

Freshwater Mussels: Why the fuss?



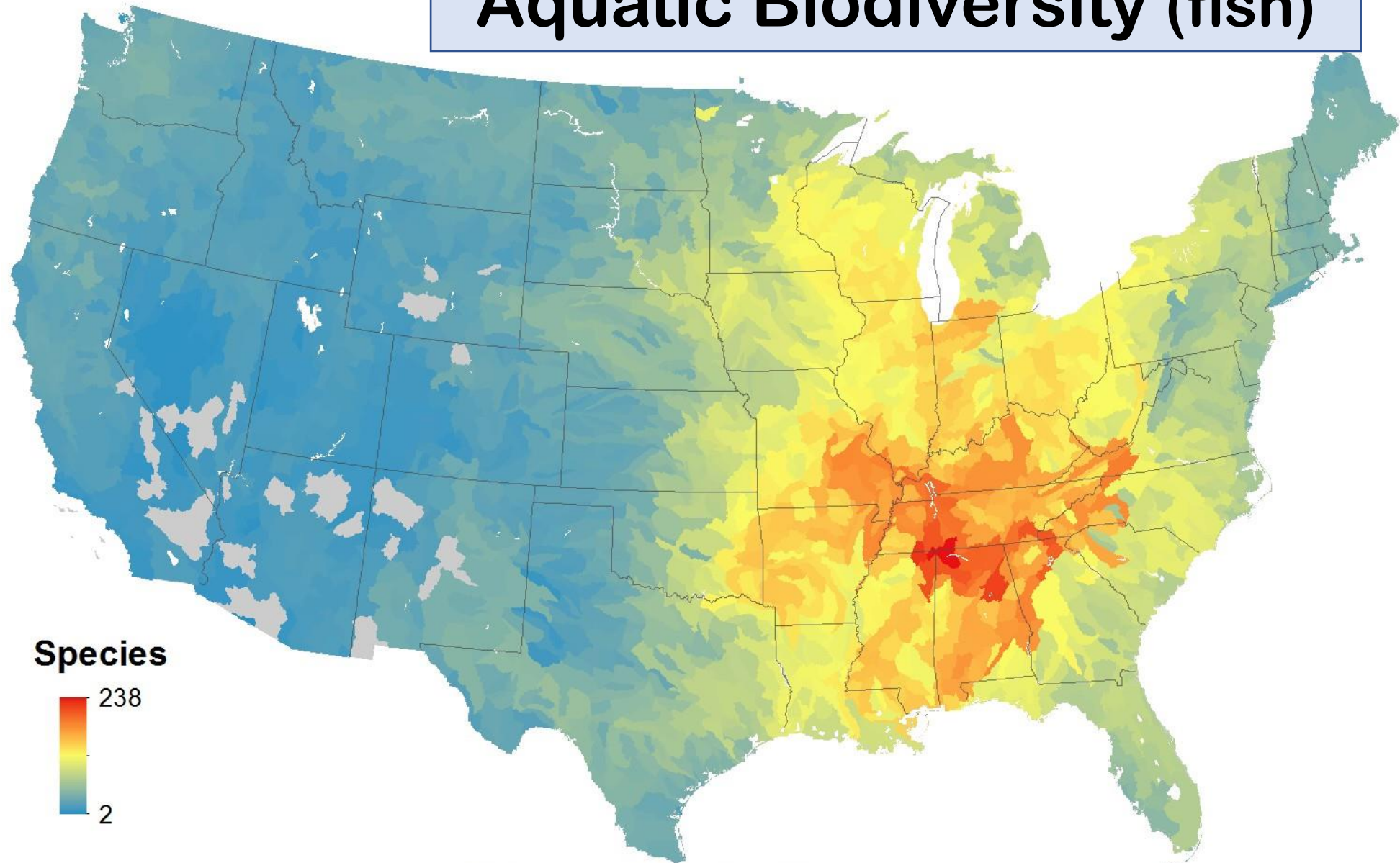
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Aquatic Biodiversity (fish)



