Leeches
- Baitmen/Backswimmer
- Dragonfly
- Beicostomats
- Beetles
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**OTHER ORGANISMS:**
- Mayfly Larvae

**OTHER ORG. NOTES:**
- Mayflies
- "Diptan Shrimp"

**SITE/SURVEY NOTES:**
- Numerous "Diptan Shrimp" in water

**SPECIES:**  
**CERTAINTY:** Uncertain  
**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**COMMENTS:** No Riparian Herpetofauna Observed

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Continued on another sheet: Y

Riparian Herpetofauna Observations

<table>
<thead>
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</table>
**SITE:** Rosemont Springs  
**UTM ZONE:** 11  
**UTM EASTING:** 524,826  
**UTM NORTING:** 352,136  
**ELEV.:** 1,493 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow  
**QUAD:** Helga  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA  
**MIN.:** 7.5°F  
**DAY.:** 6/13  
**TIME.:** 19:30  
**DATE.:** 6/13/81  
**SEARCH TIME.:** 10 min  
**SEARCH METHODS:** Diver, Seino, Trap  
**DIRECTION:** AZ 83° to FS 231, FS 221 to FS 405, 405 to Rosemont  
**VISIT CONDITIONS:** Camp, Write 449 m up canyon  
**EFFORT:** Total Perimeter  
**RELEASE:** Y N  
**SEARCH SPECIES:** Algae  
**SUBSTRATE:** Mudflat, Sand, Gravel  
**PREDATORS:** Ladybirds, Boatmen, Backswimmers, Dragonflies  

**LENTIC LENGTH:** 3.5 m  
**LENTIC WIDTH:** 4 m  
**LOTIC WIDTH:** 0-2 m  
**SUBSTRATE:** Muddy, Sand, Gravel  
**PREDATORS:** Leeches, Boatmen, Backswimmers, Dragonflies

**EGEVATION:** Floating  
**PREVALENT SPECIES:** Algae  
**OTHER ORGANISMS:** Spring is flowing but H2O level minimal, moist with 0-5 cm depth, muddy conditions in wetted parts  
**OTHER ORG. NOTES:** Grass, Vines  

**lalical Habitat:** 

**SITE/SURVEY NOTES:** Spring is flowing but H2O level minimal, moist with 0-5 cm deep, muddy conditions in wetted parts. Continued on another sheet? Y N

**Egg Stage:**  
**Juvenile Adult:**  

**LIFE STAGE:** Egg Larvae Juvenile Adult  
**CERTAINTY:** Uncertain Certain  
**COMMENTS:** No Riparian Herpetofauna observed
**SITE:** Rosemont Spring

**STAKE AT:** Rosemont

**NEW SITE:** Y

**NUM:**

**UTM ZONE:** 11

**EASTING:** 524,862

**NORTHING:** 3,521,358

**ST-CNTY:** AZ - PIMA

**H2O CLASS:** Lentic

**H2O TYPE:** Canal

**DIRECTIONS:**

A0 53 to FS 231; FS 231 to FS 4058, FS 4058 to Rosemont Camp

**DATE:** 08/15/2011

**START:** 1025

**STOP:** 1040

**SEARCH TIME:** 15 min

**OBSERVERS:** Mike Gross

**EFFORT:**

Total Perimeter
Partial Perimeter
Left Bank
Right Bank
Both Banks

**SEARCH METHODS:**

Dipnet
Seine
Trap
Hand exploration
Snorkel
Boat
gull playback
Other

**T AIR:** 25°C

**T WATER:** 25°C

**EC:** µS

**pH:** 7

**RH:** %

**H2O CLARITY:** Extremely clear

**WIND:** ≤1 mph

**PRECIPITATION:** None

**LENTIC LENGTH:** m

**LENTIC WIDTH:** m

**LOTIC WIDTH:** 0-2 m

**RIPARIAN WIDTH:** 0-2 m

**SUBSTRATE:** Mud/Silt

**VEGETATION:**

% PROMINENT SPECIES:

Floating

Submerged 85% Algae

Emergent 5% Sagas, Grasses

Perimeter 25% Sagas, Grasses

Canopy 5% Junipers

**PREDATORS:**

Leeches
Boatmen/Backswimmers
Dragonflies
Belostomatids
Beetles
Warm water fish
Cold water fish
Tiger salamanders
Bullfrogs
Mud turtles
Garter snakes
Wading birds
Hawks, black & zone-tails
Mammals
Crayfish

**OTHER ORGANISMS:**

Wren 

**OTHER ORG. NOTES:**

Site Survey Notes:
Springs airgap, 120 depth ≤3 cm, flow is intermittent

Along approximately 60 m of stream bed

---

**Riparian Herpetofauna Observations**

**SPECIES:**

Uncertain

**CERTAINTY:**

Egg

**LIFE STAGE:**

Larvae

Juvenile

Adult

**#**

**COMMENTS:**

No Riparian Herpetofauna Observed

Continued on another sheet? Y

---

No Riparian Herpetofauna Observed
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** Rosemont Spring

**SITE AT:** Rosemont

**UTM ZONE:** 11

**UTM EASTING:** 524864

**UTM NORTING:** 3581381

**QUAD:** Empire Ranch

**MIN:** 7.5

**YEAR:** 1996

**ST-CNTY:** AZ - Pima

**ELEV:** 500 ft

**H2O CLASS:** Lotic

**H2O TYPE:** Canal, Plant outflow, Riverine, Wetland, Stock, Tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** Hwy 83 - FS 231 - Rosemont Camp

Visit Conditions

**DATE:** 09/2/2010

**START:** 9:00 am

**STOP:** 12:05

**SEARCH TIME:** 1 hr

**OBSERVERS:** R. Ward, L. Carney

**VOUCHERS:** Specimen Photos, Habitat Photos: 63

**EFFECT:** Total Perimeter

**SEARCH METHODS:** Dipnet, Seine, Trap, Hand Exploration, Snorkel, Boat, Call playback, Other

**T_Air:** 78 °F

**T_Water:** 67 °F

**EC:** 1000 µS

**pH:** 7.0

**RH:** 90%

**H2O CLARITY:** Extremely clear

**WIND:** 11-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

**PRECIPITATION:** None, Intermittent rain, Steady light rain, Steady heavy rain, Snow/Seet

**LENTIC LENGTH:** 200 m

**LENTIC WIDTH:** 3 m

**LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, >50 m

**RIPARIAN WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m

**SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION:** Floating, Submerged, Emergent

**PROMINENT SPECIES:**

- Floating: Sago
- Submerged: Sago
- Emergent: Sago

**OTHER ORGANISMS:**

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:**

Riparian Herpetofauna Observations

<table>
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RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Schnebly Spring
*SITE AT: Rosemont

NEW SITE: Y (N) NUM: _______ - _______

*UTM ZONE: 11 12 13 *UTM EASTING: 526 49 4 *UTM NORTING: 3 52 5 2 16

NAD83
NAD27

*QUAD: #246
*MIN: 75 15 *YEAR: 1982 *ST-CNTY: AZ-PIMA

ELEV: 1426 ft *H2O CLASS: Lenitic (Loamy) *H2O TYPE: Canal

*H2O TYPE: Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tank or drinkers

DIRECTIONS: A ± 30 Hidden Valley Road, Pima County, AZ. Approx. 6600 ft S 40 62' 57 02"30' W 14 30'30"30' E. 32 41'30"30' W 14 30'30"30' E. Due west to AZ Hwy 19, RT on AZ Hwy 19 to Rosemont, turn right.

Visit Conditions

DATE: 05 13 3 12

START: 1430 STOP: 1455

SEARCH TIME: 24 min

OBSERVERS: W. CROSS, B. RUDENBROCK

SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

Vouchers: Specimen Photos Habitat Photos

Specimen(s): Y

*EFFORT: Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks

*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

Dry: Y

Release: N

*WIND: <1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

*PRECIPITATION: None

INTERMITTENT RAIN Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: 50 m *LENTIC WIDTH: 70 m

*LLOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

*SUBSTRATE: (mark 1-3) Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

*VEGETATION: Floating Submerged Emergent Perimeter Canopy

% PROMINENT SPECIES: Floating Submerged Emergent Perimeter Canopy

Beauvillius g. williams

*PREDATORS: (include scat and tracks)
Leeches Boatmen/Backswimmers Dragonflies
Belostomats Bees Warm water fish
Cold water fish Newt salamanders Bullfrogs
Mud turtles Carpet snakes Wading frogs

Hawks, black & zone-tailed Mammals Crayfish

OTHER ORGANISMS: None

OTHER ORG. NOTES:

SITE / SURVEY NOTES: On parts with well developed wetland vegetation, esp. Goodwin willow

Continued on another sheet? Y N

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

Uncertain Certain Egg Larvae Juvenile Adult

No Riparian Herpetofauna Observed
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE:*  
*SITE AT:*  
*UTM ZONE:* 11 12 13  
*UTM EASTING:* 5261 5 8 8  
*UTM NORTHING:* 352 52 1 2  
*ST-CNTY:* AZ - PIMA  
*H2O TYPE:* Canal Plant outflow Riveine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

