

**Chiricahua Leopard Frog Recovery Team
West-Central Stakeholders Group Meeting
Silver City, New Mexico
November 14, 2008**

Chiricahua Leopard Frog Recovery Update: Recovery Units (RUs) 6, 7 (NM portions) & 8

Likely extant sites in RU6&7 (NM portions) and RU 8 as of November 2007: ~30

Likely extant sites in RU6 (NM portion) as of November 2008: ~8-10

Likely extant sites in RU7 (NM portion) as of November 2008: Possibly 1

Likely extant sites in RU8 as of November 2008: ~18

Total in NM RUs 6, 7, and 8 as of November 2008: ~30*

***Of the ~30 sites in 2008, 7 are dispersal locations, 8 are “unstable” (consisting of either no observations in 2008 or very sharp decline to low numbers), and 10 of the sites in RU8 are in N. Seco Cr., are connected during high flows, and function as a metapopulation).**

Recovery Plan – The Recovery plan is available at:

<http://www.fws.gov/southwest/es/arizona/CLF.htm>.

Information on the Recovery Program is available at:

http://www.fws.gov/southwest/es/arizona/CLF_Recovery_Home.html

The Chiricahua leopard frog is featured in a Year of the Frog website:

<http://www.fws.gov/home/feature/2008/Frog/Features/FeaturedFrog.html>

USFWS Contact in NM: Melissa Kreutzian has moved on to another position at the NM Field Office. Michelle Christman is now the USFWS lead for the frog in New Mexico.

Changes in Taxonomy and Nomenclature: The taxonomy of the frog has been revised. Crother (2008: Scientific and Common Names for Amphibians and Reptiles of North America North of México. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 37:1-84) uses the name *Lithobates chiricahuensis*; that publication also subsumes the Ramsey Canyon leopard frog (*L. subaquavocalis*) from the Huachuca Mountains in southeastern Arizona into *chiricahuensis*.

General Recovery Activities Needed in West-Central New Mexico in 09

In general we need help to: 1) monitor extant populations, 2) survey for additional extant populations, 3) survey for habitat; identify and assess potential reestablishment sites, 4) identify and implement habitat improvements in each management unit (MA); 5) identify and establish refugium populations and headstarting/rearing facilities; and 6) gauge the desirability of a Safe Harbor Agreement for West-Central NM.

These actions need to occur in all Recovery Units to help meet the recovery criteria (e.g. “at least two metapopulations in different drainages plus at least one isolated and robust population in each RU exhibit long-term persistence and stability”).

Chiricahua Leopard frog Accomplishments in West-Central New Mexico in 08

RU6 (NM portion): Participants: Gila NF, USFWS (NM Ecological Services Field Office – NMESFO), NMDGF, Randy Jennings, Carter Ranch

Review of 2008:

Deep Creek Divide MA: Frogs remain in 2 tanks and 1 or 2 riverine sites. In May 2008, 32 mixed cohort tadpoles and ¼ of an egg mass were removed from 1 of the tanks (Long Mesa Tank) for headstarting at NMESFO. In October, 33 frogs from this collection were released to a nearby tank (Sheep Basin) where frogs were last observed in 2003 and 77 frogs were released to a confined steel rim tank in RU8. The rationale for placement in a different RU was that we wanted to “back up” frogs from the Deep Creek divide MA in case *Bd* gets in the remaining sites. A mesh cage was build around the tank and secured to minimize the possibility of escape. A variety of sizes of frogs were place at both locations to maximize genetic diversity from a single site. One of the 2 riverine sites may be extirpated since CLF have not been observed since 2006, and the 2008 survey only found abundant bullfrogs. The second riverine site is highly unstable—observations were made of diseased CLF and tiger salamanders (potentially a ranavirus) in 2008.

Tularosa Apache Creek MA: Frogs are known at 3 sites, 1 riverine site, 1 tank, and one spring/riverine site. Frogs at the tank are doing well with high reproduction. Frogs at the spring are unstable with only a few individuals observed, and the riverine site is highly unstable with very low numbers and abundant bullfrogs.

West-Middle Fork MA: Just one frog was seen at the mouth of Cub Creek along the West Fork of the Gila River.

East Fork MA: One incidental individual observation was made on the E. Fork of the Gila River in 2008. Two previously known riverine sites were surveyed in 2008, but no CLF were observed. One population, thought to be robust, still needs to be monitored in 2008.

RU7 (NM): Participants: Gila NF, USFWS (NM Ecological Services Field Office – NMESFO), NMDGF, BLM, Randy Jennings

Review of 2008: No reproductive sites are presently known in this RU in NM; however, one dispersal site is known--only individual juveniles have been observed, indicating the likely presence of a source population nearby. Surveys are needed to locate this source population(s).

RU8: Participants: Ladder Ranch, Pitchfork Ranch, Chino Mines, The Nature Conservancy, Gila NF, USFWS (NM Ecological Services Field Office – NMESFO), NMDGF, Randy Jennings.