Richness of the 863 species with range maps

BiodiversityMapping.org



Mussel Species Diversity

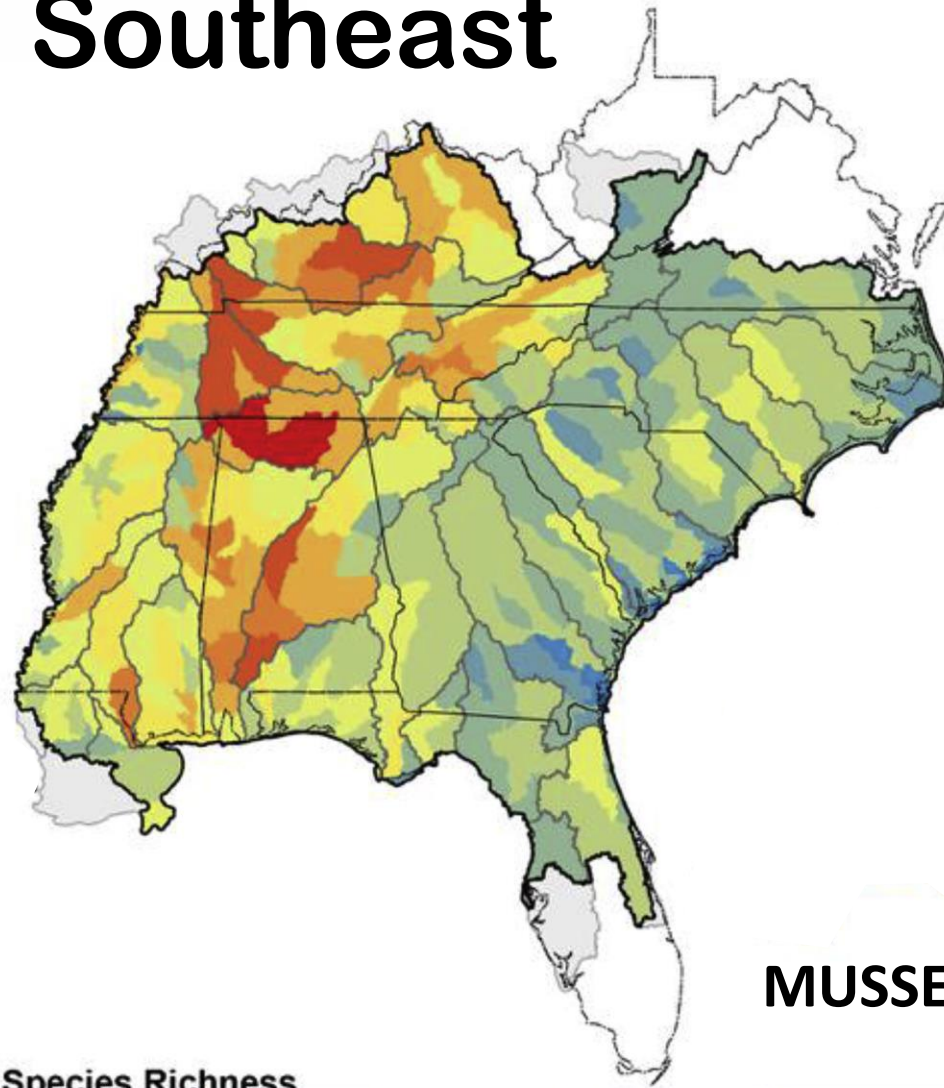


Brachyanodon impura
Unionidae



Aquatic Diversity in the Southeast

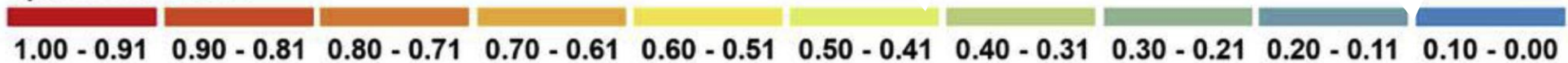
FISH



CRAYFISH

MUSSELS

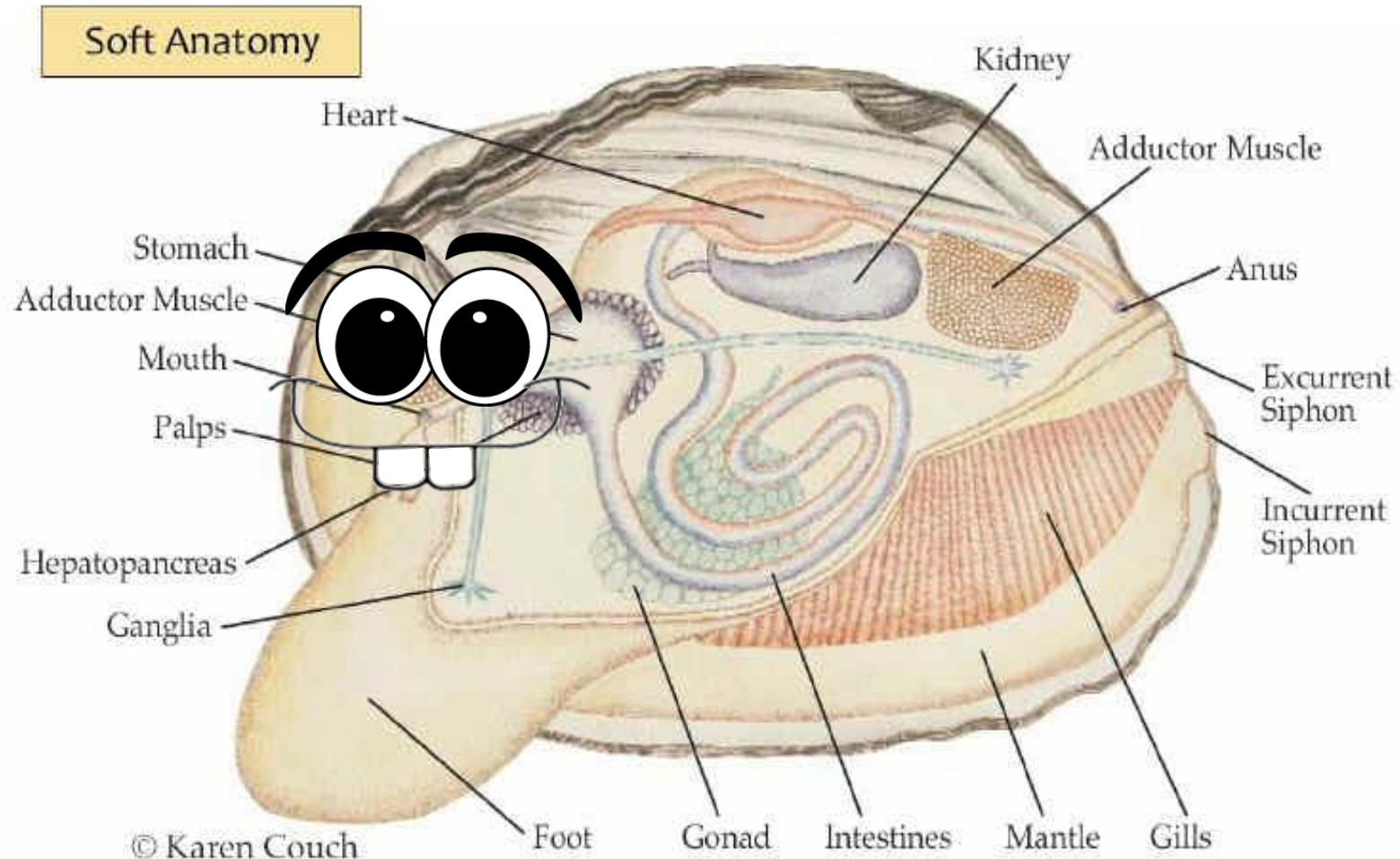
Species Richness







