

RAZORBACK SUCKER IN LAKE MEAD, LAKE POWELL, AND LOWER GRAND CANYON—WHAT'S NEW AND WHAT'S NEXT

Mark McKinstry, Ph.D.
U.S. Bureau of Reclamation
and
Richard Valdez, Ph.D.
SWCA

Outline

- 1) Background on razorback sucker
- 2) 3 BiOps for Grand Canyon and Lake Mead
- 3) Overview of work in Lake Mead and Lake Powell—Brandon Albrecht, Ron Kegerries, (Bio-West) Travis Francis (USFWS)
- 4) Science Panel Recommendations
- 5) Present potential future activities in Lower GC
- 6) Questions and discussion—5-10 minutes



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Overview Razorback Sucker

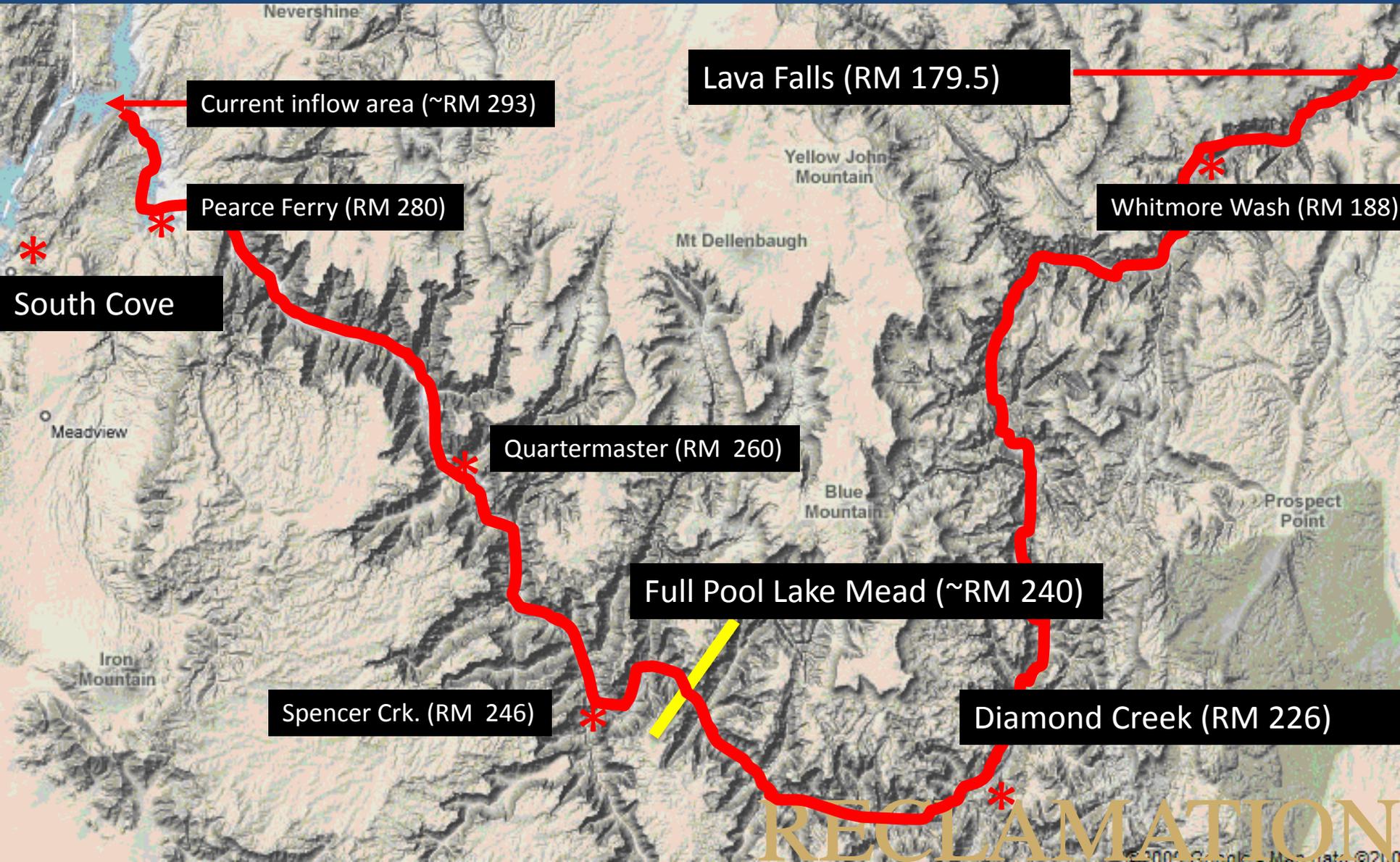
- Listed ESA 1991
- Critical Habitat designated 1994
- Recovery plan 1998
- Recovery goals 2002



