

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

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Colorado River Aquatic Biologist Meeting  
January 9-10, 2013  
Laughlin, NV

Funding for this project has been provided by the Lower Colorado River Multi-Species Conservation Program.



# Remote PIT scanning 2008-2010

- 711 individuals were contacted in total using integrated Destron scanners
  - 176 individuals in 2008
  - 194 individuals in 2009
  - 477 individuals in 2010



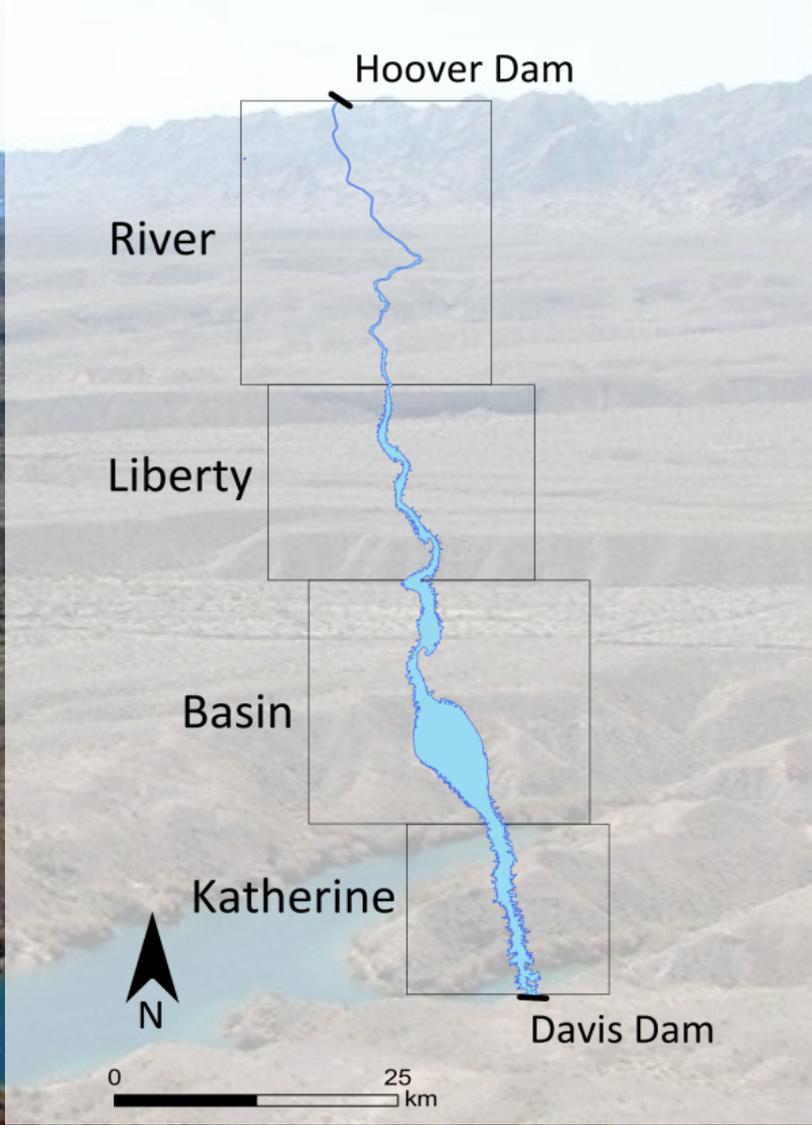
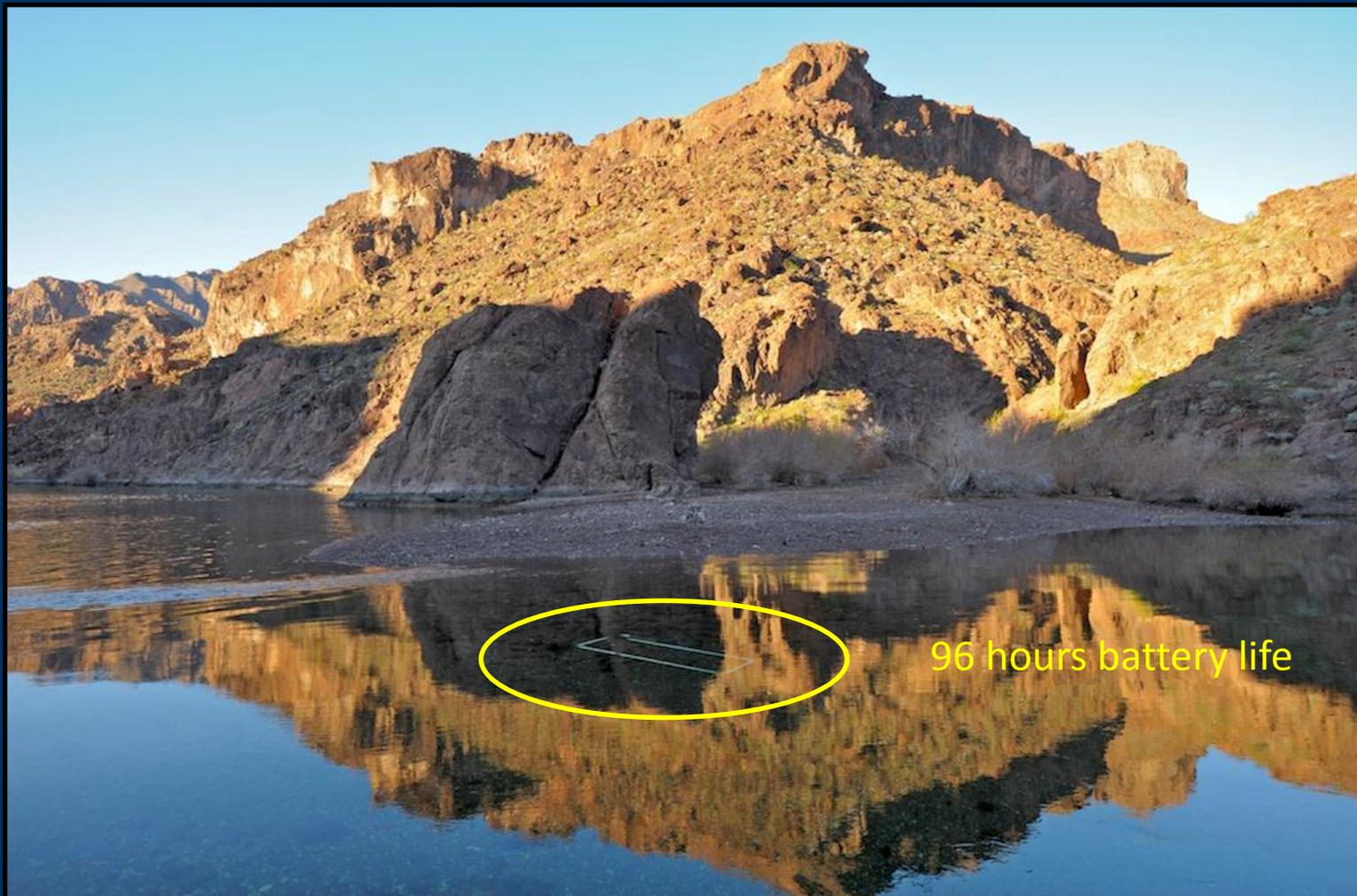


