Species of special interest (Spea intermontana & Dryophytes arenicolor) were found in MCNCA tributaries where there were previously no historical records. Negative Bd tests in native species suggest the MCNCA amphibians have not been impacted by Bd. However, the presence of a Bd-positive L. catesbeianus individual near Mee Canyon warrants follow-up surveys and close monitoring in future years.

L. catesbeianus were not found far from the Colorado river in tributaries where water availability is scarce and rocky barriers (>4 ft) exist that may prevent migration of L. catesbeianus farther into the canyon.

Potential Threats:

- Little is know about the diversity of amphibians in the McInnis Canyon National Conservation Area (MCNCA) that borders a 24-mile stretch of the Colorado River in Western Colorado.
- Two potential threats exist for these amphibians including the invasive American bullfrog (Lithobates catesbeianus) and the fungal pathogen Batrachochytrium dendrobatidis (Bd).
- Our study primarily aims to document the presence and diversity of native species. In addition, we have documented the presence of L. catesbeianus and Bd throughout the NCA.

Methods:

- Water samples were collected from tributaries and filtered for L. catesbeianus eDNA analysis by USGS.
- Visual encounter surveys (VES) and call surveys were conducted nocturnally.
- All amphibians were swabbed to assess presence of Bd via later DNA extraction & qPCR analysis.

Results:

- L. catesbeianus were found via VES and eDNA assays at the mouth of Mee Canyon and upstream into East Salt Creek in 2019 & 2020. No L. catesbeianus were found in 2021 via VES. 2021 eDNA results are still being processed.
- Bd was detected on one bullfrog at the mouth of Mee canyon in 2019. Bd was also detected on bullfrogs at state parks upstream of MCNCA.

Discussion:

- Species of special interest (Spea intermontana & Dryophytes arenicolor) were found in MCNCA tributaries where there were previously no historical records.
- Negative Bd tests in native species suggests the MCNCA amphibians have not been impacted by Bd. However, the presence of a Bd-positive L. catesbeianus individual near Mee Canyon warrants follow-up surveys and close monitoring in future years.
- L. catesbeianus were not found far from the Colorado river in tributaries where water availability is scarce and rocky barriers (>4 ft) exist that may prevent migration of L. catesbeianus farther into the canyon.

References:


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