

V1.0

**DATA SUMMARY SHEET
ENTIAT WATER RESOURCES**

**PARAMETER: SYNTHESIZED MEAN DAILY FLOWS FOR THE ENTIAT RIVER NR ENTIAT, WA.
(USGS STATION No. 12452990; a.k.a. "KEYSTONE" Gage)**

Time Period: Synthesized data for Station #12452990 from 10/1/57 to 3/14/96
[This synthesized record is based on SIX YEARS of gage overlap data—see below]

PRIMARY DATA FILE NAME: SYN_MEAN_DAILY_FLOWS_12452990_10-01-58TO3-14-96_10-21-02

Rhodus File Name: Same as primary file name above

DATA FILE LOCATION: ENTIATWR1_0

ORIGINAL DATA SOURCE(S): These data were electronically synthesized (estimated) using a regression equation. This equation was developed from overlapping actual mean daily flows for the 12452800 and 12453000 gages for WY 1958 and for the 12452800 and 12452990 gages for WYs 1997-2001. The resulting equation used had an intercept of 41.64199 and a slope of 1.151026 (see data spreadsheet).

This data synthesis using 6 years of overlap data is considered superior to the estimation based only on the one year relationship between 12453000 and 12452800. The "six year" overlap data set was used to develop a composite flow record for the Keystone gage (see companion data set).

DESCRIPTION OF ANY MODIFICATION/SUPPLEMENTATION OF ORIGINAL DATA: No modifications were made to the original (measured) data sets for 12453000, 12452990 and 12452800 other than elimination of leap year days.

INTENDED USE OF DATA: The Keystone station is a very significant location for water resource management in the Entiat. These synthesized data have a variety of water use management applications—flow regime characterization, instream flow analysis and plan development, etc.

LIMITATIONS REGARDING USE OF DATA SET(S): The user must keep in mind that this data set has been synthesized using a regression equation based on six years of overlap data for 12453000 and 12452990. No adjustments were made in the synthesized data to "smooth" the transition between measured and synthesized data at the end of WY1958 and between 3/14/96 and 3/15/96.

DESCRIPTION OF ANY ASSOCIATED GRAPHICS: Standard hydrograph plots

COMMENTS: Continuous gaging at the Keystone site (Entiat River near Entiat; 124452990) began on 3/15/96. This "Keystone" gage replaces the "Entiat River at Entiat, WA" (USGS #12453000), which went out of service at the end of WY 1958.

The lower confidence interval regression equation was selected for this synthesis in order to provide a conservative estimate. The mid range (51.3449;1.166293) and upper range (61.04781;1.18156) equations were considered but not employed here.

PREPARED BY: Gran Rhodus

LAST UPDATED: 10/29/02

V1.0

DATA SUMMARY SHEET ENTIAT WATER RESOURCES

PARAMETER: SYNTHESIZED MEAN DAILY FLOWS FOR ENTIAT RIVER AT ENTIAT FALLS
(USFS Barometer Watershed gage)

Time Period: **WY1958-1966---Synthesized data**
 WY1967-1978---Gaged data (see companion data sets)

WY1979-2001---Synthesized data

PRIMARY DATA FILE NAME: SYN_MEAN_DAILY_FLOWS_ENTIATFALLS_10-01-57TO9-30-01_10-17-02

Rhodus File Name: AA_AA_ENTIATFALLS_POR_GAGED_AND_SYNTHESIZED_5-18-02

DATA FILE LOCATION: ENTIATWR1_0

ORIGINAL DATA SOURCE(S): Data for water years 1958-1966 and 1979-2000 were electronically synthesized (constructed) using a regression equation. This equation was developed from overlapping actual mean daily flows between 12452800 and the Entiat Falls gages for WYs 1967-1978. The resulting equation had an intercept of -17.4619 and a slope of 0.797544 (see data spreadsheet).

The original gaged data (1967-1978) used in this synthesis were converted from hard copy to electronic format (Hydrometeorological Records, ENTIAT BAROMETER WATERSHED, 1966-1978, Entiat Ranger District, Wenatchee National Forest).

DESCRIPTION OF ANY MODIFICATION/SUPPLEMENTATION OF ORIGINAL DATA: The original twelve water years of gaged record between 10/1/1966 and 9/30/1978 were used to estimate flows from 1958-1966 and 1979 to 2000 by correlation with Entiat River near Ardenvoir (USGS Gage #12452800). The correlation between the Entiat at Entiat Falls and Entiat River nr Ardenvoir, WA was excellent.

INTENDED USE OF DATA: Determine flow volumes originating from the headwaters and flow contribution of the North Fork Entiat River. These data have a variety of water use management applications—flow regime characterization, instream flow analysis and plan development/implementation, etc.

LIMITATIONS REGARDING USE OF DATA SET(S): Synthesized data are subject to the error introduced by correlation equations with varying accuracy. The gaged data (1966-1978) are considered to be of high quality as verified by the high correlation with the USGS gaging station #12452800 (Entiat River nr. Ardenvoir, WA).

DESCRIPTION OF ANY ASSOCIATED GRAPHICS: Standard hydrograph plots

COMMENTS: This continuous recording gage was part of the U. S. Forest Service's Entiat Barometer Watershed program established in 1966. The program was part of a national watershed scheme to characterize water resources and evaluate the impact of resource management on water quantity and quality. The gage was operated from 10/1/66 thru 9/30/1978 and then deactivated with the termination of the Barometer Watershed program.

The Entiat Falls gaging station has been reactivated via the expanded gaging program initially funded with a BPA grant passed through the DOE and CCCD. The gage house is being used to shelter the DOE instrument panel. The stage control at this station remained very stable during the previous years of operation and appears to be quite stable now.

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