

**WASHINGTON DEPARTMENT OF ECOLOGY
ENVIRONMENTAL ASSESSMENT PROGRAM
FRESHWATER MONITORING UNIT
STREAM DISCHARGE TECHNICAL NOTES
MANUAL STAGE HEIGHT STATION**

STATION ID: 01S070
STATION NAME: Squalicum Cr. at West Street
WATER YEAR: 2008
AUTHOR: Chuck Springer

Introduction

Watershed Description

The Squalicum Creek watershed is one of the largest independent drainages in Whatcom County. It includes most of northern Bellingham, beginning at Squalicum and Toad lakes and flows west to Bellingham Bay. Squalicum Creek is 9.7 miles long, and the watershed drains 22 square miles of land. The main land uses in the Squalicum Creek watershed are residential, forestry, commercial, agricultural, light industrial, and some mining. Squalicum Creek supports populations of coho, Chinook, and chum salmon, as well as steelhead and cutthroat trout.

Gage Location

This gage is co-located with a City of Bellingham continuous stream gage upstream of the corner of West Street and Squalicum Parkway, at river mile 0.7.

Table 1.

Drainage Area (square miles)	22.9
Latitude (degrees, minutes, seconds)	48° 45' 58" N
Longitude (degrees, minutes, seconds)	122° 29' 56" W
Primary Gage Index Type	Staff Gage
Secondary Gage Index Type	Tape Down

Error Analysis

Overall Rating Error Percentage	15.9%
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Rating Table(s)

Table 2. Rating Table Summary

Rating Table No.	6	N/A	N/A
Period of Ratings	10/1/07 – 9/30/08		
Range of Ratings (cfs)	0 – 265		
No. of Defining Measurements	15		
Rating Error (%)	15.9		

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

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

Narrative

There were no rating shifts during water year 2008. The rating table was very stable during this time period.

Discrete Flow Record

Table 3. Discrete Flow Record Summary

Number of Discrete Stage Readings	24	
Maximum Observed Stage (feet) and Date	1.74	5/15/08
Maximum Predicted Discharge (cfs) and Date	68	5/15/08
Minimum Observed Stage (feet) and Date	0.83	7/22/08
Minimum Predicted Discharge (cfs) and Date	1.1	7/22/08
Range of Stage (feet) and Discharge (cfs)	0.91	66.7

Narrative

Two of the discrete stage observations taken during water year 2008 were qualified as estimates. One of the estimate qualifications was due to difficulty reading the staff gage. The other was due to a large discrepancy between the staff gage and tape down readings on that date.

Modeled Discharge

Table 4. Model Summary

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

Surveys

Table 5. Survey Type and Date (station, cross section, longitudinal)

Type	Date
None	

Activities Completed

Nothing of note.