

MCWC project completed to expand habitat for native fish on East Divide Creek

Imagine life as a small fish. Your world is confined to swimming in creeks, rivers and streams searching out food, seeking shelter from predators, finding resting spots and, of course, fulfilling the biological urge to reproduce. For the female, finding just the right spot to lay one's eggs is instinctual, and most travel great distances in search of suitable habitat.

Now image swimming along and encountering a structure the size of the Glen Canyon Dam – relatively speaking. There's no going further – it's pretty much the end of the road. This is the dilemma of a small fish as it confronts a water diversion structure.

Today one small fish, a native Bluehead Sucker, has cause for celebration. A completed project on East Divide Creek, a tributary to Divide Creek that flows into the Colorado River south of Silt, has opened up more than five miles of its historic habitat unreachable to the fish before now. Five miles is a considerable distance in which the fish population can expand, increasing resiliency for the species and reducing the risk of local extinction.

The project involved the reconfiguration of a diversion structure to make it easier for fish to swim up and over it. The King Heatherly diversion structure, located on public lands managed by the Bureau of Land Management's (BLM) Colorado River Valley Office, but owned and operated by the Spring Creek Ranch, is critical for providing water to raise local crops and livestock. The structure needs to operate effectively and efficiently, but if designed properly, can continue to do so while accommodating fish passage. Scott Schreiber, an engineer with Wright Water Engineers (WWE), knows just how to do that.

Scott and his team of engineers and biologists developed a design with a rock ramp gradual enough for fish to swim up. The ramp has a rough bottom, mimicking a natural stream, complete with small boulders for fish to rest behind on their way upstream. The ramp also acts to stabilize the diversion structure and includes improvements to make annual maintenance easier for Spring Creek Ranch.

"The opportunity to connect these habitats provides great pride for WWE and myself as we look for ways to reconnect our sensitive watersheds for future generations. Using creative solutions and advanced hydraulic modeling, my team was able to understand velocity distributions across the proposed rock ramp to verify they were within the Bluehead Sucker's burst and prolonged speed ranges," Scott said.

Brian Barackman, owner/operator of Diggin' It River Works, was the local contractor selected to construct the project. His crew utilized heavy equipment outfitted with state-of-the-art electronics and GPS systems that allowed for precision placement of rock, pipe, fabrics, and vegetation. The resulting structures appear natural looking and should blend into the surrounding environment as they revegetate with native willows and grasses.

Bluehead Sucker, along with Flannelmouth Sucker, and Roundtail Chub are imperiled Colorado River basin native fish species. Collectively called "the three species," their conservation is a cooperative effort across their range which includes New Mexico, Nevada, Wyoming, Utah, and Arizona. The three species currently only occupy a fraction of their historic range in large part due to habitat fragmentation by dams and water diversion structures.

Other threats to the species include climate change, altered water quality, introduction of predatory and competitive species, and for the two sucker species, hybridization with non-native sucker species. All three fish species are found throughout the Middle Colorado Watershed and are part of an Integrated Water Management Plan that seeks to restore habitat for these species through projects like the King Heatherly Fish Passage project.

Fisheries biologist from the BLM and Colorado Parks and Wildlife (CPW) will be closely monitoring the success of the project by surveying for fish both below and above the structure, to determine if upstream movement is occurring. Documented successes from the project will be used to inform the design of subsequent projects like this in the watershed and across these species range, of which dozens have been identified.

“King Heatherly is the first project in Colorado focused on fish passage specifically for bluehead suckers. We hope this project lays a foundation to provide a blueprint for future fish passage structures for native fish in western Colorado and illustrates the feasibility of modifying structures to include fish passage,” says Jenn Logan, CPW Native Aquatic Species Biologist.

Also key to the success of projects like King Heatherly is the cooperation of a number of partners from private landowners to federal land management agencies, state resource agencies, and watershed organizations. As Tom Fresques, BLM Fish Biologist, noted “The Bluehead Sucker is a such a cool fish and the BLM is excited to have such a diverse collaborative partnership working to improve and expand habitat for this native species on public lands managed by the BLM.”

Paula Stepp, Executive Director for the Middle Colorado Watershed Council added, “Working collaboratively with local farmers and ranchers allows MCWC, BLM and CPW to enhance the water management capabilities of irrigation systems while providing native species the infrastructure to increase their long-term survival.”

Project funding came from a series of grants from the Desert Fish Habitat Partnership, BLM, CPW, and U.S. Fish and Wildlife Service. Project management was handled by the Middle Colorado Watershed Council. Please contact MCWC for more information or interest in a tour.



Aerial view before construction (August 2021). Photo credit Scott Schreiber, Wright Water Engineers.



Aerial view after construction (November 2021). Photo credit Scott Schreiber, Wright Water Engineers.