

NMT San Juan River Ecology and Riparian Committee

Brief History of the San Juan River

In 1962 the Bureau of Reclamation (BOR) finished building the Navajo Dam, which resulted in the lake and the San Juan trout fishery below. The dam was built for flood control and to provide irrigation water for a farming project promised some 100 years earlier. The result of this project has resulted in a world class fishery below Navajo Dam.

Prior to damming, the river was murky and warm, and the river bed was mainly silt (unsuitable habitat for trout). The current river bed of the San Juan was created by man and heavy equipment was used to dig out the dirt from the original river bed for the earth dam. To get this heavy equipment into place, the shrub-covered landscape needed to be cleared. This was done by stretching a cable from one side of the river bed to the other and dragging the cable to uproot the vegetation. These cables can still be seen along side the banks of the river with parts of the buried cables sticking out of the ground. Once the vegetation was cleared, backhoes were used to dig out the dirt. Evidence of backhoes can be seen by the deep trenches in the Braids, and the gouges and channels in the slick limestone areas along the river bed (the backhoes could not dig out the limestone). Gravel was then introduced to enhance the habitat in the river bed.

The Navajo Reservoir now acts as a settling basin to remove the river's silt. Water is released from the base of the 200-foot-high earth dam and ensures a constant optimum temperature between 39°F to 45°F. The releases are regulated by the U.S. Bureau of Reclamation and vary little from day to day. This has created a clean cold river just right for trophy sized trout.

The potential of this fishery was recognized from the beginning. Since 1966, the New Mexico Department of Game and Fish has placed special regulations on the river, gradually increasing minimum size limits and decreasing bag limits. Today we have a four-mile "quality" stretch of water that features a catch-and-release section from the dam down-stream for ¼ mile, followed by 3 ½ miles in which one trophy fish over 20 inches can be kept per day. The restriction for barbless flies and lures was placed in 1983. These restrictions allow for an exceptional nondestructive use of this valuable resource.

The affects of water flow directly influence the fishing and habitat. Here is an excerpt from "Fishing in New Mexico" by Ti Piper, about water flows:

"Water flows on the San Juan range from a low of 500 cfs to a high of 5,600 cfs. The best fishing (as measured by catch rates) occurs when the water flows are between 1,500 and 2,000 cfs. Flows over 2,500 cfs make most of the flats (river) difficult to wade, while much of the river becomes dangerous in flows over 3,000 cfs. During high flows, the trout and the safe fishing are found in the backwaters."

In summary, good fishing occurs when flows are between 1,500 and 2,000 cfs. In translation, this indicates a healthy habitat. Also, these levels of flow cause the fish to spread out throughout the river which in turn spread out the anglers and makes the whole fishing experience more enjoyable.

“Houston, we have a problem”

Even though the San Juan River is still a world class fishery, the river has been experiencing a problem with silt destroying the river bed habitat. The problems have really escalated over the past few years with several years of drought conditions followed by a summer of rain downpours.

The years of the drought have lowered flows dramatically, making for more of the sand and silt naturally accumulated through the inflow from the lake during lake-turbulence (turn-over at least two times year) to drop out more quickly in the first 1/2 mile or so and collect in slower areas of the river (sand hole being one such example). Low flows are very damaging to a river in so many ways. It just does not provide the movement of the water necessary to carry the suspended particulates very far downstream. The years of this process have created a layer of compaction on the river bottom that the flush does not completely remove, hence each year we lose more depth.

Low flows have also seemed to coincide with the growth of the "brown algae," the really nasty stuff that seems to grow a couple inches thick on the river bed (have noticed it very prominently from upper flats down to Texas Hole, into second channel, and sometimes even down as far as the lower flats and beyond). When this decomposes, or is knocked off by waders or during higher flows, the remains collect as part of the debris we are calling silt in the slower water and together with the suspended particles in the water from the lake create the "muck." When the flows are up and the water is deeper, the brown algae will not grow very well and the green algae seems to take over. Water depth is a big factor in this situation.

Low flows in general are affecting water quality (i.e. water temperature and dissolved oxygen). In many sections, the famous rainbows are being replaced by smaller browns. The rainbows are moving upstream towards the Dam where the water quality has been less affected.

