

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

**STATION ID:** 01F070  
**STATION NAME:** S. F. Nooksack River at Potter Rd.  
**WATER YEAR:** WY2012  
**AUTHOR:** Don Watt

**Introduction**

Watershed Description

The watershed upstream of this gage ranges from 232 feet in elevation up to 6990 feet. The mean basin elevation is 2330 feet. Steep forested hills cover most of the area. The average slope in the basin is 36%. Mean annual precipitation in the basin is 83 inches.

Gage Location

The gage house is on the downstream side of the Potter Road Bridge, on the left bank of the S.F. Nooksack, at river mile 1.8. The bridge is about 1/2 mile west of the intersection of Potter Road and Hwy 9.

Table 1.

Drainage Area (square miles)	179
Latitude (degrees, minutes, seconds)	48, 47, 21 North
Longitude (degrees, minutes, seconds)	122, 11, 53 West

**Discharge**

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	1130
Median Annual Discharge (cfs)	1140
Maximum Daily Mean Discharge (cfs)	5740
Minimum Daily Mean Discharge (cfs)	128
Maximum Instantaneous Discharge (cfs)	8920
Minimum Instantaneous Discharge (cfs)	118
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	2440
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	154
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**

Discharge statistics cover a 179-day partial water year starting on 4/4/2012 and ending at midnight on 9/30/2012.

**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	0.7%
Weighted Rating Error (% of discharge)	13%
Total Potential Error (% of discharge)	14%

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	10		
Period of Ratings	10/1 thru 9/30		
Range of Ratings (cfs)	100 to 24,100		
No. of Defining Measurements	10		
Rating Error (%)	13%		

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

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

**Narrative**

With rating #10, flows above 11,400 cfs are modeled using the slope-conveyance method. During the 179 days of operation in WY2012, discharge did not reach the modeled range of the rating. On two days flows reached the range of extrapolation between measured flows and modeled flows.

**Stage Record**

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	6.05
Maximum Recorded Stage (feet)	12.14
Range of Recorded Stage (feet)	6.09
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	

**Narrative**

The station started operation on 4/4/2012 and ran continuously through the end of the water year. During those 179 days of operation, there were no un-reported days.

## Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	Slope conveyance
Range of Modeled Stage (feet)	13.00 to 16.00
Range of Modeled Discharge (cfs)	11,400 to 24,100
Valid Period for Model	10/1/2011-9/30/2012
Model Confidence	Within 5%

## Surveys

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

Type	Date

## Activities Completed

Station reinstalled and started operation on 4/4/2012.