

# **SUB-ADULT AND ADULT LARGE-BODIED FISH COMMUNITY MONITORING: 2014**

**Ben Schleicher  
U.S. Fish & Wildlife Service  
Grand Junction, CO**

**San Juan River Recovery Implementation Program  
2015 Annual Meeting  
13 May 2015  
Durango, CO**

# OBJECTIVES

Monitor San Juan River's large-bodied fish community to identify shifts in:

- a) fish community structure
- b) species relative abundance & distribution
- c) length/weight frequencies

Monitor population trends of:

- a) Colorado Pikeminnow
- b) Razorback Sucker
- c) Roundtail Chub & other native fishes

Remove nonnative fish species from San Juan River

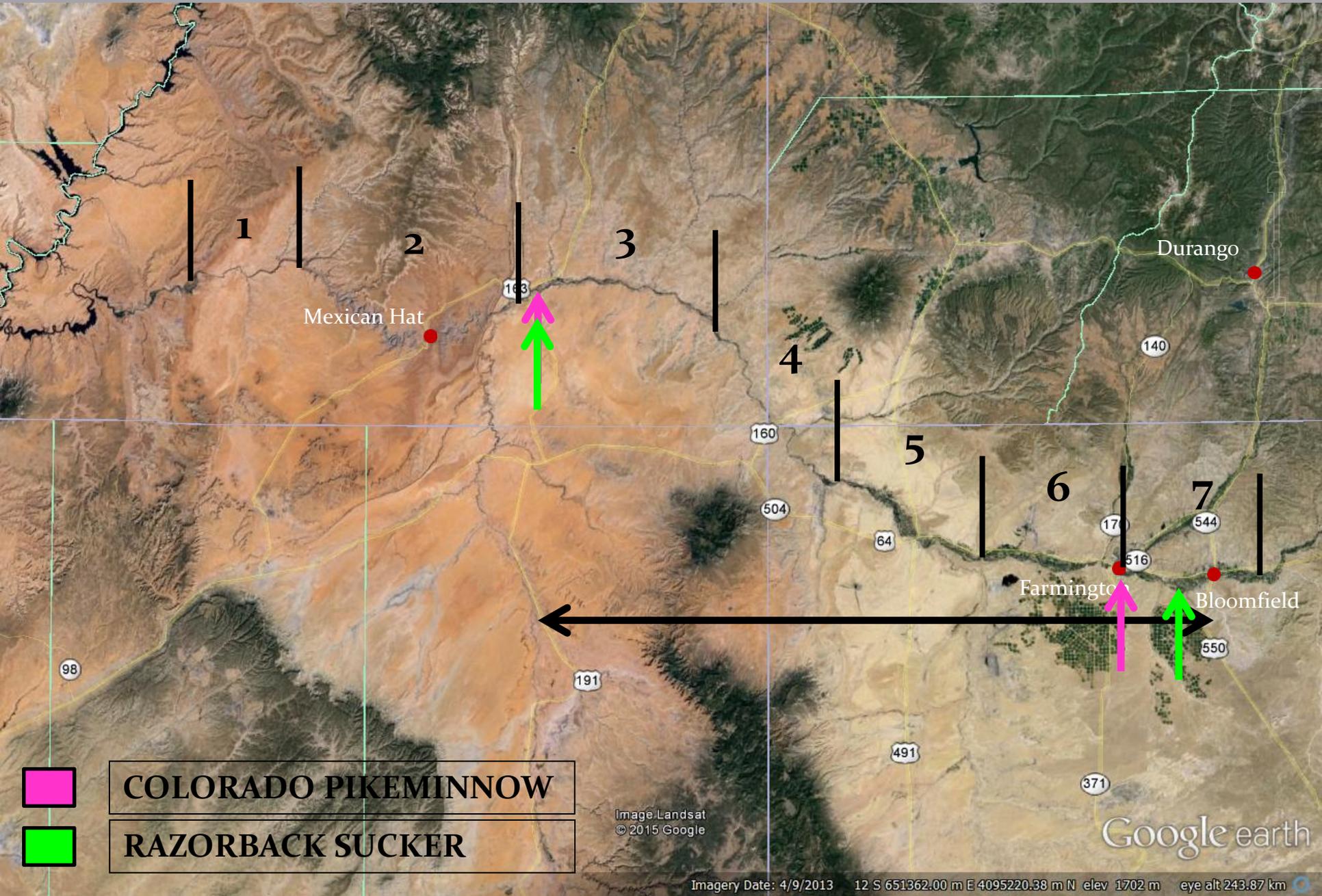
- a) prey upon native fish
- b) compete with native fish

# IMPORTANCE

Yearly snapshot of the entire large-bodied fish community

- Assess status of T&E species vs. more common native & nonnative fishes
- Assess progress of T&E fishes towards recovery
- Make sure that management actions aren't adversely affecting common native fishes
  - Three Species fishes
- Integral part of integrated data analyses

