

**ARIZONA GAME AND FISH DEPARTMENT'S  
SECTION 10(A)1(A) PERMIT ANNUAL REPORT 2012**

**TE-083636-0  
Topminnow and Pupfish SHA Statewide**

Note: Tasks identified below are from the Department's E5 Segment 22 performance report. Information covers the Department's fiscal year (FY) 2012 (July 1, 2011 to June 30, 2012).

Cumulative total of Cooperators enrolled under the SHA at the end of Fiscal Year 2012: 13

Cumulative total of populations being managed under the SHA during FY 2012: 15

<b>Site:</b>	<b>Landowner:</b>	<b>Species Stocked:</b>
<b>Timbucktwo Pond, Ruby</b>	Private	Gila topminnow
<b>Pemberton Pond, McDowell Mtn Regional Park</b>	Maricopa County Parks & Recreation Department (MCPR)	Gila topminnow & desert pupfish
<b>Nursery Tank, McDowell Mtn Regional Park</b>	MCPR	Desert pupfish
<b>Willow Springs, White Tanks Mtn Regional Park</b>	MCPR	Gila topminnow ( <b>failed site</b> )
<b>Spur Cross Solar Oasis</b>	MCPR	Gila topminnow & desert pupfish
<b>Hernbrode Pond, Tucson</b>	Private	Desert pupfish (Rio Sonoyta origin, not QBQ)
<b>Onofryton Pond, Phoenix</b>	Private	Desert pupfish (Rio Sonoyta origin, not QBQ)
<b>Swimming Pool Pond, Robbins Butte Wildlife Area</b>	Arizona Game & Fish Commission	Gila topminnow
<b>Twin Tanks, Robbins Butte Wildlife Area</b>	Arizona Game & Fish Commission	Desert pupfish
<b>Stop Sign Tank, Robbins Butte Wildlife Area</b>	Arizona Game & Fish Commission	Gila topminnow
<b>Cottonwood Tank, Robbins Butte Wildlife Area</b>	Arizona Game & Fish Commission	Desert pupfish
<b>Cienega High School Pond</b>	Vail School District	Gila topminnow
<b>National Audubon Society Appleton-Whittell Research Ranch</b>	Private	Desert pupfish

<b>Site:</b>	<b>Landowner</b>	<b>Species</b>
The Nina Mason Pulliam <b>Rio Salado Audubon Center</b>	Private	Gila topminnow and desert pupfish
<b>Kei Sundt Pond</b>	Private	Desert pupfish
<b>Keiser Pond</b>	Private	
Usery Mountain Regional Park	MCPR	Gila topminnow

Management activities that were implemented during FY 2012 include the evaluation, stocking, and/or monitoring of some of the SHA enrolled sites, and the evaluation of additional sites for future enrollment. In FY12, sites evaluated for enrollment or stocking include: Terry Morgan (KT Ranch) Pond (Portal); Kei Sundt Pond (Thatcher); Dale Keiser Pond (Wickenburg); Anderson Pond (Portal); and San Rafael Cattle Company (Sonoita).

Funding sources for activities associated with site evaluations, enrollment, and stocking of topminnow and/or pupfish under the SHA include: Arizona Heritage Fund; State Wildlife Grant; Arizona Game and Fish Fund; and CAP Funds Transfer Program.

### Topminnow / Pupfish

The Statewide SHA for Topminnow and Pupfish was finalized and signed by the Department and USFWS on March 12, 2008. A total of 3 new sites were enrolled and stocked under the SHA in FY11.

1. **Timbucktwo Pond**, a privately-owned pond in southern Arizona was first stocked with Redrock Canyon lineage Gila topminnow on September 3, 2008.

Activities FY 2012 – No monitoring activities were conducted at this site during FY 2012.

2. **Pemberton Pond** at the McDowell Mountain Regional Park (Maricopa County Parks and Recreation Department [MCPR]) was stocked with Gila topminnow on March 13 and July 9, 2009, and desert pupfish on October 15, 2009.

Activities FY 2012 - A total of 13 Gila topminnow were collected from this SHA population in July 2011 and added to Cottonwood Spring lineage at Bubbling Ponds Native Fish Conservation Facility. These fish (along with fish collected from Cottonwood Spring, Sonoita Creek and Hermosa Montessori School) were intended for use as a source for stocking wild sites on the SPRNCA later in the year. No mortalities were associated with this activity.

