

**To:** Doug Duncan, U.S. Fish and Wildlife Service

**From:** Anthony Robinson, Arizona Game and Fish Department

**Date:** September 12, 2011

**Re:** Gila River Basin Native Fishes Conservation Program: Cooperative Agreement  
201819J853 Draft Semi-Annual Report for the Period November 1, 2010--April 31, 2011

**COOPERATIVE AGREEMENT TITLE:** Arizona CAP Gila River Basin Native Fishes Conservation Program

**FUNDING:** Approximately \$94,524 expended during 11/1/10 – 4/30/11.

Recovery of Natives (RPA 3): \$64,437

Control of Nonnatives (RPA 4): \$30,087

**GENERAL ACTIVITIES:** Program staff administered and managed projects. Program staff managed data including the combination of multiple monitoring and survey datasets into one large dataset, and updated information in the stocking dataset. Program staff attended CAP Technical Committee annual meeting and the CAP Joint Annual Policy and Tech Committee meeting. Program staff attended the Desert Fishes Council meeting and presented a paper on how the interactions of Gila topminnow and desert pupfish can affect repatriation success. Approximate expenditures on general activities = \$8,500.

Comments: David Boyarski, the Program Coordinator, has been on special duty assignment with the Fisheries Branch since June 2010, so we have been short one staff person. Clayton Crowder filled in for David for the last six months of 2010, but then reverted back to his regular position. We are behind on project reports and developing new projects because we are short one staff.

**PRIORITY ACTIONS IDENTIFIED IN COOPERATIVE AGREEMENT APPENDIX:**

1. Acquire loach minnow and spikedace
2. Muleshoe Ecosystem stream and spring repatriations
3. Fossil Creek repatriations
4. Fresno Canyon repatriations
5. Bonita Creek renovation and repatriations
6. Arizona trout stream loach minnow repatriations
7. Gila topminnow stockings
8. Arnett Creek repatriations
9. Redrock Canyon/Sonoita Creek renovation and repatriations
10. Morgan City Wash and Chalky Spring repatriations
11. Turkey Creek and O'Donnell Creek repatriations
12. Post Canyon/Freeman Spring repatriations
13. Spring Creek renovation and repatriations
14. Mineral Creek renovation and repatriations
15. Blue River repatriations

**TASK-SPECIFIC ACTIVITIES:**

Old and new task numbers are given where known.

**Acquire spikedace and loach minnow for propagation (Task 3-57 and 3-75g).**

Status: Ongoing.

Expenditures: Approximately \$6,784 (RPA3).

Preliminary Results: Program staff coordinated with the Forest Service regarding the Department's Environmental Assessment Checklist (EAC) for the overall project. Program and Region I staff had a phone conference with Apache-Sitgreaves National Forest (ASNF) biologist Stephanie Coleman to discuss implementation of the plan on streams within the ASNF. Program staff revised the study plan and complied with other requests and the Forest issued a letter of concurrence on April 22, 2011. The EAC was finalized soon after and distributed for signatures. Program staff coordinated planned surveys in the Verde River, East Fork Black River, and Blue River with the regional offices and the Forest Service.

Program staff collected fish from one loach minnow and spikedace site for fish health assessments; health assessments are necessary to ensure that unwanted pathogens and parasites are not transferred to new locations during fish translocations. On March 28-29, 2011 Program staff and the Department's Fish Health Specialist collected 180 longfin dace and 35 loach minnow and 25 red shiner from Aravaipa Creek (the latter two species from lower Aravaipa Creek) and sent samples to U.S. Fish and Wildlife Service's Dexter Fish Health Unit (DFHU); 120 of the longfin dace were transported to the Department's Fish Health Lab in Pinetop. No pathogens or parasites of concern were detected.

Obstacles: Finding fish where they are extremely rare. We are also waiting on approval from San Carlos Tribe to allow someone to survey and collect spikedace and loach minnow from Eagle Creek and transport them to Bubbling Ponds. We are also waiting on approval from White Mountain Apache tribe to acquire loach minnow from White River.