# ADULT MONITORING STUDY AREA: 2012 - 2014



**COLORADO PIKEMINNOW**

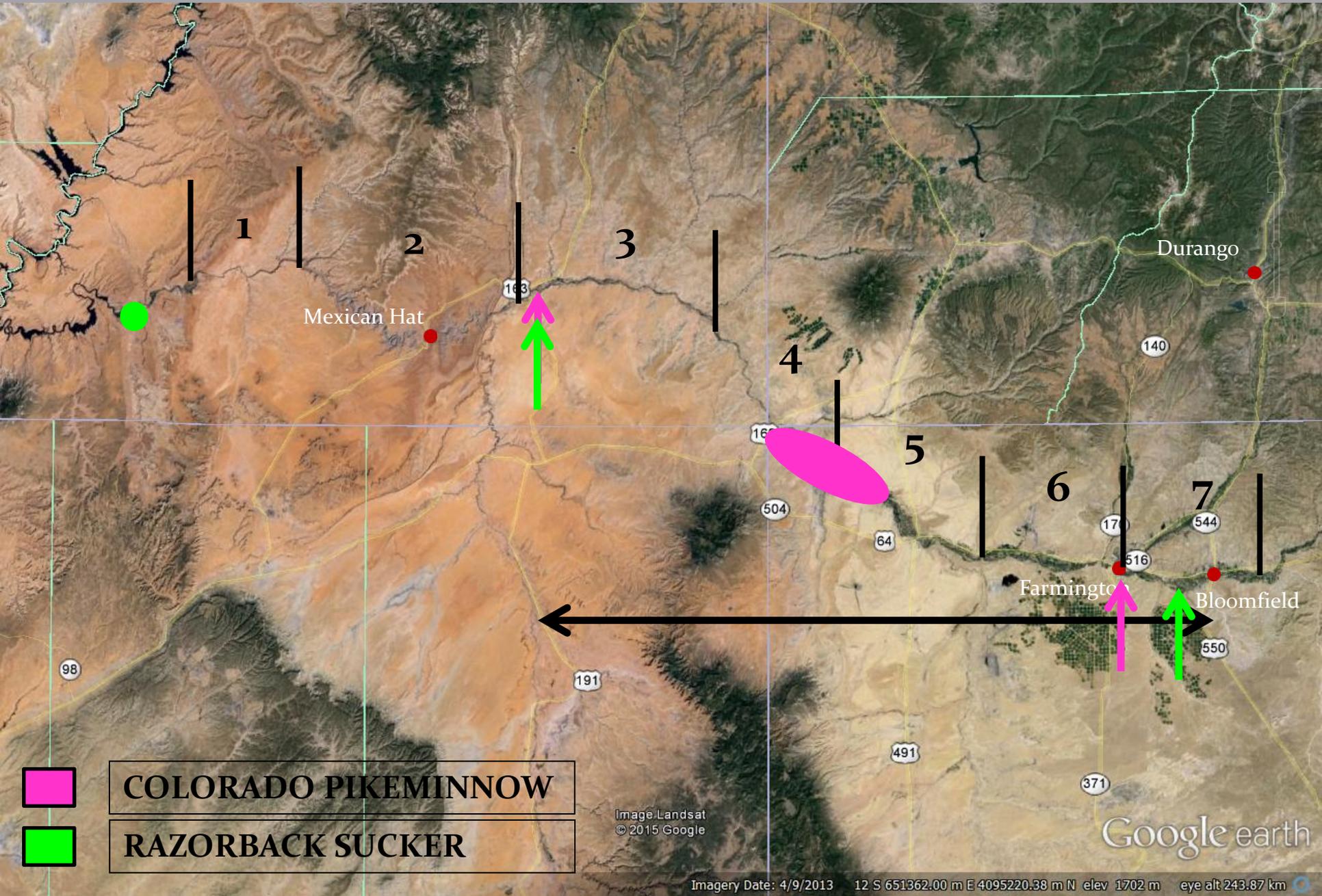


**RAZORBACK SUCKER**

Image Landsat  
© 2015 Google

Google earth

# ADULT MONITORING STUDY AREA: 2012 - 2014



# COLORADO PIKEMINNOW

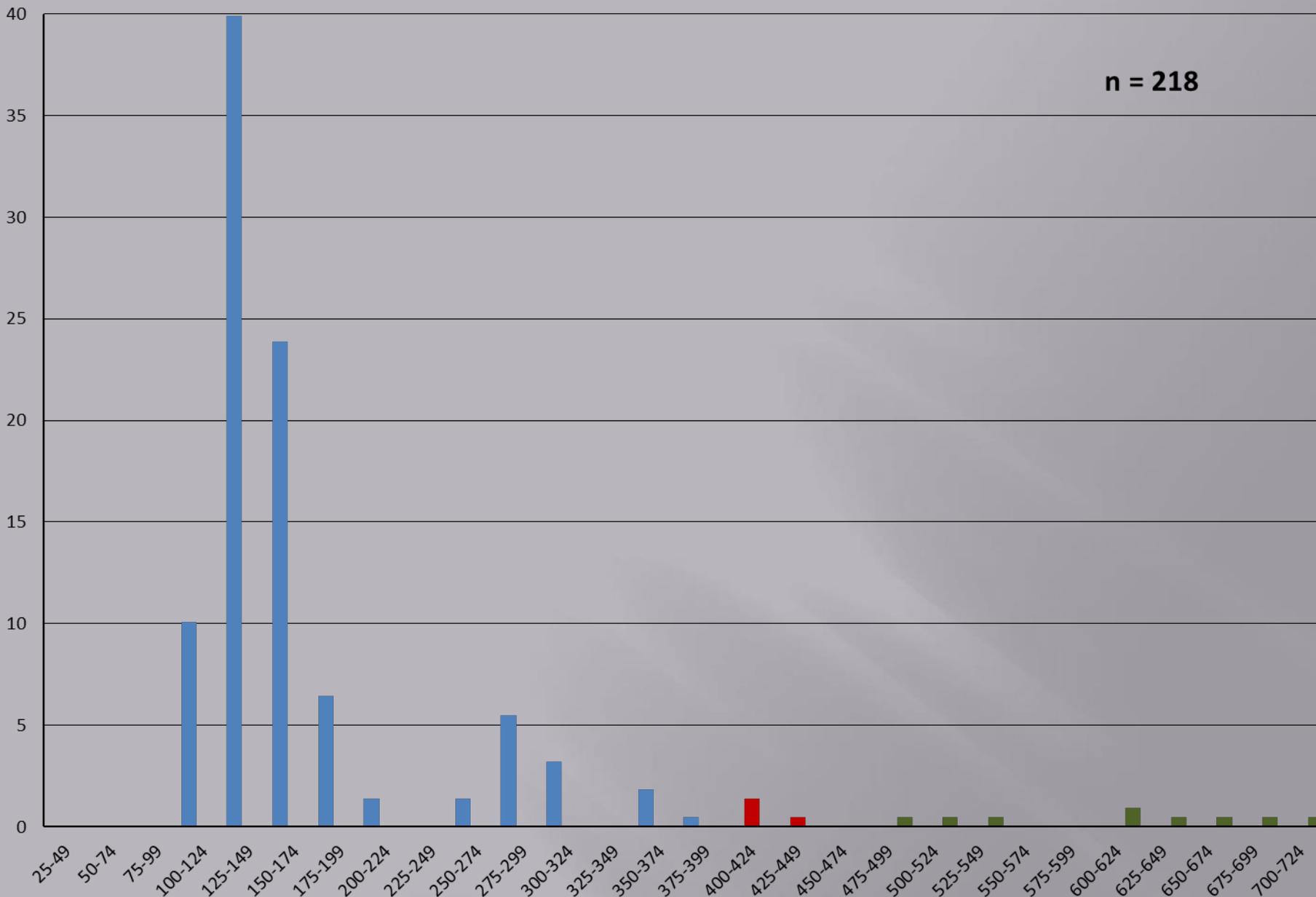


# COLORADO PIKEMINNOW 2014 LENGTH-FREQUENCY

n = 218

PERCENT BY SIZE-CLASS

TOTAL LENGTH (mm)



