Mosquito Fish (*Gambusia affinis*) Research In The Wilderness Lakes.

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What we found

- Fish are found throughout the system.
- Reproduction is strongly seasonal (spring & summer) starting around the end of September.
- The early breeding season allows for a potential six broods to occur during the 6 month breeding season.
- Populations underwent a “boom” in summer and a “bust” in winter with up to 85% mortality.
- Mortality probably due to prolonged exposure to low water temperatures slowing metabolic activity and increasing the risk of disease and predation.

- Channel habitats with less water movement and more vegetation, combined with a lack of predatory fish may be acting as a stronghold for the mosquito fish. Within the channels abundance was more consistent with lower winter mortality rates.
- Mature females probably move from the channel areas in spring to repopulate areas with lower densities (Lakes and estuary) increasing population numbers rapidly.

Background

- Mosquito fish are an alien invasive species originally from central America.
- They are probably the most widely distributed freshwater fish globally and were actively introduced to many areas for mosquito control.
- They are known to prey on invertebrates and the eggs, larvae and juveniles of fish and amphibians.
- Because of their aggressive predatory nature within freshwater environments they have been shown to have negative impacts on other fish species, frog populations and invertebrate communities.
- Very little is known about their biology within estuarine environments and nothing is known about their potential impacts within estuaries.

How we did it

- We used scoop nets to sample the edges of the lakes, channels and estuaries during four seasonal sampling events. Each season 68 sites were sampled with 5 scoops, each covering 3m completed per site. A total of 4.08km of water edge sampled!

So What

- Mosquito fish can be classified as fully invasive within the Wilderness Lakes.
- Very few other fish species were caught within the habitat sampled. Indicating they are spatially occupying a vacant niche.
- Eradication is impossible, they are highly tolerant to environmental changes and can repopulate from very low numbers.
- We now need to determine what the impacts of this species are within the system (if any).