

# Colorado Pikeminnow

and

# Razorback Sucker

# Augmentation

# San Juan River: 2014

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# Long Range Plan - Goal 1.1

Establish a Genetically and Demographically Viable, Self-Sustaining CPM and RBS Populations.

- Task 1.1.2.2
  - Stock  $\geq 400,000$  Colorado Pikeminnow Annually
- Task 1.1.3.4
  - Stock  $\geq 91,200$  Razorback Sucker over 8 years- or  
11,400/year

# Long Range Plan - Goal 1.2

Evaluate RBS and CPM Augmentation Program and Genetic Integrity.

- Task 1.2.1.2
  - Identify, describe, and implement strategies to improve survival and retention
    - acclimatization
    - size of fish stocked
    - timing and location of stocking
    - other physiological conditioning

# Stocking Area 2014



# 'Hard' Releases –

- Standard stocking method
- Temper fish in hauling tanks
- Stock fish directly into receiving water body



# 'Soft' Releases –

- Set up block nets to isolate the release location
- Sample within enclosure
- Temper fish in hauling tanks
- Stock fish into enclosure and hold for  $\approx 24$  hours
  - Monitor fish during acclimatization period
  - Opportunity to document any anomalies

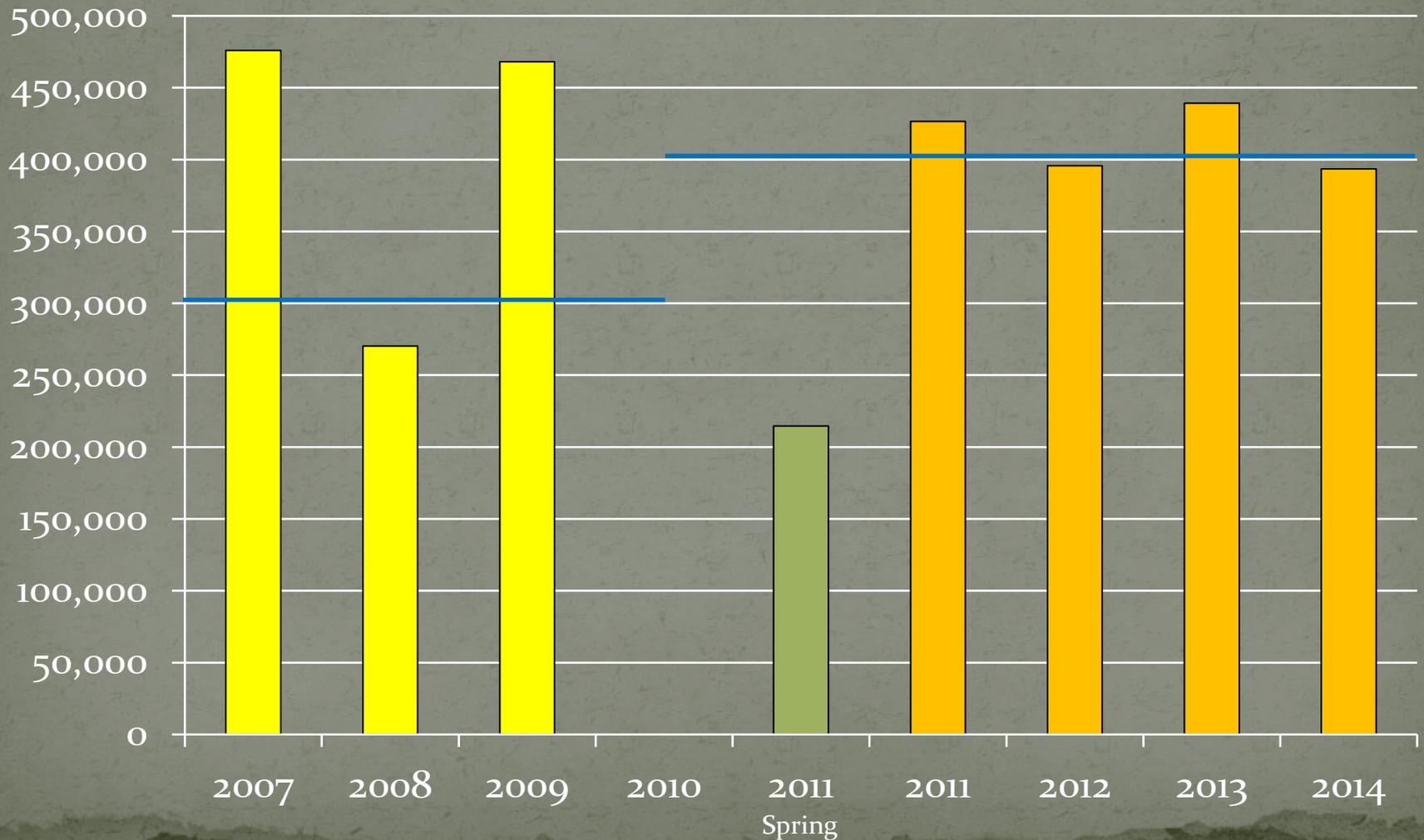