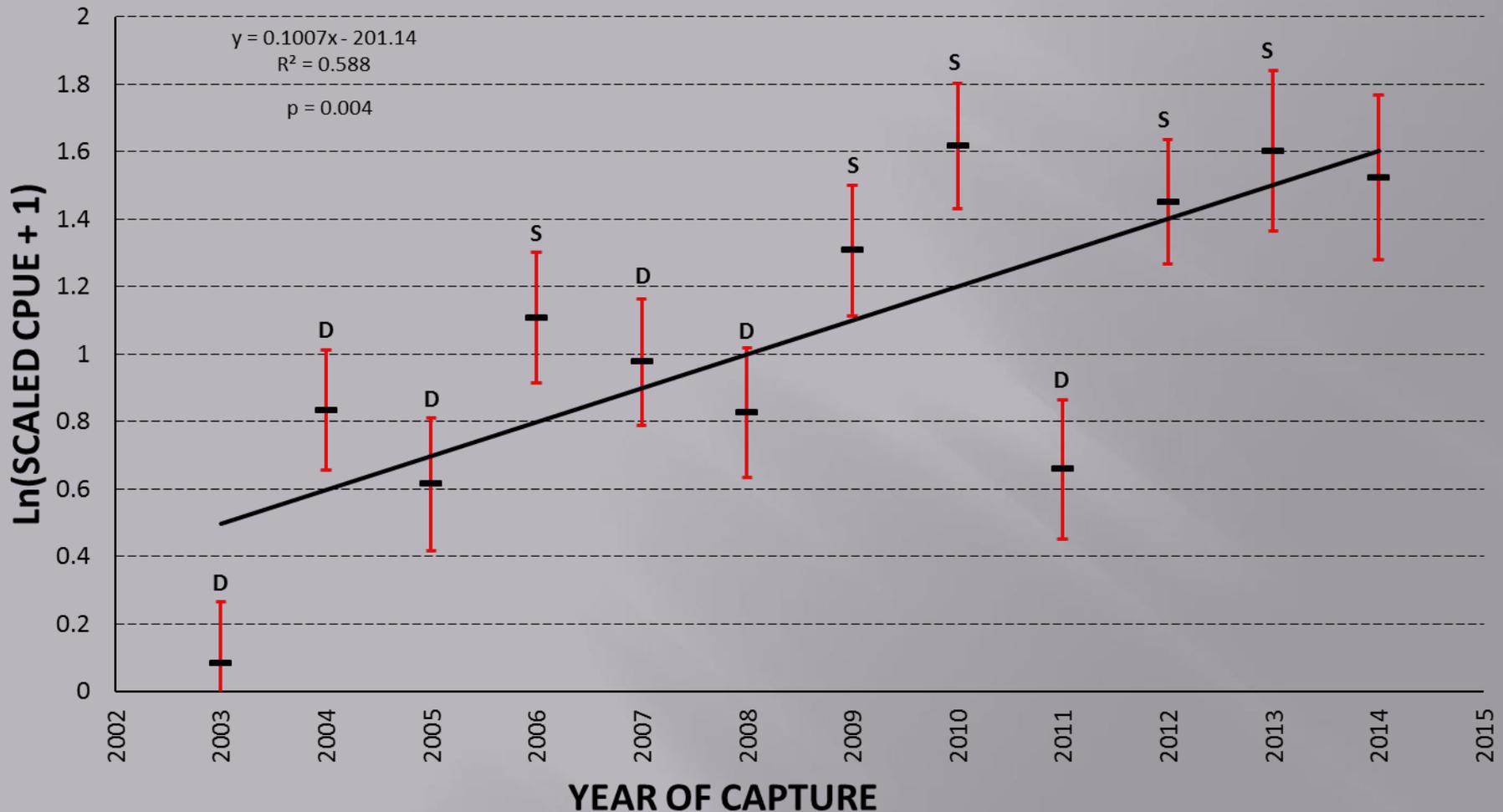
# Colorado Pikeminnow

## Scaled CPUE

RM 180-77

2003-2014

All fish recaptured after 1+ overwinter periods



# CPM > 300 mm TL Collected in 2014

- **Adults ( $\geq 450$  mm TL) = 9 fish**
  - Age-8 = 701 mm TL, 655 mm TL, °516 mm TL
  - Age-7 = 684 mm TL
  - Age-5 = 475 mm TL
  - Age-4 = \*525 mm TL
- **Sub-Adults (400-449 mm TL) = 4 fish**
  - Age-4 = \*448 mm TL, \*404 mm TL
  - Age-3 = 411 mm TL, 400 mm TL
- **Larger Juveniles (300-399 mm TL) = 12 fish**
  - Age-2 to Age-3

° Stocked @ age-2

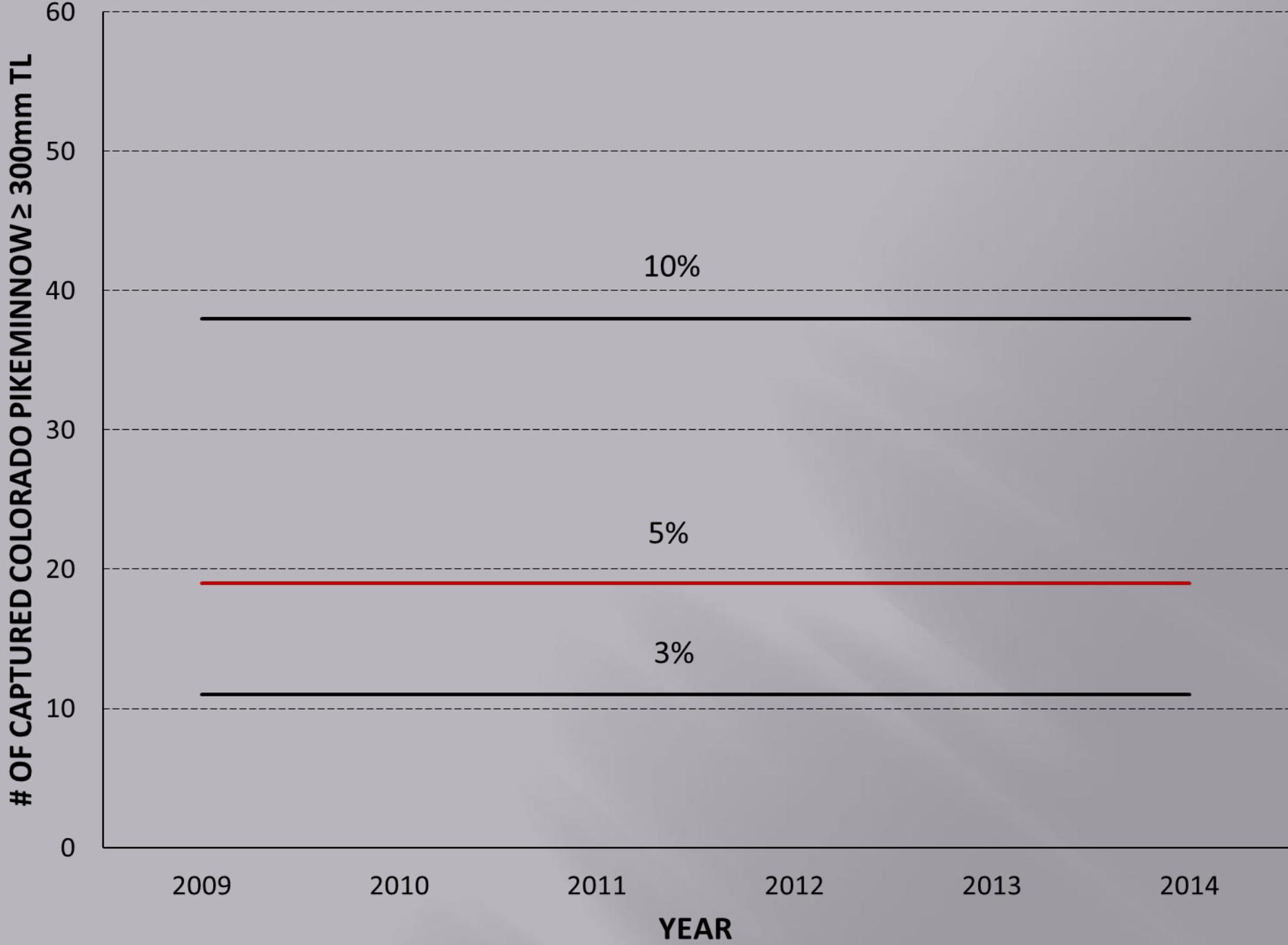
\* Stocked @ age-1

# FROM 2014 ADULT MONITORING REPORT:

For Colorado Pikeminnow ( $\hat{p} = 5\%$ ):

For Demographic Downlist Criteria: Catching **19** Colorado Pikeminnow ( $\geq 300$  mm TL; age-5+) indicates there are about 1,000 fish of this size riverwide

Collected **25** Colorado Pikeminnow ( $\geq 300$  mm TL) after 1+ overwinter periods. Half were age-2 and age-3. Only **5** were age-5+