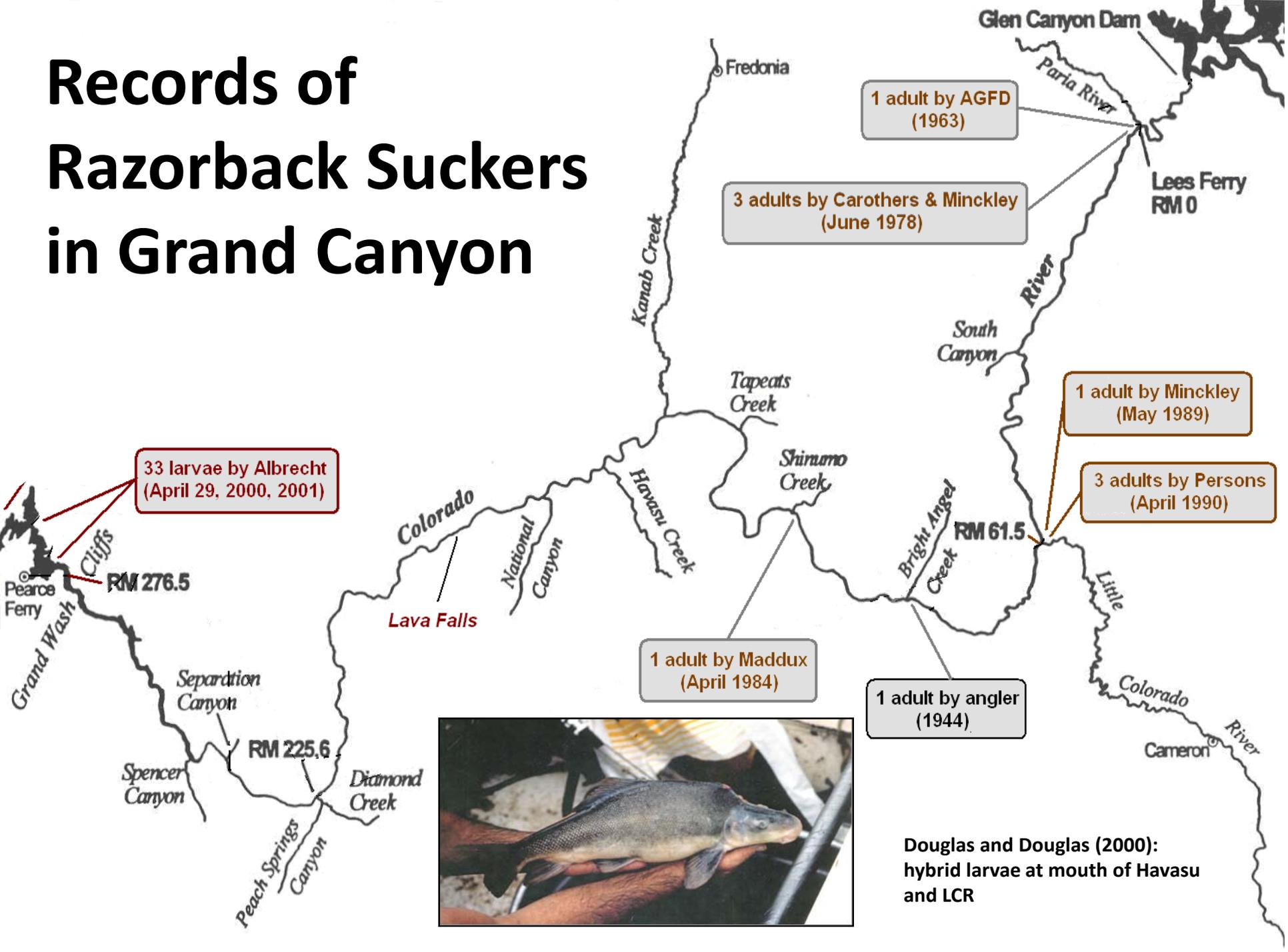
Review of Biological Opinions for RBS

- 1995 BiOp (Reclamation, Operation of Glen Canyon Dam)— “sponsor a workshop, develop a management plan for RBS in Grand Canyon.”
- 2006 BiOp (NPS-Colorado River Management Plan)— “...conduct surveys in the Lower Gorge-Lake Mead interface for spawning razorback suckers...”
