

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

STATION ID: 35B150
STATION NAME: Tucannon River at Marengo
WATER YEAR: 2013
AUTHOR: Mitch Wallace

Introduction

Watershed Description

The Tucannon River Watershed is located in southeastern Washington State in Garfield and Columbia counties. It flows into the Snake River, four miles upstream of Lyons Ferry.

Historically, the lower elevation areas were covered with canyon grasslands and shrub-steppe vegetation. Much of this land has now been converted to livestock and crop production. Coniferous forests still dominate the higher elevations of the watershed.

The Tucannon River is one of the few Snake River tributaries in this area that contains a spring run of Chinook salmon, *Oncorhynchus tshawytscha*.

Gage Location

The Tucannon River at Marengo stream gage is located 12 miles east of Hwy 12, off of the Tucannon River Road. The station is located on the left bank, downstream from the county bridge.

Table 1. Basin Area and Legal Description

Drainage Area (square miles)	161 (Streamstats)
Latitude (degrees, minutes, seconds)	46° 26' 25" N
Longitude (degrees, minutes, seconds)	117° 45' 01" W

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	157
Median Annual Discharge (cfs)	143
Maximum Daily Mean Discharge (cfs)	464
Minimum Daily Mean Discharge (cfs)	63
Maximum Instantaneous Discharge (cfs)	553
Minimum Instantaneous Discharge (cfs)	58
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	271
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	70
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	0
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	0
Number of Modeled Days	0

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

Table 2 Discussion (Discharge Statistics)

Peak flow occurred on December 2, 2012. The lowest flow of the year occurred in the middle of September.
--

Table 3. Error Analysis Summary.

Potential Logger Drift Error (% of discharge)	0.30
Potential Weighted Rating Error (% of discharge)	11.4
Total Potential Error (% of discharge)	11.7

Table 3 Discussion (Error Analysis)

--

Table 4. Stage Record Summary

Minimum Recorded Stage (feet)	4.11
Maximum Recorded Stage (feet)	5.40
Range of Recorded Stage (feet)	1.29

Table 4 Discussion (Stage Record)

--

Table 5. Rating Table Summary

Rating Table No.	501	401	
Period of Ratings	10/1/12 to 4/9/13	4/7/13 to 9/30/13	
Range of Ratings (cfs)	36 to 1510	29 to 1510	
No. of Defining Measurements	15	16	
Rating Error (%)	10.2	12.7	

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 (%)			

Table 5 Discussion (Rating Tables)

The water year began under rating 501. In early April, the rating shifted to 401 due to channel fill caused by seasonal runoff.

Eight discharge measurements were taken throughout the water year, ranging from 79 to 301 cfs.

Table 6. Model Summary

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

Table 6 Discussion (Modeled Data)

--

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

Type	Date
n/a	n/a

Table 7 Discussion (Surveys)

--

Activities Completed

No significant activities were completed.