# OF CAPTURED COLORADO PIKEMINNOW  $\geq$  300mm TL

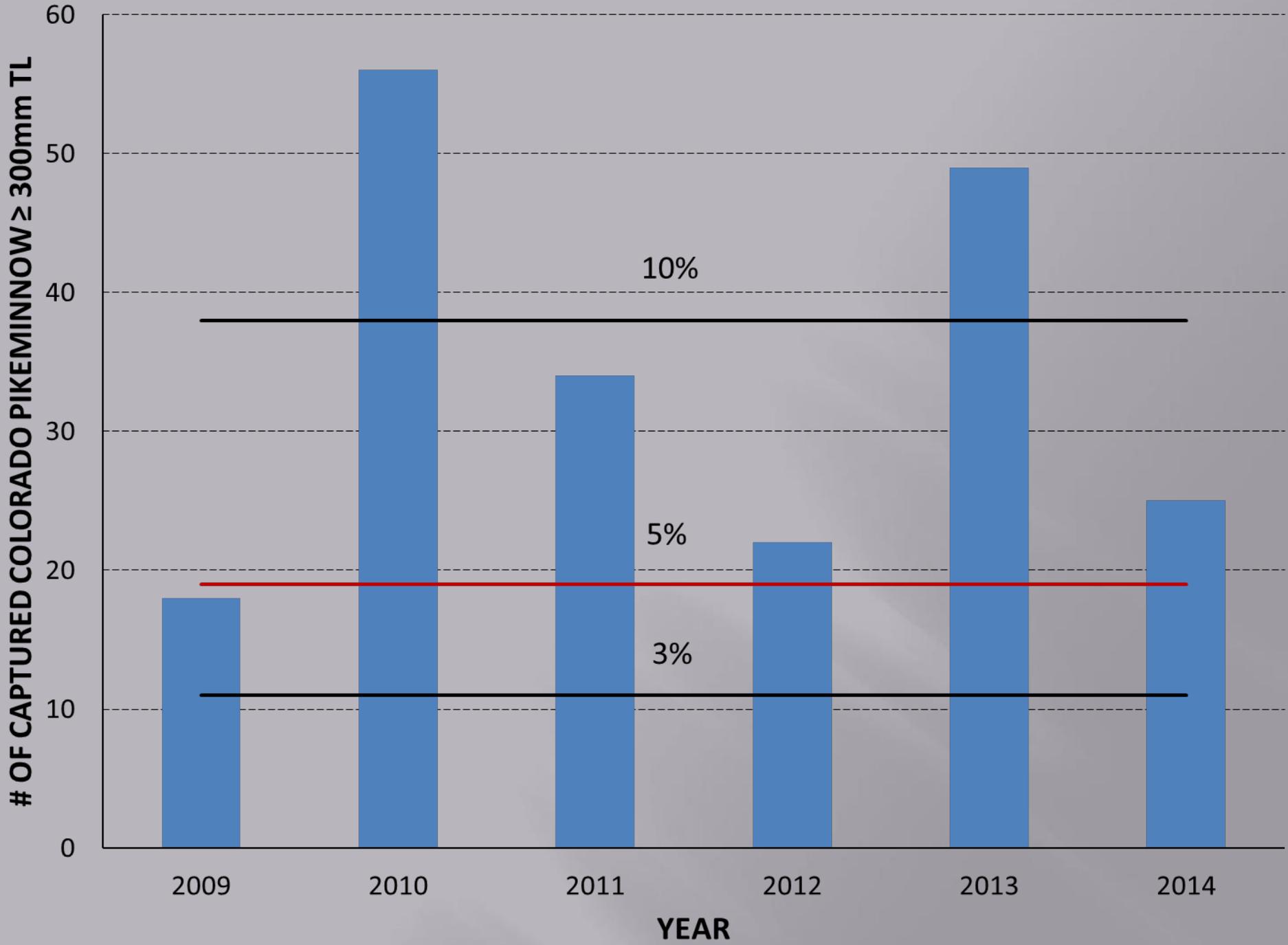
2009 2010 2011 2012 2013 2014

YEAR

10%

5%

3%

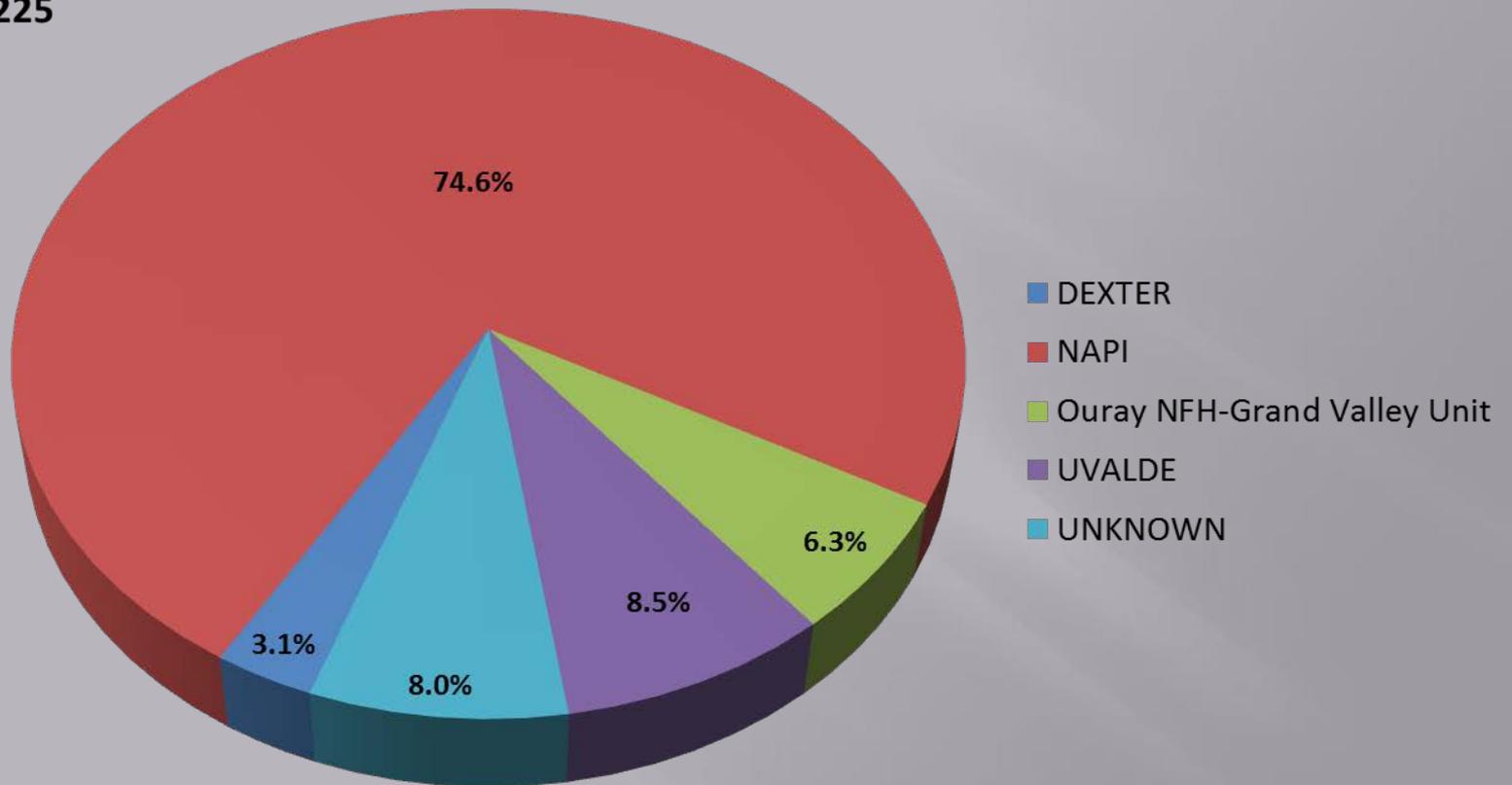


# RAZORBACK SUCKER

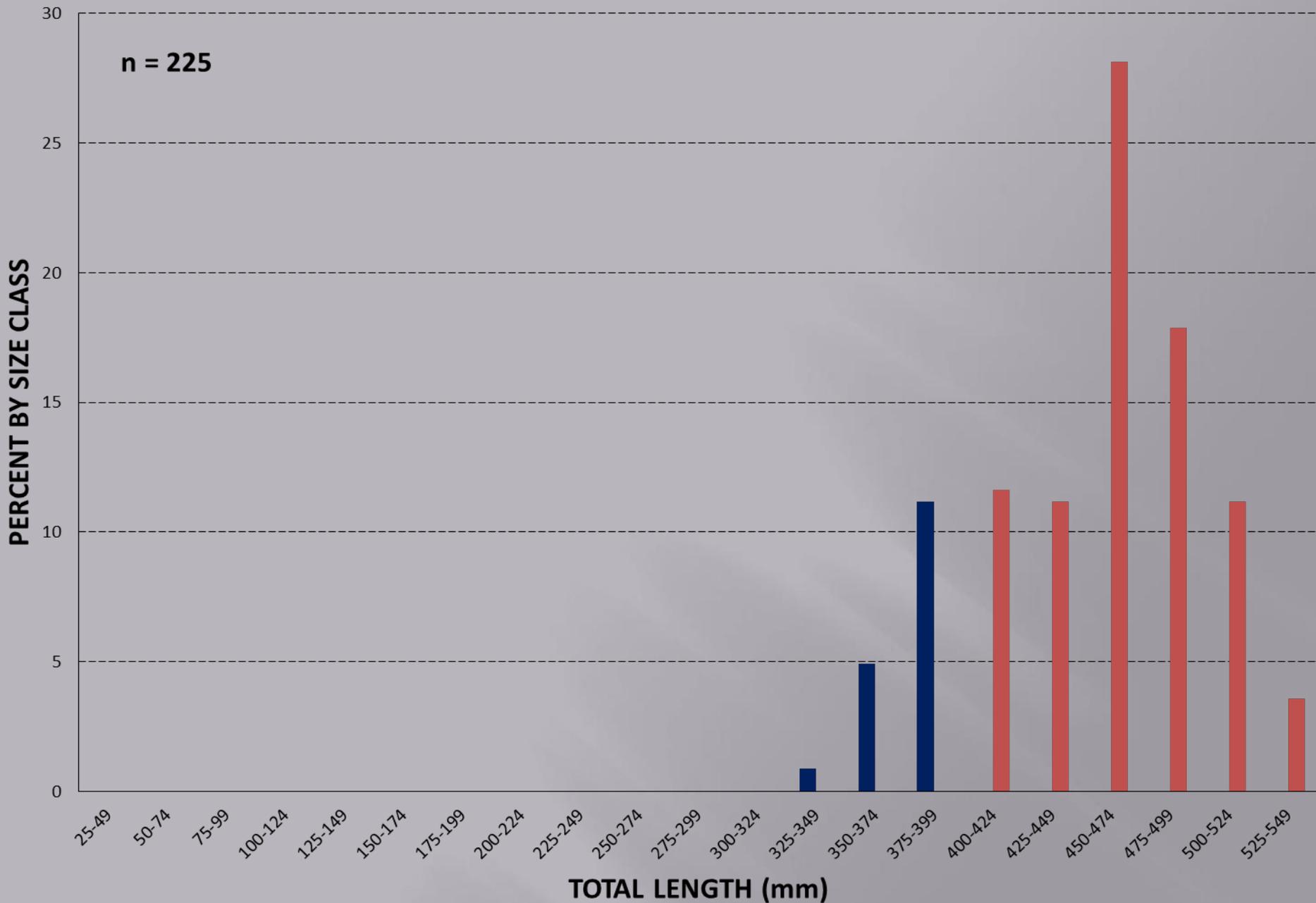