Ensuring that fish health assessments are completed within two years before bringing fish into the facility, and ensuring a fish health assessment on surrogate species is done at BPNFCF once per year.

Comments: Status of the project: at Bubbling Ponds Hatchery Research facility we now have spikedace from three of the five supposedly extant populations (Aravaipa Creek, upper Gila River, and the Gila River forks). We have yet to find spikedace in the Verde River or Eagle Creek. We also now have loach minnow from three (Aravaipa Creek, Blue River, and Gila River Forks) of the eight supposedly extant populations. We have yet to find them in Eagle Creek or the East Fork of the Black River tributaries, and we are still unsure if we will be able to acquire White River loach minnow from the White Mountain Apache Tribe. We still need to coordinate with New Mexico Department of Fish and Game to acquire loach minnow from the San Francisco River and upper Gila

River in New Mexico; these populations are considered robust, so are the lowest priorities for refuge, but still need to be acquired.

**Muleshoe ecosystem stream and spring repatriations (Task 3-47 and 3-75f).**

Status: Ongoing.

Expenditures: Approximately \$6,000 (RPA3) and \$2,587 (RPA4).

Preliminary Results: Program staff analyzed data and drafted and finalized a report summarizing the monitoring and stocking activities during 2010 (Robinson et al. 2011). Program staff met with USFWS and BOR personnel on January 12, 2011 to discuss the monitoring plan. Program staff revised the monitoring plan and sent it out the team for reviews. Program staff assisted The Nature Conservancy (TNC) with green sunfish removal from Redfield Canyon during April 4-6, 2011. Program staff scheduled field activities for September and October 2011.

Obstacles: None at this time.

Comments: So far we have successfully established Gila topminnow at Headquarters Spring, Secret Spring, Cherry Spring Canyon, Swamp Springs Canyon, and maybe even in Redfield Canyon (washed down from Swamp Springs Canyon). Desert pupfish are established at Secret Spring and tentatively established at Larry & Charlie Tank. Spikedace and loach minnow appear to be established in Hot Springs Canyon, but it is unclear if they are established in Redfield Canyon.

**Fossil Creek repatriation of listed fish species (Task 3-75I).**

Status: Ongoing.

Expenditures: Approximately \$7,700 (RPA3) and \$500 (RPA4).

Preliminary Results: Program staff analyzed data and drafted and finalized a report summarizing the monitoring and stocking activities during 2010 (Robinson and Crowder 2011a). Program staff scheduled a Fossil Creek Native Fish Management Working Group meeting for May 23, 2011. Program staff drafted, but did not finalize, a 2011 implementation plan.

Obstacles: None at this point.

Comments: Based on monitoring during 2010, it is unclear whether any of the Threatened or Endangered fish species that have been stocked since 2007 will establish populations.

**Fresno Canyon repatriations (Task 4-64b).**

Status: Ongoing.

Expenditures: None

Preliminary Results: No work was completed on this task during the reporting period.

Obstacles: None foreseen at this time.

Comments: Same comment as before. EAC was drafted but the Department still needs to complete coordination with Arizona State Parks and address any concerns they might have. After EAC is signed, the Department will move forward with stocking Gila chub (Sheehy Spring lineage) into Fresno Canyon.

#### **Bonita Creek renovation and repatriations (Task 4-70b).**

Status: Ongoing.

Expenditures: Approximately \$6,000.

