

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

STATION ID: 28C080
STATION NAME: Burnt Bridge Cr. @ 2nd Ave.
WATER YEAR: 2010
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Introduction

Watershed Description

Burnt Bridge Creek is located in Clark County in southwestern Washington. The basin comprises a small portion of the Salmon-Washougal Water Resource Inventory Area (WRIA 28). Burnt Bridge Creek flows from east to west through the City of Vancouver, draining approximately 27.6 square miles. From its headwaters near NE 162nd Avenue, Burnt Bridge Creek flows 12.7 river miles to its confluence with Vancouver Lake near Interstate-5. Vancouver Lake drains to the Columbia River via Lake River.

Gage Location

This gage was established as part of the Burnt Bridge Creek Fecal Coliform TMDL study. The gage is located in a former USGS gage house on the left bank of Burnt Bridge Creek immediately upstream of the 2nd Ave. bridge in northern Vancouver, WA.

Table 1.

Drainage Area (square miles)	25.7
Latitude (degrees, minutes, seconds)	45° 39' 41" N
Longitude (degrees, minutes, seconds)	122° 40' 10" W

Discharge

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	21
Median Annual Discharge (cfs)	18
Maximum Daily Mean Discharge (cfs)	72
Minimum Daily Mean Discharge (cfs)	3.5
Maximum Instantaneous Discharge (cfs)	121
Minimum Instantaneous Discharge (cfs)	3.3
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	36
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	6.9
Number of Days Discharge is Greater Than Range of Ratings	0
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

Sixty -five days of the discharge record for WY 2010 were derived from continuous stage data that were estimated based on a linear regression with Ecology sStation 28B080 Washougal River at Hathaway Park. This station was removed in August 2010. Annual statistics for 2010 are based on a partial water year.

Error Analysis

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	3.8
Weighted Rating Error (% of discharge)	14.1
Total Potential Error (% of discharge)	17.9

Rating Table(s)

Table 4. Rating Table Summary

Rating Table No.	1		
Period of Ratings	10/1/09 - 9/30/10		
Range of Ratings (cfs)	0 - 180		
No. of Defining Measurements	25		
Rating Error (%)	14.1		

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

The stage-discharge relationship at this station is very stable. The station remained on the same rating curve for the duration of the TMDL study.

Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	4.70
Maximum Recorded Stage (feet)	6.31
Range of Recorded Stage (feet)	1.61
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	78
Number of Days Qualified as Unreliable Estimates	0

Narrative

Sixty -five of the 78 days that were qualified as estimates were due to a gap in data collection. Data for that time period were estimated based on a linear regression with sStation 28B080 Washougal River at Hathaway Park.

Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	Slope-conveyance
Range of Modeled Stage (feet)	6.0 - 6.75
Range of Modeled Discharge (cfs)	85.8 - 180
Valid Period for Model	2008 - 2010
Model Confidence	3.1%

Surveys

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

Type	Date
Stn, x-sec, longitudinal	5/21/08

Activities Completed

The datalogger at this station experienced battery problems starting in December 2009 until it was replaced in late January 2010.