

**WASHINGTON DEPARTMENT OF ECOLOGY**  
**ENVIRONMENTAL ASSESSMENT PROGRAM**  
**FRESHWATER MONITORING UNIT**  
**STREAM DISCHARGE TECHNICAL NOTES**

**STATION ID:** 29F050  
**STATION NAME:** Bear Creek  
**WATER YEAR:** 2012  
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**Introduction**

Watershed Description

Ecology's telemetry stream gage on Bear Creek watershed, located at river mile 1.0, is mainly on Forest Service land that is mostly forested with some logging being conducted. Bear Creek channel is made up of bedrock with medium to large boulders and small patches of gravel and cascading water.

Gage Location

Gage is about 80 feet upstream from a private bridge on the left bank. Staff gage and laser level readings were made on a biweekly basis for the duration of the period of record. Flow measurements were taken upstream 150 ft. above gage house.

Table 1.

Drainage Area (square miles)	15
Latitude (degrees, minutes, seconds)	45 45 50
Longitude (degrees, minutes, seconds)	121 49 32

**Discharge**

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	53
Median Annual Discharge (cfs)	19
Maximum Daily Mean Discharge (cfs)	527
Minimum Daily Mean Discharge (cfs)	1.8
Maximum Instantaneous Discharge (cfs)	713
Minimum Instantaneous Discharge (cfs)	1.5
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	133
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	2.7
Number of Days Discharge is Greater Than Range of Ratings	8
Number of Days Discharge is Less Than Range of Ratings	0

Note: Statistics displayed in Table 2 may not include values in which the predicted discharge exceeds the range of ratings.

**Narrative**

<p>Eleven days were above rating but reliable extrapolation; 45 days were below rating but are reliable extrapolation; and eight days exceeded the rating table.</p>
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**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	4.6%
Weighted Rating Error (% of discharge)	16%
Total Potential Error (% of discharge)	21%

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	2		
Period of Ratings	10-24-10 10-02-12		
Range of Ratings (cfs)	0 to 753		
No. of Defining Measurements	12		
Rating Error (%)	16		

Rating Table No.			
Period of Ratings			
Range of Ratings (cfs)			
No. of Defining Measurements			
Rating Error (%)			

Rating Table No.			
Period of Ratings			
Range of Ratings (cfs)			
No. of Defining Measurements			
Rating Error (%)			

**Narrative**

Eight discharge measurements were taken ranging from 3.4 cfs to 86 cfs.

**Stage Record**

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	3.27
Maximum Recorded Stage (feet)	8.74
Range of Recorded Stage (feet)	5.47
Number of Un-Reported Days	8
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	0

**Narrative**

The station was discontinued on 10/02/2012 due to budget cuts.

## Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	
Range of Modeled Stage (feet)	
Range of Modeled Discharge (cfs)	
Valid Period for Model	
Model Confidence	

## Surveys

Table 7. Survey Type and Date (station, cross section, longitudinal)

Type	Date

## Activities Completed

Station was discontinued on 10/02/2012 due to budget cuts.