

Work Task D12: Lowland Leopard Frog and Colorado River Toad Surveys

FY13 Estimate	FY13 Actual Obligations	Cumulative Expenditures Through FY13	FY14 Approved Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate
\$125,000	\$27,021.18	\$345,018.12	\$25,000	\$25,000	\$25,000	\$35,000

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Start Date: FY10

Expected Duration: FY55

Long-term Goal: Determine the extant populations of the lowland leopard frog and Colorado River toad along the LCR, and understand their habitat requirements.

Conservation Measures: LLFR1, CRT01.

Location: Within reaches 3-7 of the LCR MSCP boundary and the Bill Williams River.

Purpose: To better define distribution, habitat requirements, and factors limiting the distribution of the lowland leopard frog and Colorado River toad using a system-wide monitoring approach.

Connections with Other Work Tasks (past and future): Populations that were found during the previous 3 years will be monitored as part of a more detailed habitat analysis (work task C62) that will help determine the feasibility of establishing populations of either species in unoccupied habitat.

Project Description: System-wide surveys for these two species will be conducted along the LCR and the Bill Williams River. It is unknown if any extant populations exist for either species along the LCR. The lowland leopard frog has been observed on the Bill Williams River and surveys will help determine the distribution of this population. If it is decided to attempt to establish this species by reintroduction along the mainstem LCR, the Bill Williams River population would be the most likely source. Habitat characteristics will also be gathered in conjunction with surveys where presence of either species is confirmed.

Previous Activities: In FY11, 139 locations were surveyed; only six Colorado River toads were found at Planet Ranch. No lowland leopard frogs were found in the first year, but lowland leopard frogs and Colorado River toads were found on the Bill Williams River, east of Planet Ranch in the second year of the study.

FY13 Accomplishments: The third year of the project was completed. Surveys were conducted in reaches 3-7 of the mainstem LCR as well as the Bill Williams River NWR and land managed by the BLM on the Bill Williams River just east of Planet Ranch. Over the course of the three year project 2,560 funnel traps were deployed and 432 visual encounter and manual call surveys were conducted at 260 sites. In addition to these surveys 100 water samples (70 from the Bill Williams River and 30 from the mainstem LCR) were collected to be analyzed using eDNA, a technique that can be used to detect an aquatic species DNA in the water column. These samples are still being processed, but the results will be included in the final report.

In 2013, no Colorado River toads were detected, but the same robust population of lowland leopard frogs just east of Planet Ranch were monitored again. Additionally, two individual LLFR were found within the Bill Williams NWR. One was found near the eastern border of the refuge and the other was found just downstream of Mineral Wash. A habitat analysis was conducted for both species, though sample size was too small for Colorado River toads to develop any habitat models. Habitat models for lowland leopard frogs found that they prefer shallow water areas that are mostly open with low vegetation cover. Also important was a lack of non-native predators. The mainstem LCR has very few areas similar to the areas where lowland leopard frogs were found, especially with the abundance of non-native predators (fish, bullfrogs, and crayfish) found on the LCR. CRTO were mainly found in sandy areas of sparse vegetation as far as 350 meters from water though a few toads were found within a few meters from water. Neither species of amphibian were detected on the mainstem LCR for the third year in a row.

Also it should be noted that Mexican garter snakes (a candidate for federal listing) were found in the same area of the Bill Williams River where lowland leopard frogs were found. They preferentially prey on amphibians, including the lowland leopard frog.

FY13 obligations were less than approved because funds were obligated in advance in FY12.

FY14 Activities: Data from the previous three years, along with additional monitoring data from C62, will be used to evaluate how best to monitor Colorado River toads and lowland leopard frogs over the long term. Methods to be tested include visual encounter surveys, tape playback surveys, remote listening stations (frogloggers), funnel traps, and eDNA sampling. All methods will be utilized and evaluated the first 2 years. A cost based analysis will be done to determine what the best methods are at the lowest cost that can be used long term. Those methods will be used in the third year to develop a monitoring protocol.

Proposed FY15 Activities: The second year of the new project to evaluate survey methods for long term monitoring will be conducted.

Pertinent Reports: Annual reports for FY11 and FY12 are posted on the website. The FY13 report will be posted once finalized.