Review of 2008: Sites that have frogs in this RU include all localities on the Ladder Ranch, the Rio Mimbres, and 4 spring sites. Many of the sites in RU 8 persist with *Bd* infections.

Ladder Ranch: The last individuals from Cave Creek (on Ladder Ranch) were collected in 2005 and sent to the Dallas Ft. Worth Zoo. Unfortunately, the specimens died in captivity. In 2008, samples were collected for testing and monitoring of *Bd* at the Ladder. The Ladder Ranch is anticipating a Private Lands Agreement with FWS Partner’s Program to begin construction on their Ranarium. The Ranarium will have 8 outdoor pens with pools, an indoor larvae facility, and quarantine capabilities initially for use for CLF but may also be used for other species in need in the future.

Pitchfork Ranch: Sixteen metamorphs (tadpoles obtained from Ash Spring) were translocated into a steel rim tank on the Pitchfork (formerly Burro Cienega) Ranch after treatment for 10 weeks with 20 ppm chloramphenicol. Translocation success is being monitored.

Chino Mines: Additional propagules will be removed from Ash Spring (determined to be *Bd* positive after April 2007 die-off) as available. Any such propagules will be treated in chloramphenicol for future release.

Overview of Activities outside the West-Central New Mexico Region

A Statewide Safe Harbor Agreement between USFWS and AGFD, and SHAs between USFWS and Malpai Borderlands Group (SE AZ and SW NM) and USFWS and the Barboot/99 Bar Ranch (AZ) are in place. Currently 8 landowners and 83,629 acres are signed onto the SHAs. Studies are underway by Melanie Culver's lab (USGS/University of Arizona, Tucson) to further define the rangewide population genetics of *L. chiricahuensis*, including determining whether the Mogollon Rim frogs differ significantly from the southern populations, and whether there is genetic structuring elsewhere within the range of the species. Survey Training Workshops were held in Young, Arizona and Silver City, New Mexico in 08. Headstarting and captive propagation facilities have been added at the USFWS Ecological Services Office in Albuquerque and at the Douglas High School in Cochise County, Arizona.

RU1 – Bullfrog control continued at Buenos Aires National Wildlife Refuge and Sycamore Canyon. Bullfrogs have nearly been eliminated at the latter site, but reinvasion will probably be a continuing problem. Peña Blanca Lake is being drained to remove contaminated sediments. This presents an opportunity to eliminate bullfrogs from the primary source habitat in the region. Plans have been developed to conduct bullfrog control, but as yet funding is lacking to implement control. Fifty Chiricahua leopard frogs were moved from State Tank to Carpenter Tank on Buenos Aires NWR when it appeared that the former tank would dry out. Limited monitoring has occurred; mostly at Buenos Aires NWR; however, populations appear to be stable. Two land owners have signed onto the Statewide USFWS/AGFD SHA. Frogs were thought to be extant at about 29 sites in RU1, a few of these represent dispersing individuals rather than breeding populations. The most robust metapopulation known for the species occurs at Buenos Aires NWR, but is threatened by bullfrogs. Frogs in RU1 persist despite the presence of *Bd*.

RU2 – Lots of recovery work in this RU. The number of known occupied sites in the Santa Rita Mountains went from one in 2007 to 12 in late 2008; surveys in 2009 will investigate which sites are breeding populations and which were “stepping stones” for dispersing frogs. Tadpoles were collected from Louisiana Gulch (Santa Rita Mtns) and are being reared for propagation at the Arizona-Sonora Desert Museum. A major effort was made to eliminate bullfrogs from Scotia Canyon in the Huachuca Mountains. Although additional monitoring is needed, the effort appears to have been successful. This and the habitat work done in 2007 lay the groundwork for reestablishment of Chiricahua leopard frogs and other sensitive species. Planning is underway for a major restoration project in Redrock Canyon in the Canelo Hills, which should benefit frogs. The Ramsey Canyon Leopard Frog Team remains very active. Sites were monitored and the enclosure fence in Ramsey Canyon was removed, allowing dispersal of frogs throughout the creek system. An in-situ headstarting facility at Las Cienegas NCA is producing frogs for

Cienega Creek. A large pond on the San Rafael Ranch (Pasture 9 Tank), which is fed by a well, was frog fenced to exclude bullfrogs. Establishment of Chiricahua leopard frogs is planned for Spring of 09. Frogs are known to be extant at roughly 13 sites in RU2, although one of those is probably better described as a complex of sites (metapopulations), and at least some of the Santa Rita Mountains sites do not represent breeding populations. If “Ramsey Canyon” leopard frog populations are added in, that raises the RU2 total to about 22.