Monitoring at this site was conducted on June 5, 2012 – 98 pupfish were captured; however this population appears to continue to struggle. There were no mortalities association with this action. There appears to be continuing water quality issues at Pemberton Pond, that may be addressed either in 2013 or 2014 if funding is available.

3. **Spur Cross Solar Oasis** at the Spur Cross Natural Conservation Area (MCPR) was stocked on October 19, 2009 with Gila topminnow and on November 18, 2009 with desert pupfish.

Activities FY 2012 - Monitoring at this site on June 7, 2012 found that both Gila topminnow and desert pupfish continue to thrive in this artificial habitat. A total of 2488 topminnow were captured, 40% of which were less than 10mm TL, indicating successful reproduction and recruitment. A similar scenario was found for desert pupfish, with 588 captured, 41% of which were less than 10 mm TL. There were no mortalities associated with this action.

4. **Hernbrode Pond**, is a privately-owned pond in Tucson that was stocked on April 10, 2009 with desert pupfish (Rio Sonoyta origin, not Quitobaquito; the entire population was removed from the Appleton-Whittell Research Ranch Headquarters Pond).

Activities FY 2012 - This site was visually surveyed on November 13, 2011 and dozens of desert pupfish were observed; many were juvenile or mature fish.

5. **Onofryton Pond**, is a privately-owned pond in Phoenix that was stocked on September 29, 2009, with desert pupfish from another SHA site in Tucson AZ, the Hernbrode Pond. These fish derived from fish that long existed in Finley Tank, a spring-fed tank within the Babocomari River drainage. They were long suspected as hybrids between Quitobaquito and desert pupfishes, but recent genetic studies have identified them as pure Sonoyta pupfish of Rio Sonoyta origin, not hybrids, and not from Quitobaquito Springs. This makes them (fishes in the Hernbrode and Onofryton ponds) the only stocks derived from Rio Sonoyta pupfish existing in the US.

Activities FY 2012 - No further activities took place at this site in FY 2012.

6. **Cienega High School Pond** in the town of Vail was stocked with Gila topminnow on November 9, 2009, from Davison Pond in Tucson (after that pond had received new founders from Cienega Creek). Monitoring on April 7, 2010 found topminnow very rare, almost non-existent ( $n < 5$ ). Stocked with longfin dace (*Agosia chrysogaster*,  $n = 122$ ) in the hopes that they may survive at this location.

Activities FY 2012 - No monitoring activities were conducted at this site during FY 2012.

- 7-9. **Robbins Butte Wildlife Area**, owned by the Arizona Game and Fish Commission, was stocked on November 17, 2009: Gila topminnow ( $n = 629$ ) at **Swimming Pool Tank**, and

desert pupfish (n=128) at **Twin Tanks**. The Gila topminnow came from Dexter National Fish Hatchery and Technology Center (Sharp Spring lineage) via Bubbling Ponds Fish Hatchery. The desert pupfish were collected from Boyce Thompson Arboretum, Deer Valley High School, Desert Botanical Gardens, Phoenix Zoo, and Dexter via Bubbling Ponds Fish Hatchery. A second stocking of Gila topminnow (n=571) took place on April 27, 2010, at **Stop Sign Tank**. These fish were from Deer Valley High School's refuge population.

Activities FY 2012 - A total of 663 pupfish were collected from Twin Tanks and Cottonwood Tank for stocking at Road Canyon Tank on LCNCA. There were seven mortalities associated with this collection, so a total of 656 pupfish were stocked.

Monitoring of populations of Gila topminnow and desert pupfish was conducted by staff at four ponds on the Robbins Butte Wildlife Area SHA enrolled property. At Cottonwood Tanks a total of 310 pupfish were captured, while at Twin Tanks a total of 1432 pupfish were caught; the presence of numerous small pupfish among the total caught indicates that both populations were reproducing successfully. At Swimming Pool Tank a total of 5600 Gila topminnow were captured, while 4906 topminnow were captured at Stop Sign Tank. There were no mortalities associated with these activities.

10. After assurances that **Willow Springs** at the White Tanks Mountain Regional Park (MCPR) was a perennial water source, it was enrolled as a SHA site and following stocking, was monitored on October 30, 2009 and found to be dry; all fish had been extirpated.

Activities FY 2012 - This is currently considered a failed site and no further action was carried out during 2011-12. Managers of the Park wish to build a dual-purpose pond, to be used as an equestrian water source and as habitat for topminnow and pupfish, so the original Certificate of Inclusion will likely be amended during 2012-13.

