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

Bonytail

Month

Percent of total

Day

Night

Nov (10)  Feb (1)  Mar (1)  Apr (1)  May (2)  Jul (22)  Aug (5)

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
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