Freshwater Mussel Internal Anatomy



Importance of Mussels

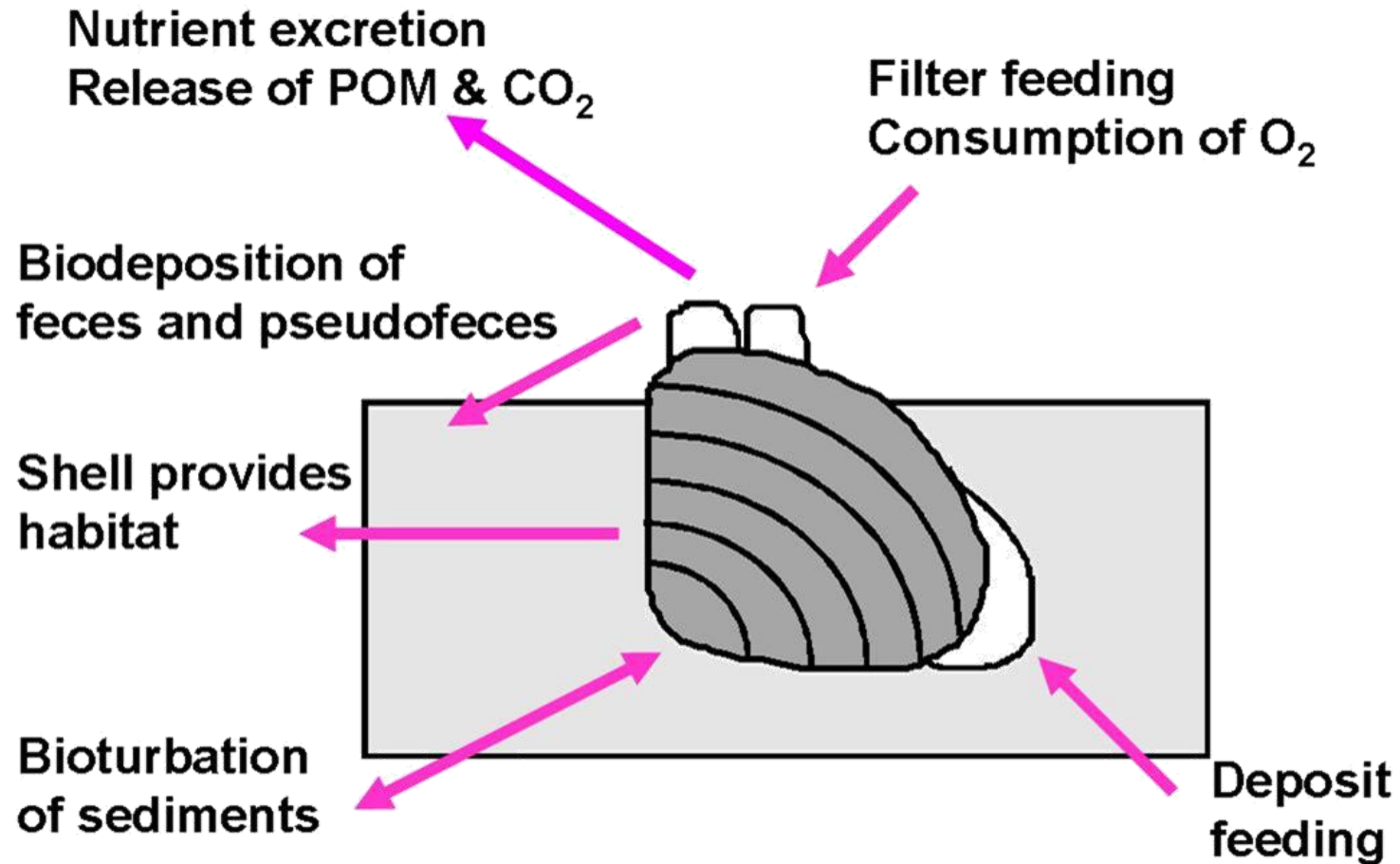
- Natural biological filters
- Biomass exceed all other benthos by an order of magnitude
- Food for fish and wildlife
- Indicators of good water quality
- Effects on density and community structure
- Economic significance
- Part of our Natural Heritage







