

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

**STATION ID:** 32A105  
**STATION NAME:** Walla Walla River at Beet Road  
**WATER YEAR:** 2012  
**AUTHOR:** Mitch Wallace

**Introduction**

Watershed Description

The Walla Walla River is a tributary of the Columbia River, joining the Columbia just above Wallula Gap in southeastern Washington. The headwaters of the Walla Walla River lie in the Blue Mountains of northeastern Oregon. The Walla Walla River supports populations of spring Chinook salmon, summer steelhead, and bull trout. Land use in the watershed is mostly dryland and irrigated agriculture.

Gage Location

The gage house is located on the left bank near the Frog Hollow and Beet Road intersection at river mile 36.5. It is located approximately a quarter mile downstream of the Gardena Farms Irrigation District #13 diversion. The period of record for this station is June 2002 to the present.

Table 1.

Drainage Area (square miles)	125(Streamstats)
Latitude (degrees, minutes, seconds)	46° 01' 25" N
Longitude (degrees, minutes, seconds)	118° 25' 33" W

**Discharge**

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	223
Median Annual Discharge (cfs)	105
Maximum Daily Mean Discharge (cfs)	1440
Minimum Daily Mean Discharge (cfs)	16
Maximum Instantaneous Discharge (cfs)	1600
Minimum Instantaneous Discharge (cfs)	12
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	641
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	22
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	35

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

**Narrative**

This station was taken off-line from mid-July to mid-September to avoid the complications created by the recreational swimmers' dam that is built every summer downstream of the gage.

The days in which the reported discharge is less than range of ratings indicates that the reported discharge is less 1/2 of the lowest measured discharge. The actual discharge may be lower than the reported discharge.

**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	0.90
Weighted Rating Error (% of discharge)	12.5
Total Potential Error (% of discharge)	13.4

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	151	132	152
Period of Ratings	10/1/11 to 11/2/11	10/1/11 to 12/12/11	11/2/11 to 4/29/12
Range of Ratings (cfs)	26 to 2250	8.2 to 2850	26 to 2250
No. of Defining Measurements	7	20	7
Rating Error (%)	11.5	12.5	11.5

Rating Table No.	133	124	134
Period of Ratings	4/26/12 to 7/10/12	5/30/12 to 9/18/12	9/18/12 to 9/30/12
Range of Ratings (cfs)	8.2 to 2850	10 to 2850	8.2 to 2850
No. of Defining Measurements	20	20	20
Rating Error (%)	12.5	14.3	12.5

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

## Narrative

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## Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	2.13
Maximum Recorded Stage (feet)	6.00
Range of Recorded Stage (feet)	3.87
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	0
Number of Days Qualified as Unreliable Estimates	0

## Narrative

Data from Ecology station 32A100-Walla Walla at Detour Rd. was used to fill the data gap created when the station was shut down [Equation:  $y=(0.8598x)-2.135$ ,  $r\text{-squared}=0.94$ ].

## Modeled Discharge

Table 6. Model Summary

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

## Surveys

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

Type	Date
n/a	n/a

## Activities Completed

Labor and Industries retrofit was completed in June.