*ELEV:* m 4737 ft  
*H2O CLASS:* Lentic  
*H2O CLARITY:* Extremely clear Moderately clear Extremely turbid

Directs:  
A1, 3-4 m wide, murky brush pld. (trails underneath)  
FS 4002; FS 4062 to AZ tran. Take Tran 4, see nd

Visit Conditions

*DATE:* 05/21/2011  
*START:* 1145  
*SEARCH TIME:* 15 min  
*STOP:*  
*OBSERVERS:*  
*EFFORT:* Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks  
*SEARCH METHODS:* Dipnet Seine Trap Hand exploration Snorkel Boat Cell playback Otter  
*VOUCHERS:* Specimen Photos: Habitat Photos:  
*RELEASE:* Y  
*TEMP:* 92 6  
*WIND:* ≤1 mph 1-3 mph 3-6 mph 6-12 mph >12 mph  
*PECIPITATION:* Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

Lentic Length:  
Lentic Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
Lotic Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
Riparian Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

*SUBSTRATE:* Mud/Silt Sand/Gravel Cobble Boulder Bedrock Artificial

EGETATION:  
Floating Submerged Emergent Perimeter Canopy  
NA  
100 50  
Huckelerry, Oak, Willow  
Huckelerry, Oak, Willow

PROMINENT SPECIES:  
Leaches Boatsnail/Backswimmers Dragonflies Belostomatids Beelink Warm water fish Cold water fish Tiger salamanders Bullfrogs Mud turtles Gartersnakes Wading birds Hawks, black & zone-tailed Cormorants Crayfish

*SPECIES:*  
Uncertain Certain Egg Larvae Juvenile Adult

LIFE STAGE  
Egg Larvae Juvenile Adult

Riparian Herpetofauna Observations

*SPECIES:*  
*CERTAINTY:*  
*LIFE STAGE:*  
#  
*COMMENTS:*  

No Riparian Herpetofauna Observed

SITE / SURVEY NOTES:  
No surface water pond. Signs of Salvinia
in pond in spring pond; soil moist.

Continued on another sheet? Y  

[Signature]
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Unnamed spring along Schnebly

*SITE AT: Rosemont

NEW SITE: Y NUM: - - - - - - -

*UTM ZONE: 11
*UTM EASTING: 52555.4
*UTM NORTHING: 35256.29
NAD83

*QUAD: Empire

*MIN: 7.5915
*YEAR: 1996
*ST-CNTY: AZ Plma

ELEV: m 460
H2O CLASS: Lentic
H2O TYPE: Canal outflow

DIRECTIONS: AZ 83 to Hidden Valley Rd, Hidden Valley to FS 4602, FS 4602

Visit Conditions

DATE: 08/12/96

*START: 1235
*STOP: 1245

*SEARCH TIME: 5 min

*OBSEVERS: 

*EFFORT: 3 meters

SEARCH METHODS: In situ, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback

TAS: °C 10
T WAT: °F 7
EC: µS
pH: 7
RH: %

H2O CLARITY: Extremely clear

WIND: < 1 mph

*CLOUD COVER: 0-20%, 21-40%, 41-60%, 61-80%, 81-100%

*PRECIPITATION: None

*LENTIC LENGTH: m

*LENTIC WIDTH: m

*LOTIC WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 1-100 m

*RIPARIAN WIDTH: 2-6 m 3-5 m 6-10 m

*SUBSTRATE: Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

EGETATION: %

PROMINENT SPECIES:

*PREDATORS: Leeches, Beetles, Bullfrogs, Dragonflies, Tiger salamanders, Mud turtles, Gardner snakes, Wading birds

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES: No fauna observed. Site is seep spring with pipe filling a 10m diameter well. Deer (2027) drinking

Riparian Herpetofauna Observations

SPECIES: Egg Larvae Juvenile Adult

CERTAINTY: Uncertain Certain

LIFE STAGE: Uncertain Certain

COMMENTS: No Riparian Herpetofauna observed

Continued on another sheet? Y/N

*No fauna observed in the data sheet.
**SITE:** South Stock Tank  
**SITE AT:** Rosemont

**EW SITE:** Y N  
**NUM:** ____________ 
**UTM ZONE:** 11  
**UTM EASTING:** 52309.0  
**UTM NORTING:** 352215.1  
**QUAD:** Hecelia  
**MIN:** 7.5  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA

**ELEV:** 5211 m  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal outflow  
**DIRECTIONS:** AZ 83 to FS 231; FS 231 to FS 403; FS 403 to Tank

**DATE:** 04/11/2011  
**START:** 11:20  
**STOP:** 11:40  
**SEARCH TIME:** 10 min  
**OBSEVERS:** M. Cross / R. Ward

**SEARCH METHODS:** Dipnet  
**PREPARATION:** None

**SEARCH METHODS:** Seine  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Trap  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Hand exploration  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Snorkel  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Boat  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Cell playback  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Other  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** DRY:** Y N  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** RELEASE:** Y N  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** T Air:** 17°C  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** T Water:** 18℃  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** EC:** µS  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** pH:** 4  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** RH:** %  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** T2O Clarity:** Extremely clear  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Cloud Cover:** 6-20% 31-40% 41-60% 61-80% 81-100%  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Precipitation:** Intermittent rain  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Steady light rain  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Steady heavy rain  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Snow/Sleet  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Riparian Width:** 6-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Lentic Width:** 3 m  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Lentic Length:** 4 m  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Lentic Width:** 3-5 m  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Lentic Length:** 11-20 m 21-50 m >50 m  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Substrate:** Mud/Silt  Sand  Gravel/Cobble  Boulder  Bedrock  Artificial  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Vegetation:** Floating  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Submerged  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Emergent  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Perimeter  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Canopy  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Other Organisms:** None  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Site/Survey Notes:** Site a small poddle. Severe OHV DAMAGE. OHV abuse apparent at this site. OHV have been operated on tanks and within pool. This has resulted in extreme turbidity and a near total compromise of site. Continued on another sheet? Y N  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Predators:** Leeches  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Boatmen/Backswimmers  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Dragonflies  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Belostomatids  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Beetles  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Warm water fish  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Cold water fish  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Tiger salamanders  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Bullfrogs  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Mud turtles  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Gartersnakes  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Wading birds  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Hawks, black & zone-tailed  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Mammals  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Crayfish  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** Fish  
**WIND:** 51 mph 3-3 mph

**SEARCH METHODS:** No Riparian Herpetofauna Observed  
**WIND:** 51 mph 3-3 mph
RACH / Riparian Herp VES Datasheet

**SITE:** South Lower Stock Tank

**NEW SITE:** Y  **NUM:**  **UTM ZONE:** 11  **UTM EASTING:** 523072  **UTM NORTHING:** 3522646  **NAD27**

**QUAD:** Helvetia  **MIN:** 75  **YEAR:** 1981  **ST-CNTY:** AZ-PIMA

**ELEV:** 4977 ft  **H2O CLASS:** Lentic  **H2O TYPE:** Canal Plant outflow Riverine Welland Stock tank Lake  **Reservoir**

**DIRECTIONS:** AE - S3 to FS 231 - FS 231 to FS 4501 - FS 4501 to 4T

**DATE:** 08/16/2011  **START:** 0940  **STOP:** 0945  **SEARCH TIME:** 5 min  **OBSERVERS:** M. Crossley / R. W. 08/17

**EFFORT:** 4 meters  **SEARCH METHODS:** Dipnet  **VOUCHERS:** Specimen Photos: Habitat Photos: 140

**SEARCH METHODS:** Seine  **PERMITTER:** Left Bank  **DEEP:** Right Bank  **Both Banks**

**SEARCH METHODS:** Dipnet  **Nymphe:** Hand exploration  **Snorkel:** Boat  **Call playback:** Other

**T Air:** 28°C  **T Water:** 26°C  **EC:** 60  **pH:** 6  **RH:** 10  **H2O CLARITY:** Extremely clear

**WIND:** ≤1 mph  **CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** Intermittent rain  **LENTIC LENGTH:** 2 m  **LOTIC WIDTH:** 0-2 m  **SUBSTRATE:** Mud/Silt 0-20 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**LENTIC WIDTH:** 3 m  **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 3-6 m 6-10 m 11-20 m 21-50 m >50 m

**SITES:** Mud/Silt  **SUBSTRATE:** Sand  **Gravel**  **Cobble**  **Boulder**  **Bedrock**  **Artificial**

**PROMINENT SPECIES:**

**VEGETATION:** Floating 0  **SUBSTRATE:** Leeches  **Boatmen/Backswimmers**  **DRAGONFLIES**

**Submerged** 0  **BLOODWORMS**  **Warm water fish**  **Cold water fish**  **Tiger salamanders**  **BUFFALOGO**

**Emergent** 0  **Mud turtles**  **CARTESNAKES**  **WADING BIRDS**  **Hawks, black & zone-tailed**  **MAMMALS**  **CRAYFISH**