The rain downpours this past summer of 2006, have caused a lot of silt to be washed into the river via the following washes:

- The Rex Smith Wash (is at Kiddie Hole)
- The Munoz Wash (is at the end of Luncker Alley)
- The Simon Wash (is at Simon Canyon)

One of many areas with obvious damage is the Kiddie Hole. The Rex Smith wash was created to prevent the restrooms in the Texas Hole parking lot from getting flooded due

to heavy rain storms (this would cause a health problem). A lot of silt was dumped into Kiddie Hole over the past several years. This past October 2006, the silt/sand bar in the Kiddie Hole was only 30 feet away from the middle island separating it from Audi's Run. Damage to Kiddie Hole and Texas Hole can be seen between Figure 1 (taken in 2005) and Figure 2 (taken in 1997). The delta of silt shown in Kiddie Hole is very noticeable. The silt also shows up in Texas Hole. In 1997, Texas Hole had a deep green tint to it, but in 2005, it takes on a tan (shallow) tint.

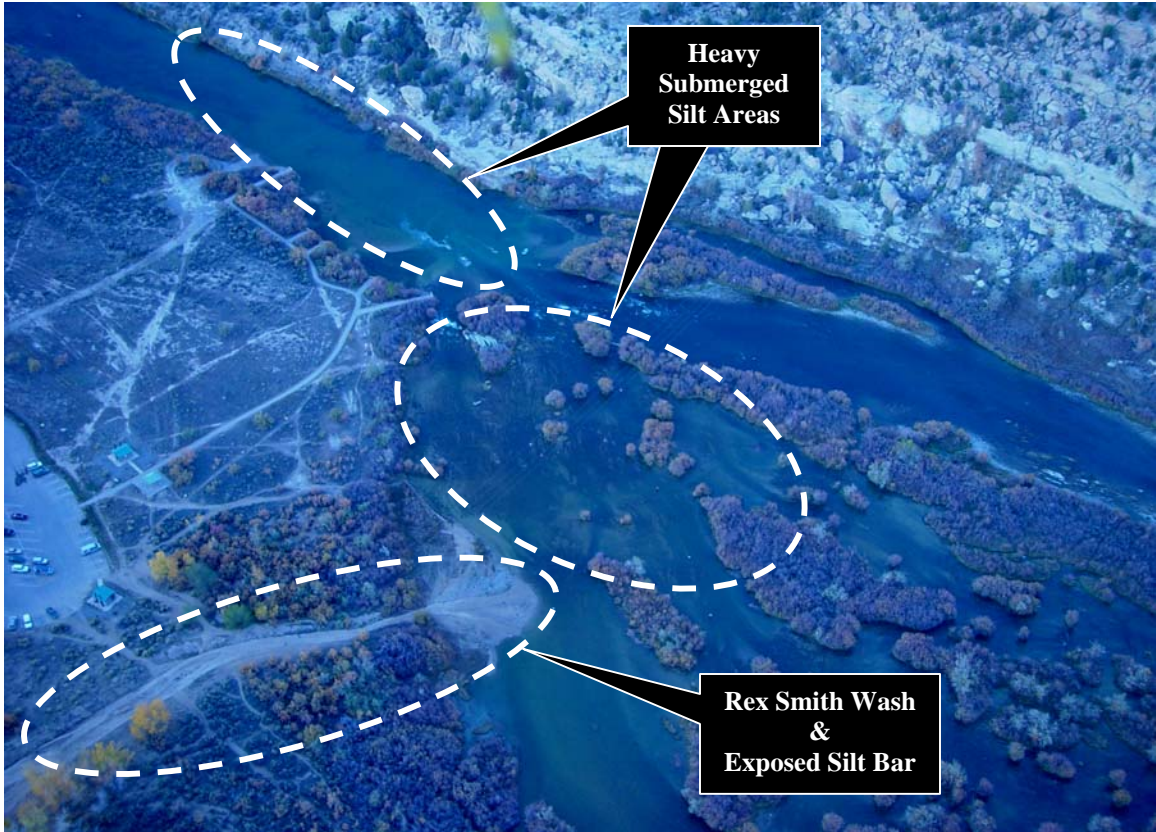


Figure 1: San Juan River 2005 - Kiddie Hole and Texas Hole

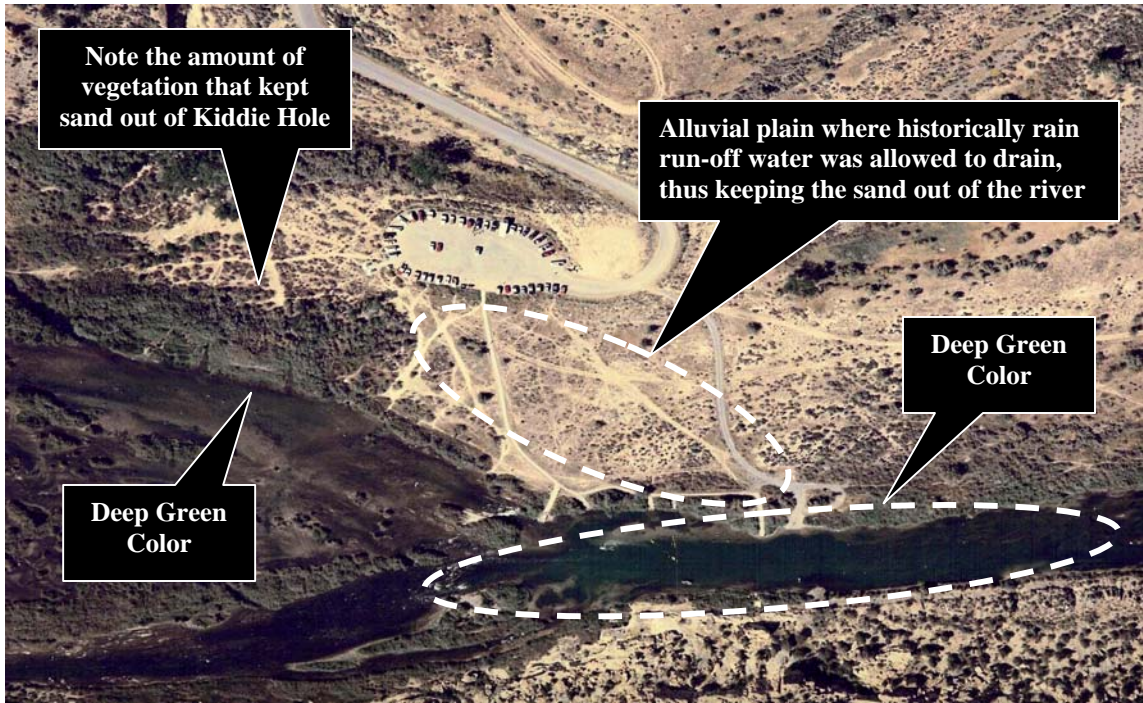


Figure 2: San Juan River 1997 - Kiddie Hole and Texas Hole

Kiddie hole is just one of the problems that the river is experiencing. There are other areas (e.g. Duranglers, Lower Flats, side channels) which have damage to the habitat due to silting. Here are the observations made by the committee due to the silting problems:

1. There is an increase of silt and loss of deep trench habitat
 - a. The top ½ mile has the least visible-damage.
 - b. The silting becomes more obvious from braids on down.
 - c. The Kiddie Hole and Texas Hole problems have received some attention.
 - d. The degradation of other famous sections has not been addressed.
2. The silt is covering vital insect habitat
 - a. The famous San Juan Baetis hatches have declined dramatically.
 - b. Many of the larger midges have almost disappeared.
3. Loss of viable fish holding water
 - a. The fish appear to have abandoned some stretches, in others, the fish are not as widely distributed as they once were and are concentrated in small areas.
 - b. The fishermen follow the fish. The upper river is now getting the bulk of the pressure. Many of the lower sections are almost deserted.
 - c. Drift boat fisherman concentrate on certain spots and skip over many of the famous sections.
 - d. Large spawning fish being targeted by anglers
4. The decline has become much more obvious over the past 2 or 3 years.