# Colorado Pikeminnow



# Stocking Targets – Transition from Phase I to Phase II

## Age-0 Colorado Pikeminnow



# 2014 Colorado Pikeminnow Stocking

- November 6 – delivered by Southwest Native ARRC
  - 94,091 soft released at PNM Sluiceway (RM 166.6)
  - 94,090 soft released at Boyd Park (A-RM 1.0)
    - 60 mm TL
    - Nets pulled after 24 hours; no anomalies noted
  - 102,631 hard released at Verde del Rio Park (RM 196)
  - 102,630 hard released at Berg Park (A-RM 5.0)
    - 45 mm TL
- 393,442 total Colorado Pikeminnows stocked

# Phase II Colorado Pikeminnow Augmentation 2015 forward...

- Stock  $\geq 400,000$  age-0 Colorado Pikeminnow Annually
  - Various release locations
  - Analyze encounter/recapture data



# Razorback Sucker



# Razorback Sucker Augmentation Background:

- |  |                     |
|--|---------------------|
| 1994 -1996: Experimental Stocking  | 942 Fish Stocked    |
| 1997 – 2001: 5-Year Stocking Effort  | 5,890 Fish Stocked  |
| •Larval Fish Surveys indicated fish were spawning in the SJR                     |                     |
| 2002 – 2008: Interim Stocking Years  | 52,084 Fish Stocked |
| •Navajo Agricultural Products Industry (NAPI) pond production protocols modified |                     |