Preliminary Results: Program staff collaborated with BLM staff to complete the annual monitoring during April 2011. No spikedace, loach minnow, Gila topminnow, or desert pupfish were found in the four 200-m long sites surveyed upstream of the infiltration gallery: 1) Lee Trail, 2) Red Knolls, 3) Midnight, and 4) Reservation Boundary. Other native fish (Gila chub, desert sucker, Sonora sucker, longfin dace, and speckled dace) were abundant at the sites upstream of the infiltration gallery; all five were captured at Lee Trail, Red Knolls, and Midnight sites, but only speckled dace, longfin dace, and Gila chub were captured at the Reservation Boundary site. Fathead minnow, the only nonnative fish captured upstream of the infiltration gallery, was captured at Lee Trail, Red Knolls, and the Midnight sites. BLM and USFWS staff completed the monitoring downstream of the infiltration gallery in April 2011. In the treated reach (between the fish barrier and the infiltration gallery), five native fish species and two nonnative fish species were captured in the two sites sampled (Upper and Gallery). In the Upper site, desert sucker, Sonora sucker, speckled dace, longfin dace, Gila chub, three loach minnow (56, 63, and 67 mm TL), green sunfish, and fathead minnow were captured. In the Gallery site, Sonora sucker, speckled dace, longfin dace, Gila chub and fathead minnow were captured. Within the Serna Cabins site, the one site sampled below the fish barrier, BLM and USFWS staff collected six nonnative species (channel catfish, yellow bullhead, green sunfish, fathead minnow, red shiner, and mosquitofish) and three native species (longfin dace, desert sucker, and three Gila topminnow). Two of the topminnow were male and one was female.

Program staff coordinated with BLM staff to schedule stocking of loach minnow, spikedace, desert pupfish, and Gila topminnow into upper Bonita Creek during September 2011.

Obstacles: The area behind the barrier still needs to be filled; BLM and BOR compliance is near complete for the action. Green sunfish, yellow bullhead, and mosquitofish are obstacles for the establishment of populations for some of the native species. Public concern regarding use of rotenone may affect timing or the decision to re-treat the reach between the fish barrier and the infiltration gallery. AGFD has postponed all renovations

for the remainder of 2011, and until the findings of the state Study Committee are released.

Comments: The area behind the barrier is scheduled to be filled during the summer of 2011. After the fill is completed, continued mechanical removal of green sunfish from the treated reach is planned.

It is unclear whether or not spikedace, loach minnow, Gila topminnow, or desert pupfish still persist upstream of the infiltration gallery. In the treated reach loach minnow persist but it is unclear whether or not Gila topminnow, desert pupfish, or spikedace persist. Spikedace, loach minnow, desert pupfish, and Gila topminnow are scheduled to be stocked into sites upstream of the infiltration gallery during early autumn 2011.

**Arizona trout stream loach minnow repatriations (Task 3-38 and 3-75b).**

Status: Ongoing.

Expenditures: None.

Preliminary Results: No work was completed on this task during the reporting period.

Obstacles: Finding loach minnow in the Three Forks area. Agreement with Apache Sitgreaves National Forest regarding suitable streams to stock loach minnow into once we do find and propagate Three Forks loach minnow.

Comments:

**Gila topminnow stockings (Task 3-37 and 3-75a).**

Status: Ongoing.

Expenditures: Approximately \$21,200 (RPA3) and \$1,000 (RPA4).

Preliminary Results: Program staff analyzed monitoring data and drafted annual reports for several of the Gila topminnow repatriation sites: Mud Spring #18 (Robinson 2011), Robbins Butte Wildlife Area ponds (Mosher et al 2011a), and McDowell Mountain Regional Park Pemberton Pond and Nursery Tank (Mosher et al 2011b). Program staff coordinated with BLM personnel regarding Gila topminnow and desert pupfish stockings into six sites within the San Pedro Riparian National Conservation Area and five sites within the Las Cienegas National Conservation Area, and scheduled site visits for June 2011.

Program staff coordinated with BLM staff regarding potential repatriation of Gila topminnow and desert pupfish to Buckhorn Spring (tributary to Buckhorn Creek which is tributary to Castle Creek west of Lake Pleasant). This site was evaluated by BLM and Department Staff in 2006 and BLM drafted an Environmental Assessment in 2006 which was approved in 2007; FWS produced a Biological Opinion on the project in 2006. Program and BLM staff visited Buckhorn Spring on February 11, 2011. The site was

deemed suitable for longfin dace and Gila topminnow. However, program staff raised concerns regarding potential flash flooding, even though the drainage is relatively small (~4 km<sup>2</sup>). Program staff will draft an EAC during the summer of 2011 so that the site can be stocked during autumn 2011.