# 2014 RAZORBACK SUCKER: SOURCE 1+ OVERWINTER PERIOD

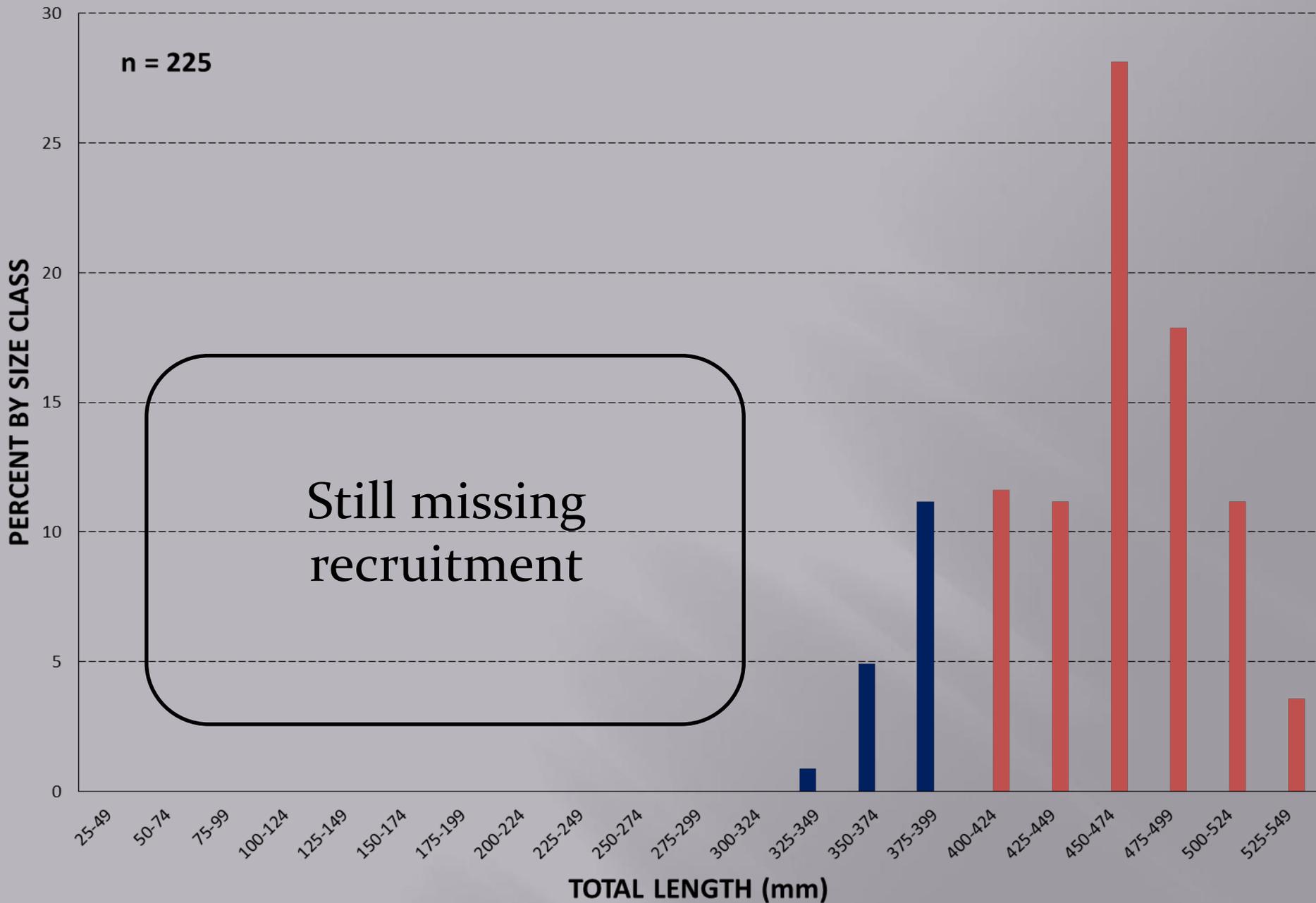
n = 225



# RAZORBACK SUCKER 2014 LENGTH-FREQUENCY



# RAZORBACK SUCKER 2014 LENGTH-FREQUENCY

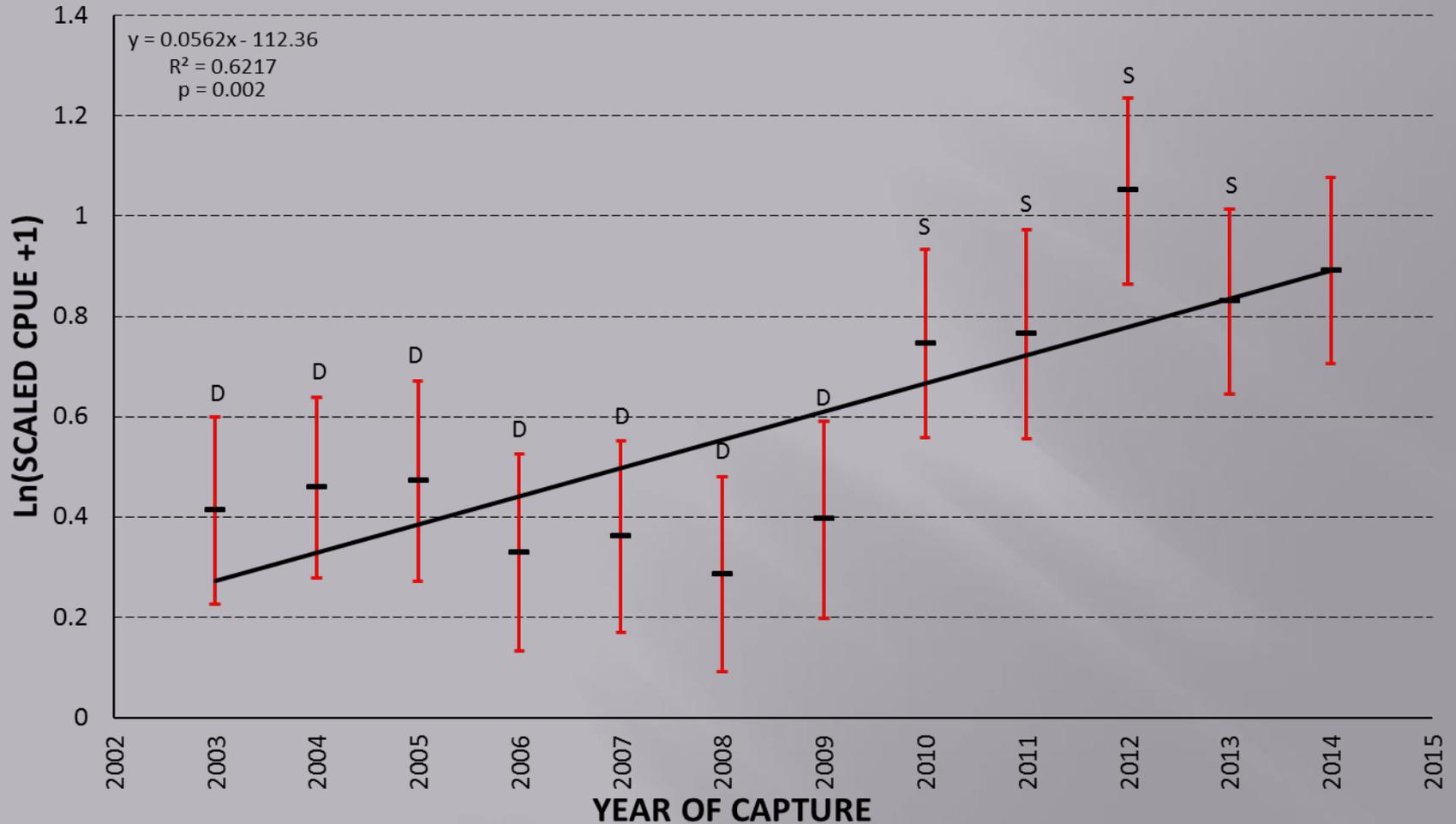


