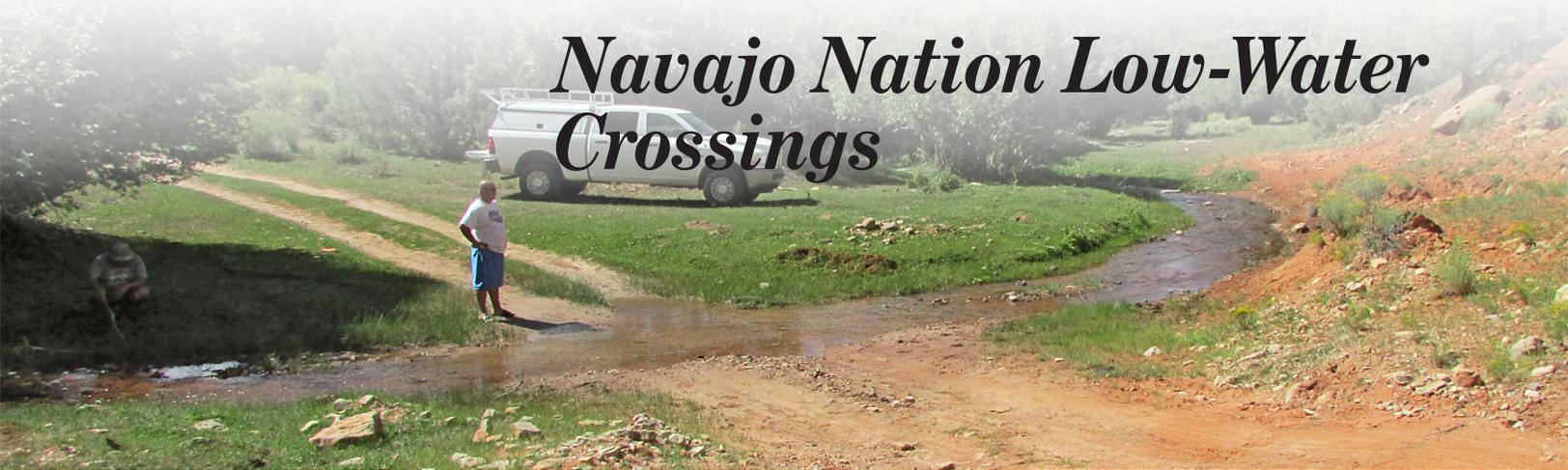




U.S. Fish & Wildlife Service

New Mexico Fish and Wildlife Conservation Office

Navajo Nation Low-Water Crossings



Project Summary

The New Mexico Fish and Wildlife Conservation Office (NMFWCO), in collaboration with the Navajo Nation Department of Fish and Wildlife, is planning to construct four hardened low-water crossings on three different Tribal streams to alleviate negative impacts caused by motorized vehicle and livestock use. Unrestricted and unimproved stream crossings impede fish movement, reduce downstream habitat quantity and quality through disturbance of fine sediments, and degrade riparian cover and bank integrity. Restricted and hardened low-water crossings are a key conservation tool in the Southwest for minimizing degradation to stream beds, floodplains, and riparian zones and in reducing the amount of sediment being transported downstream to aquatic habitats utilized by native fish species.

Low-water crossings will be constructed on Crystal Creek, Wheatfields Creek, and the upper and lower sections of Whiskey Creek within the Chuska Mountains of the Navajo Nation. Personnel from the NMFWCO, Navajo Nation, and from the NMFWCO's Tribal Youth Conservation Corps will all be involved with the effort.



About the Tribal YCC Program

Much of the work to harden low-water crossing on the Navajo Nation will be accomplished utilizing members of the NMFWCO's Tribal Youth Conservation Corps (TYCC). This Program provides Native American youth with hands-on opportunities to work alongside natural resource professionals on conservation projects.



In 2015, youth from the Cochiti Pueblo will make up the TYCC crew. Crew members will have the opportunity to be involved in these activities as well as a variety of other projects such as daily hatchery operations, hatchery rehabilitation, constructing trails, collecting litter, stream habitat improvements, stream surveys, and many other worthwhile projects. The youth gain an appreciation of the management perspectives being implemented by resource managers to protect their lands, but more importantly to gain an appreciation about themselves, natural resources, and Mother-Earth.

Native Species

Restricting and hardened these four low-water crossings will benefit a variety of native aquatic species including Speckled Dace (*Rhinichthys osculus*) and Bluehead Sucker (*Catostomus discobolus*). The Bluehead Sucker is classified as a G4 species (candidate for listing) on the Navajo Nation Endangered Species List.



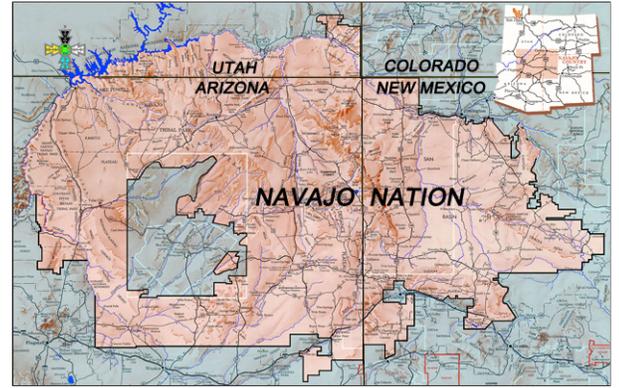
Speckled Dace
Rhinichthys osculus



Bluehead Sucker
Catostomus discobolus

About the Navajo Nation

The Navajo Nation is the home of the United State's largest Indian reservation, and sprawls across northeast Arizona, New Mexico and Utah. It has an area of over 27,673 square miles and is situated on the southwestern Colorado Plateau. The topography of Navajo Nation is characterized by arid deserts and alpine forests with high plateaus, mesas, and mountains reaching as high as 10,500 feet in altitude.



How to Harden a Crossing



1. Hardening of a crossing begins with site preparation using shovels and heavy equipment. Usually the stream channel is deepened slightly and the crossing approaches are straightened and excavated to accept the hardening materials.



2. Once the site preparation is completed, a base layer of geotextile fabric is laid across the site.



3. Plastic geoweb grids, held together by fasteners and a fabric tendon, are then placed over the geotextile fabric and anchored with short sections of rebar driven into the ground.



4. The geoweb grids are then filled with large river rock (> 4 inches in diameter).



5. At this time, the crossing's intersections with the stream channel are hardened with even larger stones collected from the general vicinity.



6. As a finishing touch, several inches of small rock (1-2 inches in diameter) are then placed over the larger rock to create a smoother surface for vehicles and livestock.