2022 Translocation of Relict Leopard Frog Tadpoles from the Existing Refugium Ponds to the Cienega at the Springs Preserve

by

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Introduction: At least eight relict leopard frog (*Rana onca*) egg masses were recorded in the Springs Preserve refugium ponds in spring 2022. Beginning in 2021, tadpoles were translocated from the 0.02 ha (0.05 acres) refugium ponds to the much larger 0.81 ha (2 acres) Cienega in the Meadows Detention Basin at the Springs Preserve.

Objective: The objectives of the relict leopard frog translocation program at the Springs Preserve are to:

(1) To reduce the density of relict leopard frog tadpoles in the original refugium ponds.
(2) To establish an additional refugium population in the Cienega wetland.

Methods: On both July 20 and 27, 2022, 11 minnow traps were set in the upstream (**below right**) and downstream (**below left**) refugia ponds, for a total of 22 traps/day.

Traps were baited and set from approximately 07:15 and checked from approximately 10:10 on both days. Traps were baited with a mixture of fresh Fromm's Game Bird cat food and Farmina Lamb & Blueberry dog food.

The captured tadpoles were held temporarily in several clean 5-gl buckets. Water was changed as needed with pond water. On July 20, all of the relict leopard frog tadpoles from the downstream pond were measured with custom PVC trough measuring devices in order to produce a tadpole size-frequency histogram. Total tadpole length was recorded (± 1 mm).

On both days, tadpoles were randomly selected to represent approximately 10% of the tadpoles trapped in each pond. Tadpoles with anterior limbs were excluded because: (1) their time to acclimate to the Cienega pond, prior to metamorphosis, would be limited; and (2) they may have been lab-reared tadpoles provided by UNLV colleagues earlier in the spring to increase genetic diversity in the original refugium population.

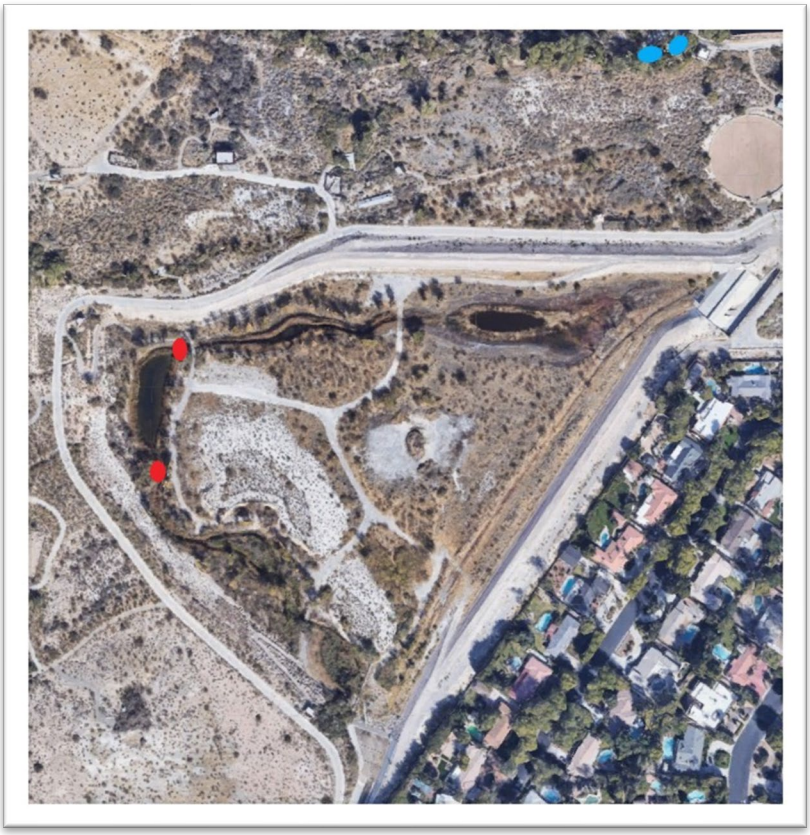
Tadpoles were translocated to the Cienega in a 30-quart insulated Engel live bait cooler, with a Marine Metal Quiet Bubbles™ external battery-powered water-resistant aerator. Tadpoles were once again transferred to 5-gl buckets to facilitate their release. The Cienega pond was chosen as the release site because: (1) it is relatively large and deep and thus unlikely to dry up; and (2) it was the location of the only metamorphosed relict leopard frog observed during a nocturnal visual encounter survey (VES) in October 2021.