Kiddie Hole Restoration

This past December 2006, the New Mexico Fish and Game ordered the dredging of Kiddie Hole to remove the silt. The BOR dropped the flows to 250cfs in order to dig out Kiddie Hole. This was a direct result of anglers e-mailing government offices voicing their concerns for the San Juan River. These anglers called themselves “**Concerned Citizens for the San Juan River**”. These concerned citizens actually met with the New Mexico Game and Fish.

The results are kind of ugly right now as far as the bank goes, but that will heal in time as the flora recovers (see figures 3 and 4). The river, however, is breathing a sigh of relief! Water is moving through the entire run again, and is a sight to behold indeed! The depth in the area excavated is about 24" in most places. If you look towards the far bank in Figure 3, the high point is where the center of the delta began. If you draw a line from the far bank 2/3 across the river towards you, that is where the delta ended and was still above water. Steve Mueller, Navajo State Park Superintendent, indicated that Dept. Parks will continue to remove material. He did not say how much, but "a bit more." That's excellent folks!

Good News - an unexpected outcome of removing the delta at Kiddie Hole is that the current now moves through there much more freely, causing the river above that point to also move more freely and at a somewhat quickened pace, from just below the Upper Flats to Kiddie Hole. Thanks to the Dept. Parks for seeing the problem, agreeing with our suggestions to fix it, and getting it done.

Other good news is that other stream improvements around Simon Canyon and Duranglers are being incorporated by the State. However, the effectiveness of this work will depend on solutions to low flow and silting problems. We'll have more on this in the next NMT newsletter.



Figure 3: San Juan River Dec 2006 – Kiddie Hole Restoration



Figure 4: San Juan River Dec 2006 – Kiddie Hole Restoration

So what can you do to help?

The restoration at Kiddie Hole is just the beginning. There are still issues with silting that could cause all restorations to be ineffective. Recent e-mail going to the Government has already caused restoration efforts to the Kiddie Hole area. Now is the time for New Mexico Trout members to join the “**Concerned Citizens for the San Juan River**” and write to the New Mexico State Government on San Juan Silting problems.

The Governor is very interest in issues such as this. All he needs to hear from his staffers is that there is an increased volume of mail coming in and his attention will be drawn. Here is how to go about writing to the New Mexico State Government:

1. Call yourself a “Concerned Citizen For The San Juan River”
2. Simply write observations/concerns to the people on the following mailing list:
 - Richardson, Bill: www.governor.state.nm.us/email.php?mm=6&type=assistance
 - Mueller, Steve: steve.mueller@state.nm.us
 - Prukop, Joanna: nmparks@state.nm.us
 - Simon, Dave: dave.simon@state.nm.us
 - Sloane, Michael: michael.sloane@state.nm.us
 - Thompson, Bruce: bruce.thompson@state.nm.us
 - Wethington, Marc: Christopher.wethington@state.nm.us
 - Cerletti, Micahel: Mike.cerletti@state.nm.us
 - Mills, Tom: Tom.Mills@state.nm.us
3. Thank them for current restoration and habitat improvements
4. Request the Government to take timely and effective steps to stop the silting as much as possible. The committee suggests the following areas for the government to focus on:
 - a. Find ways to minimize the heavy dumping of the major washes into the river
 - The Rex Smith Wash is at Kiddie Hole
 - The Simon Wash is at Simon Canyon
 - The Munoz Wash is at the end of Lunker Alley
 - b. Investigate the possibility of silting coming from the dirt roads created on BLM land on top of the mesas surrounding the San Juan River

- c. Investigate the possibility of moderating flows (while staying in compliance with the Environmental Impact Statement, EIS, regarding endangered species) to avoid long periods of extreme low flows and to allow improved flushing of the silt and sand
- d. Investigate moving the Texas Hole parking lot 100 yards down river from its current location to allow the wash to drain into the alluvial plain where it has historically, thus keeping the sand out of the river

That's it for now folks. In the next newsletter, the NMT San Juan River Ecology and Riparian committee will keep you updated on the latest events and provide information on stream improvements around Simon Canyon and Durangler's Corner.

If you are interested in joining the committee, please contact Vince Villavicencio (vjvmv@juno.com) or Mike Maurer (mikemaurer@earthlink.net).