

**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 2008  
**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)	225
Median Annual Discharge (cfs)	157
Maximum Daily Mean Discharge (cfs)	914
Minimum Daily Mean Discharge (cfs)	7.60
Maximum Instantaneous Discharge (cfs)	1010
Minimum Instantaneous Discharge (cfs)	7.60
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	15
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	516
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	12

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 May 18, 2008, resulting from spring snowmelt. The lowest flow of the year occurred in mid August.</p>
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**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	1.8
Weighted Rating Error (% of discharge)	12.2
Total Potential Error (% of discharge)	14.0

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	#9	#10	
Period of Ratings	10/1/07 to 5/19/08	5/14/08 to 9/30/08	
Range of Ratings (cfs)	1.30 to 4930	1.30 to 4930	
No. of Defining Measurements	22	8	
Rating Error (%)	12.7	11.3	

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

A spring runoff event in mid-May led to the rating shift from rating #9 to rating #10. Nine discharge measurements were taken throughout the water year, ranging from 14.2 to 714 cfs.

## Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	1.66
Maximum Recorded Stage (feet)	6.34
Range of Recorded Stage (feet)	4.68
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	0

## Narrative

There were a few times throughout the water year where the staff gage was iced-in or underwater and thus unreadable. In these situations, the staff reading was calculated from a staff gage/secondary gage regression. The secondary gage at this site is a tapedown from the bridge.

## Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	Slope Conveyance
Range of Modeled Stage (feet)	8.0 to 12.6
Range of Modeled Discharge (cfs)	1620 to 4930
Valid Period for Model	10/01/07 to 9/30/08
Model Confidence	3.4%

## Surveys

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

Type	Date
n/a	n/a

## Activities Completed

Verified staff had not moved as a result of high flow events.