



# **SUMMARY OF NATIVE FISH MONITORING ACTIVITIES AT IMPERIAL PONDS, 2012**

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# Background

- Bonytail and razorback sucker are both listed as endangered
- Stocking has failed to establish new populations
- Habitat degradation and non-native fish are the primary culprit



# Backwater Program

- LCR MSCP
  - Intended to address the needs of 26 species
  - Also must accommodate water diversions and power production on the lower Colorado River
- One component of the project is to restore or create backwater habitat



# Imperial Ponds

- Designed and built
  - To provide habitat for LCR MSCP species
  - Including bonytail and razorback sucker
  - As a testing ground for habitat features



# Currently

- All native fish have been consolidated into Pond 1.
- Pond 1 is the only pond receiving any well water input.
- Pond 1 is clean of non-natives with the exception of mosquitofish.

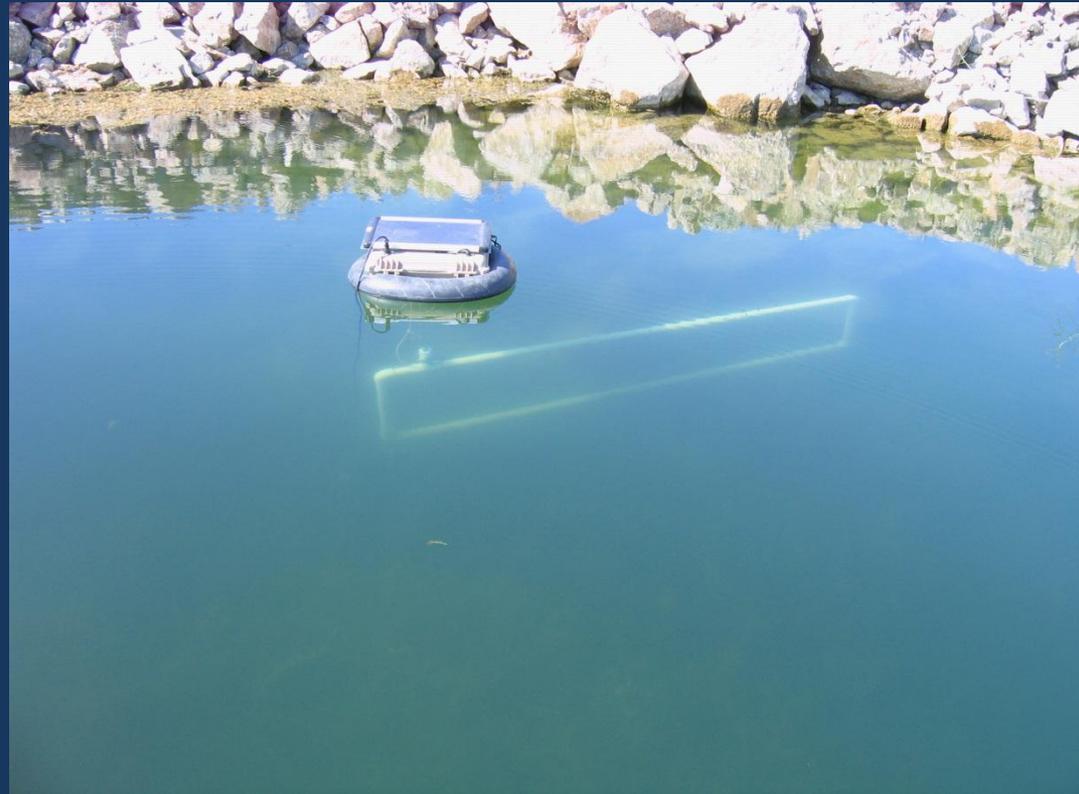
# Objectives

- Monitor bonytail and razorback sucker
  - Survival
  - Reproduction
  - Habitat associations
- Methods
  - Remote PIT scanning
  - Netting

