

**Agency/Organization: U.S. Geological Survey, NOROCK**

**Project Name: Distribution and Threats to the Arizona Toad in Clark County**

**Project Number: 2023-USGS-2345A**

**Reporting Period: March-April**

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### **QUESTION 1:**

**What did you accomplish during this reporting period? How did these accomplishments help you reach the goal of your project? If relevant, what indicators or benchmarks were used to determine your progress?**

During this reporting period, we completed several project milestones including the project kick-off meeting (M02) and acquiring all remaining collection and research permits (D03). Our seasonal technician was successfully onboarded and trained, and the field crew deployed to begin 2024 field surveys (M03).

As of 02 July 2024, the field crew has visited 117 potential sites. We found adequate aquatic habitat to conduct 72 unique visual encounter surveys at 61 different sites, including 19 nocturnal surveys and 53 diurnal surveys.

We encountered 50 adult Woodhouse's Toads at 9 sites, 0 adult Arizona Toads at 0 sites, and 105 adult Red-spotted toads at 11 sites. We also encountered unidentified toad tadpoles at 22 sites. At the end of the field season, the unidentified toad tadpoles will be examined under a dissecting scope in the laboratory and assigned to a species, if possible.

We have collected 43 buccal swabs at 9 sites, including swabs from 39 Woodhouse's Toads, 3 Arizona Toads, and 1 potential hybrid.

We found adequate water to collect eDNA filters at 46 sites and collected a total of 108 filters. The mean volume of water filtered across all sites was 5.1L.

### **QUESTION 2:**

**What, if any, problems were encountered? Briefly describe those problems and the manner in which they were dealt.**

We didn't encounter any significant problems in this reporting period. Data collection protocols and data management were streamlined after the first week of surveys, and minor alterations to draft data sheets and data entry forms allowed for more efficient surveys and data management. We have encountered toad tadpoles in several size classes and adult toads (Woodhouse's and Red-Spotted) at several sites so far. The target species (Arizona Toad) is reported to breed later in the year than these species, indicating that the timing of our field season is appropriate for the species.

### **QUESTION 3:**

**What, if any, proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.**

All proposed activities for this reporting period have been completed and field surveys will continue through the end of July or early August.

**QUESTION 4:**

**What is the calculated percent of work completed?**

We have visited 61 out of the proposed 100 sites for the 2-year project, or 61%. We hoped to conduct surveys at ~50 sites in year 1 and currently, have exceeded that goal.

**QUESTION 5:**

**Do you foresee any upcoming problems with future project activities? If so, how do you propose to overcome those problems?**

We do not foresee any problems with future project activities. We are coordinating access to several sites that do not fall on public or county land and are scheduling visits to those parcels with land managers. Summer heat continues to be a challenge, but we are adjusting the timing of work hours to mitigate extreme conditions.

**QUESTION 6:**

**Is there anything else you want to tell the DCP about this project?**

- eDNA filter volume are typically high, especially at spring sites (>5L per filter). However, at stagnant or riverine sites with heavy sediment load, filter volumes are lower (< 1L per filter), which likely reduces detection probability.
- Despite heavy rainfall in winter 2024, we are finding many sites that were reported with water in previous years are now dry or have inadequate volumes to sustain amphibians.

**QUESTION 7:**

**What was produced during the reporting period?**

During this reporting period, we have completed/submitted:

- D01 (Work Plan) - Submitted to DCP
- D02 (Data Management Plan) - Submitted to DCP
- D03 (Permits) - Submitted to DCP
- M02 (Project Kick-off Meeting)
- M03 (Begin Field Work) - Began 2024 surveys