

Redear Sunfish

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Introduction

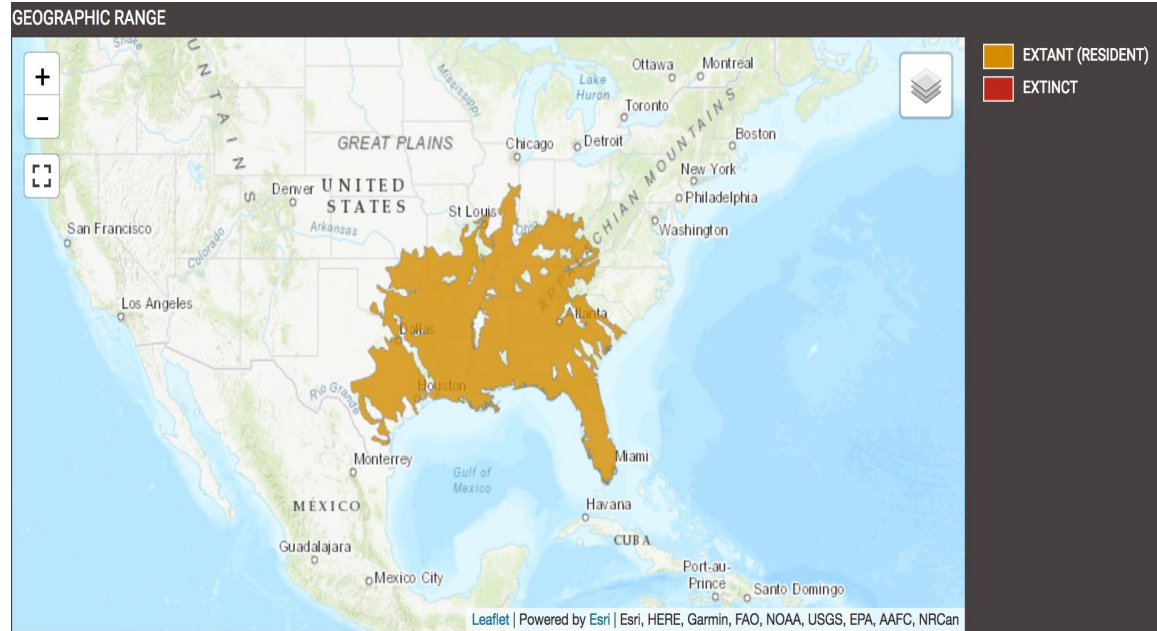
- **Common Name:** Redear Sunfish
- **Scientific Name:** *Lepomis microlophus*
- **Family:** Centrarchidae
(Common Sunfishes)



Introduction

Distribution & Habitat

- Freshwater
- Lakes, ponds, streams, reservoirs
- Prefers habitat with logs, sticks, and vegetation