# RAZORBACK SUCKER SCALED CPUE

## RM 180-77

### 2003-2014

#### 1+ OVER WINTER PERIOD



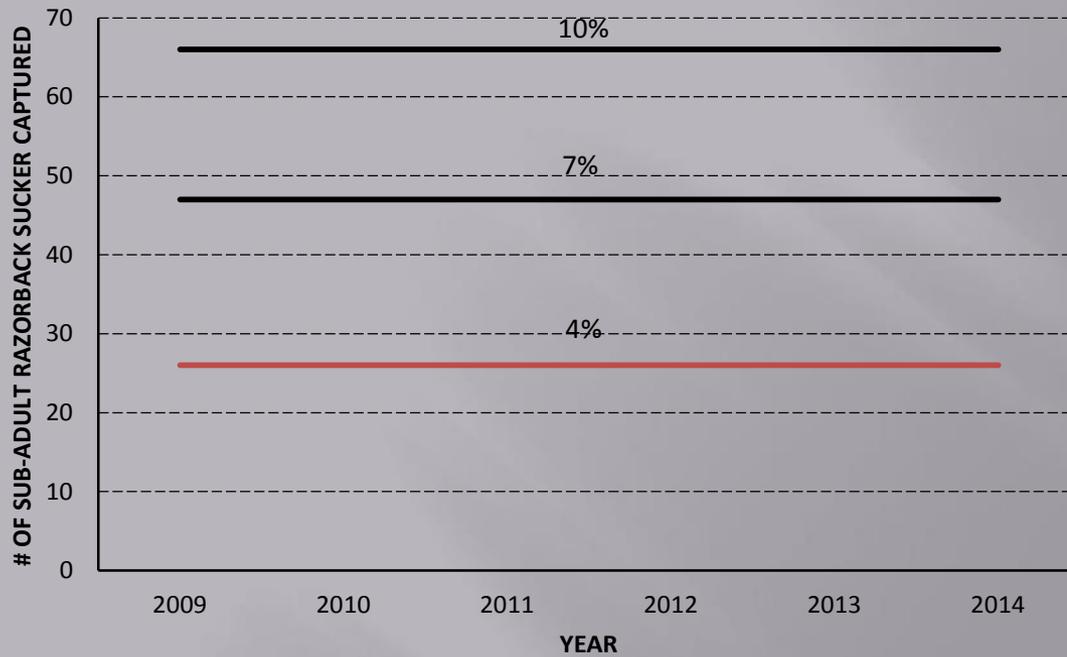
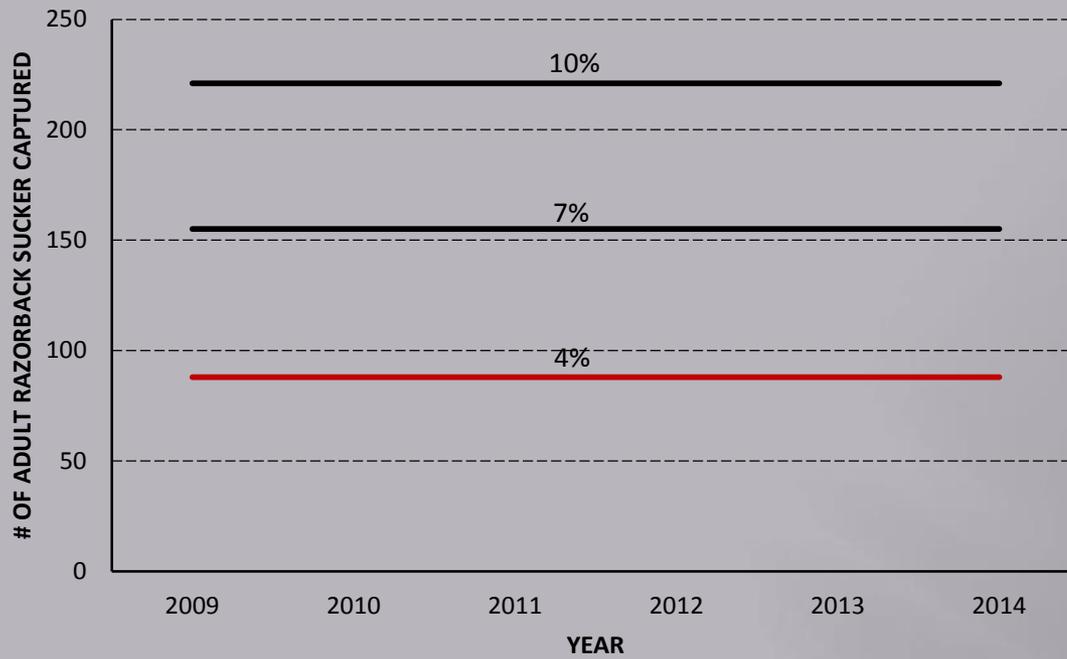
# FROM 2014 ADULT MONITORING REPORT