Translocation: On July 20, 2022, a total of 1,006 relict leopard frog tadpoles were trapped in the two refugium ponds (**Map; blue ovals**). Of these tadpoles, 100 were translocated to the Cienega pond. A week later, on July 27, a total of 1,101 relict leopard frog tadpoles were trapped in the same refugium ponds and 112 were translocated to the Cienega ponds. Thus, a total of 212 tadpoles were translocated to the Cienega in July 2022 (**Table 1**).

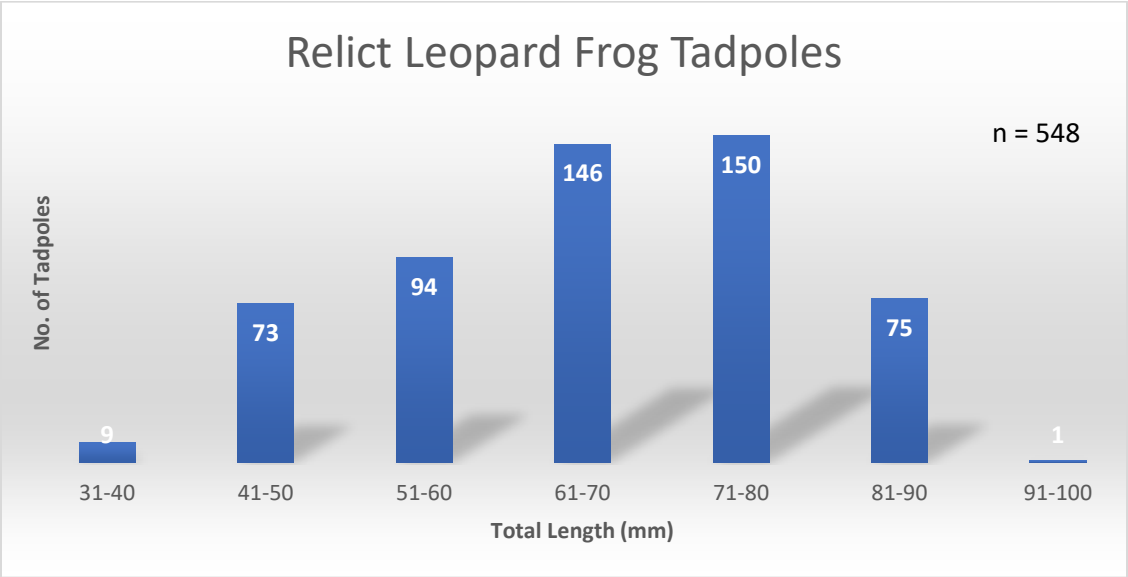
Table 1. Spatio-temporal distribution of 212 relict leopard frog (*Rana onca*) tadpoles translocated from the upstream and downstream refugium ponds to the Cienega pond at the Springs Preserve, Las Vegas, Clark County, Nevada.

	Upstream Pond	Downstream Pond	Total Translocated
20 July 2022	46	54	100
27 July 2022	54	58	112

The tadpoles selected for translocation were split randomly into two groups, with half of each group being released upstream and the remaining half downstream of the large Cienega pond (**Map; red ovals**).



Morphometrics: On July 20, 2022, the total lengths of 548 relict leopard frog tadpoles trapped in the downstream refugium pond were documented **(below)**.



Translocation Participants: The tadpole translocation was made possible by the following participants: Kellie Berry (USFWS), Kevin Guadalupe (NDOW), James Harter (USFWS), Thomas O'Toole (Springs Preserve), Raymond A. Saumure (SNWA), Jean-Axel Urbieta-Aguilar (SNWA), and Audrey Wetjen (NDOW).