Invasive Bullfrogs in Western Colorado: Dietary Profile and Batrachochytrium **Dendrobatidis status of Lithobates Catesbeianus Removed from Local Wetlands**

- catesbeianus.



Methods

- Bullfrogs were collected from Snooks Bottom Open Space and Audubon Nature Preserve in Mesa County, CO by trained volunteers. Each bullfrog was measured (SVL and mass) and swabbed for *Bd*.
- Bd status was determined through DNA extractions & qPCR at Colorado Mesa University.
- Stomach contents were removed and identified for each frog according to taxonomic order. Photos were taken and to catalog the *L. catesbeianus* diet for each location.

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Results

- All individuals tested negative for Bd.
- Only adults were found at Snooks Bottom and mostly juveniles were captured with few adults at Audubon. See Table 1 for descriptive statistics.
- Frogs with empty stomachs (Snooks:12.5%; Audubon: 33.0%) were excluded from diet analysis.
- A Pianka's Niche Overlap Index was calculated for males and females at Snook's Bottom (0.88).
- Shannon's Diversity Index was calculated for Snooks Bottom (0.81) and Audubon (0.78).

Table 1. Mass and SVL (mean ± s.e.) of *L. catesbeianus* captured at Audubon and Snooks Bottom. *Audubon did not have enough males to calculate this statistic (n=1) and no juveniles were found at **Snooks Bottom.**

	Audubon		Snooks Bottom	
-	Mass (g)	SVL (mm)	Mass (g)	SVL (mm)
Female	113.5 ± 4.2	102.0 ± 5.5	118.0 ± 3.14	143.2 ± 11.0
Male	NA*	NA*	123.5 ± 3.8	156.4 ± 12.0
Juvenile	62.5 ± 1.4	20.4 ± 1.4	NA*	NA*

Discussion

- hypothesis in the future.



• While all *L. catesbeianus* were *Bd* negative, individuals in these parks and MCNCA were *Bd* positive in 2019 so we will continue to monitor these populations.

 Age class differences found at each location may be due to recruitment. Snooks Bottom is a single pond whereas Audubon is a series of adjacent wetlands. We will include more wetland locations to examine this

 Diet diversity does not differ between locations with Coleoptera as an important prey group at both locations. Males & Females at Snook's have a considerable overlap in dietary niche.

 Native amphibians were not in stomachs of L. catesbeianus in this study, but it has been documented in MCNCA. In future studies, we will target *L*.

catesbeianus in McInnis Canyon NCA to assess if they are more likely to consume native amphibians due to lack of insect diversity in dry, red-rock canyon habitats.