

Project: Low Cost, Remote, Stream Gauging
Client: Wheeler Creek
Location: Snow Basin Ski Resort, Utah
Year: 1997

Application Notes:

Snow basin ski resort's search for water to supply its ambitious development plans, turned the spotlight on Wheeler Creek. The small stream provides a rich riparian environment for plant, habitat for the Bonneville cutthroat trout and 1 to 5 percent of Ogden, Utah's drinking water.

The U.S. Forest Service has the responsibility for protecting the stream's continued environmental health, and they insisted - and Snow basin owner Earl Holding agreed - that a minimum flow be maintained in the creek with flow from the mountains around Snow basin and then into the Ogden River. The formal agreement was vital because the stream's beginning would soon be on land that belonged to the ski resort after the 1,320 acre Snow basin - Forest Service land swap was completed in preparation for the Winter Olympics of 2002. Exactly what the minimum flow should be, however had not yet been decided and trying to find the correct answer is what the Forest Service needed to determine.

Installation and System Design:

Three automated stream gauging sites were installed at selected points along the creeks path down from the mountains to the Ogden River. One site also included an air temperature measurement. At this site a R2 Data logger was used. It was connected to a FP10C Potentiometer Float and Pulley and an AT107 Temperature Probe that was housed in a DC041 6-Gill Radiation Shield. A stilling well was created using a 12" corrugated pipe. Next a half moon was cut out of an 12" steel end cap. A large ammunitions canister with an identical half moon cut out of one side was bolted to the end cap. The end cap was then bolted to the corrugated pipe. A staff gauge was also bolted to the side of the corrugated pipe to provide a visual reference for calibrating the sensor. The radiation shield was bolted through the bottom of the canister. A small u-bolt was installed on one side of the canister and a padlock was used to insure that the instrumentation remained protected.



Large military ammunition canister mounted to a corrugated pipe to make a still well and instrument plat form.



Aqua Pod Stream Gauging Site on Wheeler Creek, near Snow basin Ski Resort, Utah.

The two other sites had a similar stilling well configuration, but they were instrumented with the Aqua Pod since only a potentiometer float and pulley sensor was required to measure water level. This lowered the overall cost of the project. The data is retrieved monthly from the sites using a laptop computer.

For Information on this project or these products please contact:

Intermountain Environmental, Inc.
601 W. 1700 S. Logan, UT 84321
Phone # 435-755-0774
www.inmtn.com