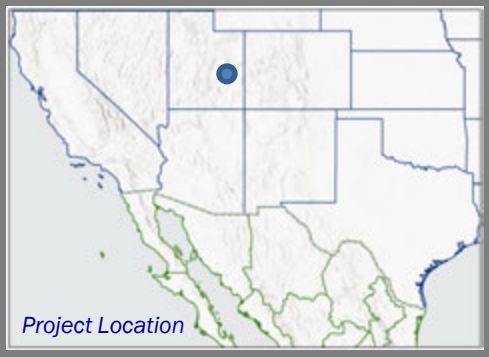
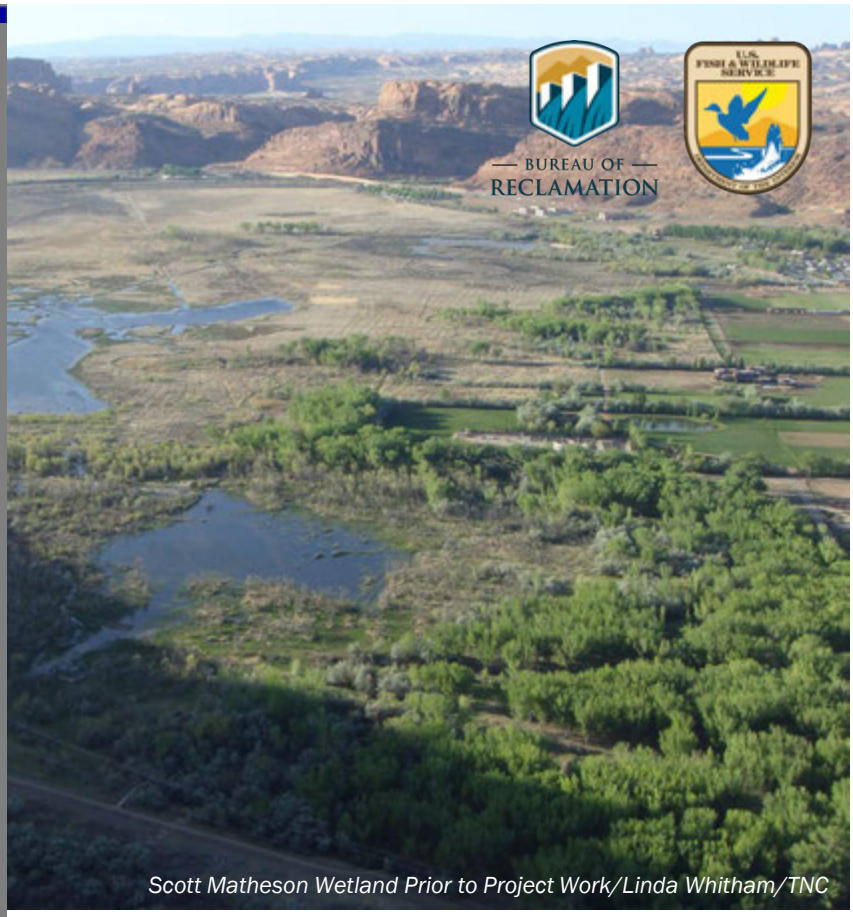
RESTORATION

Increasing Water Availability for the Razorback Sucker on the Scott Matheson Wetland Preserve

The Scott Matheson Wetland Preserve is located near Moab, Utah along the Colorado River. In 1990, The Nature Conservancy (TNC) and Utah Division of Wildlife Resources (UDWR) purchased this 875-acre preserve that is home to the Razorback Sucker (*Xyrauchen texanus*), a federally endangered species endemic to the Colorado River. Razorback Suckers have declined basin-wide primarily due to habitat loss. The preserve also supports over 200 species of birds, amphibians, and mammals that depend on the wetland. In 2015, TNC, UDWR, and other partners collaborated to increase water availability on the preserve by improving connectivity to the Colorado River, and to create habitat for the Razorback Sucker by enhancing a spring-fed pond on the wetland.





Scott Matheson Wetland Prior to Project Work/Linda Whitham/TNC

KEY ISSUES ADDRESSED

Habitat alterations, competition and predation from over 70 non-native fish species, and lack of flooding due to drought have caused basin-wide Razorback Sucker declines. The suckers spawn in the river and drift to floodplain wetlands after hatching, preferring off-channel habitats in the springtime. The wetland on the preserve is the only site within a 64-mile reach along the Colorado River that provides this nursery habitat; however, reduced flooding events have caused decreased habitat quality. Without regular flooding events, larvae do not have sufficient backwater nursery habitats, making them more susceptible to predation. Biologists have observed wild-spawned Razorback Sucker larvae along the Colorado River, but the lack of nursery habitat reduces adult recruitment.

PROJECT GOALS

- Construct a water control structure to channel water from the Colorado River onto the preserve
- Improve nursery habitat by dredging a pond in the center of the wetland
- Prevent non-native fishes from entering the central pond by draining the pond and installing fish screens

DATA OPPORTUNITY

Before releasing suckers into the river, biologists collect tissue samples to detect hybridization with non-natives and insert PIT-tags to track fish growth, movement, and population sizes.

Adult Razorback Sucker/UDWR

PROJECT HIGHLIGHTS

Water Control Structure: Starting in 2018, engineers installed a concrete structure to control water to and from the Colorado River. This allowed more water to flow onto the preserve and carried Razorback Sucker larvae with it.

Ponds and Pipelines: Engineers dredged two acres of the central pond to add depth and create a refuge during drought conditions. Razorback Sucker larvae can inhabit this pond for several months until they are less vulnerable, and then biologists can release them back into the Colorado River. Engineers also installed a pipeline to move groundwater from a spring across the preserve.

Preventing Non-Natives: Biologists drain the central pond annually to rid it of non-native species. They also installed fish screens to prevent non-native fish from entering the pond and preying upon the young suckers.

Signs of Success: In 2021, biologists released four Razorback Suckers that had matured in the safety of the pond into the Colorado River.

Water Budget Survey: A multi-year survey effort aims to explain how much ground and surface water is coming onto the preserve and from where.

Collaborators

- U.S. Fish and Wildlife Service
- Utah Division of Forestry, Fire, and State Lands
- See online for full list of collaborators

LESSONS LEARNED

Collaboration of ideas and financial partner support made this project a success. Partners carried out this project in multiple phases which allowed them to break up the work into manageable periods of time. This also made funding easier to acquire by applying for financial support in smaller increments.

Permits were required for multiple aspects of this project and took time to acquire. The wait time was ultimately beneficial for engineers because they had more time to modify structural design plans, but it might not be beneficial for every project. Partners recommend starting the permitting process as early as possible when planning similar projects and having a reliable team member to navigate the permitting processes.

The engineering aspects of this project were costly. To obtain funding, partners utilized a resource from Utah's Watershed Restoration Initiative that allows managers to identify threats to individual species and can be leveraged to show how addressing one threat leads to benefits for multiple species. Since the preserve is home to many species, partners obtained funding from multiple sources by demonstrating the proposed improvements would benefit a multitude of species on the preserve.

NEXT STEPS

- Provide public education on the preserve by posting signage about the water control structure
- Analyze results from the water budget survey and adjust management actions accordingly
- Look for alternative sources of water, such as effluent, to use for the pond

For more information on this project, contact Linda Whitham (lwhitham@tnc.org) or Makeda Hanson (makedatrujillo@utah.gov).

Field Tour Following Project Completion in 2021/UDWR

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