**Perimeter** 0  **OTHER ORG. NOTES:**

**Canopy** 0  **OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:** ATV abuse of Tank

**Riparian Herpetofauna Observations**

**SPECIES:** Uncertain  **CERTAINTY:** Certain  **LIFE STAGE:** Egg  **Juvenile**  **Adult**  **COMMENTS:**

**Egg**  **Larvae**  **Juvenile**  **Adult**  **No Riparian Herpetofauna**

**Uncertain**  **Egg**  **Larvae**  **Juvenile**  **Adult**

**Uncertain**  **Egg**  **Larvae**  **Juvenile**  **Adult**

**Uncertain**  **Egg**  **Larvae**  **Juvenile**  **Adult**

**Uncertain**  **Egg**  **Larvae**  **Juvenile**  **Adult**

**Uncertain**  **Egg**  **Larvae**  **Juvenile**  **Adult**  **Observed**

Continued on another sheet? Y N
RACH / Riparian Herp VES Datasheet

**SITE:** South Lower Stork Tank  **SITE AT:** Rosemant

**NEW SITE:** Y N  **NUM:** 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

**UTM ZONE:** 11 12 13  **UTM EASTING:** 523 0 0 9 7  **UTM NORTHING:** 352 2 1 5

**QUAD:** Empire Pk  **MIN:** 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1

**ELEV:** 50 60 70 m  **H2O CLASS:** Canals, Plant outflow  **H2O TYPE:** Stock tank

**DIRECTIONS:** A 8 3 5 4 7 3 6 7 3 0

**MIN:** 6 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1

---

**DATE:** 08/12/2011  **START:** 14:00  **STOP:** 14:40  **SEARCH TIME:** 5 min  **OBSERVERS:** Lila Grossman Winer

**EFFORT:** Total Perimeter  **SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**TA:** 101 °F  **T Water:** 101 °C  **EC:** 12  **pH:** 7  **RH:** 64%  **H2O CLARITY:** Clear

**WIND:** <5 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph  **CLOUD COVER:** 20%-40% 41%-60% 61%-80% 81%-100%

**PRECIPITATION:** None  **LENTIC LENGTH:** m  **LENTIC WIDTH:** m  **LOTIC WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

**SUBSTRATE:** Mudflat, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**EGEATION:** Floating 0%  **PROMINENT SPECIES:** Dry, No Veg.

**SUBMERGED:** 0%  **EMERGENT:** 0%  **PERIMETER:** 0%  **CANOPY:** 0%

**OTHER ORGANISMS:**  **OTHER ORG. NOTES:** Dry Pond

---

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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</tbody>
</table>
RACH / Riparian Herp VES Datasheet

**SITE:** South Loman Tank  
**SITE AT:** Roseront

**UTM ZONE:** 11S  
**UTM EASTING:** 522076  
**UTM NORTHING:** 3526150

**QUAD:** Helaina  
**MIN:** 165  
**YEAR:** 1991  
**ST-CNTY:** AZ-PIMA

**ELEV:** 515 ft  
**H2O CLASS:** Lotic  
**H2O TYPE:** Plant outflow

**DIRECTIONS:** FS 231 to FS 4051 to group of tanks

**DATE:** 04/12/2011  
**START:** 1635  
**STOP:** 1635

**SEARCH TIME:** 0 min  
**OBSERVERS:** E. Wallace

**SEARCH METHODS:** Dipnet, Saline, Trap, Hand collection, Snorkel, Boat, Cell phone

**EFFECT:** Total Perimeter, Partial Perimeter, Left Bank, Right Bank, Both Banks

**SPECS:** *STAFF*  
**VOUCHERS:** Specimen Photos:  
**Habitat Photos:** Specimen(s): Y Specimen #s:

**TAP:**  
**EC:**  
**pH:**  
**RH:**

**WIND:** < 1 mph  
**RHY:** 0 mph

**CLOUD COVER:** 0-20% 21-40% 41-60% 61-80% 81-100%

**PRECIPITATION:** None  
**DRY:** N

**RECALIBRATION:**

**LENTIC LENGTH:**  
**LENTIC WIDTH:**

**LOTIC WIDTH:**

**IPARANIAN WIDTH:**  
**SUBSTRATE:**

**VEGETATION:**

**PROMINENT SPECIES:**

**PREDATORS:** (Include snake and turtles)

**OTHER ORG. NOTES:**

**SITE / SURVEY NOTES:**

Continued on another sheet? Y N

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
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<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
</tr>
</tbody>
</table>
**SITE:** South Yacamac, Laguna

**UTM ZONE:** 11
**UTM EASTING:** 522,006
**UTM NORTHING:** 351,885

**ELEV.:** 507 ft
**H₂O CLASS:** Lentic (Lotic)
**H₂O TYPE:** Canal, Plant outfall, Riverine, Wetland, Stock tank, Lake, Reservoir, Small metal/concrete tanks or drinkers

**DIRECTIONS:** AZ 83 to Goodaleville Rd; Goodaleville Rd to FS 4057; FS 4057 to FS 62; FS 62

---

**DATE:** 4/25/2011
**START:** 10:50
**STOP:** 10:50
**SEARCH TIME:** 10 min
**OBSERVERS:** M. Cross, R. Ward

**EFFORT:** Total Perimeter
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat
**DRY:** Y
**RELEASE:** Y

**TEMPERATURE (C/°F):** 28°C/87°F
**WATER TEMPERATURE (C/°F):** 22°C/72°F
**EC:** US
**pH:** 6.5
**RH:** %

**WIND:** ≤1 mph
**PREDATORS:** (Include scat and tracks)
- Leeches
- Boatmen/Backswimmers
- Dragonflies
- Belostomatids
- Bees
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed
- Mammals
- Crayfish

**Lentic Length:** m
**Lentic Width:** m

**Substrate:** Mud/Silt, Sand/Gravel, Cobbles/Boulders, Bedrock, Artificial

---

**Vegetation:** %

**Species:**
- Floating
- Submerged: Algae
- Emergent: Cat tails, horsetail
- Perimeter: Horsetail, grasses, low shrub
- Canopy: Juniper, Sycamore, Oak

**Vouchering:** Specimen Photos: Y
**Habitat Photos:** Y

**Riparian Width:**
- 0-2 m
- 2-5 m
- 5-10 m
- 10-20 m
- 20-50 m
- >50 m

**Substrate:**
- Mud/Silt
- Sand/Gravel
- Cobbles/Boulders
- Bedrock
- Artificial

**Other Organisms:**
- Deer, Brow, Javelina
- Other Organ. Notes: Javelina rooting in spring, deer bur

**Site/Survey Notes:**
- Riparian gallery grove

---

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
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<td>Certain</td>
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<td>Certain</td>
<td>Juvenile</td>
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</table>

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4/29 - Laurel Springs
**SITE:** South Sycamore Canyon  
**UTM ZONE:** 11N  
**UTM EASTING:** 522003  
**UTM NORTHING:** 3518891  
**NAD83**  
**SIT AT:** Rosebud  
**NEW SITE:**  
**NUM:**  
**QUAD:** Velvers  
**MIN:** 73  
**YEAR:** 2018  
**ST-CNTY:** AZ - Pima  
**ELEV:**  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal  
**DIRECTIONS:** AZ 85 to Green Valley Rd; Green Valley Rd to FS 62; FS 62 to Sycamore Canyon Bridge; zoom in on canyon Rd; Walk up Sycamore Canyon  

**DATE:** 06/12/2017  
**START:** 1105  
**STOP:** 1120  
**SEARCH TIME:** 10 min  
**OBSEVERS:** Mike  
**EFFORT:**  
**TOTAL EFFORT:** 50 meters  
**SEARCH METHODS:** Dipper, Seine  
**H2O CLARITY:** Extremely turbid  
**WIND:** Gusty  
**PRECIPITATION:** Steady light rain  
**LENTIC LENGTH:**  
**LENTIC WIDTH:**  
**LOTIC WIDTH:**  
**RIPARIAN WIDTH:** 0-2 m  
**SUBSTRATE:** Mudflats, beach, gravel  

**VEGETATION:**  
Floating  
Submerged  
Emergent  
Perimeter  
Canopy  

**PROMINENT SPECIES:**  
Parthenium  
Sycamore  

**VEGETATION:**  
Floating  
Submerged  
Emergent  
Perimeter  
Canopy  

**PREDATORS:** (include scat and tracks)  
Leeches  
Boatmen/Backswimmers  
Dragonflies  
Belostomatids  
Bees  
Warm water fish  
Cold water fish  
Tiger salamanders  
Bullfrogs  
Mud turtles  
Garter snakes  
Wading birds  
Hawks, black & zone-tailed  
Mammals  
Crayfish  

**OTHER ORGANISMS:**  

**SITE/SURVEY NOTES:**  

**RIPARIAN HERPETOFAUNA OBSERVATIONS**  

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile</td>
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</tbody>
</table>