Program and BLM staff also visited Sycamore Creek (tributary to Black Canyon which is tributary to the Agua Fria River north of Lake Pleasant) to assess it as a possible Gila topminnow repatriation site. Staff were unsure if the stream was perennial so recommended that the Wildlife Manager return in June to assess if water was still flowing. Program staff also thought the drainage watercourse where water was present was likely too high gradient for Gila topminnow to persist during flooding events.

Program staff coordinated with Coconino National Forest regarding potential Gila topminnow repatriation sites on the Forest. On March 2, 2011 Coconino NF and Program staff visited several potential Gila topminnow repatriation sites: Doren's Defeat Spring, Willow Spring, and Big Willow Spring in the Hackberry Basin off of the Fossil Creek road (FS 708), Mesquite Spring and Cottonwood Spring off of FS 500, and Sheepshead Canyon near Cornville. The sites in the Hackberry Basin were deemed unsuitable for topminnow because all were at about 1300 m elevation, which is near the threshold (1,600 m) recommended for Gila topminnow reintroduction sites, plus all were in stream courses with relatively steep gradients (all greater than 8% immediately upstream of the sites). Mesquite Spring had very little water (10 m long by 0.75 m wide), and Cottonwood Spring was mostly just damp ground, so those two sites were deemed unsuitable for topminnow. Sheepshead Canyon was at about 1,045 m elevation, had decent flows, a natural waterfall that acts as a barrier to the upstream movement of fish, low gradient above the waterfall, and thus the site was deemed suitable for Gila topminnow repatriation.

Program staff coordinated with USFWS and Tonto National Forest regarding repatriation of Gila topminnow to Rock Spring on the Mesa Ranger District. Program and Tonto National Forest staff visited Rock Spring on March 25, 2011 to retrieve a temperature logger and discuss the necessary compliance.

Program staff collected topminnow from several sites for fish health assessments; health assessments are necessary to ensure that unwanted pathogens and parasites are not transferred to new locations during fish translocations. On March 8-9, 2011 Program staff and the Department's Fish Health Specialist collected Gila topminnow and desert pupfish from the ponds at TNC's Lower San Pedro River Preserve. Sixty of each species was sent to DFHU for analysis. No pathogens or parasites of concern were detected. On March 15, Program staff collected 60 Gila topminnow and 60 desert pupfish from the ponds at International Wildlife Museum (IWM) in Tucson. Fish were sent to DFHU for analysis; no pathogens or parasites of concern were detected. On March 23 Program staff and the Department's Fish Health Specialist collected fathead minnow and Gila topminnow from Boyce Thompson Arboretum's Ayer Lake, examined fish for external parasites and sent 60 of each species to DFHU for analysis. No pathogens or parasites of concern were detected.

Obstacles: Conflicting commitments have prevented Tonto National Forest personnel from completing the BA for introduction of Gila topminnow and desert pupfish to Rock Spring near Sunflower. Because we are short one program staff, we may not get around to completing the EAC for Buckhorn Spring before autumn 2011.

Comments: Estimate that all compliance will be done for the BLM San Pedro and Las Cienegas sites and those that are ready can be stocked by mid-autumn 2011.

**Arnett Creek repatriations (Task 3-41 and 3-75d).**

Status: Ongoing.

Expenditures: Approximately \$900 (RPA3).

Preliminary Results: Some coordination with Tonto National Forest.

Obstacles: Conflicting commitments have prevented the Tonto National Forest fisheries biologist from revising the BAE so that the project can move forward. Some personnel at Globe Ranger District had concerns about the BAE and subsequent BO. The allotment permittee now has partners, and they will have to be coordinated with.