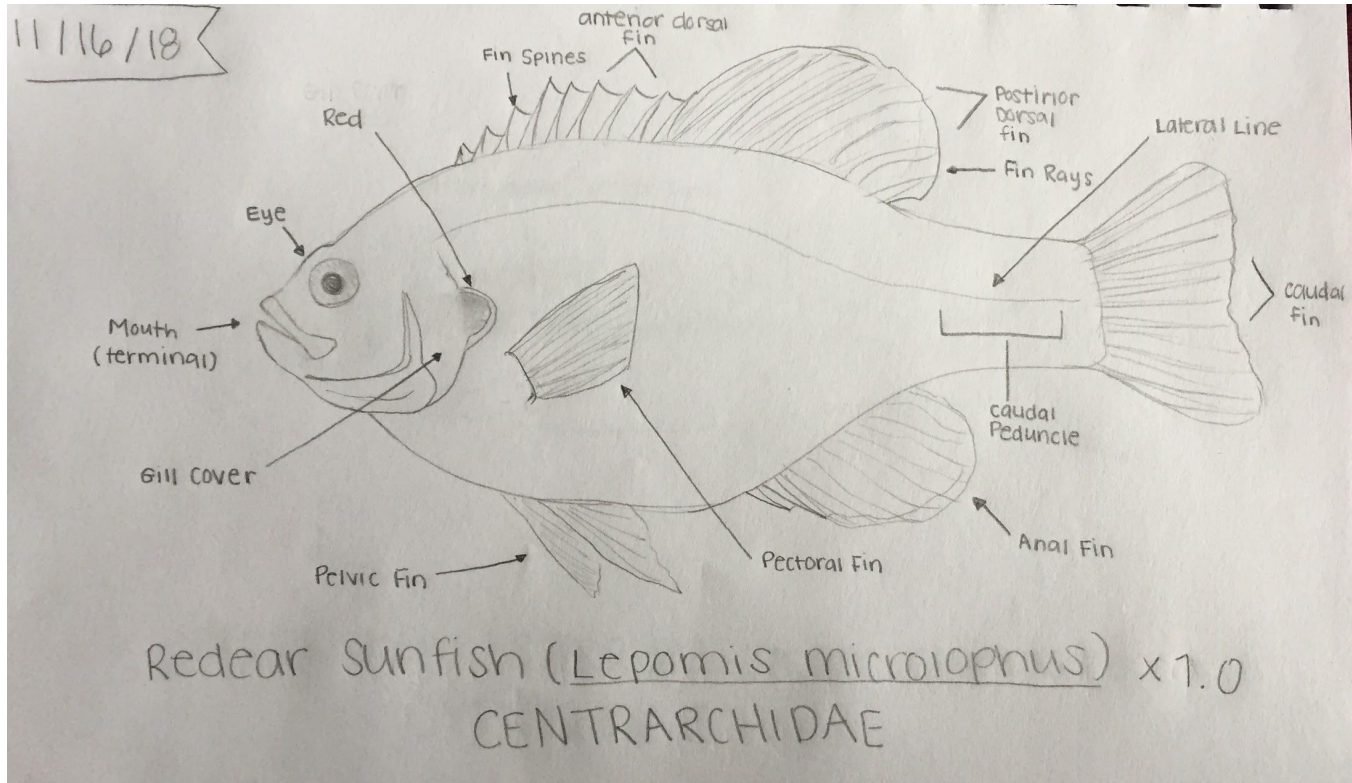


Commercial Uses

- Sport fishing
- Not considered a large trophy fish



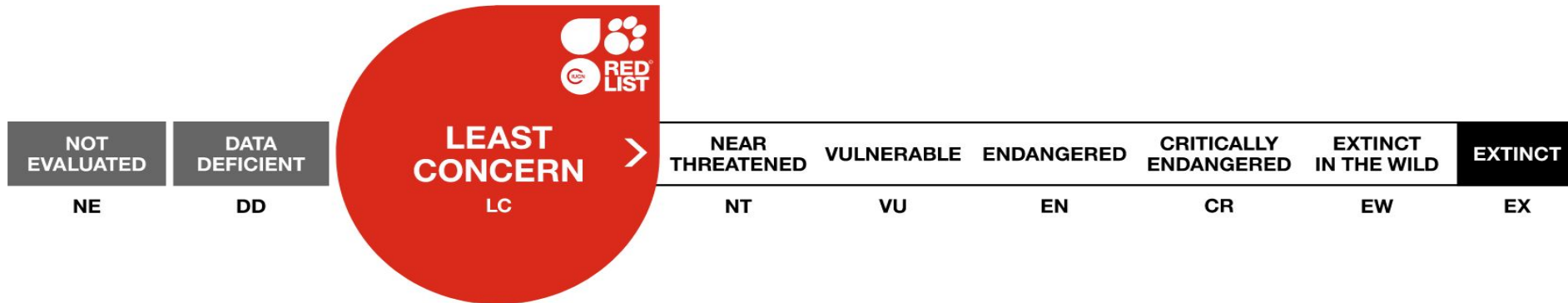
Morphology



Conservation Status

According to the IUCN Red List:

- Populations are stable
- Of least concern
- No conservation measures are required



Importance & Significance

- Decent biological control agent of Zebra mussel (*Dreissena polymorpha*)
- Some redear sunfish diets consist 100% of Zebra mussels (Magoulick and Lewis, 2002)
- Unfortunately, the Zebra mussel reproduces too rapidly to be an effective control agent