RU3 – The Malpai HCP is completed, and the Barboot/99 Bar Ranch SHA (Arizona) has been signed. In New Mexico, frogs are likely present at 3 to 5 sites. Two of these sites are highly unstable or extirpated, one site (confined concrete tank) is robust but susceptible, and the remaining 2 have not been surveyed, but likely have frogs. An additional 5 sites are thought to be ephemeral dispersal sites dependant on climate and status of source sites. Sky Island Alliance is implementing a grant to restore the Cloverdale Cienega. In Arizona, arrangements are being made to establish frogs at the Southwest Research Station in Portal. The Station will also be rearing tadpoles in aquaria. Another pond on private lands in the Portal area, which was renovated in 2006, is ready for frogs. A headstarting/rearing facility has been completed at the Douglas High School and is ready for frogs. The facility will hopefully be populated with tadpoles from Lesley Canyon NWR in late 2008. Progeny from the facility will be used for ponds in the Portal area, and potentially elsewhere. An Amphibian Survey, Monitoring, and Conservation Workshop, taught in Spanish for Mexican biologists and students, was held at Rancho Los Fresnos, Sonora to build capacity for amphibian work in northwestern Mexico. Naturalia is pursuing a NFWF grant to begin recovery activities in the San Pedro basin of northeastern Sonora. Limited monitoring has occurred in this RU. Frogs are known to be extant at 6-8 sites in RU3.

RU4 – Galiuro Mountains: Chiricahua leopard frogs were rediscovered in the Deer Creek area of the Galiuro Mountains, and portions of 2 egg masses were collected and reared at the Phoenix Zoo. In October, 271 Chiricahua leopard frog tadpoles and 70 frogs were released to augment one population and establish another population. Frogs are now present at 5 localities in the Deer Creek area. Dragoon Mountains: In April, egg masses were moved from Middlemarch adit to augment the reestablished population at Shaw Tank and to reestablish frogs at Black Diamond Spring. Surveys at Shaw Tank have shown success from releases in 2006, 2007, and 2008. Frogs are known to be extant at 8 sites in RU4.

RU5 - Gentry/Crouch/Cherry Ck – Tonto NF. Lots of recovery work in this RU. Headstarting of egg masses occurred at both the Phoenix Zoo and the AGFD, Bubbling Ponds Hatchery. Captive propagation and production of egg masses also occurred at the Phoenix Zoo. Frogs and/or tadpoles were released at 6 sites (Pine Spring, Bottle Spring, Carroll Spring, H Y Tank, Cherry Creek, and Crouch Creek) to augment existing populations or establish new populations. A total of 337 tadpoles and 71 frogs were released in July and October. The Local Working Group met to discuss recovery actions and set priorities for 2008. A meeting was held 18 March 2008 with ranchers and other interested publics in Payson. AGFD, USFWS, Tonto NF, and Coconino NF staff participated. Ellison Creek. Second year in a row that no frogs were observed in the area. AGFD provided funding to build fences around two potential release sites (Lewis Spring and Trib 3). Buckskin Hills. A total of 45 Chiricahua leopard frogs and 48 tadpoles from the Buckskin Tank stock and Bucksin/Gentry crosses at the Phoenix Zoo were

released at Middle Tank in April and October 2008. The frogs appear to be doing well there. No other frogs were observed at tanks in the Buckskin Hills; however, the habitat at Walt's and Black tanks look good and are ready to receive frogs. For 2009, a variety of habitat renovations are planned, frogs will hopefully be released to additional sites in the Buckskin Hills, reestablishment in the Ellison Creek area will be pursued, and SHAs with landowners in the Ellison Creek and the Gentry/Crouch/Cherry Ck areas will be investigated. Frogs are known to be extant at 8 sites in RU5.

RU6 (AZ) – A breeding colony of Three Forks frogs is being maintained at the AGFD Pinetop Office. Progeny from that facility were released to Concho Bill and Sierra Blanca Lake in 2008. Despite multiple years of releases, the frogs are either not persisting at Sierra Blanca or are very difficult to detect. Two property owners George Gann (property near Concho) and Mike Ingraldi (also near Concho) signed onto the Safe Harbor Agreement. Four new potential release sites were identified (Unnamed Tank and Spring-Open Draw, Unnamed Pond SW of Open Draw, Prescribed Tank, and Firebox Lake). A meeting was held 5 March 2008 among A-S, AGFD, and USFWS staff in Springerville to discuss recovery progress and opportunities on the A-S (RUs 6 and 7). In 2009, a Spring coordination meeting will be held, occupied sites will be monitored, additional releases will be made as needed to Concho Bill and Sierra Blanca Lake, additional new release sites will be evaluated, and compliance and needed habitat work will be completed, and then frogs released at the Gann Property. Frogs are only known to be extant at 1-2 sites in RU6 in AZ.

RU7 (AZ) - Limited monitoring occurred in 2008. AGFD and the Apache-Sitgreaves NF met to discuss recovery opportunities. A Spring 2008 coordination meeting will be held to develop a work plan and begin recovery activities. Frogs are thought to be extant at 4-7 sites in RU7 (AZ portion).