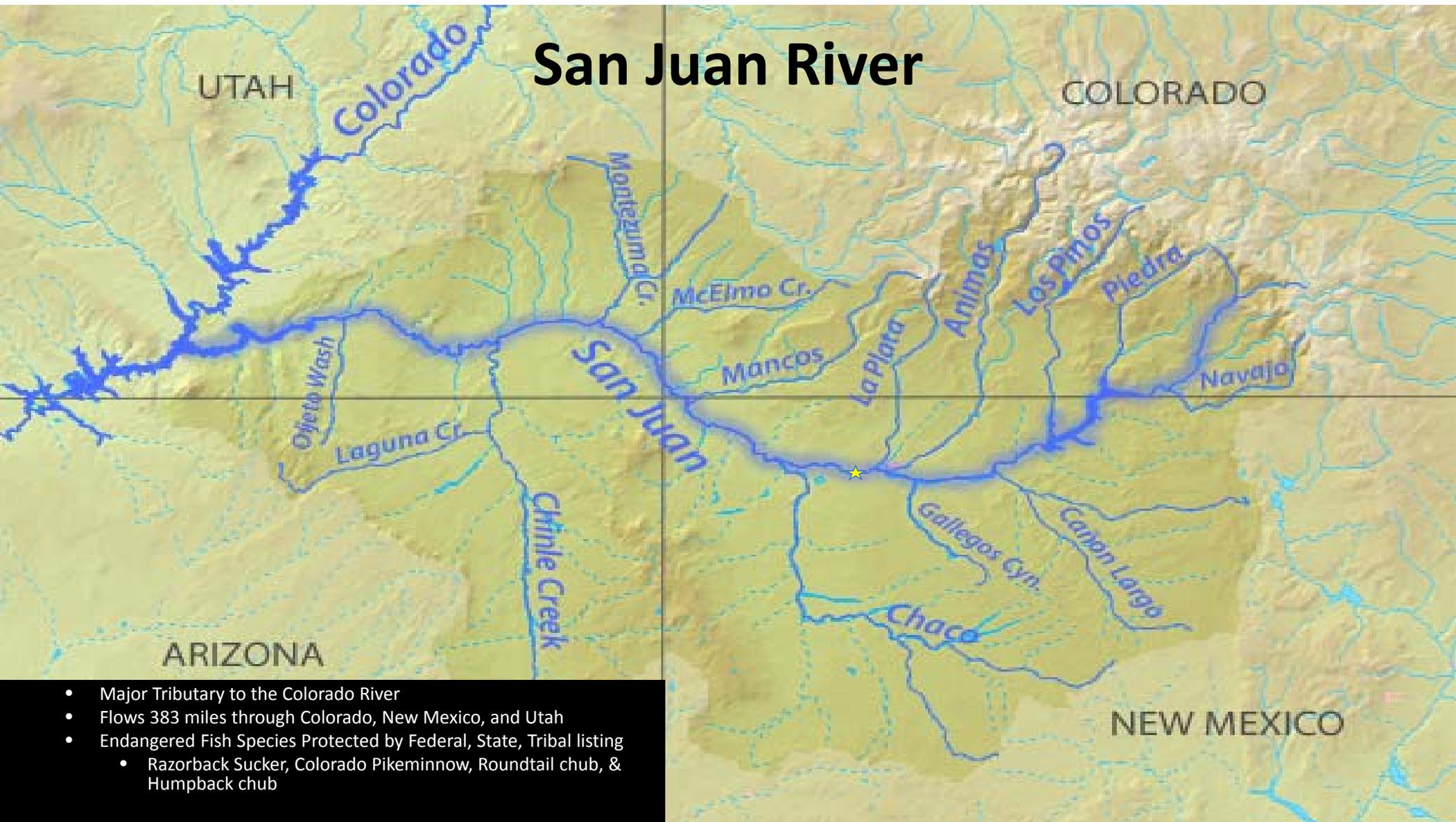


- T. Kim Yazzie – Fish Biologist
- Navajo Nation Department of Fish & Wildlife – Management & Research Section



# San Juan River



- Major Tributary to the Colorado River
- Flows 383 miles through Colorado, New Mexico, and Utah
- Endangered Fish Species Protected by Federal, State, Tribal listing
  - Razorback Sucker, Colorado Pikeminnow, Roundtail chub, & Humpback chub

# Public Service Company of New Mexico (PNM) Fish Passage Facility - 2003

- San Juan River Basin Recovery Implementation Program (SJRRIP) - 1992
  - Funded by B.O.R.
- Management Actions on SJR
  - Conserve CPM & RBS in the basin with recovery goals est. under ESA
  - Proceed H<sub>2</sub>O development