Continued on another sheet? Y
**SITE:** South Syria Canal Canyon

**UTM ZONE:** 11N

**UTM EASTING:** 527,003

**UTM NORTING:** 35,185,533

**QUAD:** 14W

**ELEV.** 483 m

**H2O CLASS:** Lentic

**H2O TYPE:** Plant outflow

**DIRECTIONS:** At 63° 15'10'' Gouverneur Rd, Gouverneur 129 to FS 62-17502 to FS 4057: FS 4057 to Warren Hwy

**DATE:** 06/30/2011

**START:** 1940

**STOP:** 1940

**SEARCH TIME:** 30 min

**EFFORT:** 30 meters

**SEARCH METHODS:** Diving, Seine, Tran, Hand exploration, Snorkel, Boat

**T Air:** 82 °F

**T Water:** 77 °F

**EC:** 10 us

**pH:** 7.0

**RH:** 70%

**H2O CLARITY:** Extremely clear

**WIND:** < 5 mph

**PRECIPITATION:** Intermittent rain

**LENTIC LENGTH:** 0-2 m

**LENTIC WIDTH:** 3-5 m

**LOTIC WIDTH:** 11-20 m

**VEGETATION:** Floating: 0%

**SUBSTRATE:** Mud/Silt

**PREDATORS:** (include scat and tracks)

**OTHER ORG. NOTES:** Night survey

---

**SITE/SURVEY NOTES:** Night survey

---

**Riparian Herpetofauna Observations**

**SPECIES:** Uncertain

**CERTAINTY:** Certain

**LIFE STAGE:** Egg, Larvae, Juvenile, Adult

**#**

**COMMENTS:** No Riparian Herpetofauna Observed

---

Continued on another sheet? Y N
**SITE:** Sycamore Canyon (South)  
**SITE AT:** Rosemont

**NEW SITE:** Y  
**NUM:**  
**UTM ZONE:** 11  
**UTM EASTING:** 5216861  
**UTM NORTING:** 3518338  
**NAD83** NAD27

**QUAD:**  
**ELEV:** 4905 ft.  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal, Plant outflow, Waterway, Wetland, Stock tank, Lake, Reservoir, Sewer, metal/concrete tanks or drinkers

**DIRECTIONS:** AZ 83 to Greaterville Rd; Greaterville Rd to FS 62; FS 62 to Canyon

<table>
<thead>
<tr>
<th>DATE</th>
<th><em>START</em></th>
<th><em>STOP</em></th>
<th><em>SEARCH TIME</em></th>
<th><em>OBERVERS</em></th>
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<tbody>
<tr>
<td>4/12/01</td>
<td>11:00</td>
<td>12:02</td>
<td>20 min</td>
<td>M. Cross / R. Ward</td>
</tr>
</tbody>
</table>

**EFFORT:** Total Perimeter  
**SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**TEMP:** 29 °C  
**T_Water:** 24 °C  
**EC:** 1.8 µS  
**pH:** 6.5  
**RH:** /%  
**H2O CLARITY:** Extremely clear

**WIND:** 5-1 mph, 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, >24 mph

**CLOUD COVER:** 21-40%  
**TRANSPARENCY:** 41-60%  
**RAIN:** 61-80%  
**WIND:** 81-100%

**LENTIC LENGTH:** m  
**LENTIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m  
**RIPARIAN WIDTH:** 0.2 m - 3.5 m  
**SUBSTRATE:** (mark 1-3)

<table>
<thead>
<tr>
<th>VEGETATION</th>
<th>PROMINENT SPECIES</th>
</tr>
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<tbody>
<tr>
<td>Floating</td>
<td>Sycamore, Betula, Willow, Acacia, Populus</td>
</tr>
<tr>
<td>Submerged</td>
<td>Sycamore, Betula, Willow, Acacia, Populus</td>
</tr>
<tr>
<td>Emergent</td>
<td>Sycamore, Betula, Willow, Acacia, Populus</td>
</tr>
</tbody>
</table>

**PREDATORS:** (include snail and tracks)  
Leeches, Boatmen/Backswimmers, Dragonflies, Belostomatids, Bees, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Garter snakes, Wading birds, Hawks, black and zone-tailed, Mammals, Crayfish

**OTHER ORGANISMS:** Conus, Conus, Ixodes, Larva, Leech, Ixodes, larva, Insects, Larvae, Ixodes, larva, insects

**SITE / SURVEY NOTES:** Canyon bottom > 90% dry; Surface water intermittent, Present and flowing, reach rapidly shrinking; H2O < 3 cm deep

**Riparian Herpetofauna Observations**

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<td>Adult</td>
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</table>

**COMMMENTS:** No Riparian Herpetofauna observed.
**SITE:** F. Sycamore Canyon  
**SITE AT:** Rosemont  
**UTM ZONE:** 11  
**UTM EASTING:** 5826640  
**UTM NOINGTH:** 351880  
**NAD83:** NAD27  
**ELEV:** 4815 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal Plant outflow  
**WATER QUALITY:** Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers  
**DIRECTIONS:** AZ 85 to Carefree Rd; Carefree Rd to FS 62; FS 62 to Sycamore Canyon Bridge and FS 62; turn at Carefree Rd  
**QUAD:**  
**MIN:** 17.5  
**YEAR:** 1981  
**ST-CNTY:** AZ - PIMA  

**VISIT CONDITIONS:**  
**DATE:** 03/23/2011  
**START:** 11:21  
**STOP:**  
**SEARCH TIME:** min  
**OBSERVERS:**  
**SEARCH METHODS:** Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Listen  
**DRY:**  
**RELEASE:**  
**WIND:** ≤5 mph 1-3 mph 4-9 mph 10-11 mph 12-15 mph 16-17 mph >17 mph  
**PRECIPITATION:** None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet  
**LENSITIC LENGTH:** m  
**LENSITIC WIDTH:** m  
**LOTIC WIDTH:** 0-2 m 3-5 m 5-9 m 9-15 m >15 m  
**RIPARIAN WIDTH:** 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m  
**SUBSTRATE:** (mark 1-3) Sand Gravel Cobble Boulder Bedrock Artificial  

**PROMINENT SPECIES:**  
Floating  
Submerged 5  
Emergent 5  
Perimeter  
Canopy  
**SUBSTRATE:**  
**PREDATORS:** (include scat and tracks)  
Leeches Boaters/M supporting dragonfly  
Biostomotids Beetles Warm water fish  
Cold water fish Tiger salamanders Bullfrogs  
Mud turtles Gartersnakes Wading birds  
Hawks, black & zone-tailed Mammals Crayfish  

**OTHER ORGANISMS:**  
Co. River Tolt  

**OTHER ORG. NOTES:**  

**SITE/SURVEY NOTES:**  
Sycamore Canyon  

**Riparian Herpetofauna Observations**  
**SPECIES:**  
**CERTAINTY:**  
**LIFE STAGE:**  
**#:**  
**COMMENTS:**  

**Comments:** C. River Tolt  
1 C. River Tolt  

Attachment 2: CHIRICAHUA LEOPARD FROG SURVEY FORM

Site: Mound 3
Locality Data: CPS Cenon
Site at: Roseran

New Site: Y N
Num: _______ 5
*UTM Zone: 11
*Easting: 5219,18
*Northing: 3514082
*Elev: 4900

*Quad: Lomaland
*Min: 73 15
*Year: 1981
*State-County: AZ - Pinal

Directions: At 63 to Careville Rd; Careville Rd to FS 62; FS 62 to
Sanborn Canyon Bridge onto FS 62 (unpaved) work up canyon

Site and Visit Conditions

*Date: 08/23/2001 10:20 10:30
*Start Time: 10:20
*Stop Time: 10:30
*Search Time: 5
*Observers: Mike Class

Search Methods: Dip net Seine Trap Hand excavation Snorkel Boat Call playback

EC: 0
EC: 0
pH: 0

REL HUM: %

T Air: 35°C
T Water: 0°C

H2O Clarity: Extremely clear Moderately clear Extremely heavily turbid

Lentic Length: m
Lentic Width: m
Lotic Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

Riparian Width: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

Primary Substrate: Mud/Silt Sand Gravel Cobble Boulder Bedrock

Wind: 13-15 mph 16-24 mph 25 mph

Cloud Cover: 0-20% 21-40% 41-60% 61-80% 81-100%

Precipitation: None Intermittent Steady & Light Steady & Heavy Snow/Steel

Dry Site: Y N

Vegetation: %

Prominent Species:

Predators: (include scat and tracks)

Leeches Boatmen/Backswimmers Dragonflies
Belostomaidis Beetles Warm water fish
Cold water fish Tiger salamanders Bullfrogs
Mud turtles Garter snakes Wading birds
Blackhawk Mammals Crayfish

Other Organisms: None

Other Organism Notes: None

Site/Survey Notes: Dry site. Some "Champey" beneath Bedrock ledge that
was seen the source of voewiye in the past. Continued on back? Y

Herped fauna observations

Species: Certainty: Life Stage: # Comments:

Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult
Uncertain Certain Egg Larvae Juvenile Adult

No Heterpefauna observed

E-8
**SITE:** Sycamore Springs  
**SITE AT:** Rosemont

**QUAD:** Corona Del Tucson  
**MIN:3**  
**YEAR:** 1981  
**ST-CNTRY:** AZ - PIMA

**ELEV:** 4093 ft  
**H2O CLASS:** Lotic  
**H2O TYPE:** Riverine

**DIRECTIONS:** AZ S3 to FS 231; FS 231 to FS 4051; FS 4051 to FS 4834; take FS 4834 to Sycamore Canyon. Walk north to spring.