- 2008 BiOp (Reclamation, Shortages and Coordinated Reservoir Operations)— “...examine the potential habitat in the **lower Grand Canyon** for RBS and institute an augmentation program in collaboration with FWS, if appropriate.”

What is Lower Grand Canyon?



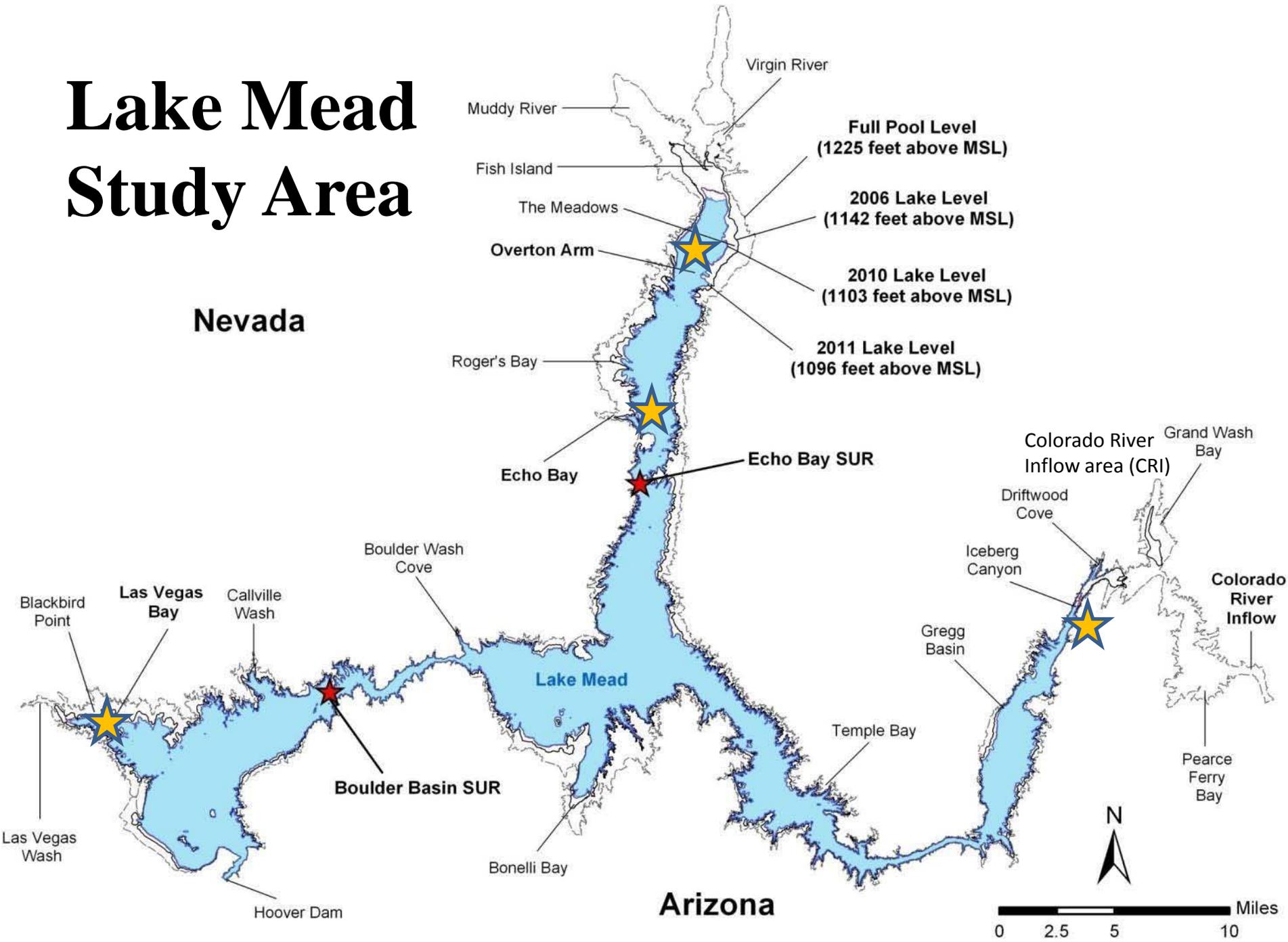
Records of Razorback Suckers in Grand Canyon