Objectives

- 1. Analysis of meristic and morphometric data**
2. Review of Ecology
 - a. Analysis of diet
 - b. Analysis of reproduction
3. Comparison of 3 centrarchidae species

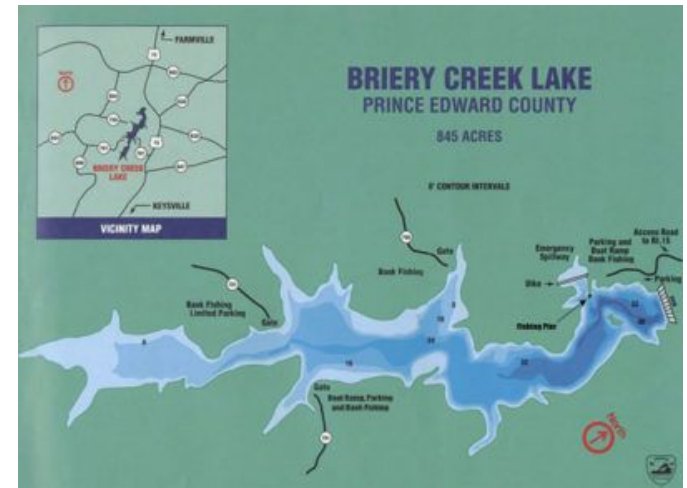
Methodology

Site Description:

- Briery Creek Lake is a 845-acre lake that is owned by the Virginia Department of Game and Inland Fisheries

Collection Method:

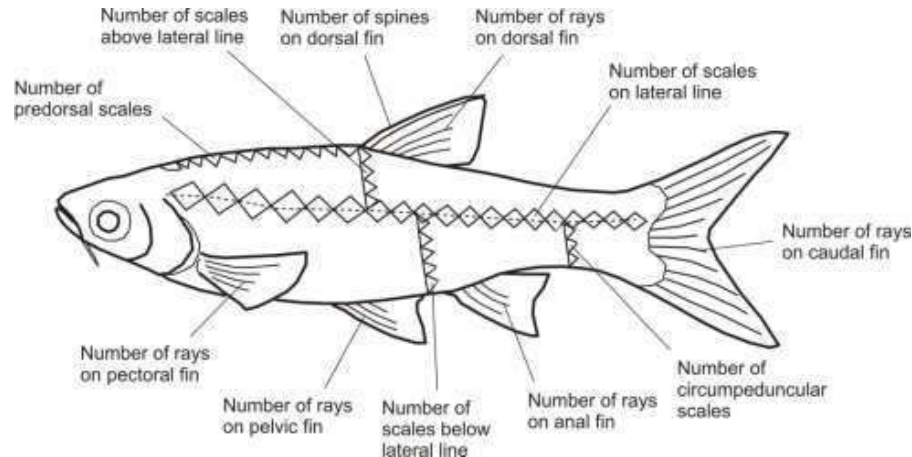
- Fish were collected using electrofishing boats
- Fish were then preserved in 99% Ethanol



Methodology

Meristic Characteristics:

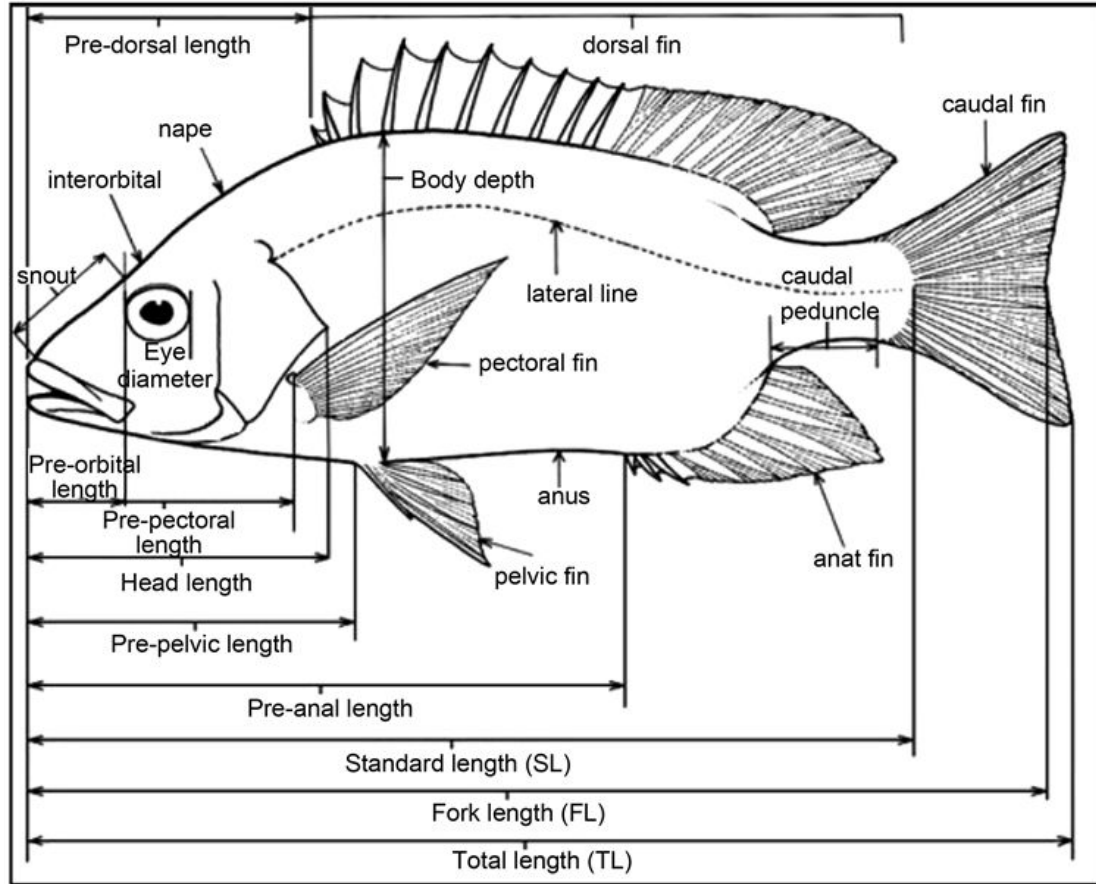
- Fin rays and spines of the dorsal, pectoral, pelvic, caudal, and anal fins were counted
- Predorsal scales and scales along, above and below lateral line were counted



Methodology

Morphological Counts (mm):

- Lengths included: total and standard, pre-dorsal, pre-pelvic, all the fin lengths, greatest body depths and least caudal peduncle depth
- Head measurements included: length, width, pre-orbital length, gape width, orbital diameter, upper jaw length
- Wet weight (g)



Methodology

Data Analysis:

Meristic Data

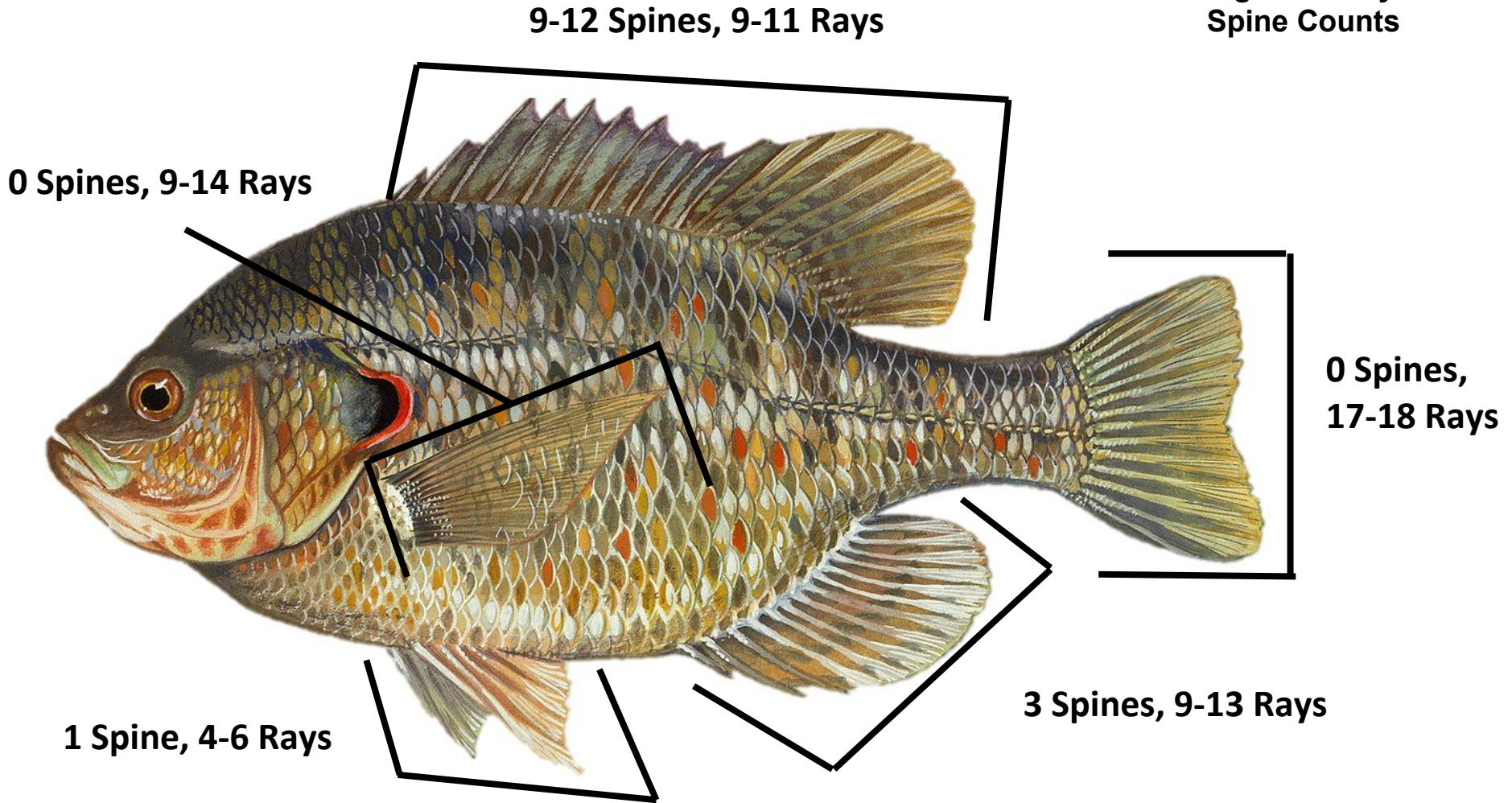
- The fin spines and rays were expressed as a range
- The average scale counts

Morphological Data

- Lengths involving the body were expressed as a ratio to standard length
- Head data was expressed as a ratio to head length