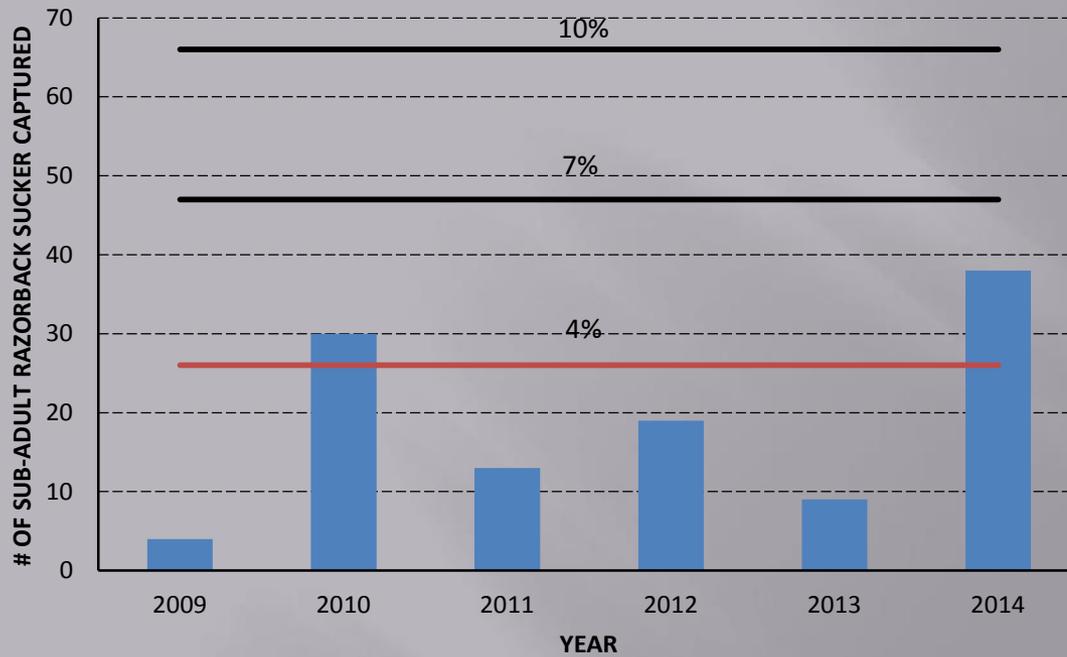
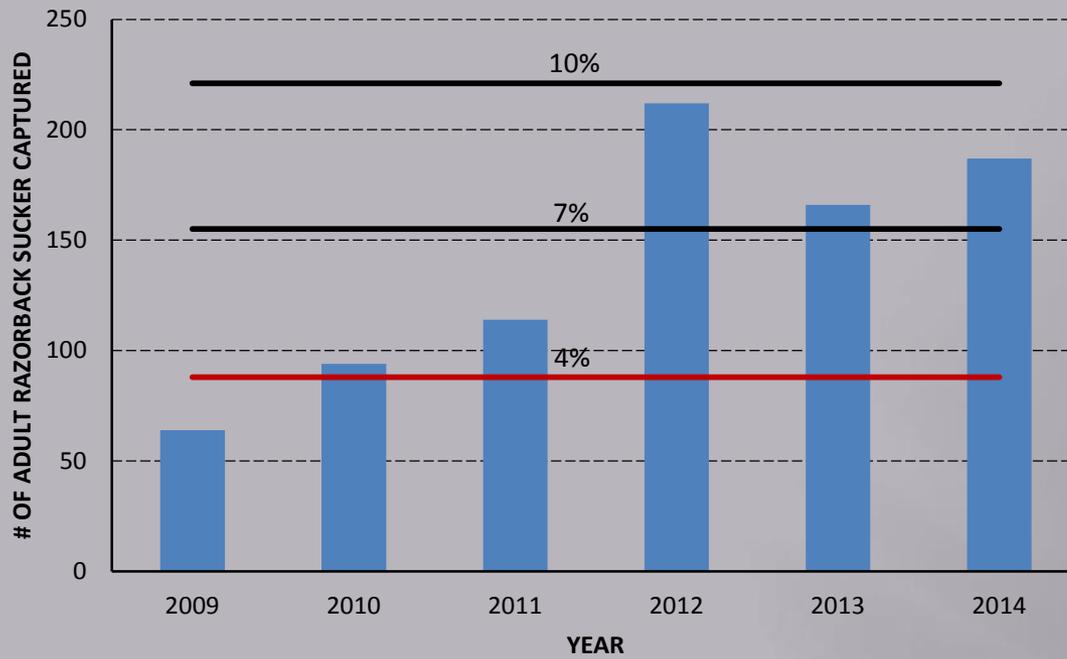
For Razorback Sucker ( $\hat{p}$  = 4%):

For Demographic Downlist Criteria: Catching **88** adult Razorback Sucker ( $\geq 400$  mm TL; age-4+) and **26** sub-adult Razorback Sucker (300-399 mm TL; age-3) indicates there are about 5,800 adult fish riverwide, with 30% recruitment rate. Needs to occur over 5 consecutive years.

