

**Glen Canyon Dam Adaptive Management Work Group**  
**Agenda Item Information**  
**February 24-25, 2016**

---

---

Agenda Item

Razorback Sucker Research Update

---

---

Action Requested

Information item only; we will answer questions but no action is requested.

---

---

Presenter

Mark McKinstry, Ph.D., Biological Scientist, Bureau of Reclamation, Upper Colorado Region

---

---

Previous Action Taken

This project is a requirement of the 2007 (USFWS 2007, Appendix A, p. 74) Coordinated Reservoir Operations Biological Opinion.

U.S. Fish and Wildlife Service. 2007. Final biological opinion for the proposed adoption of Colorado River interim guidelines for lower basin shortages and coordinated operations for Lake Powell and Lake Mead. USFWS, Phoenix, Arizona. December 12, 2007. Available at: <http://www.usbr.gov/lc/region/programs/strategies/documents.html#bo>.

---

---

Relevant Science

The following describes the relevant research or monitoring on this subject:

Kegerries, R., B. Albrecht, R. Rogers, E. Gilbert, W. H. Brandenburg, A. L. Barkalow, S. P. Platania, M. McKinstry, B. Healy, J. Stolberg, Emily Omana Smith, Clay Nelson, and H. Mohn. 2015b. Razorback Sucker *Xyrauchen texanus* research and monitoring in the Colorado River inflow area of Lake Mead and the lower Grand Canyon, Arizona and Nevada. Final report prepared by BIO-WEST, Inc., for the U.S. Bureau of Reclamation, Upper Colorado Region, Salt Lake City, Utah.

---

---

Summary of Presentation and Background Information

Since the mid 1990s, Razorback Suckers, *Xyrauchen texanus*, were considered extirpated from Grand Canyon. In 2010, the U.S. Bureau of Reclamation, Upper Colorado Region (Reclamation), and the Lower Colorado River Multi-Species Conservation Program initiated a joint project to evaluate Razorback Sucker use of the Colorado River Inflow Area of Lake Mead (CRI). That project was based on a Biological Opinion from the U.S. Fish and Wildlife Service (USFWS) that recommended Reclamation begin a project to "...examine the potential habitat in the lower Grand Canyon for the species, and institute an augmentation program in collaboration with USFWS, if appropriate" (USFWS 2007, Appendix A, p. 74). The "the lower Grand Canyon" was subsequently defined as Grand Canyon from Lava Falls rapid downstream to include the inflow portion in Lake Mead as well as several miles of Lake habitat (USFWS decision in 2008).

Initial surveys at the CRI showed that Razorback Sucker were using the area, including the lower few miles of river; and were spawning, with recently recruited fish identified. In 2014, Reclamation, in cooperation with National Park Service (NPS) and the contractors BioWest and American Southwest Ichthyological Researchers, began a project to further document Razorback Sucker use of Lower Grand Canyon. Nine sonic-tagged adult Razorbacks were released at Lava Falls with the goal that they would lead to concentrations (e.g., spawning areas) of other fish. A project was also begun to randomly sample for small fish and larvae. These techniques have worked in other areas of the Basin to identify spawning and habitat use by this fish species.

More than 40 sites were identified through random sampling for larval and small-fish surveys. Subsequent sampling during seven sampling trips in 2014 and 2015 each documented spawning by Razorback Suckers at all of the sample sites, indicating documentation that Razorback Suckers were using the area and were spawning from late February until June.

Lake Mead and the CRI are the only locations in the entire Colorado River Basin where Razorback Suckers are naturally spawning, recruiting, and maintaining a natural population without stocking.

The sampling has also identified extensive spawning by Humpback Chub, *Gila cypha*, and other native suckers including Flannelmouth, *Catostomus latipinnis*, and Bluehead, *C. discobolus*, suckers. In fact, the fish community in lower Grand Canyon is dominated by native fish, which comprise over 90% of the catch in larval and small-bodied samples. The composition of native fish in Grand Canyon is much higher than any other major river in the Colorado River Basin, suggesting that Grand Canyon serves as a native-fish stronghold. Some biologists have suggested that the proportion of native fish in Grand Canyon has shifted in the last few years, possibly as a result of warming water or other conditions that give them an advantage over nonnative species.

This work is planned to continue in 2016, with all work funded directly from Reclamation to NPS and contractors. At the conclusion of the 2016 field season, after the results are reported, Reclamation plans to convene another group of experts in Razorback Sucker ecology to identify what steps, both research and management, should be taken to benefit this species in the future.