

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

**STATION ID:** 32B075  
**STATION NAME:** Touchet River at Cummins Road  
**WATER YEAR:** WY 2012  
**AUTHOR:** Mitch Wallace

**Introduction**

Watershed Description

The Touchet River is the largest tributary of the Walla Walla River in southeastern Washington. Its headwaters lie in the Blue Mountains above the town of Dayton in Columbia County. The main river is formed by the confluence of the North and South Forks.

Land use is primarily agricultural, consisting of dryland crops and irrigated farming in the lower portions.

Spring Chinook, steelhead, and bull trout are present within the watershed.

Gage Location

The gage is located on the left bank, directly upstream of the Cummins Road bridge crossing, one mile north of Touchet, Washington. It is located at river mile 3.0.

Table 1.

Drainage Area (square miles)	780 (USGS)
Latitude (degrees, minutes, seconds)	46° 03' 24" N
Longitude (degrees, minutes, seconds)	118° 40' 03" W

**Discharge**

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	306
Median Annual Discharge (cfs)	119
Maximum Daily Mean Discharge (cfs)	2780
Minimum Daily Mean Discharge (cfs)	8.30
Maximum Instantaneous Discharge (cfs)	3510
Minimum Instantaneous Discharge (cfs)	4.80
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	792
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	23.6
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	6

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

**Narrative**

<p>Peak flow occurred on 3/31/2012. The lowest flows of the year occurred in the middle of August.</p>
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**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	14.3
Weighted Rating Error (% of discharge)	13.8
Total Potential Error (% of discharge)	28.1

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	#112	#131	#15
Period of Ratings	10/1/11 to 11/1/11	10/1/11 to 7/16/12	7/16/12 to 9/18/12
Range of Ratings (cfs)	7.60 to 4930	29.4 to 4930	5.03 to 4930
No. of Defining Measurements	17	18	5
Rating Error (%)	13.5	14.6	11.0

Rating Table No.	#902		
Period of Ratings	8/15/12 to 9/30/12		
Range of Ratings (cfs)	1.30 to 4930		
No. of Defining Measurements	21		
Rating Error (%)	13.0		

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

## Narrative

Nine discharge measurements were taken throughout the water year, ranging from 9.60 to 1050 cfs.

## Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	1.74
Maximum Recorded Stage (feet)	10.78
Range of Recorded Stage (feet)	9.04
Number of Un-Reported Days	29
Number of Days Qualified as Estimates	74
Number of Days Qualified as Unreliable Estimates	23

## Narrative

The unreported days were caused by ice-impacted data. A majority of the estimated days were due to the mean daily flow difference between corrected and uncorrected data being greater than 20 percent, but less than 50 percent. Data is qualified an unreliable estimate when the mean daily flow difference between corrected and uncorrected data is greater than 50 percent, but less than 100 percent.

Equipment issues led to a data gap in June. This data gap was filled with data from station 32B100 Touchet River at Bolles Road.

Missing gage height readings were calculated based on a regression between staff gage and a secondary gage.

## Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	Slope Conveyance
Range of Modeled Stage (feet)	8.0 to 12.60
Range of Modeled Discharge (cfs)	1620 to 4930
Valid Period for Model	10/1/11 to 9/30/12
Model Confidence	3.4%

## Surveys

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

Type	Date
n/a	n/a

## Activities Completed

The Labor and Industries upgrade was completed. The Data Collection Platform (DCP) was replaced in July.