Figure 1. Ray and Spine Counts



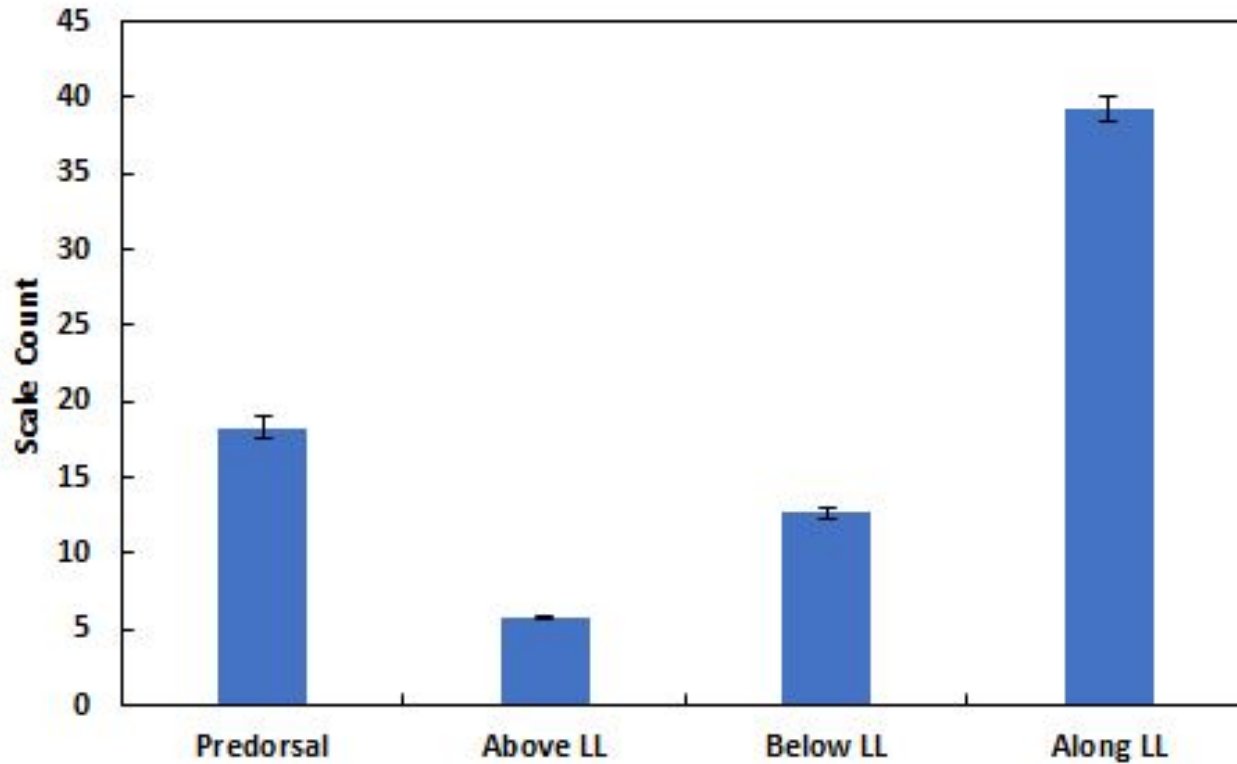


Figure 2. Scale Counts. Scale counts of the Redear Sunfish along, below, and above lateral line as well as the predorsal scales.