Comments:

**Redrock Canyon/Sonoita Creek renovation and repatriations (Task 4-70a, and 3-40, 3-75c).**

Status: Ongoing.

Expenditures: None

Preliminary Results: Regional staff coordinated with Coronado National Forest staff regarding the EA and BO (no CAP expenditures). Regional and Program staff collected information on piscicides to help the Department resolve piscicide use issues which originated from local opposition to the Redrock Canyon renovation.

Obstacles: Public concerns about piscicide use and public health.

Comments: All renovation projects in the state were postponed through the end of 2011 as a result of public concerns and an attempt to legislate restrictions on piscicide use. A study committee was formed and will produce a report, after which renovations may resume. The remaining 65 tanks in the Sonoita Creek drainage need to be surveyed to determine which have fish present. Due to lack of personnel and other priorities, these surveys were not completed in 2010.

**Repatriation of native fishes to Morgan City Wash and Chalky Spring (Task 3-84a).**

Status: Ongoing.

Expenditures: Approximately \$5,000 (RPA3).

Preliminary Results: Program staff analyzed data and drafted and finalized a report of the stocking and monitoring activities completed during 2010 (Robinson and Crowder 2011b). Program staff coordinated with various agencies and Regional staff and scheduled the 2011 annual monitoring.

Obstacles: None at this time.

Comments: Gila topminnow will likely establish a population in Chalky Spring and in Morgan City Wash. It is still unclear if desert pupfish will establish a population in Morgan City Wash.

### **Turkey Creek and O'Donnell Creek repatriations (Task 3-60).**

Status: Ongoing.

Expenditures: Approximately \$7,000 (RPA4).

Preliminary Results: Program staff analyzed data and drafted and finalized a report summarizing monitoring activities completed during 2010 (Mosher et al. 2011). Program staff completed a fish survey of O'Donnell Creek on April 18, 2011. Sixteen collapsible minnow traps and 15 mini-hoop nets were set for over six hours each within the TNC property. Seven Gila chub, two longfin dace, 17 Sonora sucker, and 90 crayfish were captured. The crew also electrofished from the BLM dams downstream to the TNC property and captured 42 mosquitofish and one green sunfish.

On April 18, 2011 Program staff also surveyed Turkey Creek. Ten collapsible minnow traps and eight mini-hoop nets were set for a minimum of two hours on the Steen's property downstream onto the Coronado National Forest. Fifty three green sunfish, five Sonoran mud turtles, and two bullfrog tadpoles were captured.

Obstacles: The owner of Canelo Springs Ranch never replied whether or not he would allow us to remove nonnative fish from the pond on his land; Linda Kennedy at the Audubon Ranch was unable to get any clear answer out of the landowner regarding the project.

Comments: Although we tried for over a year to get the landowner of Canelo Springs Ranch on Turkey Creek to approve of the project, he never replied one way or the other. Therefore, it is recommended that the idea of placing a barrier on O'Donnell Creek near the Audubon Ranch headquarters and subsequent renovation of the Turkey and O'Donnell systems be abandoned. Instead it is recommended that the existing barrier on O'Donnell Creek be improved, which will protect the Gila chub population upstream. If the existing barrier in O'Donnell Creek is repaired, then the Turkey Creek repatriation project should be dropped.

### **Post Canyon/Welch Spring repatriations (Task 3-61 and 3-75h).**

Status: Ongoing.



Expenditures: None

Preliminary Results: No work was completed on this task during the reporting period.

Obstacles: None during this quarter.

Comments: It is recommended that the idea of placing a barrier on lower O'Donnell Creek (downstream of the confluence of Turkey Creek and Post Canyon) be abandoned (See the O'Donnell Creek repatriation project above). In addition, although the majority of Post Canyon and lower O'Donnell Creek are normally dry, green sunfish will be able to access the tinajas in the tributary to Post Canyon (the site of the proposed repatriations of Gila chub) from perennial stream reaches in upper O'Donnell Creek (below the existing dam) or the Babocomari River during extended flow events. Therefore, it is recommended that the Post Canyon/Welch Spring repatriation project be dropped because the site would likely become reinvaded with nonnative fish after extended flow events.