11. **Nursery Tank** at the McDowell Mountain Regional Park (MCPR) was stocked with desert pupfish on June 17, 2010. The fish were collected at Boyce Thompson Arboretum.

Activities FY 2012 - On August 24, 2011 - 1105 pupfish were collected from this site and added to pupfish from Desert Botanical Gardens and Phoenix Zoo to stock two wild sites on the SPRNCA. Fish were stocked on August 25, 2011 at Murray Springs and Horsethief Draw. There were 13 pupfish mortalities associated with this stocking activity. Pupfish were observed at both stocking localities on October 20, 2011.

Monitoring was carried out on June 5, 2012 - 1578 pupfish were captured at Nursery Tank; approximately 20% of fish captured were less than 20mm TL. No mortalities were associated with this activity.

12. **National Audubon Society Appleton-Whittell Research Ranch** was stocked with 229 desert pupfish from populations at Robbins Butte Wildlife Area on June 4, 2011. The fish

originated from SHA ponds Twin and Cottonwood tanks on Robbins Butte Wildlife Area, 115 individuals from each pond.

Activities FY 2012 - No activities took place at this site in FY 2012.

13. **The Nina Mason Pulliam Rio Salado Audubon Center** was stocked with 496 desert pupfish and 544 Gila topminnow on August 31, 2010. Pupfish came from the Libby Elementary School pond salvage (n=353), Desert Botanical Gardens (n=45), Phoenix Zoo Mandarin Pond (n=107). On September 28, 2010, another 582 salvaged pupfish from the Libby Elementary School Pond along with 102 pupfish from the Phoenix Zoo Mandarin Pond were added to the Center's pond.

Gila topminnow (n=544) from Robbins Butte Wildlife Area were also stocked at the Rio Salado Audubon Center Ponds on August 31, 2010. An additional 1500 topminnow from ASU Animal Care Facility were stocked on October 15, 2010. These fish are from the Redrock Canyon stocks.

Activities FY 2012 – On June 22, 2012, this site was monitored using 15 Gee-style minnow traps, set for 2 hours each and baited with dry dog food. A total of 195 Gila topminnow and 25 desert pupfish were captured and released alive during this sampling. We observed many more pupfish and topminnow throughout the pond while sampling. We also captured and removed 45 bullfrog tadpoles from our traps. The Center's staff have reported removing bullfrog tadpoles periodically over the past year (likely invaded from the nearby wet Salt River channel), and in the week prior to our survey, they removed a nonnative turtle and a single bluegill sportfish that someone had illegally released into the pond.

On January 18, 2012, we collected 36 Gila topminnow from Robbins Butte Wildlife Area (Swimming Pool Pond) and stocked 34 into the Rio Salado Audubon Center's indoor display aquarium; we had 2 topminnow die during this stocking—one was immediately eaten by a hungry pupfish in the aquarium and the other was likely injured while in transit. We made note to feed the existing aquarium fish prior adding any new fish into the tank.

14. **Kei Sundt Pond** was enrolled under the SHA in 2010 and stocked with 194 pupfish on November 9, 2010. Source of the pupfish stocked into the pond was the captive population maintained at The Nature Conservancy's Lower San Pedro River Preserve in Dudleyville, Arizona. Four (4) pupfish died during the stocking effort.

Activities FY 2012 – No activities took place at this site in FY 2012.

15. **Keiser Pond** was officially enrolled under SHA on September 9, 2011 for a period of 20 years. *Agosia chrysogaster* remained abundant in the pond and the owners agreed to the removal of the vast majority in preparation for pupfish stocking. Salvaged *Agosia* will be used to feed captive-raised narrow-headed gartersnakes at the Phoenix Zoo.

Department staff met with Dale and Debra Keiser on June 21, 2012 in preparation for the pupfish stocking; removed 131 *Agosia* from the pond. Numbers of fish appear to have dropped dramatically from last year.

**16. Usery Mountain Regional Park** was enrolled under the SHA in May 2010.

A new population of topminnow (Cottonwood Lineage) was established here on October 19, 2011. A total of 92 Gila topminnow from the population held at BPNFCF since July 2011 were used to establish the new population. There were 10 topminnow mortalities associated with this action.

:rt

Document: SHA TE-083636-0 FY2011 top-pup SHA report FINAL 20130313.doc

J:\Administrative\Branch Documents\ESA Implementation (MOU & permits)\top-pup SHA permit reports\FY2012