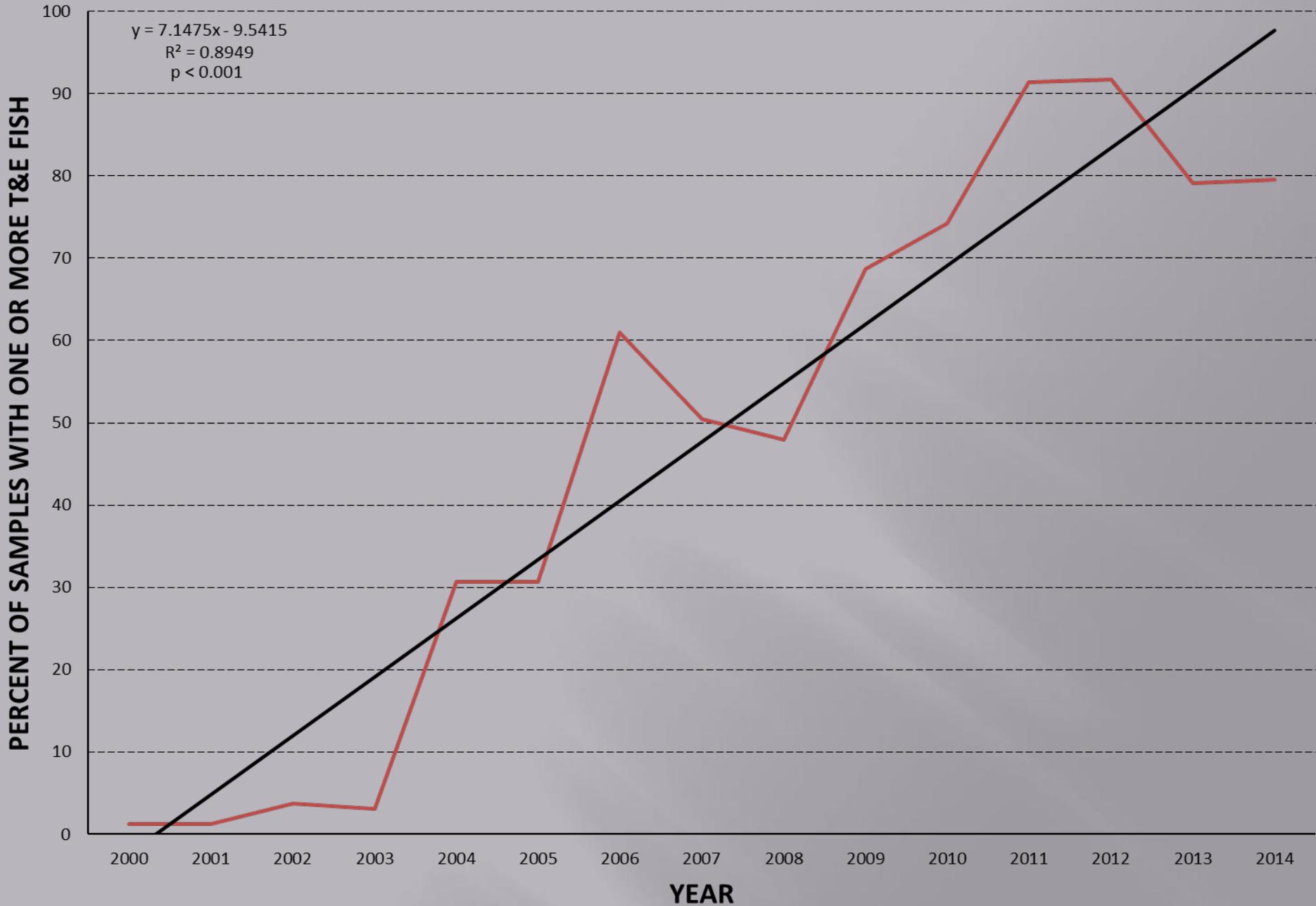
Collected **187** adult Razorback Sucker ( $\geq 400$  mm TL) after 1+ overwinter periods.

Collected **38** sub-adult Razorback Sucker (300-399 mm TL) after 1+ overwinter periods.

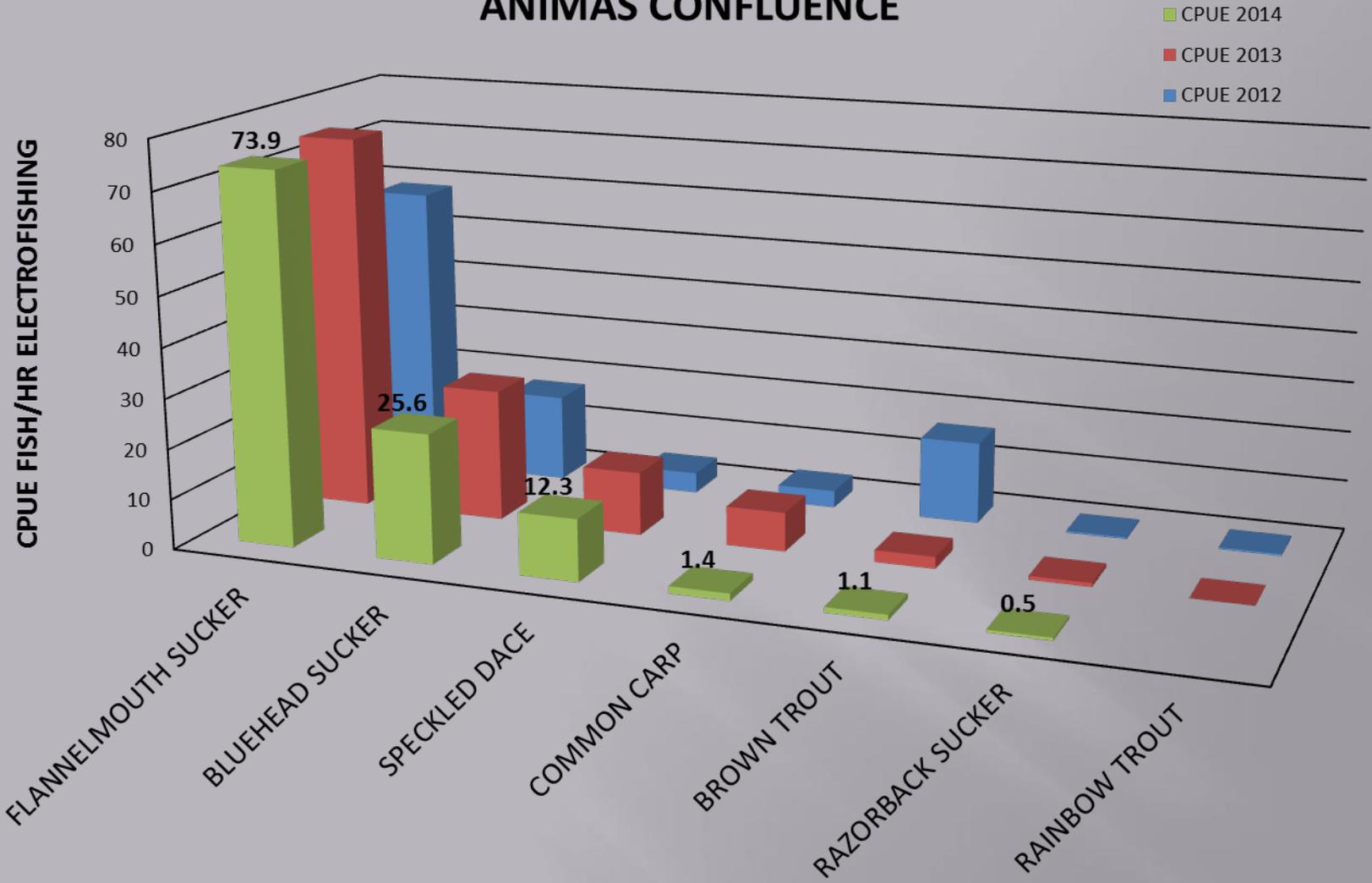




# ENDANGERED FISH COLLECTIONS SAN JUAN RIVER



# CPUE OF FISH PRESENT 15 RM ABOVE SAN JUAN AND ANIMAS CONFLUENCE



# Progress Towards Recovery



# Increased Numbers

- **Stocked T&E fishes much more “common” in Adult Monitoring collections than 10 years ago**
  - T&E fish caught in 79.5% of samples (from RM 180-77)
  - Continuing to see larger adult Colorado Pikeminnow
    - 2014 = 5<sup>th</sup> consecutive year that both sub-adult and adult Colorado Pikeminnow have been collected
- **Colorado Pikeminnow and Razorback Sucker numbers have approached target downlist numbers in some years (Note: still lacking recruitment)**

# Native Fish Community

- **Three Species**
  - **Flannelmouth and Bluehead Sucker populations stable & widespread, despite introduction of > 4 million Colorado Pikeminnow (2002-2013) & > 136,666 Razorback Sucker (1994-2013)**
    - **Colorado Pikeminnow = Predators**
    - **Razorback Sucker = Competitors**
  - **Three juvenile Roundtail Chubs caught**

# QUESTIONS?