# Public Service Company of New Mexico (PNM) Fish Passage Facility - 2003



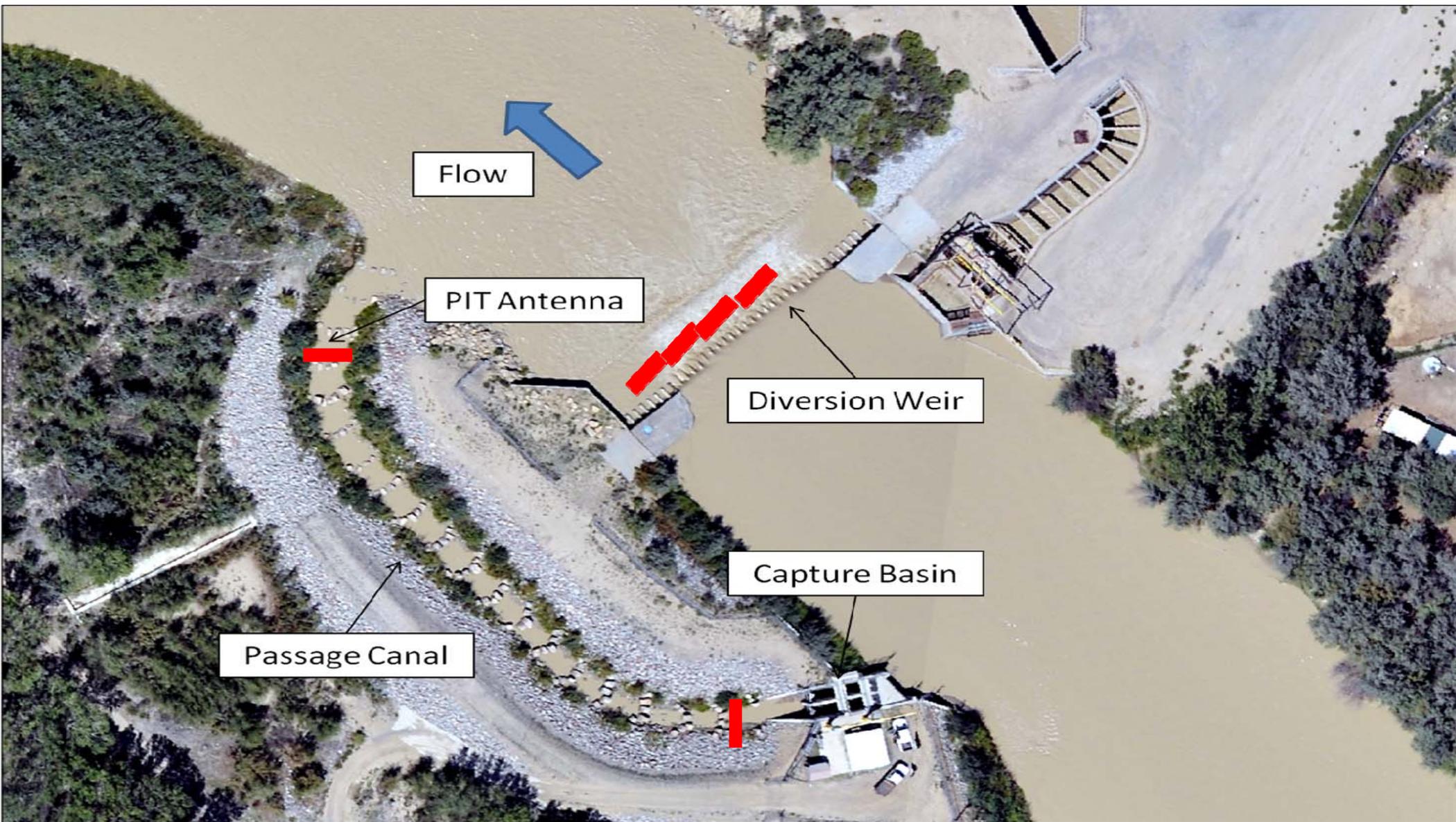
- San Juan River Basin Recovery Implementation Program (SJRRIP)
- Management Actions
  - Augmentation Pgrm
  - Fish Passage
  - Monitoring
  - Non-native Removal

# PIT Tag - Passive Integrated Technology



# PIT Antenna Locations on SJR





Flow

PIT Antenna

Diversion Weir

Capture Basin

Passage Canal

- April 1 – October 30 (212 days)
- 7 days a week
- Selective fish passage were all fish counted & released upstream
- Native species are weighed, length is recorded & released
- Endangered species are scanned, weighed, length, & released
- Non-natives length recorded, checked for tags & removed





• **Native species**

- Colorado pikeminnow (40 yrs.)
- Razorback suckers (40 yrs.)
- Roundtail chub (15 yrs.)

Flannelmouth sucker (35 yrs.)  
Bluehead sucker (20 yrs.)

Mottled sculpin (4 yrs.)  
Speckled dace (3 yrs.)



# Non-native species in the San Juan River

- Channel catfish
- Black Bullhead
- Yellow Bullhead
  
- Largemouth bass
- Smallmouth bass
- Striped bass

- Common carp
- Green sunfish
- Bluegill

- Walleye
- White Sucker
- Red shiner

- Rainbow trout
- Brown trout
- Fathead minnow



## Expected Fish in 2015 - 12,000

	<b>Native</b>	<b>Non Native</b>	<b>TOTAL</b>
March	472	5	477
April	1818	3	1821
May	1607	22	1629
June	2613	46	2659
July	3395	779	4174
August	421	22	443
Sept	8	1	9
Oct	59	1	60
<b>TOTAL YR.</b>	<b>10,393</b>	<b>879</b>	<b>11,272</b>



# Navajo Agricultural Products Industry Razorback Sucker Grow-Out Ponds

- **NAPI Razorback Grow-out Ponds**
  - Operated by NNDFW
  - Accounts for approximately 40% of Razorback stocking annually

- 3 Ponds
  - West Avocet 3 acres
  - East Avocet 2.4 acres
  - Hidden Pond 2.5 acres
- Ponds are in use from April - October



# NAPI Pond Operation



## Daily Operations

- Monitor Water Quality
- Feeding
  - Temperature
  - Body weight
- Mortalities

## Monthly Operation

- Sample Counts
  - >30 individuals
  - TL, SL, WT
  - Calculate feeding rates

## HARVEST

- **Passive Harvest**

- Begins when 70% >300mm
- Fyke nets
- 2 Stocking locations

- **Active Harvest**

- Drain Ponds
- Harvest remaining fish
- 4 Stocking locations



## Augmentation Success

- NAPI Ponds have the best growth and return rates of razorback suckers
- Razorback Sucker in-river survival is best from NAPI ponds
- 6000 - 8000 fish/year are stocked from the NAPI ponds into the San Juan River



# Monitoring/ Non - native removal







San Juan River

Lake Powell

Proposed Antenna Location

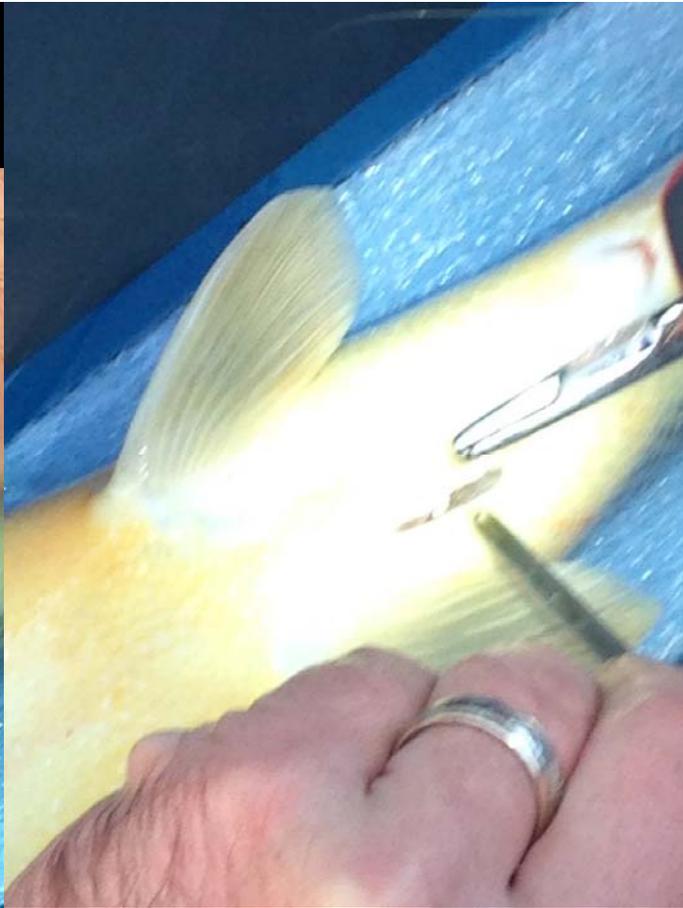
Piute Falls

1891 ft

Image USDA Farm Service Agency  
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Google earth











Any Questions?