Photo by Jason Schooley



# Shore-based PIT-scanning units



# Submersible PIT-scanning units



# 2012 Goals

- Increase scanning effort in both river and basin sections in order to contact at least 50 percent of the overall number of PIT tagged razorback sucker in Lake Mohave
- Better resolution on emigration throughout the reservoir



# Yuma Cove Antenna Array

- Semi-permanent structure at Yuma Cove
- This array allows up to 3 antennas scanning continuously from January through May each year



# Unique razorback sucker contacts in Lake Mohave

- Jan.-Sept. 2011 only
  - Remote PIT-scanning (M&A and BOR data, Jan. – Sept. 2011 only)
    - 1,044 unique contacts
- 2012 March Round-up
  - Electrofishing and netting efforts of NPS, FWS, BOR, NDOW, AZDFG, BLM, M&A, USGS, ASU
    - 170 unique contacts



# Unique razorback sucker contacts in Lake Mohave

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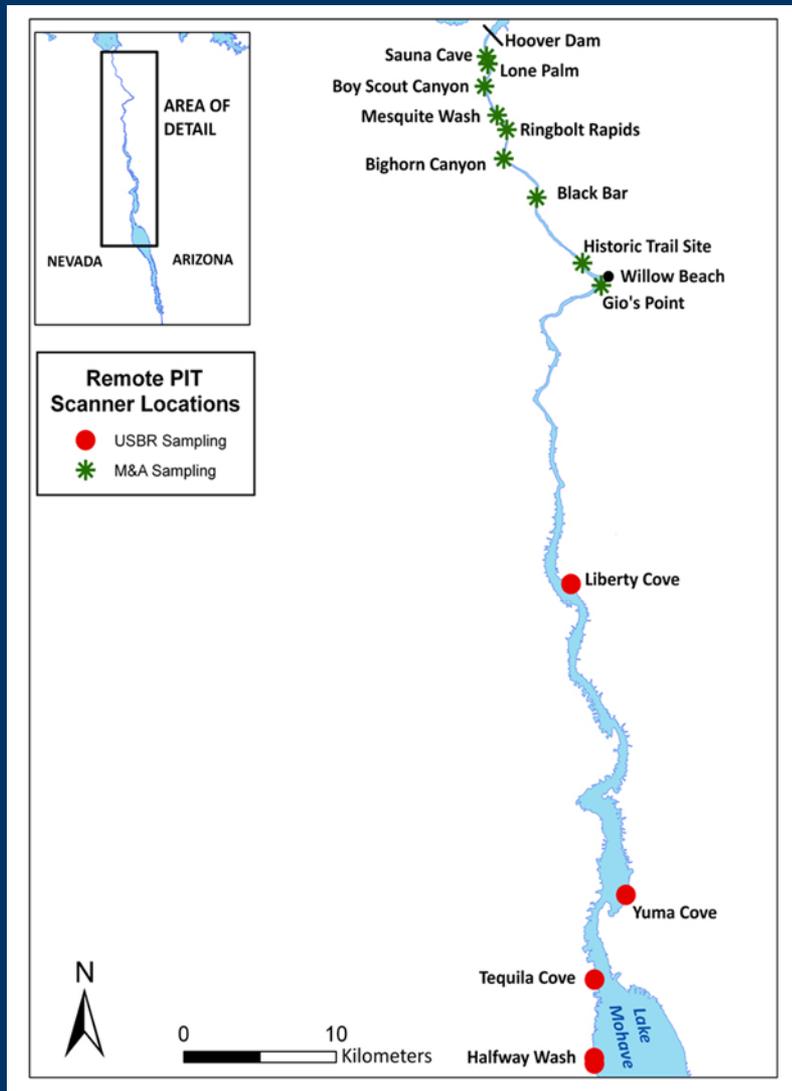


# Unique razorback sucker contacts in Lake Mohave

- Jan.-Sept. 2012 only
  - Remote PIT-scanning (M&A and BOR data, Jan. – Sept. 2012 only)
    - 2,748 unique individual contacts



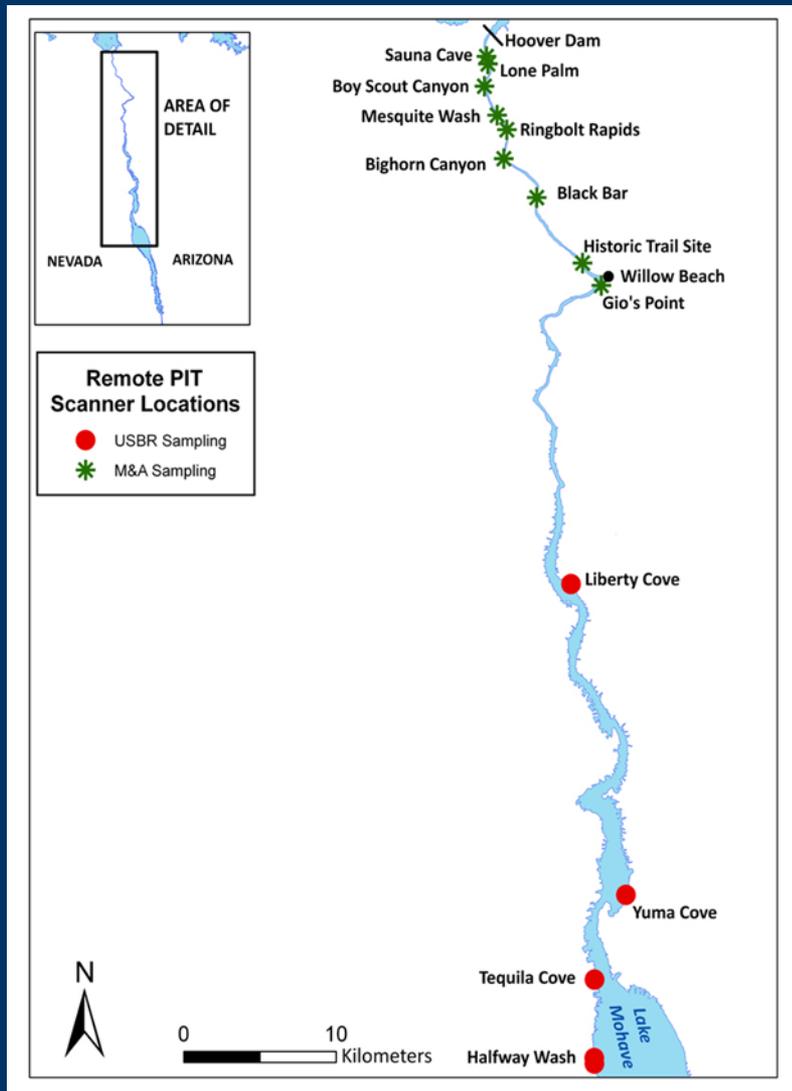
# Unique razorback sucker contacts in Lake Mohave



