

**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:**  
**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 the Tucannon River Road. The station is located on the left bank, downstream from the county bridge.

Table 1.

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

**Discharge**

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	78
Median Annual Discharge (cfs)	64
Maximum Daily Mean Discharge (cfs)	270
Minimum Daily Mean Discharge (cfs)	49
Maximum Instantaneous Discharge (cfs)	313
Minimum Instantaneous Discharge (cfs)	45
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	126
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	51
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**

Peak flow occurred on March 28, 2005.
---------------------------------------

**Error Analysis**

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	2.3
Weighted Rating Error (% of discharge)	10.1
Total Potential Error (% of discharge)	12.4

**Rating Table(s)**

Table 4. Rating Table Summary

Rating Table No.	101	201	
Period of Ratings	10/1/04 to 3/28/05	3/26/05 to 9/30/05	
Range of Ratings (cfs)	26 to 1500	28 to 1500	
No. of Defining Measurements	9	7	
Rating Error (%)	9.5	10.7	

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 (%)			

### **Narrative**

Three discharge measurements were made throughout the year, ranging from 54 to 213 cfs.

### **Stage Record**

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	4.20
Maximum Recorded Stage (feet)	5.02
Range of Recorded Stage (feet)	0.82
Number of Un-Reported Days	0
Number of Days Qualified as Estimates	12
Number of Days Qualified as Unreliable Estimates	0

### **Narrative**

The estimated days were a result of the mean daily flow values between edited and unedited data being greater than 20%.

## Modeled Discharge

Table 6. Model Summary

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

## Surveys

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

Type	Date
Station	12/7/2004

## Activities Completed

--