Use of remote PIT-scanners to monitor razorback sucker in Lake Mohave

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2011 Goals

- Increase overall number of contacts with PIT tagged fish in Lake Mohave
- Better resolution on emigration throughout the reservoir
Remote PIT-scanning development

- 2005-12
  - Jon Nelson (BOR) utilized flat-plate antennae and integrated Destron scanners inside floating ice chests
Remote PIT-scanning development

- 2008-12
  - Don and Brian Kesner (M&A) engineered energy efficient loggers paired with Allflex scanners which could be programmed in the field
Remote PIT-scanning development

- 2008-12
  - Fabrication of completely submersible remote PIT-scanning antennae with 24-hr battery life
2006-09 telemetry

- Post-stockling dispersal and survival of subadult and adult razorback sucker
2006-09 telemetry

• Post-stockling dispersal and survival of subadult and adult razorback sucker
2006-09 dispersal
2006-09 dispersal
2006-09 dispersal
Shore-based PIT-scanning units

96 hours battery life
Submersible PIT-scanning units

24 hours battery life
Unique razorback sucker contacts in Lake Mohave

- 2002-11
Unique razorback sucker contacts in Lake Mohave

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  - 268 unique contacts/year (range 189 to 341)
Unique razorback sucker contacts in Lake Mohave

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    - 268 unique contacts/year (range 189 to 341)

- **Jan.-Sept. 2011 only**
  - Remote PIT-scanning (M&A and BOR data, Jan. – Sept. 2011 only)
Unique razorback sucker contacts in Lake Mohave

- **2002-11**
    - 268 unique contacts/year (range 189 to 341)

- **Jan.-Sept. 2011 only**
  - Remote PIT-scanning (M&A and BOR data, Jan. – Sept. 2011 only)
    - 1,044 unique contacts
Unique razorback sucker contacts in Lake Mohave

M&A data
- Two person field crew
- 1987 scan hours
- 730 unique contacts

BOR data
- One person field crew
- 1275.5 scan hours
- 321 unique contacts
Unique razorback sucker contacts in Lake Mohave

Fish movement
- 7 fish (<1%) detected between monitoring sites
  - No directional movement

164 unique contacts (16%) were detected at between 2-4 different spawning sites
Unique razorback sucker contacts in Lake Mohave

- Of the 1,044 unique PIT scanner contacts, 12 fish were released during 2008 or 2009 telemetry studies.
- Half of those (6 fish) were reared in Yuma Cove backwater.
2012 and beyond

- Intensive monthly remote PIT-scanning
- Increase overall number of contacts with PIT tagged fish
- Better resolution on repatriate emigration and survival throughout Lake Mohave
  - Particularly, how does stocking location affect survival
Thanks to our partners for their support

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