

Internal Only

Station Description View

13342500 CLEARWATER RIVER AT SPALDING ID**Responsible Office**

U.S. Geological Survey
 Post Falls Field Office
 721 Lochsa Street, Suite 7
 Post Falls, ID 83854
 (208) 773-4938

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Revised by: klhein

SPECIAL NOTE.--U. S. Army Corps of Engineers, Walla Walla trouble shooter for this station is Ron Robinson at Lower Granite. He can be reached by phone No. 509-843-1493, Ext. 238.

LOCATION.--Lat 46°26'54", long 116°49'39" referenced to North American Datum of 1983, in NW 1/4 NE 1/4 SW 1/4 sec.22, T.36 N., R.4 W., Nez Perce County, ID, Hydrologic Unit 17060306, Lapwai quad., Nez Perce Indian Reservation, on left bank 0.4 mi downstream from Lapwai Creek, 0.6 mi west of Spalding Post Office, 0.9 mi upstream from U.S. Highway 95 bridge, and at mile 11.6.

**ROAD LOG.**-- [View Larger Map »](#)

0.0 miles - Travelling on Highway 95 South keep to left descending Lewiston Grade, begin clocking mileage at base of exit ramp. Continue on Highway 95 South
 8.7 miles - Turn left onto Spalding Mill Road
 8.8 miles - Stay to right crossing train tracks
 9.0 miles - Past houses asphalt becomes dirt track. Park at gage

SITE HAZARD ANALYSIS.--Job Hazard Analysis (JHA) for this site is maintained in the Site Information Management System. (SIMS) Copies of the JHA can be found in the field and gage house folders.

Grassy slope on the left bank is very slippery.

DRAINAGE AREA.--9,283 mi².

ESTABLISHMENT AND HISTORY.--Mar. 16, 1926, by USGS.

GAGE.--Two Sutron model 8210 electronic dataloggers and satellite data collection platform (DCP) connected to a Sutron Accubar pressure sensor activated by a gas purge system are housed in a concrete block shelter located on the left bank. A 3000kHz SonTek Argonaut SL acoustic Doppler velocity meter (ADVM) is mounted on the left bank on a sliding track mount and is used to collect acoustic backscatter data for a suspended sediment surrogate study. The ADVM is configured to measure backscatter in 10 cells from 3.28 to 19.69 ft from the instrument, but data from only the first five cells are transmitted and used in the calculation of suspended sediment concentrations. The ADVM averages data for 2 minutes out of every 15 minute measurement interval. The sliding track mount allows field personnel to retrieve, clean, and service the ADVM during each site visit. Stop bolts at the bottom of the track and a locking bar handle at the top of the track helps ensure that the ADVM is deployed back to the same location each time. The top of the vertical beam on the ADVM is mounted at an approximate gage height of 2.12 ft. Gage house is

supplied with AC power for heat lamps and chargers for 12 volt equipment batteries. The Corps of Engineers operates a Sutron 9210 Xlite with a Sutron Xpert voice modem which is connected to the USGS Sutron Accubar. Datalogger is referenced to THE PRIMARY OUTSIDE REFERENCE GAGE, WHICH IS A SLOPING GAGE (range 2.0 ft to 21.8 ft), located streamward of the gage house. AN AUXILIARY REFERENCE GAGE IS A VERTICAL STAFF GAGE (range 21.00 ft to 27.10 ft) located on the downstream side of the gage house. Two crest stage gages located in the vicinity of the sloping gage provide verification of peak water levels. A temperature probe is located at the end and downstream side of the sloping gage. Stage and water temperature are recorded every 15 minutes by the datalogger.

Other equipment includes a Sequoia LISST Streamside laser diffraction instrument and a YSI continuous water quality monitor turbidity probe (both removed as of 09/11) used for the suspended sediment surrogate study.

Elevations, gage datum:

Top of orifice	1.30	ft
Floor of gage house	23.99	ft
Bottom of instrument shelf	27.09	ft
Lower CSG bottom bolt	10.046	ft
Upper CSG bottom bolt	15.646	ft

Datum of the gage is 770.486 feet, NGVD of 1929, based on levels of July 25, 1984.

CONTROL.--Channel is straight for several hundred feet upstream and downstream from gage. