

# **INKS LAKE FRESHWATER MUSSEL SURVEY**

January – February 2018

**Stephen Davis**

**Lisa Benton**

***Water Quality Protection***



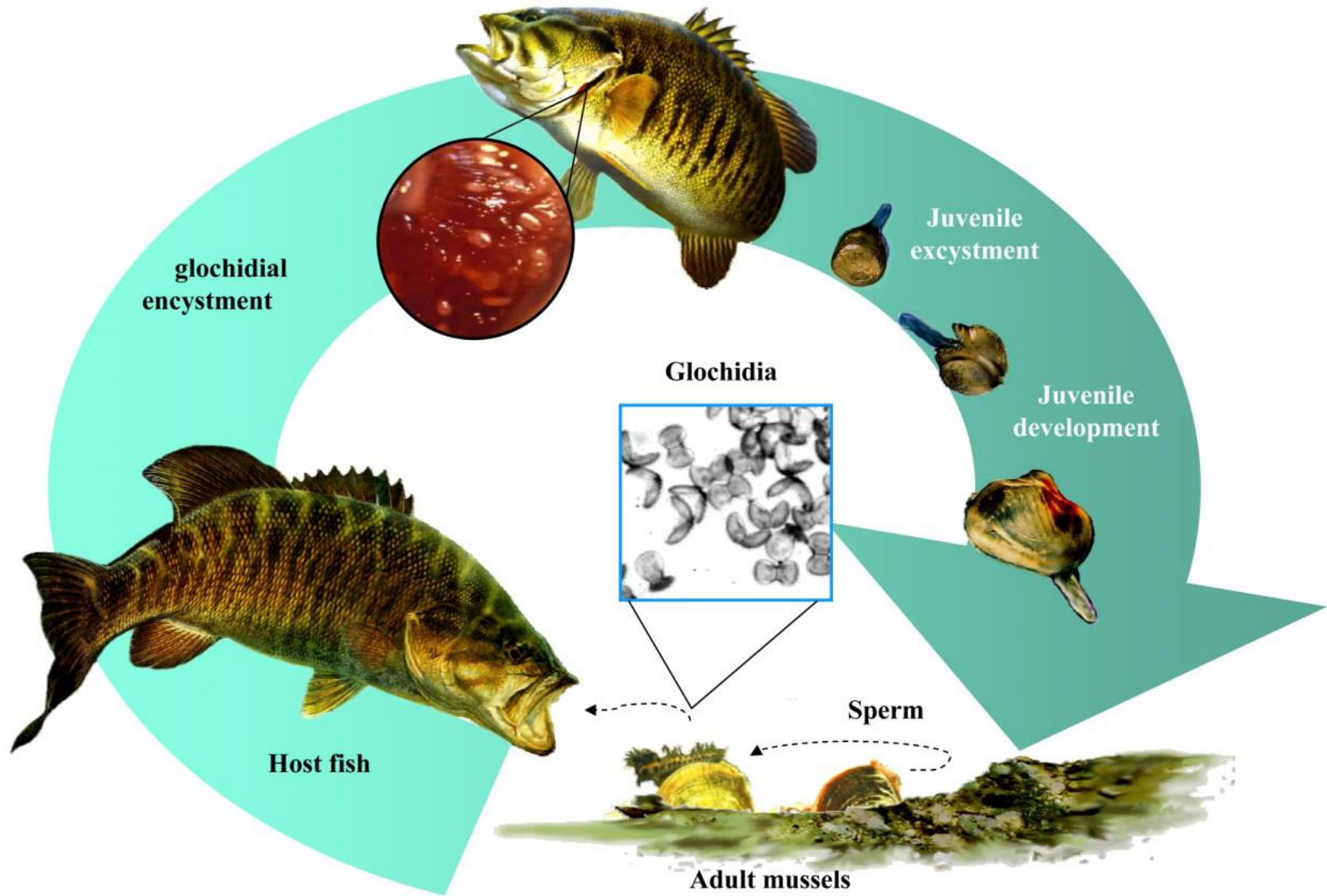
# Freshwater Mussels - Role in the Ecosystem



# Role in the Ecosystem



# Freshwater Mussel Life Cycle



# Life Cycle – Luring Host Fish



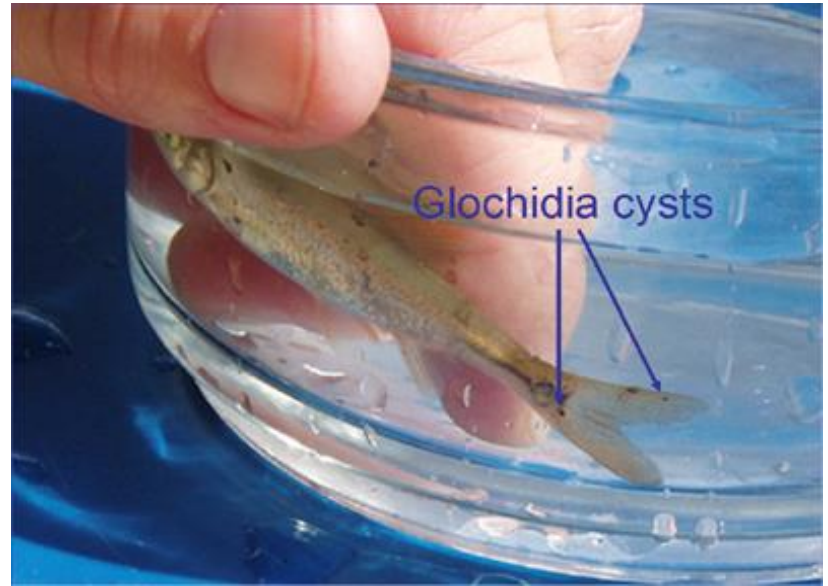
Native mussels have elaborate mechanisms to attract host fish, as demonstrated by the lure of this *Lampsilis* sp.

# Life Cycle – Luring Host Fish

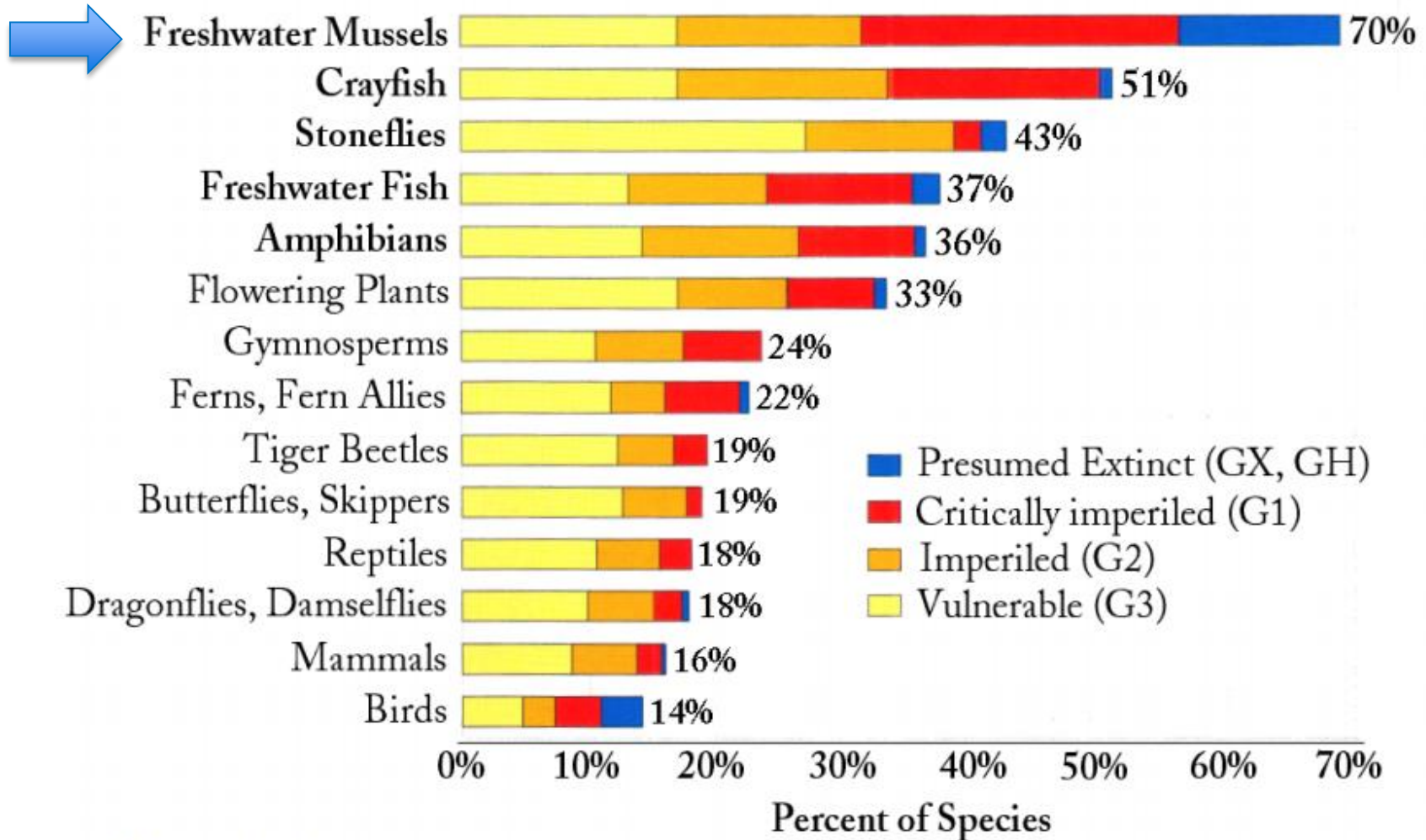


**Texas fatmucket (*Lampsilis bracteata*) at Inks Dam National Fish Hatchery**

# Life Cycle - Glochidia



# Freshwater Mussel Conservation



Stein et al. 2000



# Central Texas Candidate Mussels

*Proposal Decision Expected Fall 2018, Final Listing Fall 2019*



Texas pimpleback  
*Quadrula petrina*



Texas fatmucket  
*Lampsilis bracteata*



False spike  
*Fusconaia mitchelli*



Texas fawnsfoot  
*Truncilla macrodon*

# Candidate Mussel

*Proposal Decision Expected Fall 2020, Final Listing Fall 2021*



Smooth pimpleback  
*Quadrula houstonensis*

# Inks Lake Survey Effort – Thank you to all who helped!



# Inks Lake Location



Google Earth

Image Landsat / Copernicus

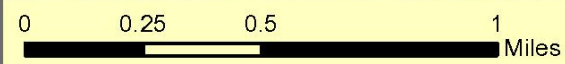
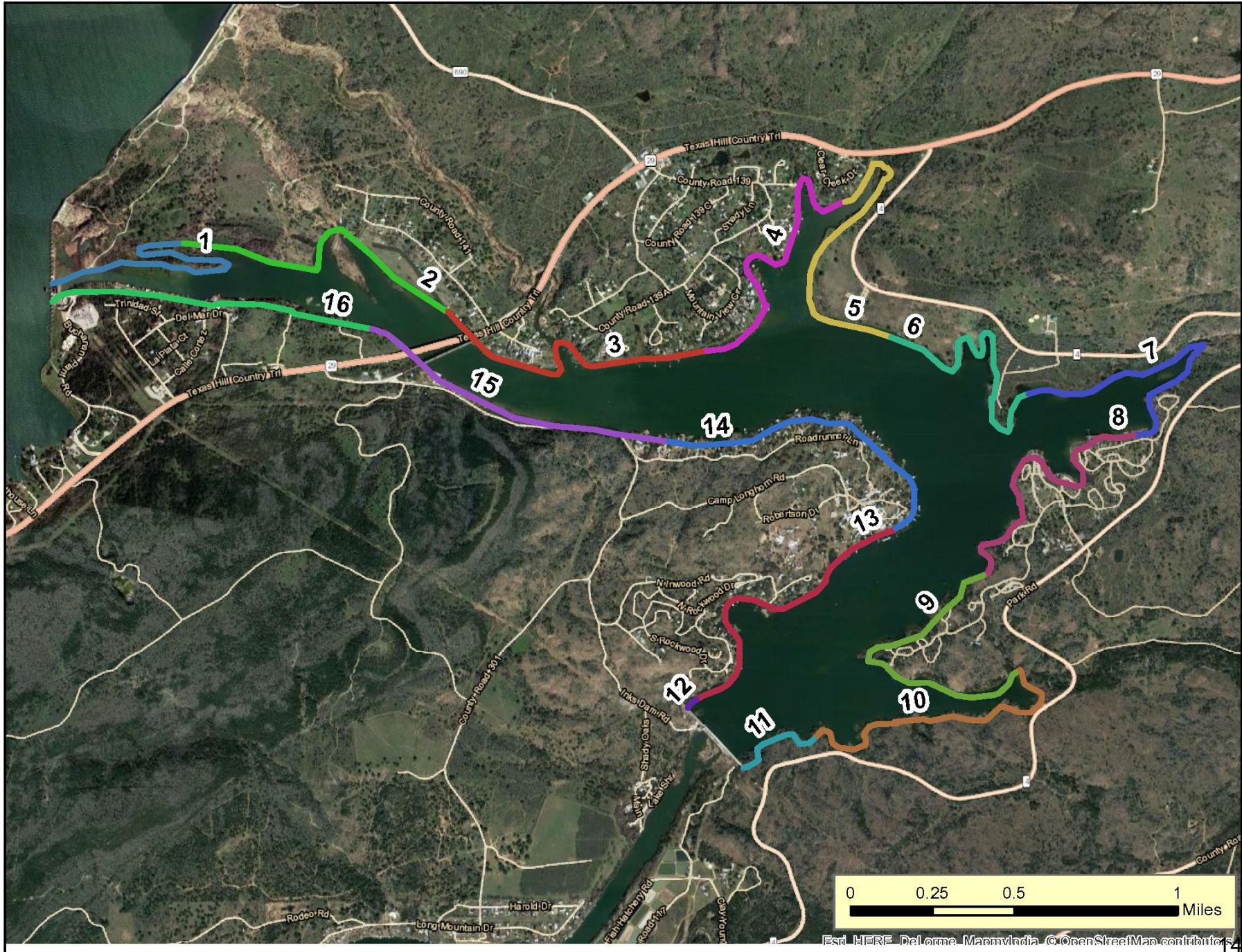
© 2018 Google

20 mi

# Inks Lake Overview

- Built: 1936-1938
- Surface area: 777 acres
- Primary Purpose: Hydroelectric power
- Smallest in Highland Lakes chain
- Occasional drawdowns scheduled





# Summary preliminary numbers

- **1,367** Live mussels collected
- **5, 195** Whole shells collected
- **10,026** Shell halves collected
- **10** different live species
- **14** different species of shells
- **1** live candidate species found (*Q. houstonensis*)
- **~2,000** tears shed (From the cold, leaky waders, heavy mussel bags, general hysteria...)

# *Quadrula houstonensis* (Smooth pimpleback)





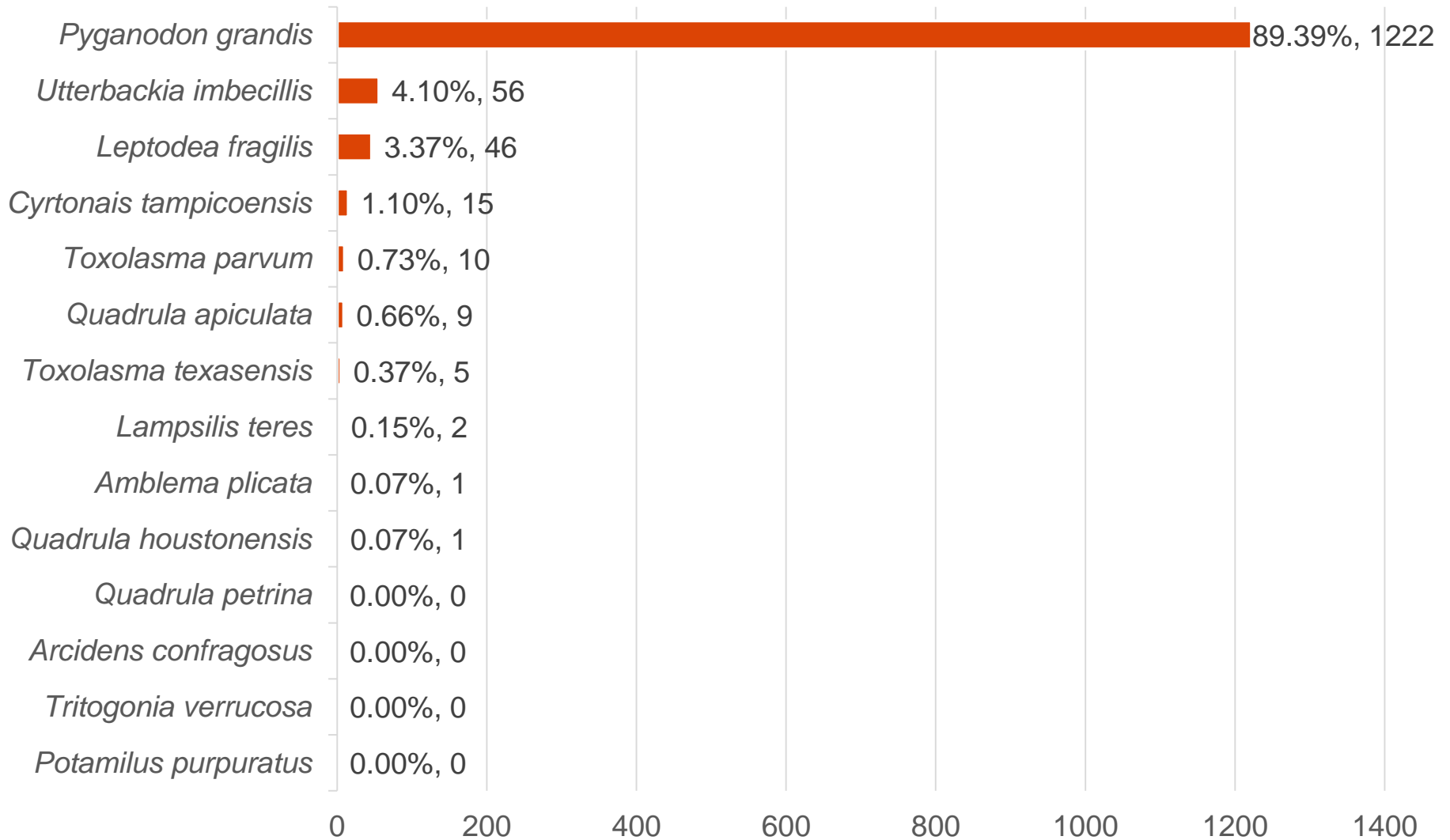
# Inks Lake

Location of identified live Smooth Pimpleback

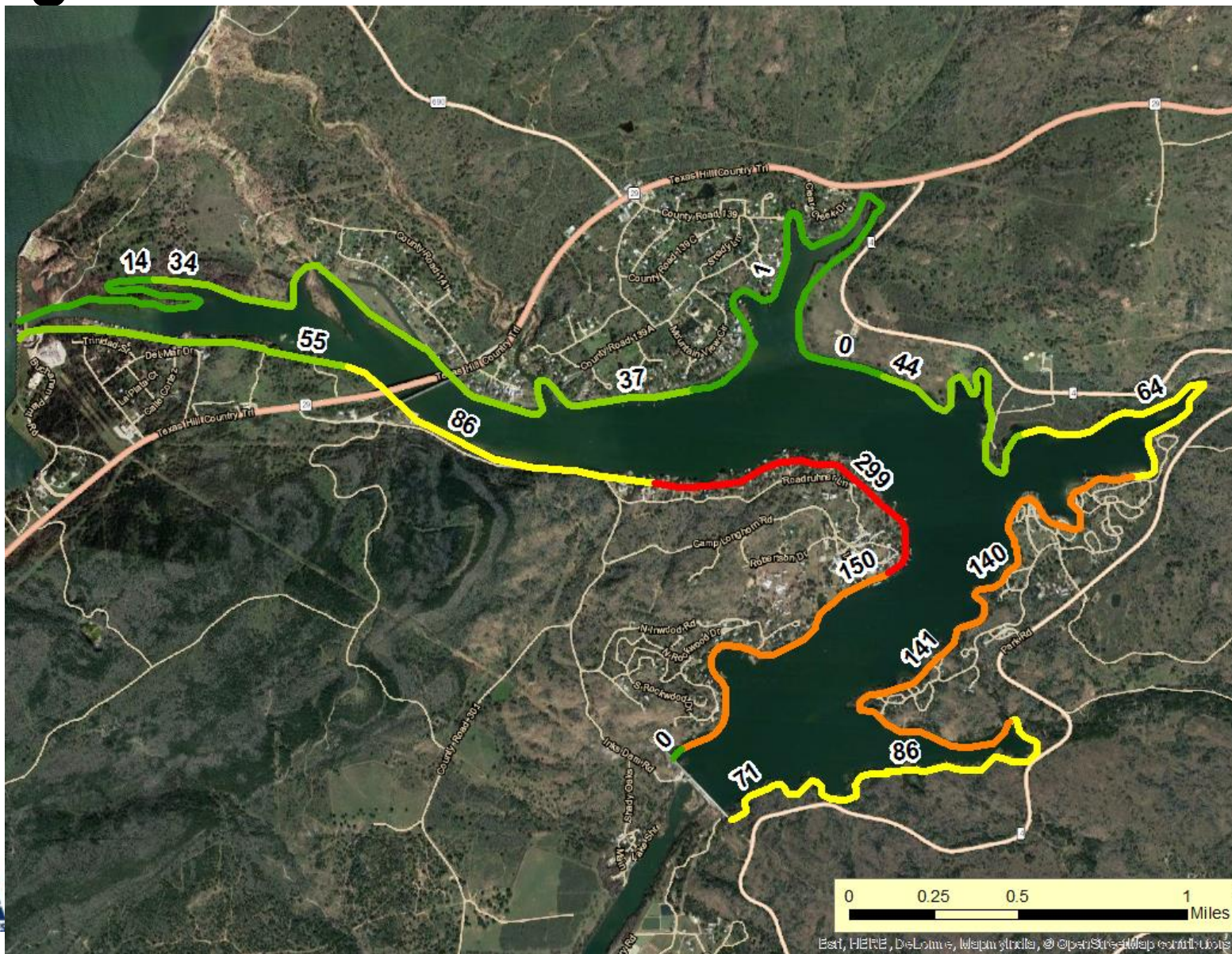
Smooth Pimpleback (1/29/2018)



# Number of Live Mussels

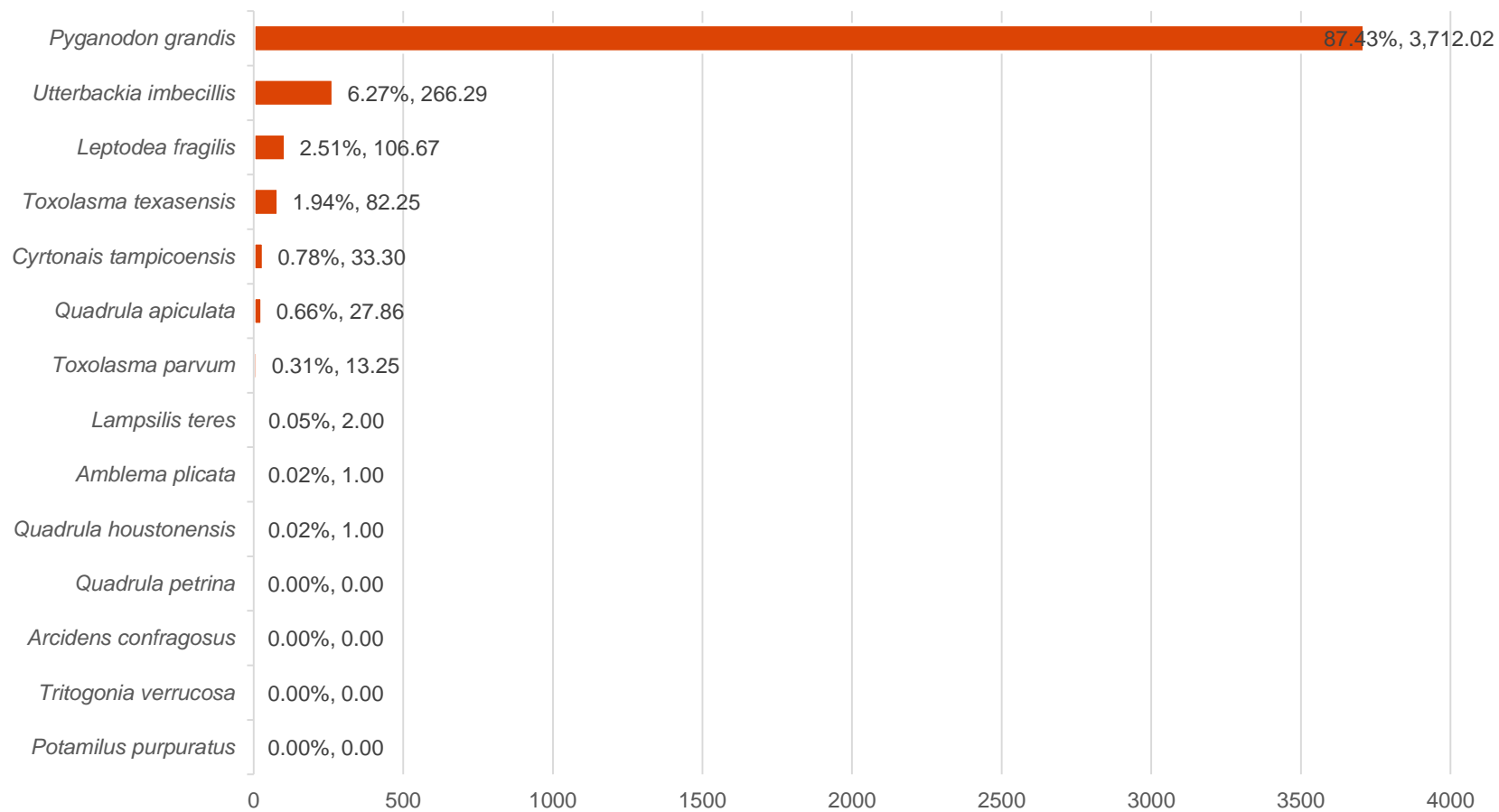


# Live *P. grandis* totals

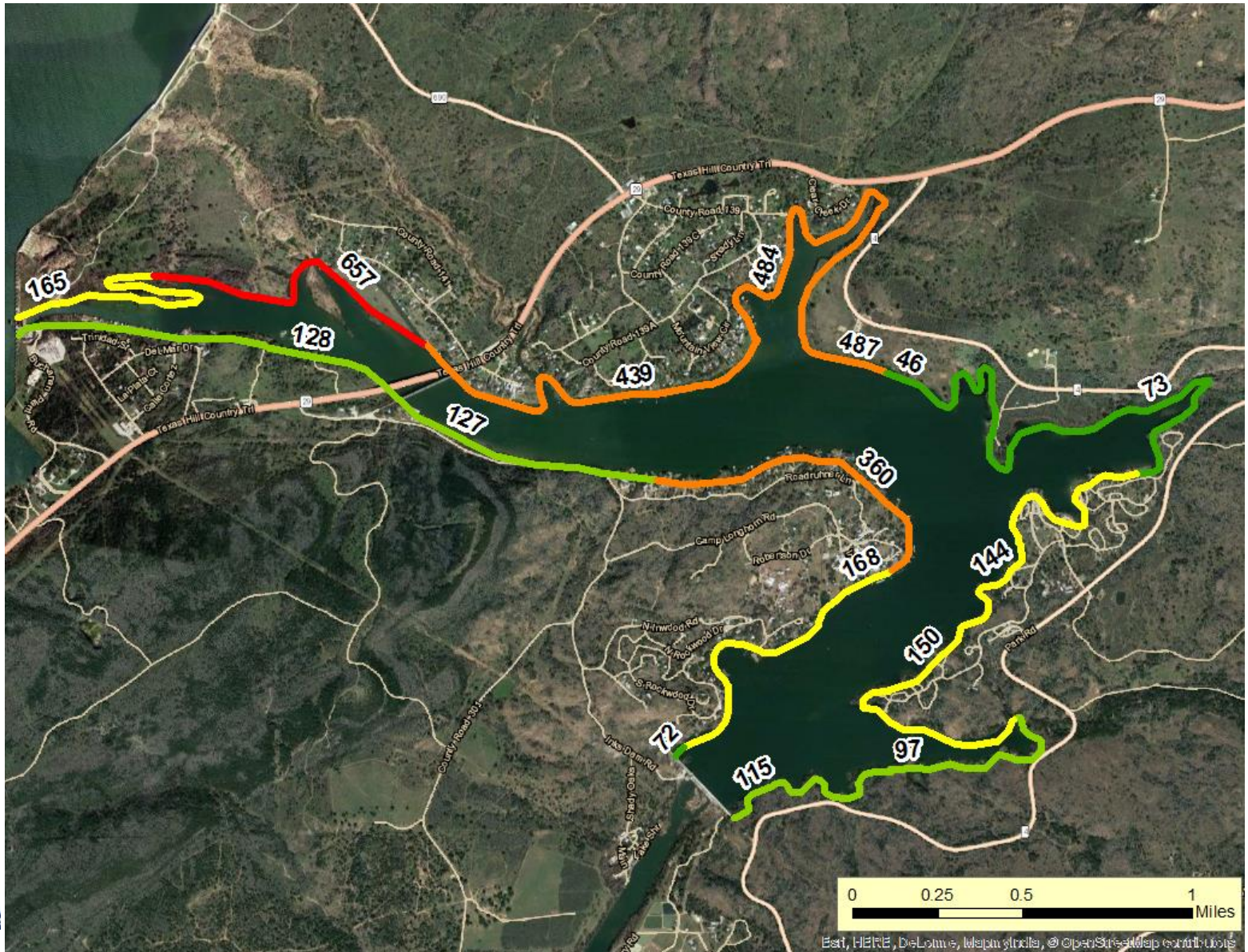




## Estimated Live + Very Recently Dead Total



# Live + VRD *P. grandis* totals



QUESTIONS?