**DATE:** 09/12/2011  
**START:** 0945  
**STOP:** 1000  
**SEARCH TIME:** 5 min  
**OBSERVERS:** M. C. Ross, P. Ward

**TOTAL SEARCH METHODS:** Dipnet  
**EFFORT:** 3 meters

**SEARCH EFFORT:** Total Perimeter: 470.2 m  
Partial Perimeter: 126.4 m  
Left Bank: 3.6 m  
Right Bank: 2.7 m  
Both Banks: 11.4 m

**VOCUERS:** Specimen Photos:  
Habitat Photos:

**T AIR:** 21 °F  
**T WATER:** 61 °F  
**EC:** 6 µS/cm  
**pH:** 7  
**RH:** / %  
**H2O CLARITY:** Extremely turbid

**WIND:** 1-3 mph  
13-24 mph >24 mph

**P RECEPTION:** None  
Intermittent rain  
Steady light rain  
Steady heavy rain  
Snow/Sleet

**LENTIC LENGTH:** 12 m  
**LENTIC WIDTH:** 2.7 m

**LOTIC WIDTH:** 6-10 m  
11-20 m  
21-50 m >50 m

**RIPARIAN WIDTH:** 0-2 m  
3-5 m  
6-10 m  
11-20 m  
21-50 m >50 m

**SUBSTRATE:** (mark 1-3) Mud/Silt  
Sand  
Gravel  
Cobble  
Boulder  
Bedrock  
Artificial

**VEGETATION:**  
Floating  
Submerged  
Emergent  
Perimeter  
Canopy

**PROMINENT SPECIES:**  
Cottonwood  
Tree roots  
Mush grass (Giant Sedge)  
Arizona Ash  
Arizona Ash, Goodgras with Sycamore

**OTHER ORGANISMS:**  
Deer (2)  
Coble Wasps

**OTHER ORG. NOTES:** Deer tracks / Migrant waterfowl

**SITE/SURVEY NOTES:** Wood spring box at foot of large Sycamore. Site is being used as a rest area for illegal alien traffic.

---

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canyon Tree Frog</td>
<td>Uncertain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>1</td>
<td>ICTF captured, identified, released.</td>
</tr>
</tbody>
</table>

---

W: Jobs/1009.23 Task 360 4.12.11
**SITE:** Sycamore Spring  
**SITE AT:** Rosemont

**NEW SITE:**  
**NUM:**  
**UTM ZONE:** 11  
**UTM EASTING:** 522,521  
**UTM NORTING:** 35,275,566  
**NAD83:** NAD27  

**QUAD:**  
**MIN:** 15  
**YEAR:** 1981  
**ST-CNTRY:** AZ FINA  

**ELEV:** 1100 ft  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal  
**DIRECTIONS:** A to FS 231, FS 231 to FS 4050 Sycamore

<table>
<thead>
<tr>
<th>DATE: mm/dd/yyyy</th>
<th><em>START:</em></th>
<th><em>SEARCH TIME:</em></th>
<th><em>OBSERVERS:</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>08/17/2011</td>
<td>0830</td>
<td>0505</td>
<td>Wee Cross/Rick Wilson</td>
</tr>
</tbody>
</table>

**EFFORT:** 3  
**SEASrch METHODS:** Direct, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other  
**DwR:** Y N  
**RELEASE:** Y N  

**T Air:** 74°F  
**T Water:** 74°F  
**EC:** 10us  
**pH:** 7  
**RH:** 70%  
**H2O Clarity:** Extremely clear  
**WIND:** ≤1 mph  
**PRECIPITATION:** Intermittent rain  
**Lentic Length:** 1.5 m  
**Lentic Width:** 1.5 m  
**Lotic Width:** 0-2 m  
**Substrate:** Mud/Silt  

**VEGETATION:**  
- Floating: O  
- Submerged: 10  
- Emergent: 0  
- Canopy: 10  
- Other Organisms: Zone tail'd Hawk  

**PROMINENT SPECIES:**  
- Tree roots (Sycamore)  

**PREDATORS:**  
- Leeches  
- Boatmen/Backswimmers  
- Dragonflies  
- Belostomatids  
- Bees  
- Warm water fish  
- Cold water fish  
- Tiger salamanders  
- Bullfrogs  
- Mud turtles  
- Gartersnakes  
- Wading birds  
- Hawks, black  
- Zone-tail'd Mammals  
- Crayfish

**SITE/SURVEY NOTES:**  
- Adult Zone tail'd Hawk present at spring, not at observers. Juvenile Zone tail'd Hawk nests.  
- Spring flows very low, almost dry. Normal H2O level is 5.5 cm deep, continued on another sheet of paper.

**SPECIES:**  
- Egg  
- Larvae  
- Juvenile  
- Adult  

<table>
<thead>
<tr>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td>No Rosemont Herpetofauna</td>
</tr>
<tr>
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<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
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</tr>
<tr>
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<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
</tr>
</tbody>
</table>
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Springwells Springs
*SITE AT: Rosewell

NEW SITE: Y N
NUM: _____ _____
*UTM ZONE: 1 N
UTM EASTING: 12 13
UTM NORHTING: _____
NAD83

*QUAD: 
MIN 15
YEAR: _____
ST-CNTY: AZ - PIMA

*ELEV: _____
H2O CLASS: Lentic Lotic
*H2O TYPE: Canal Plant outflow Riverine Wetland Stock tank Lake Reservoir Small metal/concrete tanks or drinkers

DIRECTIONS:

Visit Conditions

DATE: 08 12 2011
*START: 
*STOP: 
*SEARCH TIME: min
*OBSERVERS: 

*EFFORT: 
*SEARCH METHODS: Dipnet Seine Trap Hand exploration Snorkel Boat Call playback Other

T Air: °C °F
T Water: °C °F
EC: us
pH: RH: %
*H2O CLARITY: Extremely clear Moderately clear Extremely turbid

*WIND: ≤1 mph 1-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph
*CLOUD COVER: 0-20% 21-40% 41-60% 61-80% 81-100%

*PRECIPITATION: None Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*LENTIC LENGTH: m
*LENTIC WIDTH: m
*Lotic WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m 51-100 m >100 m

*RIPARIAN WIDTH: 0-2 m 3-5 m 6-10 m 11-20 m 21-50 m >50 m

*SUBSTRATE: Mud/Silt Sand Gravel Cobble Boulder Bedrock Artificial

VEGETATION: %

PROMINENT SPECIES:

*PREDATORS: (Include scat and tracks)
Leeches Boatmen/Backswimmers Dragonflies
Belostomatids Beetles Warm water fish
Cold water fish Tiger salamanders Bullfrogs

OTHER ORGANISMS:

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES: One wrist amnimal collected. Hair-thin undulating live amnial x 6-4 cm long collected for identification in tub. Horsehair worm

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # 

*DONE*
### Locality Data

**SITE:** Upper Stock Tank  |  **SITE AT:** Rosemont

**NEW SITE:** Y  |  **NUM:** ________

**UTM ZONE:** 11  |  **UTM EASTING:** 522978  |  **UTM NORTHING:** 352245

**ELEV:** 5246 ft  |  **H_2O CLASS:** Lentic/Lotic  |  **H_2O TYPE:** Canal, Plant outflow

**DIRECTIONS:** AE 63 to FS 231; FS 231 to FS 4051; FS 4051 to Tank

### Visit Conditions

**DATE:** 04/11/2011  |  **START:** 1205  |  **STOP:** 1710  |  **SEARCH TIME:** 5 min  |  **OBSERVERS:** N.C., C.R., S.W., D.W.