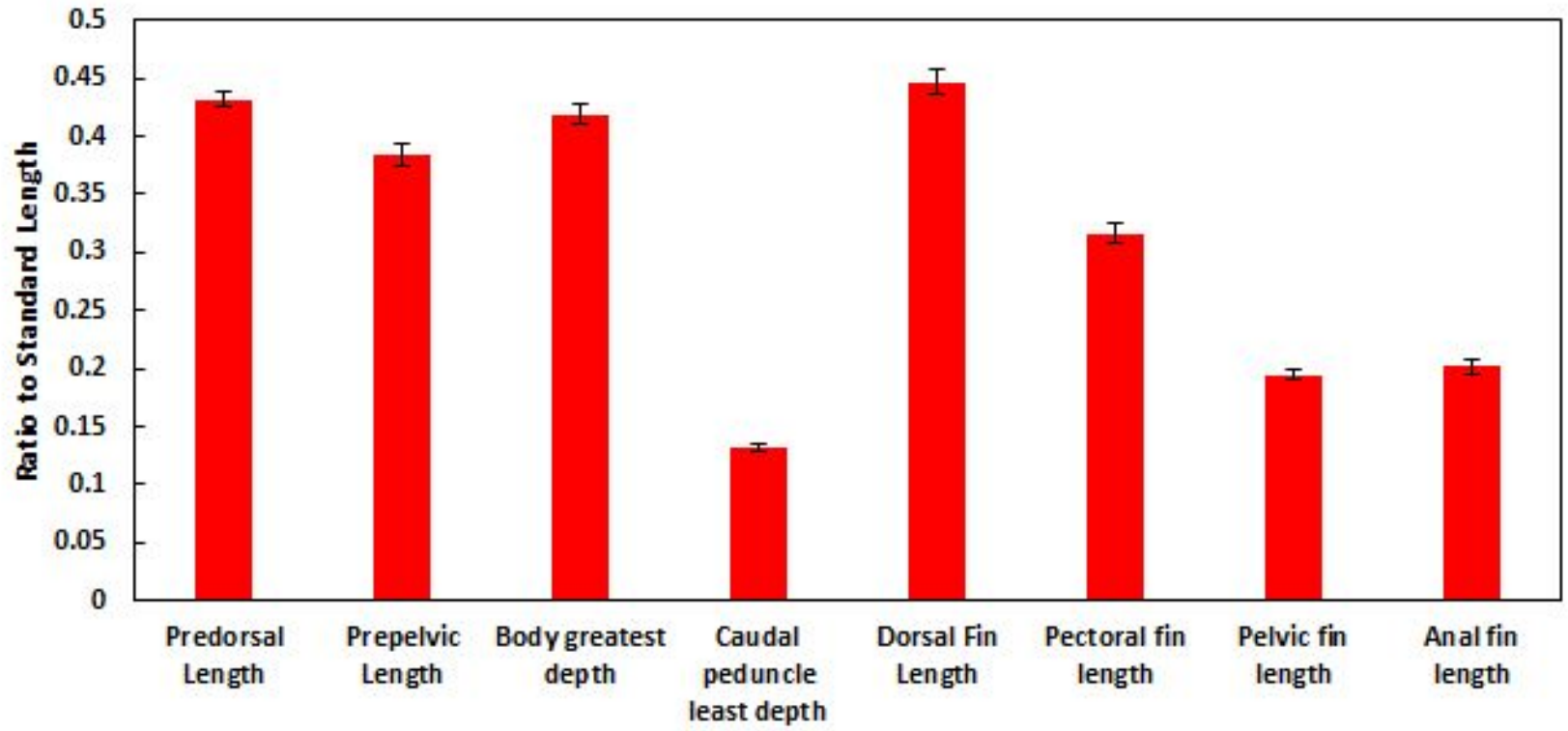


Figure 3. Length Ratios to Standard Length

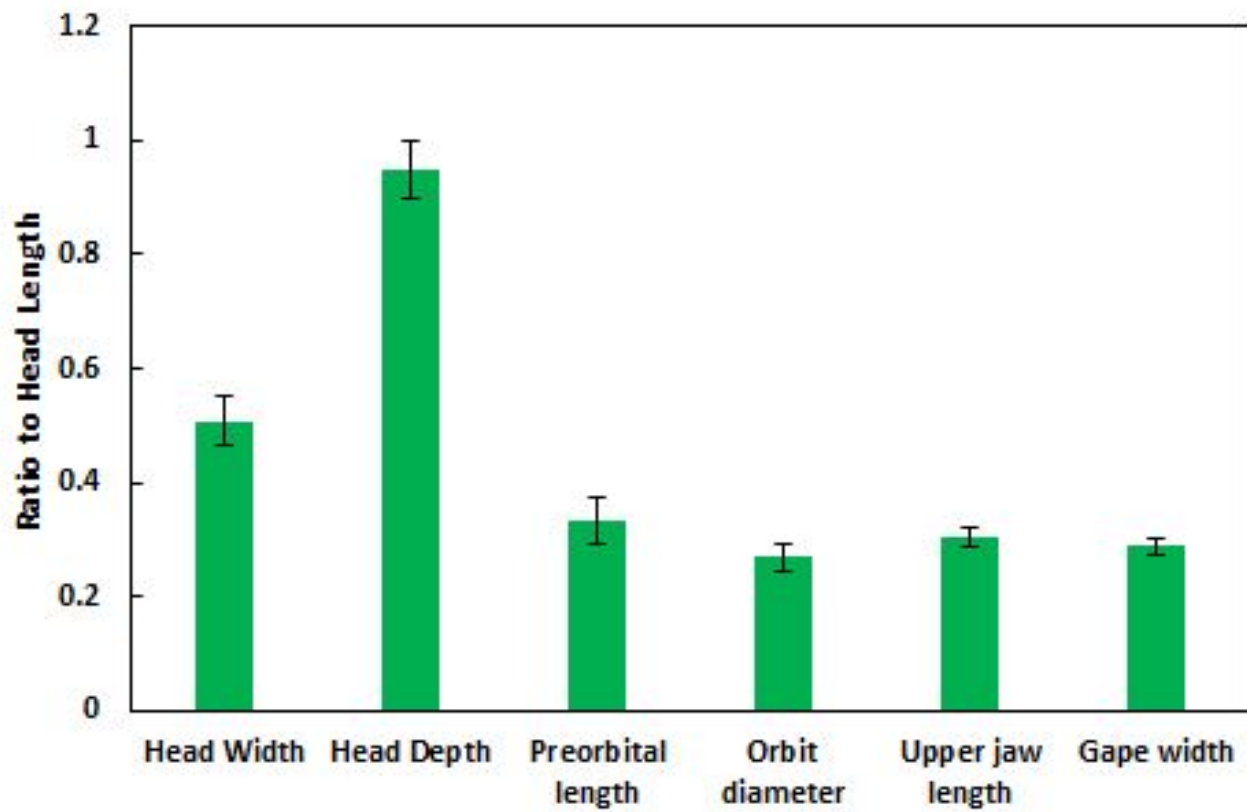


Figure 4. Ratio to Head Length

Diet

- Primarily bottom feeders
- Fry feed in deep waters, algae and micro crustaceans
- <1 year old, feed on insects, insect larvae and small snails
- Adults feed on snails and copepods
- These fish tend to favor moderate shells as opposed to thin or thick shells

Campeloma decisum



Leptoxis carinata



Common Whitetail (*Plathemis lydia*)

Reproduction

- Spawning begins in early spring and ends in mid-summer
- Males only mate once a year
- Polyandrous
- Climate dependent maturation, 21 to 24 degrees Celsius optimal range
- Males form nests at approximately 1 to 6 m underwater and are 25 to 61 cm wide



Reproduction

- Females produce anywhere from 9,000 to 80,000 eggs
- Eggs hatch roughly 50 hours after being laid
- Independence follows 3 days after hatching
- Highly temperature sensitive/dependent reproductive cycle