Lake Mead Study Area

Nevada

Arizona



Overview of RBS in Lake Mead

- 16 years of study (1996-2012)
- 92 sonic-tagged individuals in Lake Mead
- 1,123 total individuals captured or stocked
 - 710 unique individuals,
 - 413 recaptures
- 4 areas of known, established reproduction in Lake Mead (Las Vegas Bay, Echo Bay, Overton Arm, Colorado River Inflow)
- 412 individuals aged, 2-36 years old
- 2012 Lake-wide population estimate 596 (CI 468-786) adult fish (it depends on the estimate and model; the CIs range from 234-992)
- Documented population of recruiting fish in Colorado River Basin

Data courtesy Brandon Albrecht and Ron Kegerries, Bio-West

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RBS Records From Colorado River Inflow Area of Lake Mead

- 2000 and 2001—larvae found
- 2008—adult in Gregg Basin (near CRI)
- 2010—3 untagged (wild) adults captured, 7 larvae
- 2011—7 untagged (wild) adults, 8 recaps, 65 larvae
- 2012—13 untagged (wild) adults, 13 recaps, 12 Larvae, 2 fish moved upstream to Quartermaster or beyond, 3 fish moved up past Pearce Ferry, 1 wild fish (male, ripe) captured at Spencer Creek

Data courtesy Brandon Albrecht and Ron Kegerries, Bio-West

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Lake Mead and CRI Habitat

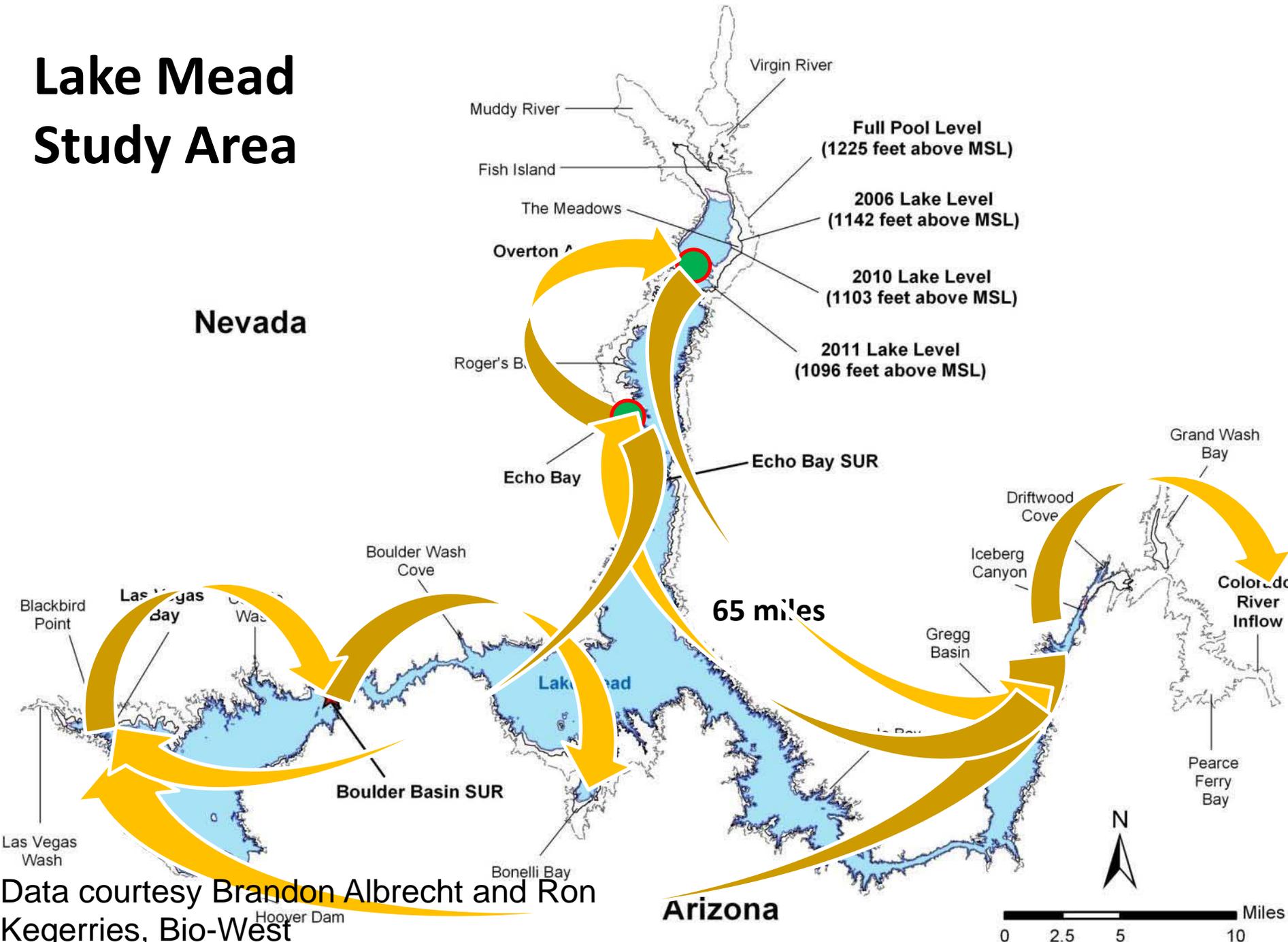


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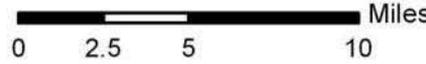
Lake Mead Study Area