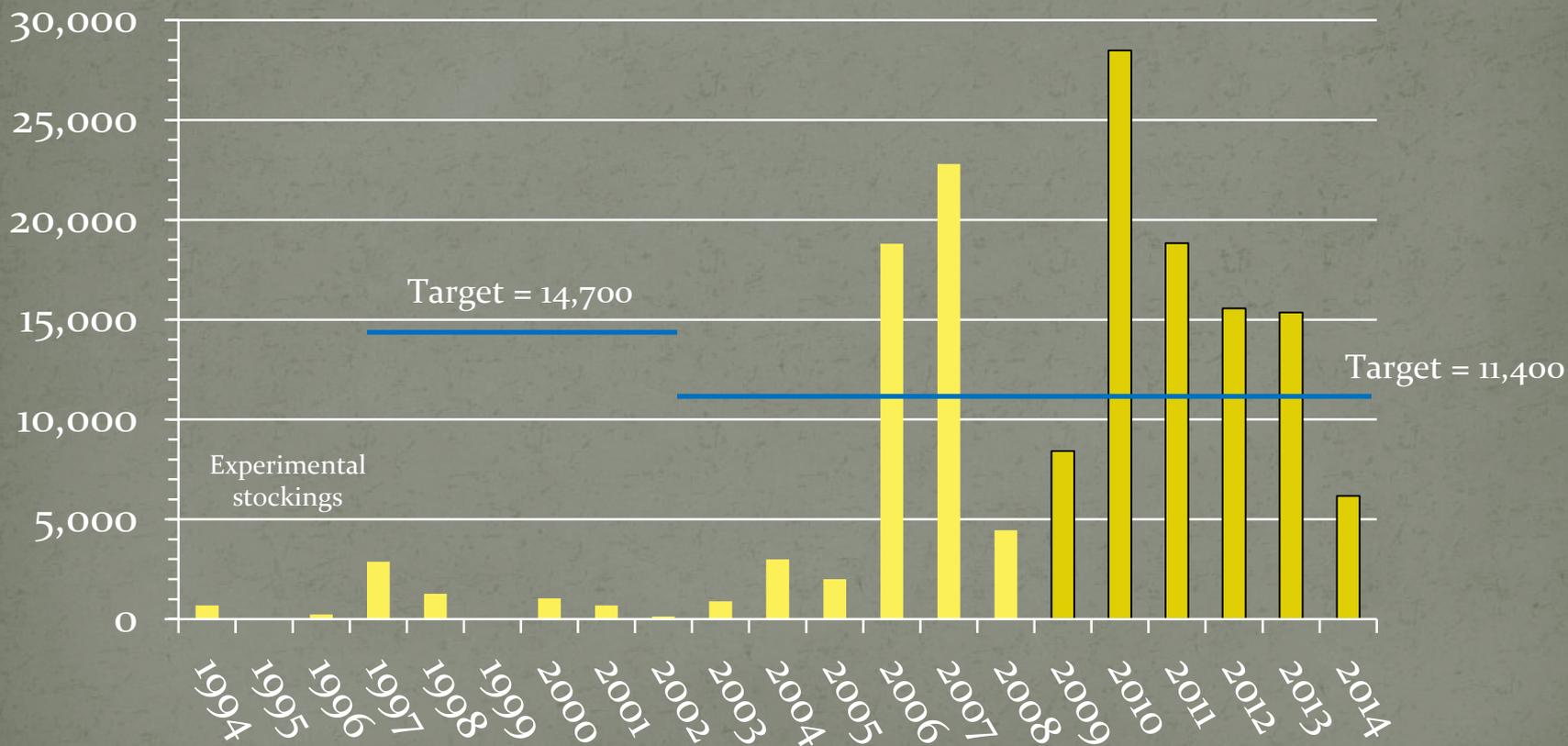
# Razorback Sucker Augmentation Background:

2009 – Present: 8-Year Augmentation Effort

- Original goal was to stock 91,200 over 8 years
  - ~ 11,400/year
- 90,658 Fish Stocked to Date

# Stocking Targets

## Razorback Sucker from all sources



# 2014 Razorback Sucker Stocking Totals:

- 4,155 stocked from NAPI ponds
  - 9,000 stocked into Ponds (3,000/pond)
  - 46.2% return
- 2,015 stocked from Ouray NFH-GVU
- 6,170 total Razorback Suckers stocked

# Razorback Sucker Stocking Study

- Effect of Hard vs. Soft Releases
  - Passively harvest fish from NAPI
- Effect of Stocking Source and Location
  - Two Sources, Four Sites, Same Protocols
  - Stocked within a week of each other

		Stocking location			
		Berg Park - Animas River	Bloomfield	PNM Weir	Montezuma Creek, UT
Source	NAPI	×	×	×	×
	Ouray NFH-GVU	×	×	×	×

# 2015 Activities for Razorback Sucker:

- Southwest Native ARRC :
  - NAPI ponds stocked April 8th
  - 2 ponds in production (maintenance on West Avocet)
    - 3,500 fish stocked per pond
- NAPI - grow out and harvesting
  - Continue with the Experimental Stocking Plan
    - Passively harvested fish - Hard vs. Soft study
    - Actively harvested fish - Source & Location study
- Ouray NFH-GVU – supplying 2,000-4,000 fish
  - Stocked according to the Source & Location study protocols

# Revising the Razorback Sucker Augmentation Plan:

- PIT Tag Database Analysis/Modeling
  - Remote PIT Tag Antenna data
  - Stocking Numbers
- Increasing Retention
  - Experimental Stockings
- Sampling the Animas River
  - Electro-fishing (active sampling)
  - PIT tag antenna(s) (passive sampling)
- Entrainment/Barriers
  - Irrigation Intakes/ SJR Waterfall



Special thanks to Ernie Teller, Chris Cheek, Ouray & Southwest Native ARRC crews, and everyone else who made the stockings possible in 2014!