- M&A data
  - Two person field crew
  - 4397 total scan hours
    - 4020 h with submersible units
    - 377 h with shore based units
    - Total PIT tag contacts recorded = 19,813
  - 1934 unique contacts



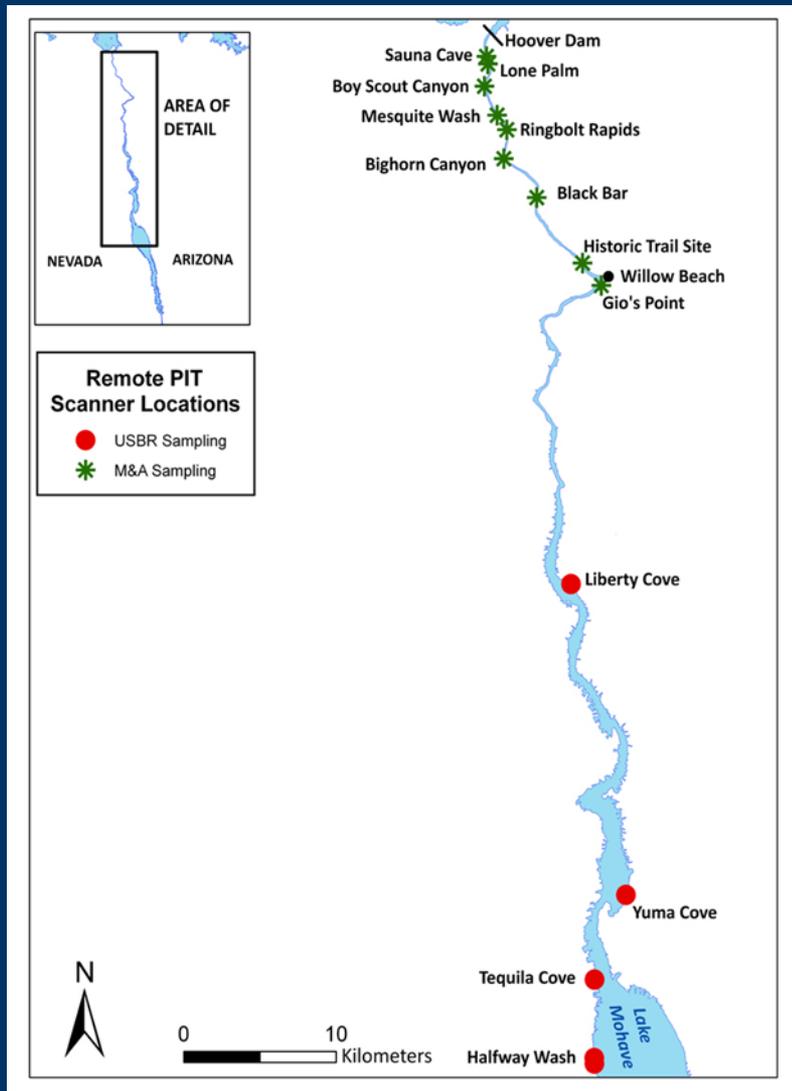
# Unique razorback sucker contacts in Lake Mohave



- BOR data
  - One+ person field crew
  - 3995.6 total scan hours
    - 3320.1 h with shore based units
    - 612.6 h with Destron scanning units
    - 62.93 h with submersible units
    - Total PIT tag contacts recorded = 27,015
  - 854 unique contacts



# Unique razorback sucker contacts in Lake Mohave



- Fish movement
  - 40 fish (1.5%) detected between monitoring zones
    - Little directional movement
- 604 unique contacts (32.6%) were detected at between 2-4 different spawning sites



# Unique razorback sucker contacts in Lake Mohave

- Of the 2,878 unique PIT scanner contacts (with marking records), 18 acoustic tagged fish have been contacted since 2010
- 13 of those fish were contacted in 2012, 8 of which had not been previously contacted in prior years of PIT scanning
- Acoustic tagged fish contacted via PIT scanning to date-
  - 12 fish were released in 2009
  - 6 fish were released in 2008
  - No fish released in 2006 and 2007 have been contacted



# 2013 and beyond

- Intensive monthly remote PIT-scanning throughout the river and basin sections
- Identify new sample locations in existing and un-sampled zones (time and equipment permitting)
- Maintain 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

- USBR



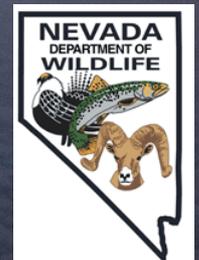
- USFWS



- NPS



- NDOW



- Cross Country Consulting, LLC