Nevada

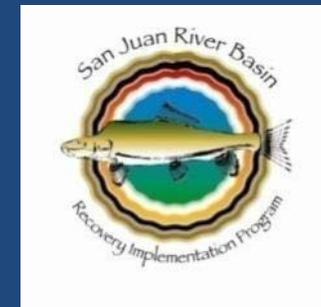
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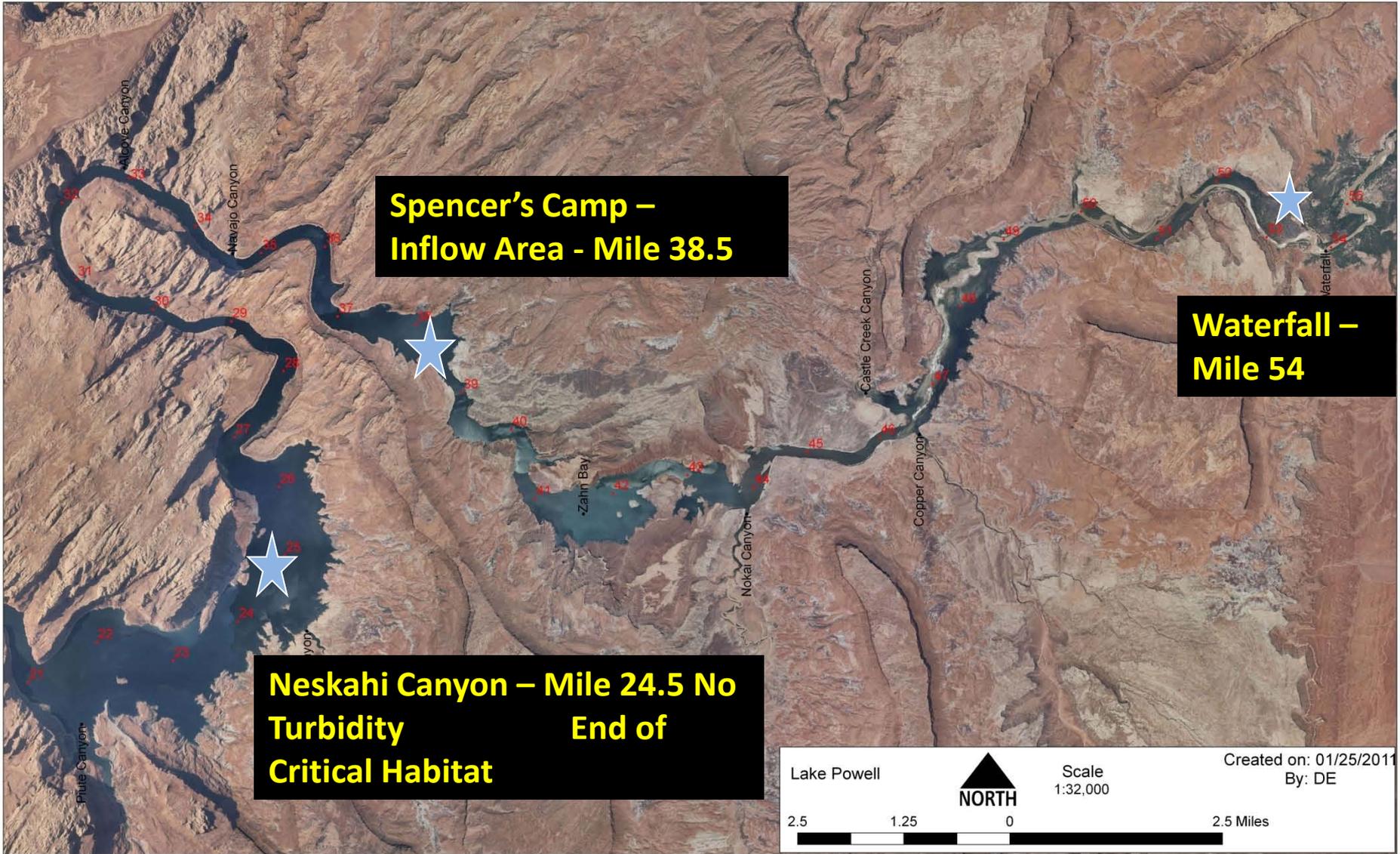
Data courtesy Brandon Albrecht and Ron Kegerries, Bio-West



Lake Powell Study Area 2011-2012



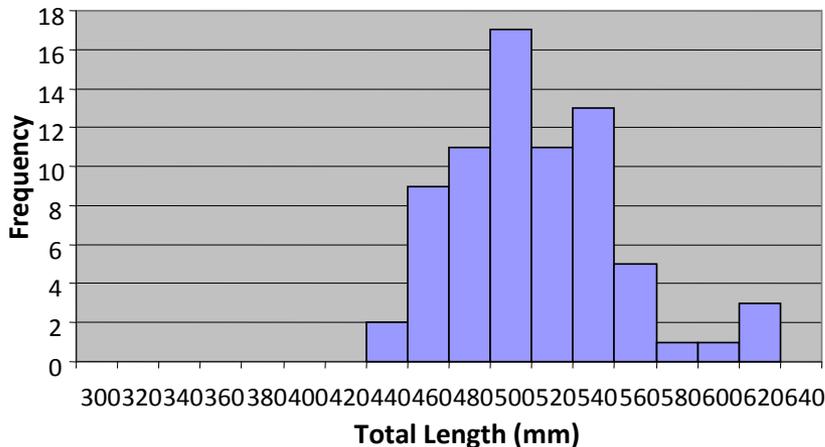
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Key Findings Lake Powell

- Large stocking program for RBS upstream in SJR, BUT 53/148 (36%) captured without PIT tag (Recruitment??)
- One RBS Larvae (Reproduction)
- Age of fish 4 to 19 years old
- RBS captured in Lake portion of inflow

Razorback Sucker TL (mm)



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Summary of Razorback Sucker Sampling in Lake Powell

	2011	2012
Number of PIT-tagged Fish Captured	48	47
Number of Untagged Fish Captured	27	26
Total Number of Fish Captured	75 (36% untagged)	73 (36% untagged)
Number of Larvae Captured	1	Samples in lab—more than last year