### **Spring Creek renovation and repatriations**

Status: Ongoing.

Expenditures: None.

Preliminary Results: No work was completed on this task by CAP funded personnel during the reporting period. Regional staff coordinated with Tonto National Forest staff, including Don Luhrsen the Pleasant Valley District Ranger regarding the project.

Obstacles: Local public support for the project.

Comments: Progress has been very slow considering the project was first discussed amongst partners in 2007.

### **Repatriate Gila Chub to Mineral Creek (Task 3-78a).**

Status: Ongoing.

Expenditures: Approximately \$1,000 (RPA4).

Preliminary Results: Program staff coordinated with Regional staff, USFWS, Tonto National Forest, State Land Department, ASARCO Ray Mine, Resolution Mine, and Government Spring Ranch regarding the Mineral Creek project. A meeting with all stakeholders was scheduled for August. The remainder of the tanks in the Devils Canyon drainage that have not been surveyed for fish were scheduled to be surveyed in May 2011.

Obstacles: Need to talk to all landowners in the Devils Canyon drainage, and find out if they would have concerns about renovating the system and stocking native fish.

Comments: A meeting with all stakeholders was scheduled for August 2011.

**Native fish repatriations into Blue River (Task 3-42 and 3-75e).**

Status: ongoing.

Expenditures: Approximately \$1,650 (RPA3) and \$1,000 (RPA4).

Preliminary Results: Program staff finalized the Department EAC for the Blue River Native Fish Restoration project, and all signatures were obtained. Program and Region I staff had a phone conference with Apache-Sitgreaves National Forest (ASNF) biologist Stephanie Coleman to discuss in part, the Blue River Native Fish Restoration project. Program staff drafted an outline of a post-native fish repatriation monitoring plan, and distributed to partners, with a suggestion that a meeting be held in August to develop a monitoring plan. Program staff in collaboration with ASNF scheduled fish surveys for July 2011.

Obstacles: Not all of the people in the Blue community and surrounding area are supportive of the project. The Forest and Department think that more public outreach is necessary.

Comments:

**San Pedro Pond Stockings (Task 3-64 and 3-75j).**

Status: Ongoing.

Expenditures: Approximately \$5,470 (RPA3) and \$500 (RPA4).

Preliminary Results: On November 11, 2010, Program and BLM staff set minnow traps in the smaller pond to collect desert pupfish for translocation to Bonita Creek and Kei Sundt Pond near Safford. Sixteen metal minnow traps were set overnight and pulled the next morning; set for approximately 15 hours. Three seine hauls and two dip net sweeps were also completed. A total of 426 desert pupfish were captured. On the same day, Program Staff also collected 780 Gila topminnow from the larger pond using seines and dip nets; the topminnow were translocated to Bonita Creek.

On March 8-9, 2011 Program staff set 25 collapsible minnow traps in the smaller pond for a minimum of two hours and captured 70 desert pupfish. Staff also made multiple seine hauls in the larger pond and collected 60 Gila topminnow. Fish were examined on site for presence of external parasites. Sixty of each species were sent to Dexter National Fish Hatchery Fish Health Laboratory for a pathogen analysis; no parasites or pathogens of concerns were detected.

During April 18-20, 2011, Program staff surveyed O'Donnell Creek, Turkey Creek, T4 Spring, and the Babocomari River to determine presence and relative abundance of Gila chub in those waters so that we could decide from which to collect Gila chub for translocation to the San Pedro Ponds; see the 'Turkey Creek and O'Donnell Creek

Repatriations' project for a summaries of the surveys in those two streams. At T4 Spring, we set 11 collapsible minnow traps, four metal minnow traps, and seven mini hoop nets for about 16 hours each. No chub were captured, but we did capture 1,012 mosquitofish, 91 northern crayfish, 4 bullfrog tadpoles, and 3 Sonora mud turtles.

