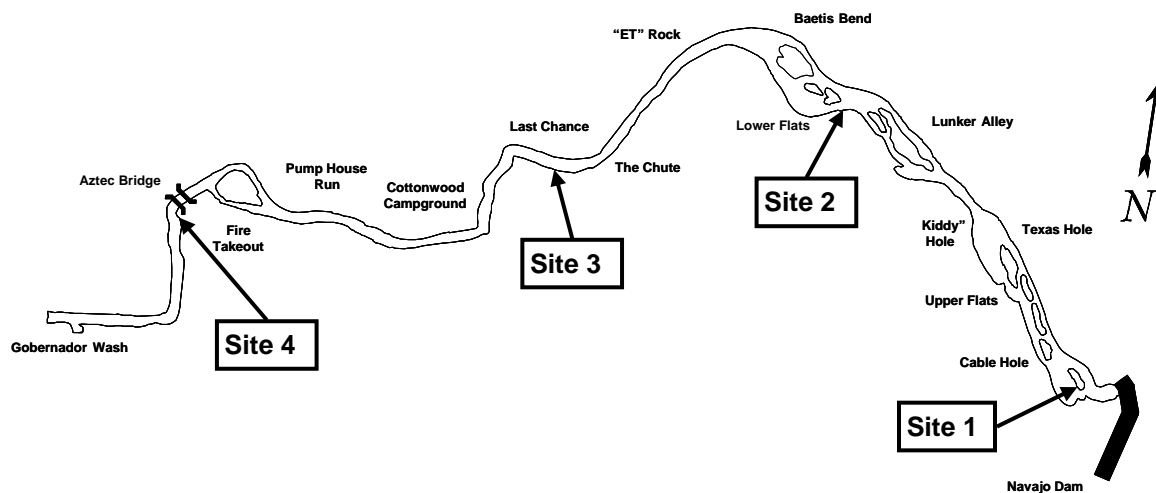


## San Juan River Benthic Survey

### Study Area:

The San Juan River is a sixth-order river flowing out of Colorado through northwestern New Mexico and southeastern Utah to the Colorado River. The study area is located in northwestern New Mexico directly below Navajo Reservoir. Four sites were selected for benthic surveys, all of which have been sampled previously. Sites 1, 3, 4 were sampled by DuBey (1996) and Dubey and Jacobi (1996) and site 2 was sampled by Bureau of Reclamation (San Juan River Winter Flow Test 1998). Site 1 is located at river mile (RM) 221.5 in the “catch-and-release” section, site 2 is located at RM 219.4 downstream of the lower-flats, site 3 is located at RM 217.7 above “last chance” and site 4 is located at RM 215.5 below the Aztec Bridge.



### Sampling:

Benthic macroinvertebrate samples will be collected at all four sites seasonally (April, July, October, January). Three quantitative benthic samples will be collected from rubble habitat on a riffle transect at each site using a modified Hess circular sampler (Jacobi 1978) with an area of 0.25 m<sup>2</sup> and 500 micron mesh netting. All samples will be preserved in 70% ethyl alcohol with the addition of 10 ml of 50% formalin per sample to prevent the decomposition of large quantities of associated vegetative material.

### Laboratory techniques and sample processing:

Individual samples will be spread evenly in a white sorting tray (29 X 43 cm) and a sub-sample will be taken using an 8 section grid to divide the samples before sorting. All macroinvertebrates removed from the debris for identification and enumeration will be preserved in 70% ethyl alcohol. Identification of the organisms will be taken to the lowest possible taxon except for the family Chironomidae.

## **Literature Cited**

- BOR (Bureau of Reclamation). 1998. San Juan River Winter Flow Test. U.S. Dept. of the Interior. Bureau of Reclamation Upper Colorado Region. Western Colorado Area Office, Grand Junction – Durango, Colorado.
- DuBey, R. D. 1996. Regulated River Benthic macroinvertebrate bioassessment of the San Juan River in the vicinity of Navajo Dam, New Mexico 1994-1996: Thesis presented to the Graduate Division, New Mexico Highlands University, Las Vegas, New Mexico November 1996.
- DuBey, R. D., and G. Z. Jacobi. 1996. Benthic macroinvertebrate bioassessment of the San Juan River tailwater below Navajo Dam, New Mexico: reduced flow conditions, January-April 1996. New Mexico Department of Game & Fish Technical Report. New Mexico Highlands University, Las Vegas, New Mexico.