



Photo by Mark Fuller, U.S. Fish and Wildlife Service

Razorback Sucker Culture System Planning

*Bubbling Ponds
State Fish Hatchery
(Arizona)*

SUMMARY: The Arizona Game and Fish Department (AZGFD) raises razorback suckers for the Lower Colorado River Multi-Species Conservation Program at Bubbling Ponds Hatchery. Razorback suckers are an endangered species native to the Colorado River Basin. AZGFD currently raises razorback suckers in outdoor ponds at the hatchery, where it typically takes two years to grow the razorbacks to a target stocking size of 12 inches. Fish growth in the ponds is extremely variable and requires the ponds to be harvested several times a year, which is labor intensive. Recommendations were made for installing a new fish culture system with circular tanks in place of one of the existing ponds at the hatchery site.

CHALLENGE: Razorback suckers have been reared at Bubbling Ponds Hatchery for the last ten years; however there are still many biological uncertainties associated with culturing the fish. The current pond environment is open and uncontrolled, making it difficult to determine optimum environmental parameters for the fish. Additionally, the AZGFD is interested in using circular tanks for the new culture system, yet the response of razorback suckers to a circular tank environment with current velocity is not known.

SERVICES PROVIDED:

- Production Modeling
- Infrastructure Planning
- Conceptual Design

SOLUTION: The existing infrastructure and needs at Bubbling Ponds Hatchery were evaluated during a site visit and different razorback sucker culture techniques were discussed. Culture system planning was completed and conceptual designs were developed. Designs utilized the existing spring water supply and drain lines at the hatchery and also incorporated overall system flexibility for long term programmatic use.

RESULTS: Three different culture system designs were presented to the AZGFD pending the results of an initial trial raising razorbacks in circular tanks. Conceptual cost estimates were provided for each design, which the AZGFD is currently using to develop a strategy to implement Phase I of the design.