Functional Role of Freshwater Mussels

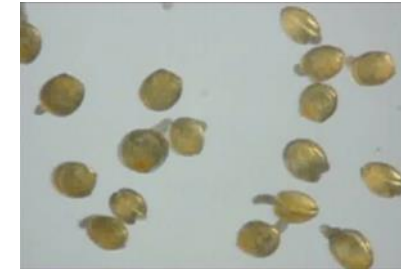
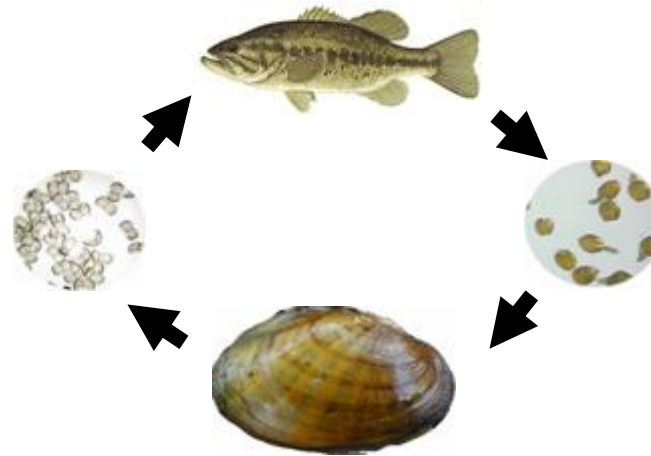
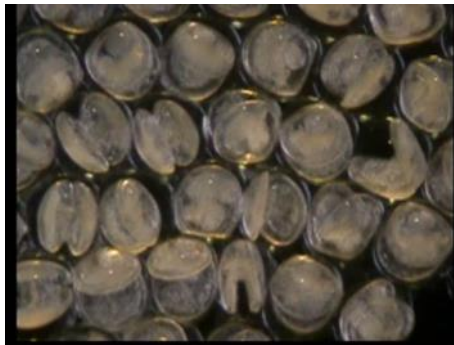
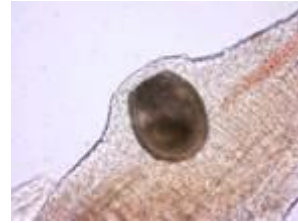


But are they Entertaining?



KUDOS AND GRATITUDE TO ZeFrank and CHRIS BARNHART OF MISSOURI!!