**EFFORT:** Total Perimeter  |  **SEARCH METHODS:** Snipe, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other

**T_Air:** 17°F  |  **T_Water:** 16°F  |  **EC:** us  |  **pH:** 6  |  **RH:** 6%

**WIND:** <1 mph  |  **CLOUD COVER:** 0-20%  |  **LENTIC LENGTH:** 20 m  |  **LENTIC WIDTH:** 10 m

**PRINCIPAL SPECIES:** No Vegetation

**PREDATORS:** Leeches, Boaters/Backswimmers, Dragonflies, Belostomatids, Bees, Warm water fish, Cold water fish, Tigers, Amphibians, Bullfrogs, Mud skippers, Garter snakes, Wading birds, Hawks, black & zone-tailed Mammals, Crayfish

### OTHER ORGANISMS:

**OTHER ORG. NOTES:** None

**SITE / SURVEY NOTES:** Severe OHU Damage. Limited water, very shallow, with no almost entirely within wheel-ruts.

### Riparian Herpetofauna Observations

**SPECIES:** Uncertain/Certain  |  **CERTAINTY:** Egg, Larvae, Juvenile, Adult

**LIFE STAGE:** #  |  **COMMENTS:** No Riparian Herpetofauna
RACH / Riparian Herp VES Datasheet

Locality Data

**SITE:** South Upper Stock Tank  
**SITE AT:** Rosemont

**UTM ZONE:** 11  
**UTM EASTING:** 523060  
**UTM NORTING:** 3572168  
**YEAR:** 1981  
**ST-CNTRY:** AZ – 2 

**ELEV:** 4470 m  
**H2O CLASS:** Lentic  
**H2O TYPE:** Canal  
**DIRECTIONS:** AZ 31 to FS 031; FS 031 to FS 4501; FS 4501 to South Upper Stock Tank

Visit Conditions

**DATE:** 04/14/2011  
**START:** 0910  
**STOP:** 0915  
**SEARCH TIME:** 0 min  
**OBSERVERS:** Mike Cross/Pykward

**SEARCH METHODS:** Dipnet  
**TOTAL EFFORT:** 0

**Tair:** 28 °C  
**Twater:** 28 °C  
**EC:** µs  
**pH:**  
**RH:** %  
**H2O CLARITY:** NA

**WIND:** <1 mph  
**PRECIPITATION:** None

**LENTIC LENGTH:** 0 m  
**LENTIC WIDTH:** 0 m  
**LOTIC WIDTH:** 2-5 m  
**SUBSTRATE:** Mud/Silt  
**VEGETATION:** No Vegetation  
**OTHER ORGANISMS:** None

**site / survey notes:** ATV Abuse

Riparian Herpetofauna Observations

**SPECIES:** Uncertain  
**CERTAINTY:** Certain  
**LIFE STAGE:** Egg Larvae Juvenile Adult  
**COMMENTS:** No Riparian Herpetofauna observed
**SITE**: South Upper Stack Tank  
**SITE AT**: Rosemont

**NEW SITE**: 
**NUM**:  
**UTM ZONE**: 11 
**UTM EASTING**: 522,184  
**UTM NORTING**: 35,221,30 
**H.O. CLASS**: Lotic  
**H.O. TYPE**: Channel  
**ELEV**: 5065 ft  
**ST.-CNY**: AZ Pima

**DIRECTIONS**:  

**QUAD**: Emu  
**MIN**: 95 
**YEAR**: 1996

**DATE**: 08/25/2011  
**START**: 14:20  
**STOP**: 14:35  
**SEARCH TIME**: 10 min  
**EFFORT**: 30 meters

**SEARCH METHODS**: Dyonet  
**WIND**: 5-10 mph  
**EC**:  
**pH**:  
**RH**:  
**H2O CLARITY**: Extremely clear  
**T:AIR**: 77°F  
**T:WATER**: 70°F  
**T:EC**:  
**pH**:  
**RH**:  
**VOUCHERS**: Specimen Photos:  
**SPECIMEN(S)**: Y

**SEARCH METHODS**:  

**PRECEITATION**: None  
**LENTIC LENGTH**: 10 m  
**LENTIC WIDTH**: 2 meters  
**LOTIC WIDTH**: 5 m  
**RIPARIAN WIDTH**: 0-2 m  
**STORAGE**: 6-10 m  
**SUBSTRATE**: Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

**VEGETATION**:  
**PERIMETER**:  
**CANOPY**:  
**OTHER ORGANISMS**: None  
**OTHER ORG. NOTES**: None

**SITE / SURVEY NOTES**: OHV Mouse Tampount

---

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile Adult</td>
<td>D3</td>
</tr>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile Adult</td>
<td>D3</td>
</tr>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile Adult</td>
<td>D3</td>
</tr>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile Adult</td>
<td>D3</td>
</tr>
<tr>
<td>Uncertain Certain</td>
<td>Egg</td>
<td>Larvae</td>
<td>Juvenile Adult</td>
<td>D3</td>
</tr>
</tbody>
</table>
**SITE:** South Upper Stock Tank  
**SITE AT:** Rosemont  

**UTM ZONE:** 11  
**UTM EASTING:** 5,229,87  
**UTM NORTHING:** 3,522,159  
**KAD82 NAD27**

**QUAD:** Helvetia  
**MIN:** 7.5  
**YEAR:** 1991  
**ST-CNTY:** A-Z-PIMA  

**ELEV:** m ft  
**H₂O CLASS:** Lotic  
**H₂O TYPE:** Spring  
**DIRECTIONS:** FS281 to FS4051 to cluster of tanks. This is uppermost tank.

<table>
<thead>
<tr>
<th>DATE</th>
<th><em>START</em></th>
<th><em>STOP</em></th>
<th><em>SEARCH TIME</em></th>
<th><em>OBSERVERS</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/2011</td>
<td>1:00 PM</td>
<td>7:10 PM</td>
<td>10 min</td>
<td>E. Cochran</td>
</tr>
</tbody>
</table>

**EFFORT:**
- Dipped
- Feeder
- Partial Perimeter
- Left Bank
- Both Banks

**SEARCH METHODS:**
- Dipnet
- Seine
- Trap
- Hand Exploration
- Snorkel
- Boat
- Call Play
- Other

**T Air:** 16 °F
**T Water:** 50 °F
**EC:** 500 µS
**pH:** 7.5
**RH:** 40%

**WIND:**
- 0-1 mph
- 1-3 mph
- 4-7 mph
- 8-12 mph
- 13-18 mph
- 19-24 mph
- >24 mph

**CLOUD COVER:**
- Extremely Clear
- Moderately Clear
- Extremely Turbid

**PRECIPITATION:**
- None
- Intermittent Rain
- Steady Light Rain
- Steady Heavy Rain
- Snow/Sleet

**LENTIC LENGTH:** 18 m
**LENTIC WIDTH:** 15 m

**LOTIC WIDTH:**
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- 51-100 m
- >100 m

**RIPARIAN WIDTH:**
- 0-2 m
- 3-5 m
- 6-10 m
- 11-20 m
- 21-50 m
- >50 m

**VEGETATION:**
- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**PROMINENT SPECIES:**

**PREDATORS:**
- Leeches
- Bream/Backwaters
- Dragonflies
- Beelosomatis
- Beestes
- Warm water fish
- Cold water fish
- Tiger salamanders
- Bullfrogs
- Mud turtles
- Gartersnakes
- Wading birds
- Hawks, black & zone-tailed Mammals
- Crayfish

**OTHER ORGANISMS:**

**SITE/SURVEY NOTES:**
- Tank has no "natural" drainage, inlet & no outlet (closed)
- Tank fills solely from a road captured H₂O, was probably a borrow pit or basin for mine supply; no recent input but tank full of very fine silt

**SPIECIES:**

<table>
<thead>
<tr>
<th>CERTAINTY:</th>
<th>LIFE STAGE:</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Egg Larvae Juvenile Adult</td>
<td></td>
</tr>
</tbody>
</table>
RACH / Riparian Herp VES Datasheet

Locality Data

SITE: Thistle 1
SITE AT: Rosamund

NEW SITE: (Y) N
NUM:          

UTM ZONE: 11 (12) 13
UTM EASTING: 525946
UTM NORTHING: 3517068
NAD83 NAD27

QUAD: Empire Pueblo
MIN: 75 15
YEAR: 1986
ST-CNTY: AZ-Pima

ELEV: 4844 ft
PHO CLASS: Lentic
H2O TYPE: Canal, flow, Riverine, Wetland
DIRECTIONS: A83 to Greatville Rd; Greatville Rd to FS 4072; FS 4072 to Tank

Visit Conditions

DATE: 09/12/2011
START: 2015
STOP: 2040
SEARCH TIME: 20 min
OBERVERS: Mike Cross

EFFORT: Total
          Partial
          Perimeter
          Perimeter
          Left Bank
          Right Bank
          Both Banks

SEARCH METHODS:

SEARCH METHODS:

AERIAL: Cycle
SEINE: Trap
HAND EXPLORATION: Snorkel
BOAT: Call playback
OTHER: 
DRY: Y
RELEASE: Y

WIND: 5-8 mph
T AIR: 28°C
T WIND: 20°C
EC: 0.5
PH: 7.5
RH: 60%

H2O CLARITY: Extremely clear

PRECIPITATION: Steady light rain

LENTIC LENGTH: 20 m
LENTIC WIDTH: 10 m
LOTIC WIDTH: 0-2 m
SUBSTRATE: Gravel

VEGETATION:

SUBMERGED: Grasses
PERIMETER: 100%
CANOPY: 0%

OTHER ORGANISMS:

TADPOLE SHRIMP

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

SITE / SURVEY NOTES:

TADPOLE SHRIMP

SIGHTED ONCE

Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Egg</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Larvae</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Juvenile</td>
</tr>
<tr>
<td>Uncertain</td>
<td>Certain</td>
<td>Adult</td>
</tr>
</tbody>
</table>

COMMENTS:

No Riparian Herpetofauna Sighted
### RACH / Riparian Herp VES Datasheet

**Locality Data**

- **SITE:** Thoreau Z
- **UTM ZONE:** 11
- **UTM EASTING:** 525,852
- **UTM NORTHING:** 351,7030
- **NAD83 NAD27**
- **YEAR:** 1996
- **ST-CNTY:** AZ - PIMA
- **DIRECTIONS:** AZ 63 to Greaterville Rd; Greaterville Rd to FS 4078; FS 4072 to Park

**Visit Conditions**

- **DATE:** 09/12/2001
- **START:** 1030
- **STOP:** 2110
- **SEARCH TIME:** 15 min
- **OBSERVERS:** Mike, Coss

**SEARCH METHODS:**

- **T-Air:** 24°C
- **T-Water:** 20°C
- **EC:** 1 μS
- **pH:** 6.5
- **RH:** /%
- **H₂O CLARITY:** Extemely turbid

**WIND:** 1-3 mph

**PRECIPITATION:** None

**LENTIC LENGTH:** 15 m

**LENTIC WIDTH:** 5 m

**LOTIC WIDTH:** 0-2 m

**RIPARIAN WIDTH:** 0-2 m

**VEGETATION:** Floating: 0, Submerged: 0, Emergent: 70%

**PROMINENT SPECIES:**

- S. asper

**OTHER ORGANISMS:**

- **TAPOLE Shrimp, tad:**
- **NUMEROS TADPOLE SHRIMP**

**SIT/SURVEY NOTES:**

- Recently filled stock tank that has been dry for an extended period. Emergent a permauder gross. One juvenile toad: NO RAPIDS. Night survey. Continued on another sheet? Y N

### Riparian Herpetofauna Observations

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>CERTAINTY</th>
<th>LIFE STAGE</th>
<th>#</th>
<th>COMMENTS</th>
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</table>
RACH / Riparian Herp VES Datasheet

Locality Data

*SITE: Thruker 3
*SITE AT: Rosemont

*UTM ZONE: 11
*UTM EASTING: 524,865
*UTM NORTING: 351,812

NA83
NA27

*QUAD: Empire Park
*MIN: 7315
*YEAR: 1926
*ST-CNTY: AB - PLA

*ELEV: 1,950 ft
*H2O CLASS: Canal
*H2O TYPE: Plant outflow
Riverine, Wetland, Stock tank
Lake, Reservoir, Small metal/concrete tanks or drinkers

DIRECTIONS: At S3 to Guadalupe Rd; Guadalupe Rd to FS 4072;

Visit Conditions

DATE: 05/17/2011
*START: 8:2120
*STOP: 8:3120
*SEARCH TIME: 60 min
*OBERVERS: Mike Cross

*EFFORT:
Total Perimeter Partial Perimeter Left Bank Right Bank Both Banks
80 %

*SEARCH METHODS:
Dipnet Seine Trap Hand exploration Snorkel Boat Cell playsback

*VOCUERS:
Specimen Photo: Y Specimen #:

*H2O CLARITY:
Extremely clear Moderately clear Extremely turbid

*WIND:
2-3 mph 4-7 mph 8-12 mph 13-18 mph 19-24 mph >24 mph

*PRECIPITATION:
No rain Intermittent rain Steady light rain Steady heavy rain Snow/Sleet

*T AIR:
23 °C
*T WATER:
20 °C

*pH:
US

*EC:
20 US

*RH:
%

*CLOUD COVER:
0-20% 20-40% 41-60% 61-80% 81-100%

*LENTIC LENGTH:
10 m
*LENTIC WIDTH:
20 m

*LOTIC WIDTH:
0-2 m 2-5 m 5-10 m 10-20 m 20-50 m 50-100 m >100 m

*RIPARIAN WIDTH:
%

VEGETATION:
Floating Submerged Emergent Perimeter Canopy

VEGETATION:
% Prominent Species:

*SUBSTRATE:
(mark 1-3)

*PREDATORS:
(Locusts, Bats, Mongooses, Dragonflies, Belostomatids, Boa Constrictor, Water Moccasin, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Gartersnakes, Wading birds, Hawks, black & zone-tailed Mammals, Crayfish)

OTHER ORGANISMS:
Fairy Shrimp, Cattle

OTHER ORGANISMS:

SITE/SURVEY NOTES:
No Ranas; Numerous cattle in pasture; heard
after an extended dry period

Continued on another sheet?
Y N

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE: # COMMENTS:

Uncertain Certain Egg Larvae Juvenile Adult

No Ranae Herpetofauna

No Ranae Herpetofauna
### Locality Data

- **SITE:** Upper Stock Tank
- **SITE AT:** Rosemont

### Visit Conditions

- **DATE:** 04/11/201
- **START:** 11:55
- **STOP:** 12:05
- **SEARCH TIME:** 5 min
- **OBSERVERS:** M. CRSS

### Search Methods

- **EFFORT:** Total Perimeter: 62, Partial Perimeter: 0
- **SEARCH METHODS:** Dipnet, Seine, Trap, Left Bank, Right Bank, Both Banks

### Water Quality

- **T Air:** 17°C
- **T Water:** NA°C
- **EC:** 11 μS
- **pH:** NA
- **RH:** NA%
- **H2O Clarity:** NA
- **WIND:** 1-3 mph
- **PRECIPITATION:** None

### Vegetation

- **Vegetation:** No Vegetation
- **PERCENT:** 0%
- **Lentic Length:** 0 m
- **Lentic Width:** 0 m
- **Lotic Width:** 0 m
- **Substrate:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial

### Other Organisms

- **OTHER ORGANISMS:** None

### SITE / SURVEY NOTES

- **Survey Notes:** Dry site; OHV damage. OHV use heavy in area of tank.

### Riparian Herpetofauna Observations

- **SPECIES:** Uncertain
- **CERTAINTY:** Certain
- **LIFE STAGE:** Egg, Larvae, Juvenile, Adult
- **COMMENTS:** No Riparian Herpetofauna observed

---

*Continued on another sheet? Y

*File information:* 

- `\1000\1049.23\Tash 300\11-11-11`
### Locality Data

- **SITE:** Upper Stock Tank
- **SITE AT:** Roosevelt
- **NUM:** __________
- **UTM ZONE:** 11
- **UTM EASTING:** 622,994
- **UTM NORTING:** 352,213
- **YEAR:** 1981
- **ST-CNTY:** __________
- **QUAD:** H11
- **ELEV:** 5204 ft
- **H2O CLASS:** Lentic
- **H2O TYPE:** Canal
- **DIRECTIONS:** A253 to FS231, FS231 to FS450, FS450 to

### Visit Conditions

- **DATE:** 08/15/1991
- **START:** 08:20
- **STOP:** 09:20
- **SEARCH TIME:** 7 min
- **EFFORT:** 30 meters
- **SEARCH METHODS:** Dipnet, seine, trap, hand exploration, snorkel, boat, eel, other, dry
- **VOUCHERS:** Specimen photos: [ ] Habitats photos: [ ]
- **DIRECTION:** 
- **RELEASE:** [ ]

### Water Quality

- **TAlk:** __1.0__ °F
- **TWater:** __55.3__ °F
- **EC:** __1.0__ µS
- **pH:** 6
- **RH:** __%__
- **H2O CLARITY:** Extremely clear, Moderately clear
- **CLOUD COVER:** 0-20%, 21-40%, 41-60%, 61-80%, 81-100%
- **PRECIPITATION:** Intermittent rain, Steady light rain, Steady heavy rain, Snow/Sleet
- **LENTIC LENGTH:** 10 m
- **LENTIC WIDTH:** 4 m
- **LOTIC WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, 51-100 m, >100 m
- **RIPARIAN WIDTH:** 0-2 m, 3-5 m, 6-10 m, 11-20 m, 21-50 m, >50 m
- **SUBSTRATE:** Mudflat, Sand Gravel, Cobble, Boulder, Bedrock, Artificial

### Vegetation

- **Vegetation:**
  - Floating: 0%
  - Submerged: 0%
  - Emergent: 0%
  - Perimeter: 0%
  - Canopy: 0%

### Prominent Species

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Uncertain</td>
<td>Egg, Larvae, Juvenile, Adult</td>
<td>No Riparian Herpetofauna</td>
</tr>
</tbody>
</table>

