

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

STATION ID: 29A070
STATION NAME: Rock Creek at Stevensen
WATER YEAR: 2010
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Introduction

Watershed Description

Operation of station started on June 18, 2008. Stage was recorded on a Design Analysis® data logger every fifteen minutes. Staff gage (primary) and laser level (secondary) readings were made routinely for the duration of the period of record.

Gage Location

Ecology's telemetry stream gage on Rock Creek is located at river mile 1.0, upriver from the town of Stevenson on Allen Road. Gage is located on the upstream side of bridge.

Table 1.

Drainage Area (square miles)	42
Latitude (degrees, minutes, seconds)	45 41 55
Longitude (degrees, minutes, seconds)	121 54 18

Discharge

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	256
Median Annual Discharge (cfs)	202
Maximum Daily Mean Discharge (cfs)	1,280
Minimum Daily Mean Discharge (cfs)	8
Maximum Instantaneous Discharge (cfs)	1,660
Minimum Instantaneous Discharge (cfs)	7
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	582
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	12
Percent of Time Discharge is Greater Than Range of Ratings	4
Percent of Time 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

Eight discharge measurements were taken, ranging from 8cfs to 384 cfs.

Error Analysis

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	2.1%
Weighted Rating Error (% of discharge)	17.3%
Total Potential Error (% of discharge)	19.4%

Rating Table(s)

Table 4. Rating Table Summary

Rating Table No.	2			
Period of Ratings	8-04-09/3-27-12			
Range of Ratings (cfs)	8 to 925			
No. of Defining Measurements	23			
Rating Error (%)	17.3%			

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

Narrative

Stream channel is made up of boulders, large-to-medium cobbles; control is boulder riffle 100 feet below station.

Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	6.29
Maximum Recorded Stage (feet)	12.81
Range of Recorded Stage (feet)	6.52
Number of Un-Reported Days	4
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	0

Narrative

There was 211 days of stable drift for the period of record, meaning little uncertainty was introduced to the discharge record from errors in the stage record.

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
All	08/25/2009

Activities Completed

Levels were run to establish relative elevations of station reference marks.