Native Mussel Life History







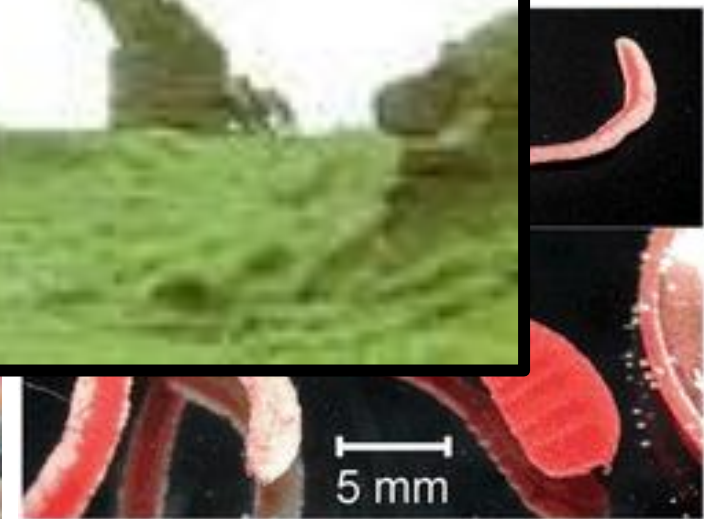
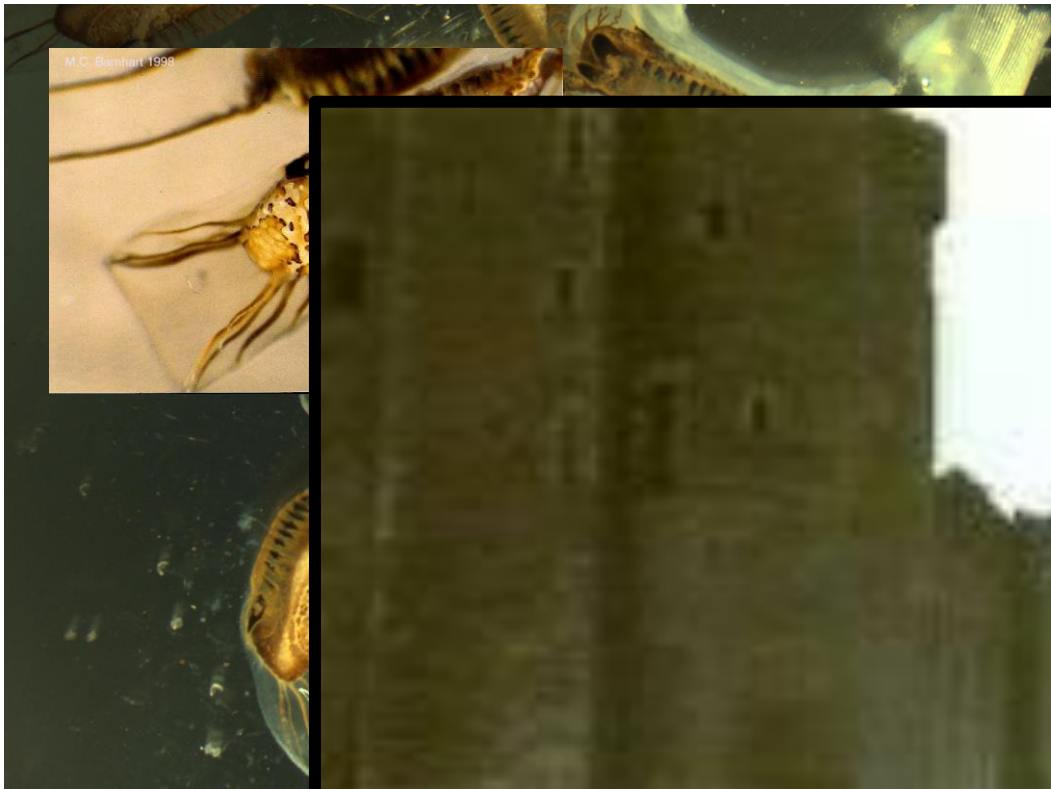




Villosa iris
Sivan Creek, Taney Co., Missouri
Copyright © 1999 Wm. Roston















A photograph of a snuffbox mussel, *Epioblasma triquetra*, resting on a bed of small, smooth, light-colored pebbles. The mussel is positioned in the center of the frame, slightly below the title. It has a yellowish-brown, textured shell with a distinct hinge. The background is a dense field of similar pebbles, creating a natural, aquatic environment.

