

AUGUST 30 – SEPTEMBER 3, 2004  
SAN JUAN BASIN FAMILIARIZATION TRIP  
BUREAU OF RECLAMATION – DURANGO COLORADO

Brent M. Bernard, Hydrologist  
CBRFC, NOAA Salt Lake City, Utah

## INTRODUCTION

The purpose of this trip was to visit with the Water Operation Group at the Durango Field Office of the Bureau of Reclamation to 1) Visit the major works within the basin that we provide water supply forecast for i.e. Vallecito, Lemon and Navajo Reservoirs. 2) I was interested in talking with John Simon whom I provide Max/Min forecast to for certain points to assist him in working releases from Navajo in the current operations within a Shortage Criteria and 3) To gain insight into the depletions and diversions that are not taken into account on a physical basis within our model along the Los Pinos or Pine River. 4) Time allowing I intended to visit the Chama, NM field office of the BOR to visit the Oso Diversion and Azotea Tunnel Projects.

## LOGISTICS

Monday: Departed Salt Lake City at 9am and drove the 420 miles to Durango. During the last 50 miles of the trip I was in the basin passing through the Mancos Basin, Cherry Creek and La Plata drainages. I spent time photographing the terrain and familiarizing myself with the geography before arriving in Durango.

Tuesday: I met John Simon and Ruth Swickard at the Durango Field Office. We decided to have a full day in the field together and started with the Florida River Basin. This basin is in close proximity to Durango releasing water from Lemon Reservoir to feed a wide array of farming and municipal uses. The Dam tender has done an exceptional job at maintaining the dam and since the Missionary Ridge Fire has installed numerous landslide prevention measures around the spillway and below the dam to prevent log jams and other problems. As an aside this fire, which 2 summers ago started west of Lemon jumped the ridge and continued East consuming a large area including the area surrounding Vallecito Reservoir which is in the next drainage to the east. It has cause considerable damage from the resulting landslides and significantly altered the area's aesthetics. More problematic is the log jam problem both above and below the dams but thinning has begun and is being monitored closely to avoid problems with the spillway and release tubes.

The next stop was Vallecito Reservoir a short distance from Lemon. This Reservoir is a critical delievery system to the area residents of Bayfield and Igancio to the south. After having a look around the dam and works we drove the river visiting gages in Bayfield and Igancio, observing the braided stream and the many farms and ranches that are

adjacent to the river. We eventually ended up at Navajo Reservoir Marina. John spoke of the issues that have arisen due to the current shortfalls and toured me through the works. We then drove the length of the river observing the gage at Archuleta and the reach to Aztec, NM.

Wednesday: Initially my plan was to spend the morning with John at the office and then head to Pagosa Springs however mechanical problems with my car prevented this from happening and instead I spent the better part of the day in the office with John. John showed me the current "River Ware" modeling programs that he is just training on which are calibrated by the Denver office and account for all the known depletions, flumes, head gates, diversions and ditches. He and Pat Page the Office Manager also showed me the results of two funded projects to map the diversions with GPS, Photos and descriptions of these depletions. The number along the Pine and Florida Rivers is staggering. John showed me where we might obtain data from the State of Colorado and their Decision Support System. We also discussed in detail how he uses our forecast and to what ends.

Thursday: Picking up my repaired car at 11am I drove to Pagosa Springs, Colorado. I had originally intended to visit the Upper San Juan and Wolfe Creek areas but road construction prevented my access so I spent the better part of the day in the Blanco and Navajo River Basins. Because of my late arrival I was unable to meet with the Chama Field office members and took to the basin roads to observe channel morphology and terrain. These basins house the diversions, which deliver water to the Rio Grande via the Chamita River and Heron Reservoir to the east. The flow was extremely low as expected for this time of year but I was surprised to see that some flow still existed.

Friday: Return trip to Salt Lake City via the Western regions of the San Juan Basin. Driving from Durango West to Ship Rock I followed the San Juan observing the Municipal and Industrial usage patterns. There are two large power plants along the river, which Navajo has delivery contracts to and I saw them both. The river was at 800cfs and the flow looked to be largely intact to the point of Ship Rock where I turned north. I drove to Cortez and crossed the Mancos River in several locations including the Indian Casino town of Towac. The River was completely dry and this particular part of the basin is classic southwestern and 4 corners desert. Passing through Cortez brought me out of the basin and back to Utah.