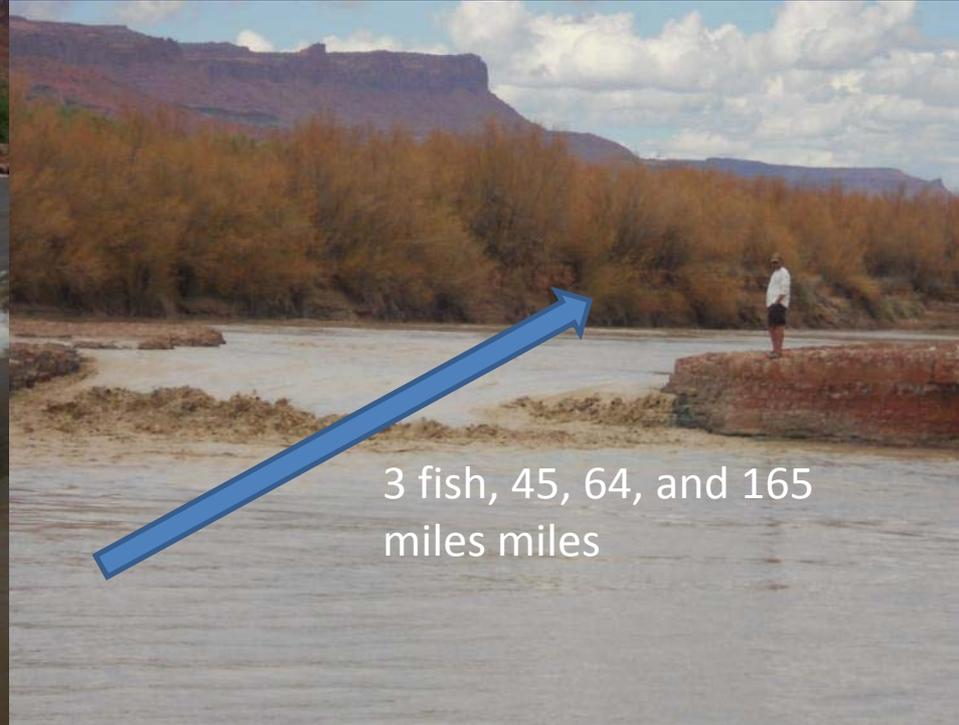
* 24 Colorado pikeminnow also captured

Lake Powell Habitat



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San Juan River Waterfall 2008 vs 2011



3 fish, 45, 64, and 165
miles miles

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Science Panel 2010

- Kevin Bestgen
- Chuck McAda
- Gordon Mueller
- Dale Ryden
- Melissa Trammell
- Rich Valdez



Recommendations For the Future

(Science Panel Review of RBS in Lower Grand Canyon)

- Continue work on RBS at CRI and Lake Mead
- Is augmentation necessary?
- Use translocated wild fish (wild larvae from lake pop'n) if augmentation is done
- Integrate all information on fish and foodbase in LGC and CRI
- Expand fish surveys in LGC, esp. for RBS
 - Larval and small-bodied fish study
- Potentially sonic-tag large adult RBS and release in Lower Grand Canyon
 - Look at habitat use, movements, other fish

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Proposed Future Work—2013>

- Downstream of Lava Falls/Whitmore Wash to CRI area
- Larval and small-bodied fish sampling
 - Larval fish community (known, unknown?)
 - Composition, Timing, abundance, location, periodicity of spawn
 - Small-bodied fish community
 - Composition, relative numbers, habitats
- Sonic telemetry (captive adult fish-'Judas' fish)
- Trammel netting
- Continue monitoring at CRI area

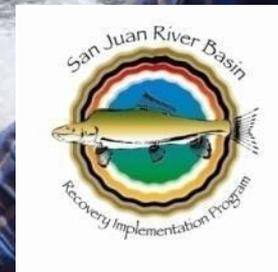
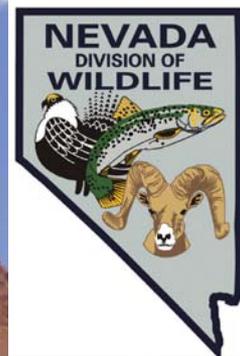
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Thanks





Acknowledgements



Lake Mead Workgroup