Host capture by snuffbox mussel

Epioblasma triquetra

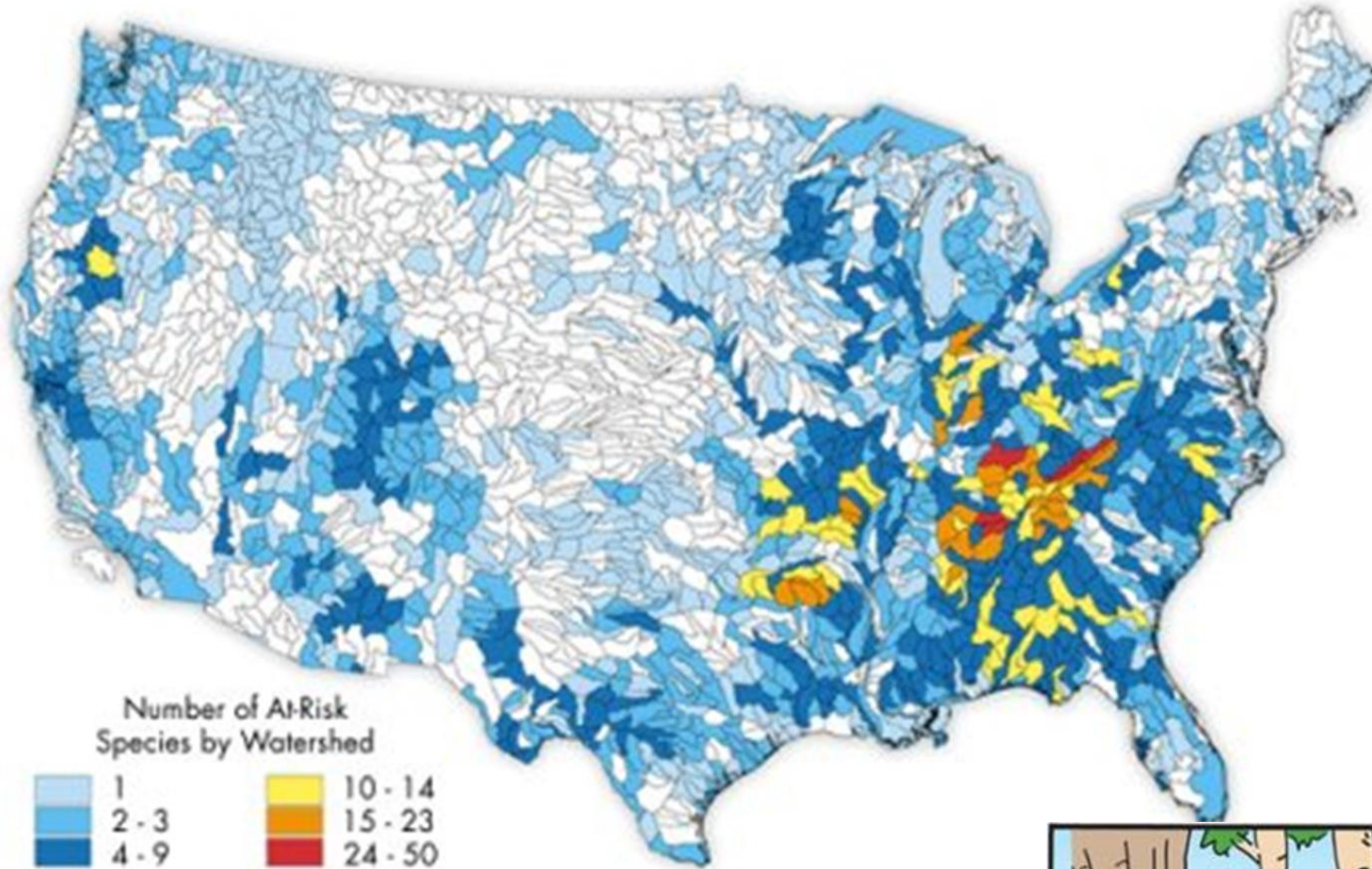
M. C. Barnhart 2005



© M. C. Barnhart 2005



Hot Spots for At-Risk Fish and Mussel Species

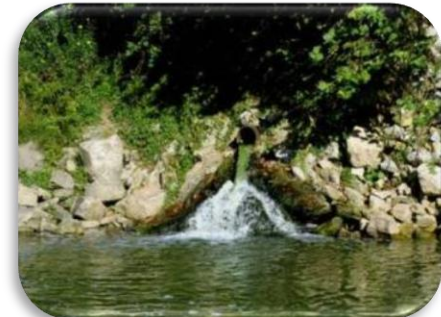


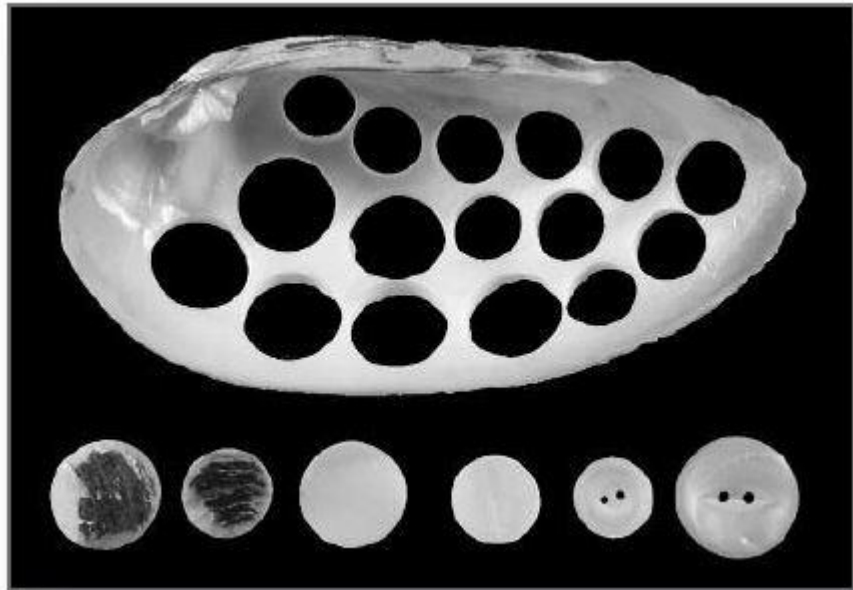
Why Are Aquatic Systems so Endangered?



Threats to Mussels

- Impoundments
- Channel alteration
- Sedimentation
- Poor water quality
- Mining
- Modified Hydrology
- Overharvest
- Invasive species