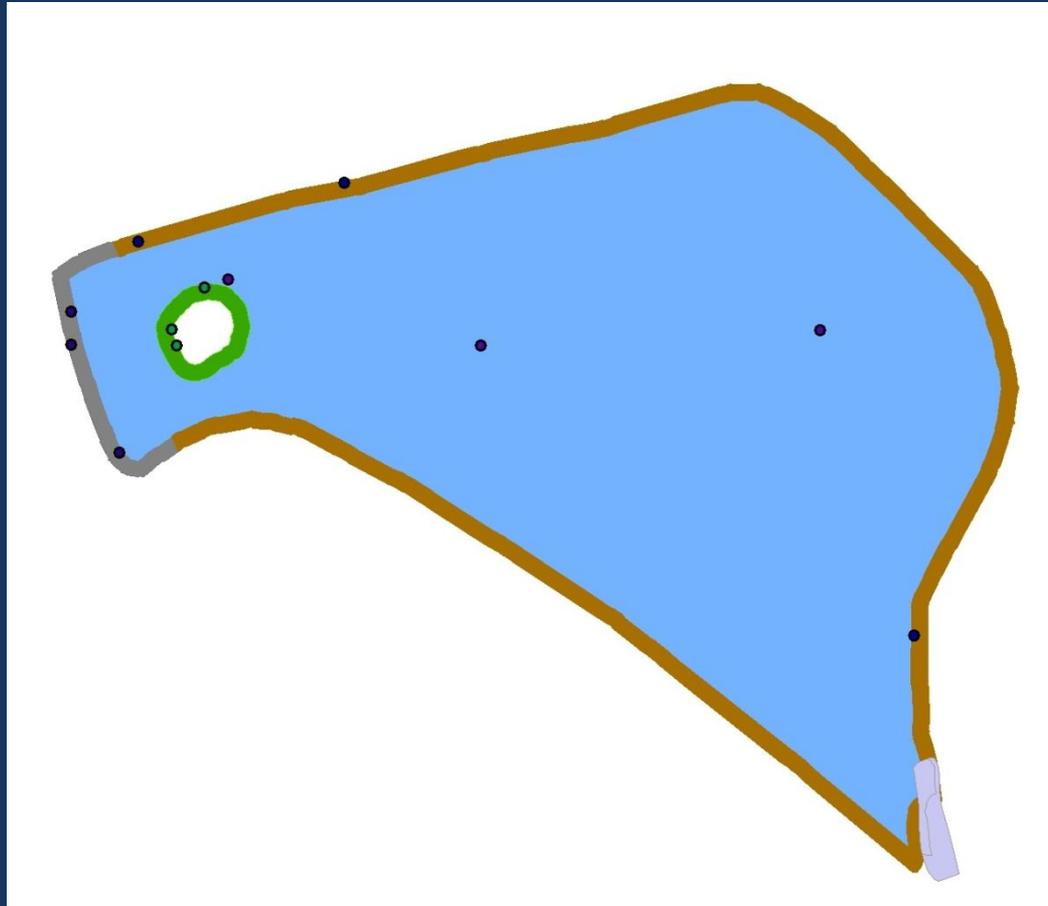


# Remote PIT scanning

- Remote PIT scanners were deployed monthly to estimate survival and habitat association
- PIT scanners were comprised of a 38 mm PVC antenna (2.3 X 0.7M rectangular frame) connected to a scanner-logger unit.
- Monthly survival was estimated using a Cormack Jolly Seber mark-recapture model in the program MARK.



# Example Map



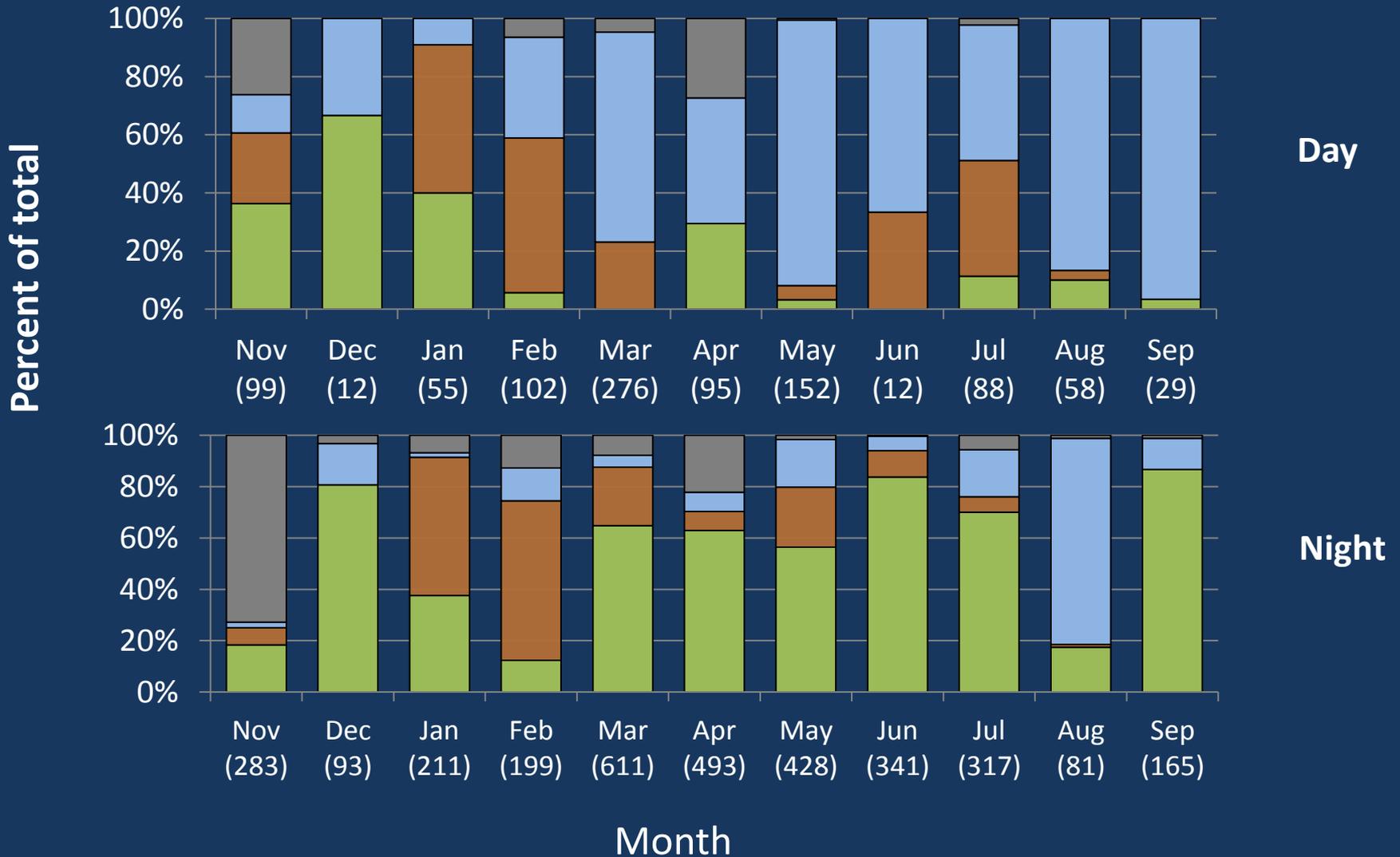
# Netting

- Trammel netting and trap netting to capture natives in Pond 1.
- Netting and mark-recapture were used to quantify recruitment
  - razorback sucker recruits were captured in November 2011
  - a second sample was conducted in March 2012 for recaptures.



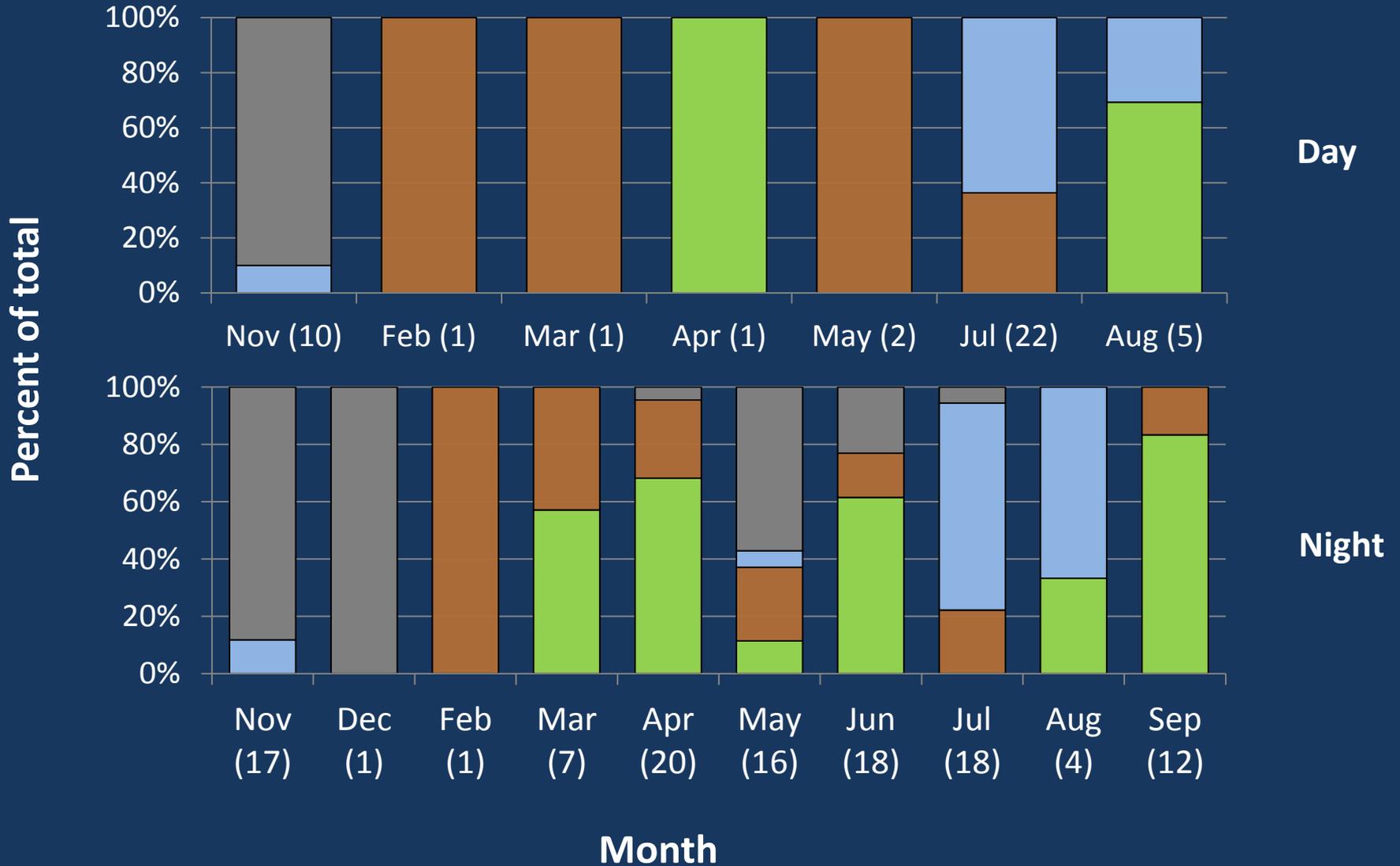
# Habitat Association

## Razorback sucker



# Habitat Association

## Bonytail



# Survival

- Adult razorback survival– 90% over 11 months
  - 10% in Pond 1 pre consolidation
  - 8.8% to 21.7% in Ponds 4 and 6
  - 73% in Pond 2
- Juvenile razorback survival – 17% over 9 months
  - 10-25% post stocking survival for 350 mm stocked razorback in Lake Mohave.
  - 5-35% post stocking survival for razorback sucker in managed ponds elsewhere within the basin.
- Bonytail survival – 53.5% over 11 months

# Recruitment

- 25 razorback recruits were captured and marked in the November 2011 sample.
- 19 razorback recruits were captured in March 2012, 3 of which were recaptures.
- This gave us an estimated 135 (95% CI 55-338) razorback recruits
- One bonytail recruit was captured in the March 2012 sample.

# Summary

- Razorback sucker utilized the cooler deep water in the warmer months and were more active at night.
- There were very few bonytail contacts, but they were more active at night particularly around the hummock and open water in the warmer months.
- Razorback sucker adult survival was higher compared to other water bodies.
- Young razorback sucker survival was on par with the Mohave basin and other backwaters.
- Bonytail survival was low, but there is no previous survival data for comparison.
- Significant recruitment of razorback sucker.
  - Only ~50 larvae captured in the spring of 2011
  - Only 1 larvae captured in the spring of 2012

# Acknowledgements

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