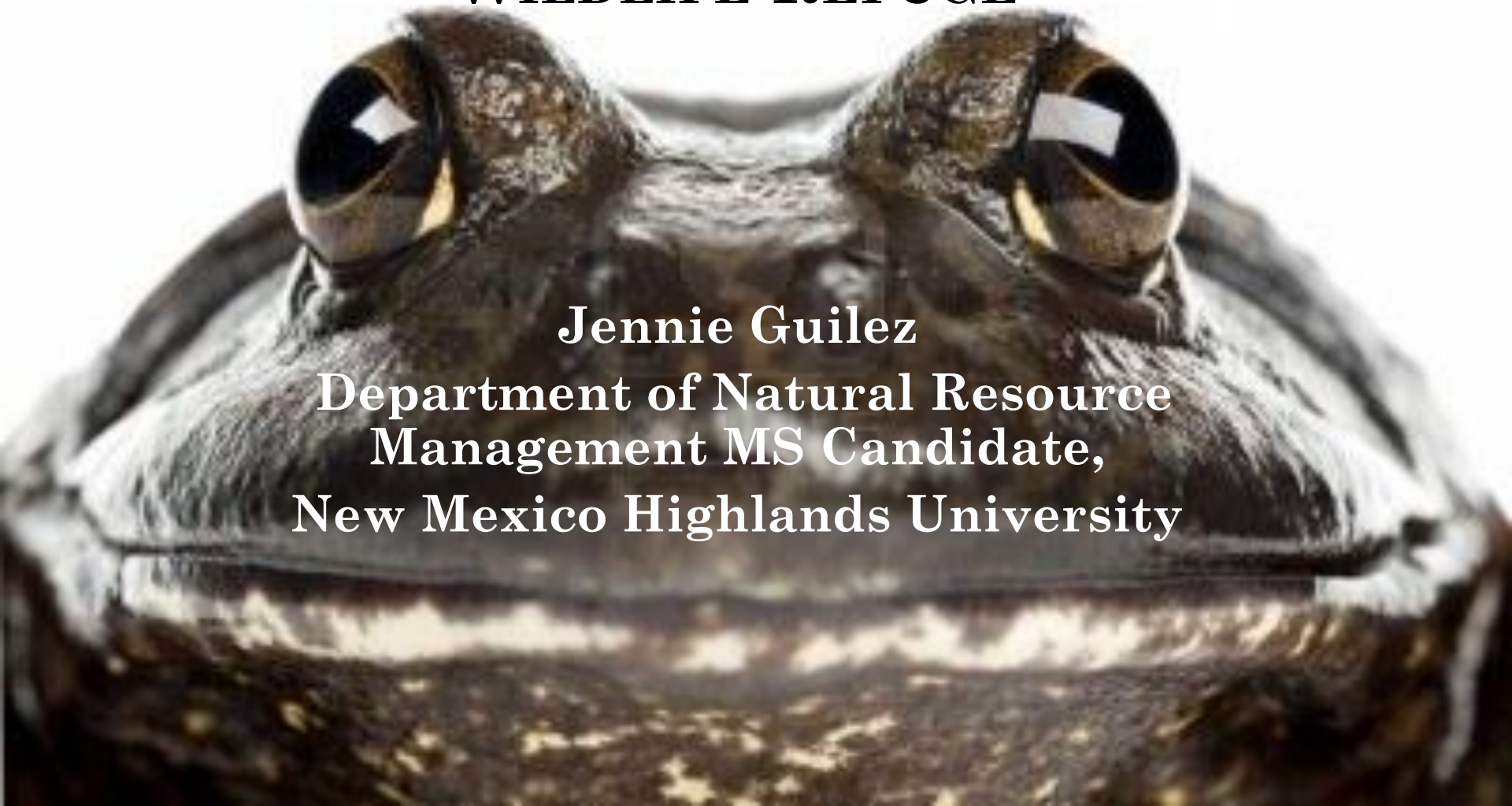
Evaluating the Impact of the Invasive Bullfrog in the aquatic fauna's Trophic Cascade at the Rio Mora National Wildlife Refuge



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Bullfrog Diet in the Mora River

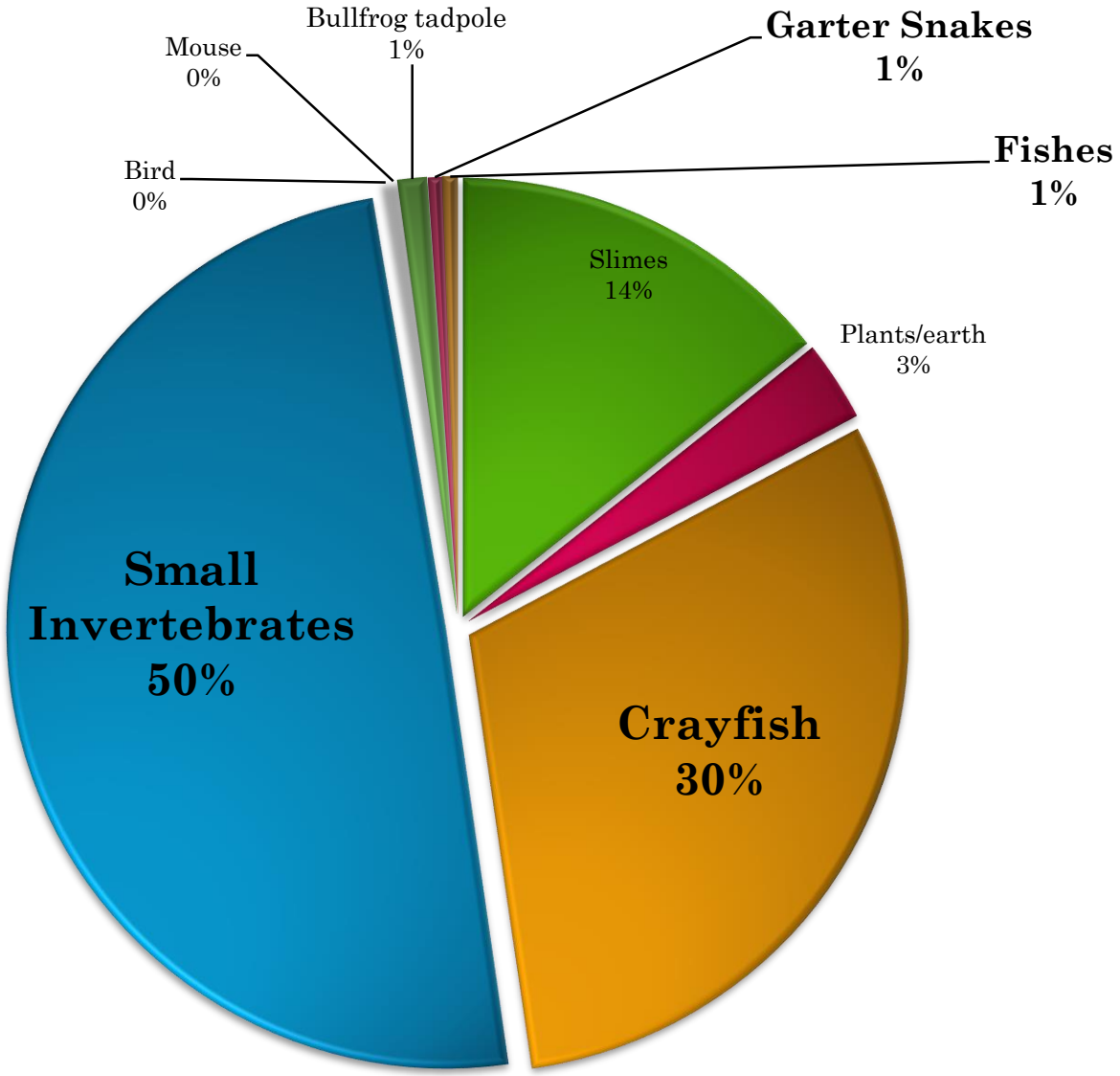
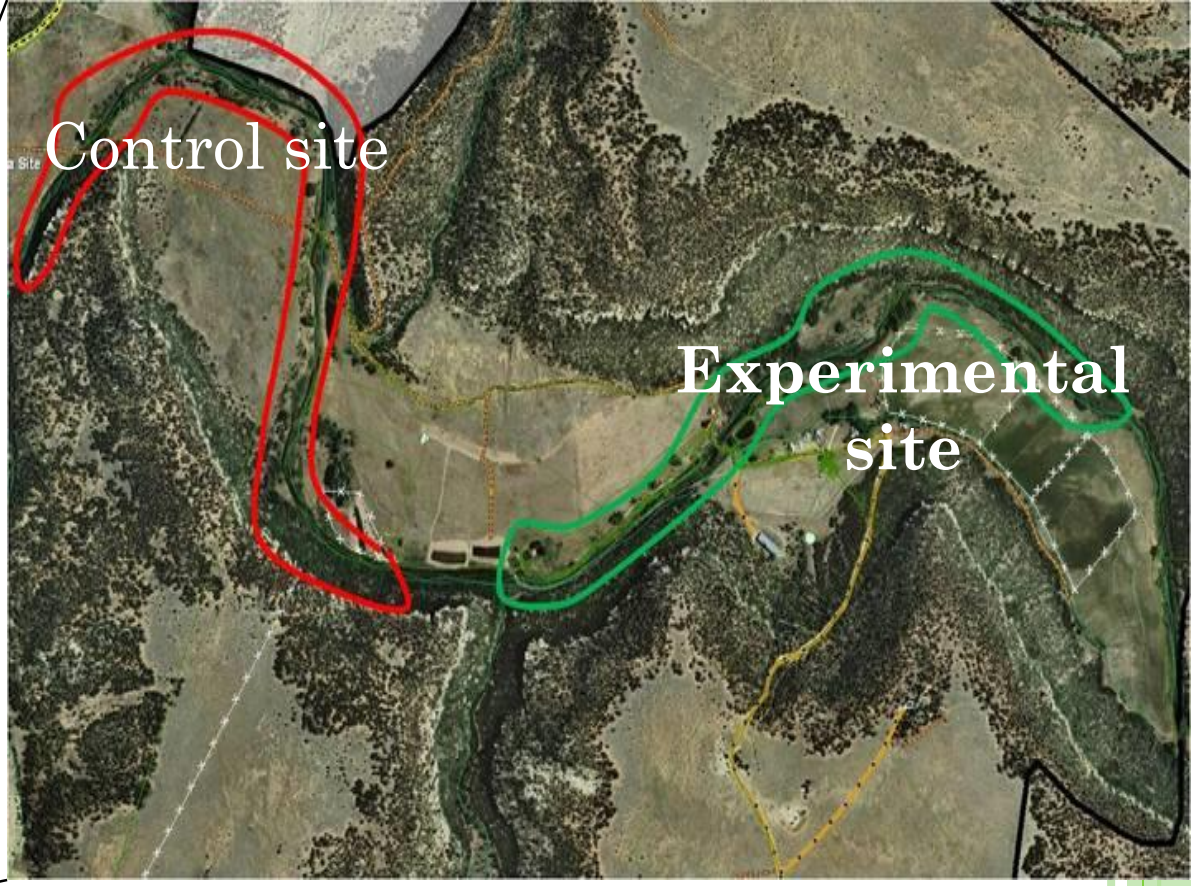


Figure 1. Pie chart of the compiled data collected on the bullfrogs diet at the New Mexico Rio Mora Wildlife Refuge (Steven Salinas, 2012, unpublished. "Bullfrogs Diet of the Mora River")

Study Site

- Figure 2: Aerial view of the Mora River at Rio Mora National Wildlife Refuge.



Objectives

- 1.) Determine relative population abundance of both invasive crayfish and the native fish populations.
- 2.) Determine population dynamics of the invasive crayfish.
- 3.) Determine biomass of species studied with the data collected of population abundance.

Methods

- **Surveys** of **relative population abundance** on crayfish, snakes and fishes includes:

-Timed over distance

- **Animal Processing**

  - for crayfish and snakes this includes:

  - Morphological

    weights, sex and size

  - **Fishes**

    Weights and size

Methods

- Mark and recapture methods for snakes and crayfish
  Opportunistic capture
  Nets and traps
  Crayfish and snakes:

Fishes

Nets

Traps

electro fishing

- **population dynamics** for crayfish, snakes and includes:
  - Morphological

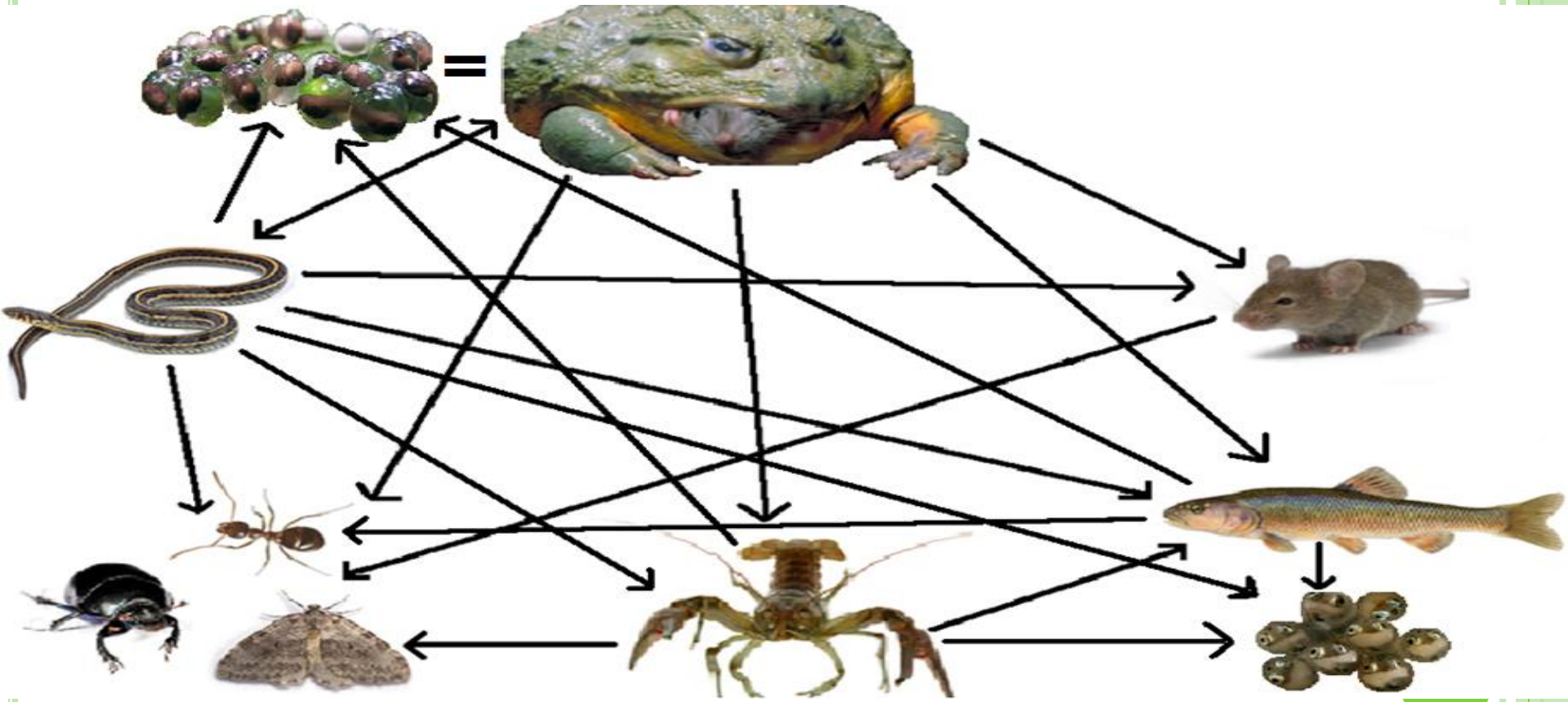
    weights, sex and size
  - **Fishes**

    Weights and size

- **Biomass**

QUESTION?

- How does the removal of the invasive bullfrog (*Lithobates catesbeianus*) impact native and non native specie populations in a riparian habitat of north eastern New Mexico?



Jennie Guilez(graduate student) (2012, Evaluating the Impact of the Invasive Bullfrog in the aquatic fauna's Trophic Cascade at the Rio Mora National Wildlife Refuge) Nov,28,2012 (images compiled and modified from http://www.google.com)

So what?!

- Management of invasive species can lead to millions of dollars spent per year.
- Removal of established invasive species can lead to secondary unforeseen consequences.
- Little is known about cause and effect of removing established invasive species of riparian habitats of NE NM when there are two invasive species involved.

Anticipated outcome

- With this study we will to provide insight of interactions between native and non-native species, by providing information on population dynamics and relative population abundance of the invasive crayfish after the removal of the established invasive bullfrogs.
- We also will provide information on the native fish and snake populations after the removal of the bullfrogs, with anticipation that the invasive crayfish populations will increase in turn, further reducing native population abundance.

Questions?