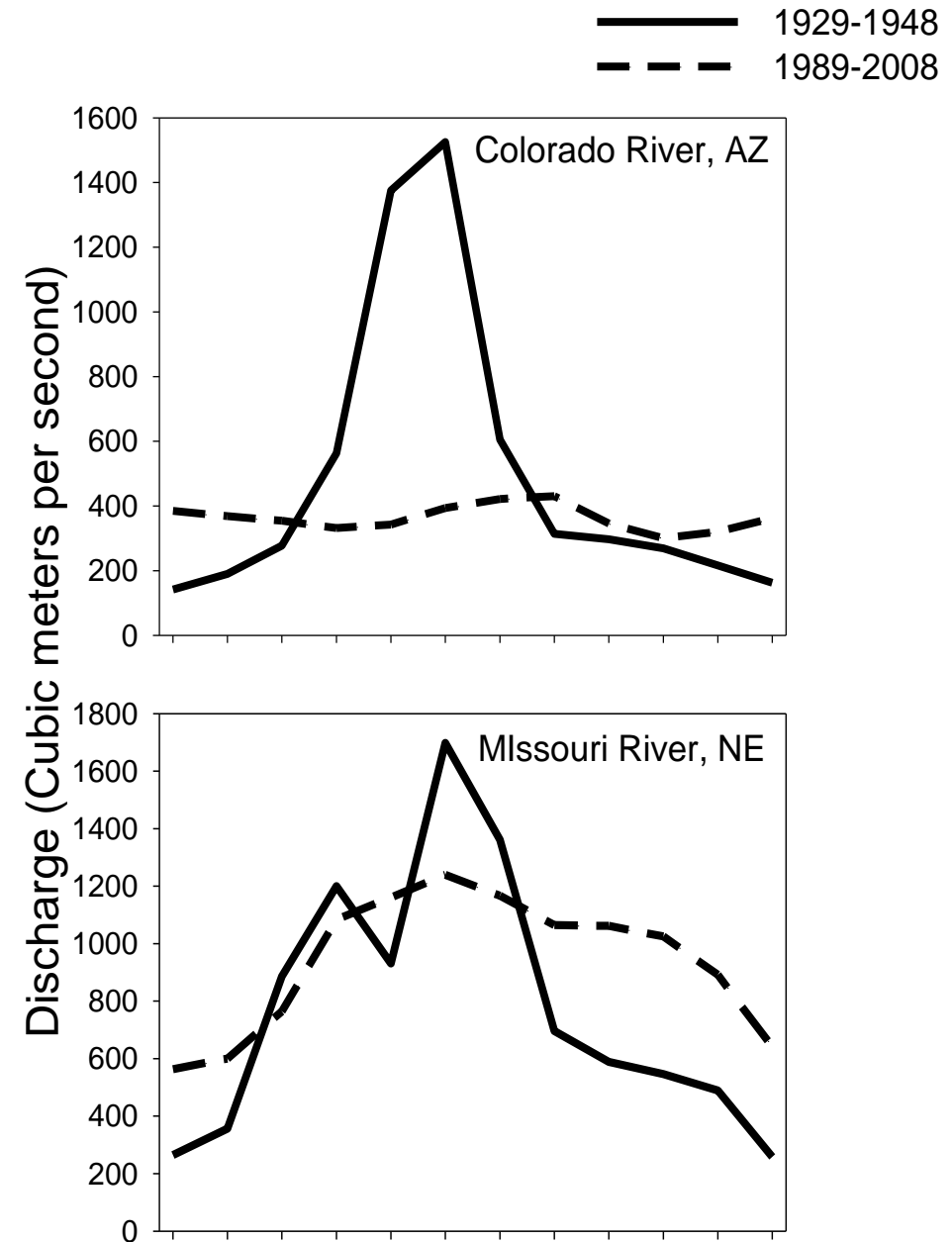
Human modifications



Land Use Change



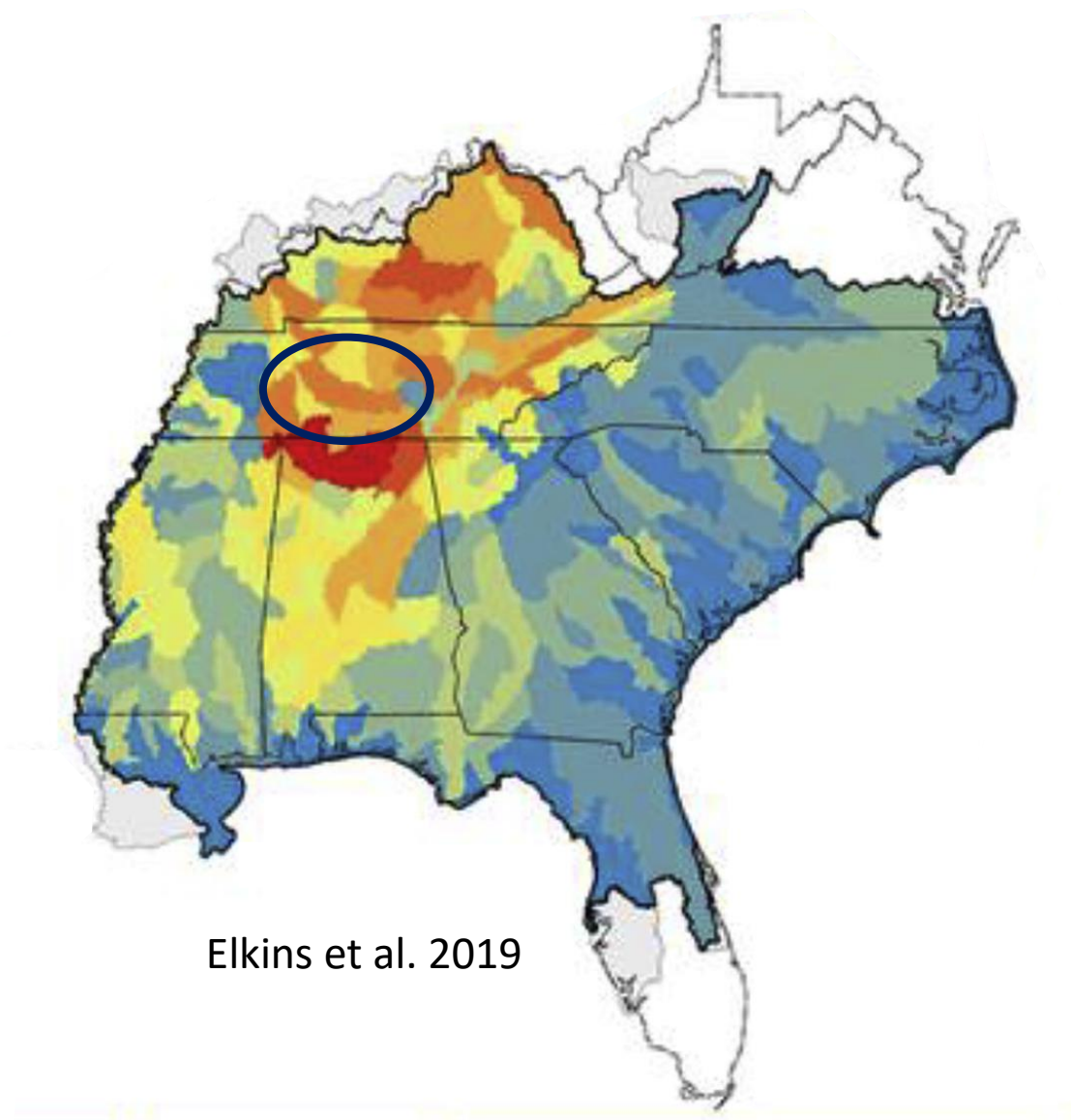
Large Rivers are Severely Altered



Paukert and Galat. 2010. Inland Fish Manage in North America, 3rd edition



Freshwater Mussels



Elkins et al. 2019

Extinct Duck River Freshwater Mussels



Green Blossom

Narrow Catpaw

Forkshell

Turgid Blossom