On April 20, Program staff also surveyed approximately 2.75 km of the Babocomari River by single pass electro-fishing through portions that were shallow enough to fish, and set 3 collapsible mini hoop nets in three of the larger pools. During 4,303 seconds of electro-fishing (21 efforts), we captured 122 mosquitofish, 89 largemouth bass, 1 black bullhead, 1 green sunfish, 1 bluegill, 4 bullfrog tadpoles, and 3 Sonora suckers. The Sonora suckers were all >350mm, and observed at least a dozen more large suckers swimming in larger pools. Only one fish, a bluegill, was captured in the minnow traps which were set for about four hours. We also noted abundant crayfish and bullfrogs.

Obstacles: Finding enough Gila chub in O'Donnell Creek to augment the TNC population.

Comments: We are scheduled to monitor the chub in the larger pond during summer 2011, and to augment the chub population with fish from IWM and O'Donnell Creek in October 2011.

#### **Assess Potential Repatriation Waters (Task 3-84c).**

Status: Ongoing.

Expenditures: Approximately \$2,000 (RPA3) and \$2,000 (RPA4).

Preliminary Results: Program staff visited sites on Coconino National Forest, and BLM lands during the reporting period primarily to evaluate them for Gila topminnow and desert pupfish repatriations (see Gila topminnow stockings portion of the report).

On April 19, Program staff surveyed a portion of the Babocomari River from the dam on Babocomari Ranch downstream to the first railroad bridge (see San Pedro Pond Stockings for a summary of fish captured). The stream had habitat that looked suitable for Sonora sucker, Gila chub, and longfin dace, but eradicating the nonnative fish might be problematic. The reservoir upstream of the dam has nonnative fish, and some are found in portions of the drainage upstream. It is unknown how far downstream the perennial water extends past the Babocomari Ranch property, but other landowners would have to be consulted to eradicate nonnative fish from the drainage below the dam.

Obstacles: None at this time.

Comments: Need to talk to the Babocomari Ranch about the possibility of eradicating nonnative fish from the pond above the dam and the perennial water downstream of the dam, or discuss projects in other areas on the ranch. Plan to evaluate Lime Creek and Spring Creek (tributary to Oak Creek) sometime during May-November 2011.

### **Bubbling Ponds O&M (Task 3-86).**

Status: Ongoing.

Expenditures: Approximately \$9,733 (RPA3).

Preliminary Results: On November 9, 2011, BPNFCF staff collected roundtail chub from Eagle Creek and transported them to BPNFCF to add to the brood stock already at the facility.

Bubbling Ponds Native Fish Conservation Facility (BPNFCF) staff continued to care for spikedace, loach minnow, Gila topminnow, desert pupfish, and Eagle Creek roundtail chub. Facility staff set up outdoor tanks and raceways for the spawning of spikedace and loach minnow and set up larval fish collection systems for all outdoor artificial streams used to spawn spikedace. Facility staff worked with the Department's fish health specialist and nongame staff to develop fish health assessment protocols for fish coming into and out of the facility. Facility staff also continued to draft the facility operations plan. Facility staff reported that on March 2, 2011 fish counts at the facility were: 623 Gila River spikedace, 267 Aravaipa spikedace, 228 West fork Gila spikedace, 495 Aravaipa loach minnow, 194 Blue River loach minnow, 52 West Fork Gila loach minnow, 131 Eagle Creek roundtail chub, and 123 woundfin.

Obstacles: NEPA compliance on the various projects being conducted at the facility. Expanding existing tank systems to increase spawning capacity and holding space for larval fish. Completing work on other contracts because the facility is not 100% funded by CAP monies.

Comments:

### **LITERATURE CITED**

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