### Other Organisms

- **OTHER ORGANISMS:**
- **OTHER ORN. NOTES:** None

### Site/Survey Notes

- **SITE/SURVEY NOTES:** ATU Auvé

### Riparian Herpetofauna Observations

- **SPECIES:**
  - Uncertain
  - Certain
  - Egg Larvae Juvenile Adult

### Comments

- **COMMENTS:**
**RACH / Riparian Herp VES Datasheet**

**Locality Data**

<table>
<thead>
<tr>
<th>Site:</th>
<th>Upper Stock Tank</th>
<th>Site At:</th>
<th>Rosemunt</th>
</tr>
</thead>
</table>

**New Site:**

- **UTM Zone:** 11T
- **UTM Easting:** 523041
- **UTM Northing:** 3522175
- **NAD83:**
- **NAD27:**

**Quad:** Empire Ranch

**Elevation:** 5035 ft

**Habitat Class:** Lentic

**Habitat Type:** Lotic

**H2O Type:** Canal plant outflow

**Watershed:** Riverine, Wetland, Shallow, Lake, Reservoir

**Directions:**

- **Total Time:** 5 minutes

**Visit Conditions**

<table>
<thead>
<tr>
<th>Date:</th>
<th>06/19/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start:</td>
<td>14:10</td>
</tr>
<tr>
<td>Stop:</td>
<td>14:15</td>
</tr>
</tbody>
</table>

**Search Time:** 5 minutes

**Observers:**

- **Effort:** Total, Partial, None, Other
- **Search Methods:** Dig, Net, Seine, Trap, Hand Exploration, Snorkel, Boot, Call Playback
- **Dried Leaf:**
- **Vouchers:** Specimen Photos, Habitat Photos
- **Dry:**
- **Release:**

**Water Quality Parameters**

- **T Air:** 104°F
- **T Water:**
- **EC:**
- **pH:**
- **RH:**
- **H2O Clarity:**

**Wind:** 1-3 mph, 4-7 mph, 8-12 mph, 13-18 mph, 19-24 mph, 24 mph

**Precipitation:**

- **Lentic Length:**
- **Lentic Width:**
- **LOTIC Width:**

**Riparian Width:**

- **Substrate:**

**Elevation:**

- **Other Organisms:**

**Notes:**

- **Site / Survey Notes:** Dry Tank

**Riparian Herpetofauna Observations**

<table>
<thead>
<tr>
<th>Species</th>
<th>Certainty</th>
<th>Life Stage</th>
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</tbody>
</table>
**Locality Data**
- **SITE:** Upper Salt Tant
- **SITE AT:** Rosamont
- **UTM ZONE:** 11
- **UTM EASTING:** 523060
- **UTM NORTING:** 2522116
  - **NAD83**
  - **WGS84**
- **MIN:** 0
- **YEAR:** 1991
- **ST-CNTY:** A2_Pima
- **ELEV:** 5172 ft
- **H-O CLASS:** Lentic/Lotic
- **H-O TYPE:** Canal outflow, Riverine, Wetland, Backwater, Lake, Reservoir, Small metal/metalate tanks or drinkers
- **DIRECTIONS:** FS 231 to FS 4051, FS 4051 to tank

**Visit Conditions**
- **DATE:** 11-04-2011
- **START:** 16:40
- **STOP:** 16:40
- **SEARCH TIME:** 00 min
- **OBSERVERS:** 
- **VOUCHERS:** 
- **SEARCH METHODS:** Dipnet, Seine, Trap, Hand exploration, Snorkel, Boat, Call playback, Other
- **T_Air:** 17°F
- **T_Water:** 80°F
- **EC:** us
- **pH:** 
- **RH:** 90%
- **H-O CLARITY:** Extremely clear
- **WIND:** 4-7 mph
- **PRECIPITATION:** None
- **LENTIC LENGTH:** 10 m
- **LENTIC WIDTH:** 7 m
- **LOTIC WIDTH:** 0-2 m
- **SUBSTRATE:** Mud/Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Artificial
- **VEGETATION:** 
- **PROMINENT SPECIES:** 
- **PREDATORS:** Leeches, Boatmen/Backswimmers, Dragonflies, Biotomats, Bees, Warm water fish, Cold water fish, Tiger salamanders, Bullfrogs, Mud turtles, Cartersnakes, Wading birds, Hawks, hawks & zone-tailed Mammals, Crayfish

**OTHER ORGANISMS:**

**SITE/SURVEY NOTES:** Dried out tank either. Likely a borrow pit/dwelling that held H20 in basin for limited time. Old road goes through it. No ATV traffic (no signs).

**Riparian Herpetofauna Observations**

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</table>

**COMMENTS:**
Locality Data

SITE: Unnamed Tank 1
*SITE AT: Rosemont

NEW SITE:  Y N  NUM: _______  _______  _______  _______  _______  _______  _______

*UTM ZONE: 11/12/13  *UTM EASTING: 52.9247  *UTM NORTING: 352948.0  NAD83


ELEV: 3900 ft  *H2O CLASS: Lentic  *H2O TYPE: Canal

Lotic  Plant outflow  Riverine  Wetland  Stock tank  Lake  Reservoir  Small metal/concrete tanks or drinkers

DIRECTIONS: AZ 83 to turnoff at ______, take dirt rd w/sx
and take 2 left turns and park.

Visit Conditions

DATE: 09/14/2001  *START: 1100  *STOP: 1200  *SEARCH TIME: 15 min  *OBERVERS: Mike Cross

*EFFORT: meters 100

Partial Perimeter  Left Bank  Right Bank  Both Banks

SEARCH METHODS: Dipnet  Seine  Trap  Kite  snorkel  Boat  Call  playdock  Other

DROW- N  Y  N

RELEASE:  

WIND: 5-12 mph  6-12 mph  13-24 mph  >24 mph

*CLOUD COVER: 0-20%  21-40%  41-60%  61-80%  81-100%

*PRECIPITATION: None  Intermittent rain  Steady light rain  Steady heavy rain  Snow/Sleet

LENTIC LENGTH: 40 m  *LENTIC WIDTH: 30 m  *LOTIC WIDTH: 0-2 m  3-5 m  6-10 m  11-20 m  21-50 m  51-100 m >100 m

RIPARIAN WIDTH: 0-2.5  3-5 m  5-10 m  11-20 m  21-50 m  51-100 m >100 m

SUBSTRATE:  (mark 1-3)

Vegetation: %

Floating  30  Duckweed

Submerged  7  (not visible)

Emergent  10  Weeds

Perimeter  25  Grass

Canopy

OTHER ORGANISMS:

OTHER ORG. NOTES:

SITE / SURVEY NOTES:

No Rains  Pond is full with recent rains.

Riparian Herpetofauna Observations

*SPECIES: CERTAINTY: LIFE STAGE # COMMENTS:

Uncertain Certain  Egg  Larvae  Juvenile  Adult  No Riparian Herpetofauna observed.
**SITE:** Twin Tanks

**UTM ZONE:** 11 1013

**UTM EASTING:** 531476

**UTM Northing:** 3550700

**NAD83** NAD27

**MIN:** 00 15

**YEAR:** 1981

**ST-CNTY:** AZ-2714

**ELEV.:** 3750 ft

**H2O CLASS:** Lentic Lotic

**H2O TYPE:** Canal Plant outflow Riverine Wetland Stock Tank Lake Reservoir Small metal/concrete tanks or drinkers

**DIRECTIONS:** At 53 do __________; turn west. Take 1st right

---

**DATE:** 09/18/2011

**START:** 1200

**STOP:** 1230

**SEARCH TIME:** 20 min

**OBSERVERS:** Milo Cross

**EFFORT:** 0 meters

**SEARCH METHODS:** Dipnet Seine Trap Hopper Exploration Snorkel Boat Playbait

**T Air:** 71°F

**T Water:** 71°F

**EC:** us

**pH:** 7

**RH:** 0%

**H2O CLARITY:** Extremely clear Moderately clear Extremly turbid

**WIND:** < 1 mph 1-3 mph 3-6 mph 6-12 mph 12-24 mph >24 mph

**PRECEPITATION:** None Steady light rain Steady heavy rain Snow/Sleet

**LENTIC LENGTH:** 150 m

**LENTIC WIDTH:** 200 m

**LOTIC WIDTH:** 0-2 m 2-5 m 5-10 m 11-20 m 21-50 m >50 m

**SUBLISTATE:** Mudflat, Sand, gravel, cobble, Boulder, Boulders, Artifical

**VEGETATION:**

| Floating | 0 |
| Submerged | ? |
| Emergent | 1 |
| Perimeter | 50 |
| Canopy | 0.1 |

**PROMINENT SPECIES:**

- Not Visible
- Cow Lorens, Grass

**VEGETATION:**

- Floating
- Submerged
- Emergent
- Perimeter
- Canopy

**OTHER ORGANISMS:**

- Mammals: drink
- Fish: Bass, Sunfish, Salmon

**SITE / SURVEY NOTES:**

Twin Tanks is a large pond that is nowtaken a low water. I take a high water. This lake has warm water, fish: Bass, Sunfish, Salmon etc.

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**Riparian Herpetofauna Observations**

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**COMMENTS:**

No Riparian Herpetofauna Observed