Age and Growth

- 50 hour incubation period
- After hatching fry hide in the gravel nests
- Juveniles spend 1 year in dense vegetation
- Aquatic plants provide food and protection from predation
- As fish age they will move about open water
- Turbidity plays a factor in growth rate
- Rough water inhibits growth



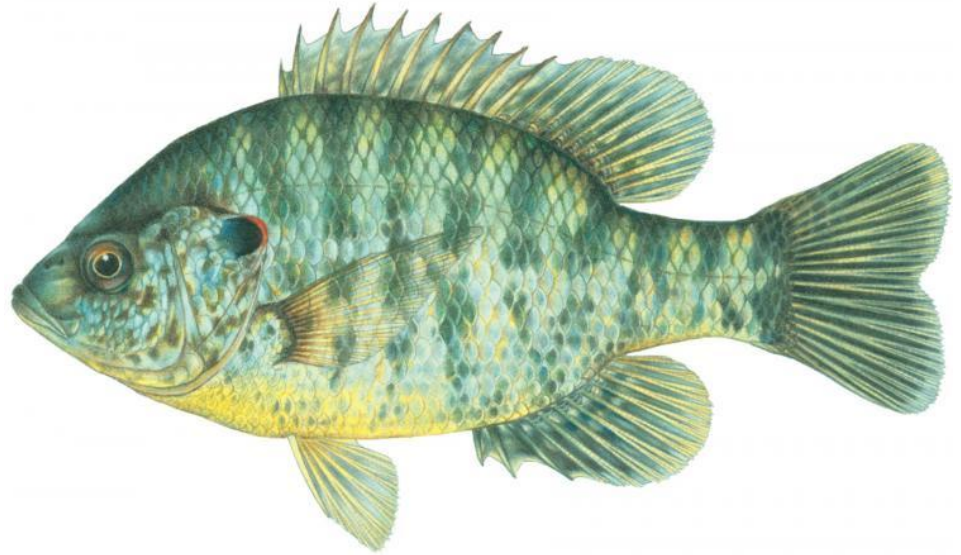
Age and Growth

- First year fish are ~50 to 100 mm TL
- Second year ~110 to 140 mm TL
- 5 and 6 years ~200 to 250 mm TL
- Like most fish, redears will continue to grow throughout their lives
- Sexual maturity in males and females is 1 to 2 years
- Average life span is from 5 to 6 years in the wild
- Healthy systems can increase the maximum age a couple years



Conclusion

- We found that our meristic and morphometric data followed redear sunfish field guides confirming that we had true redear sunfish.



Acknowledgements

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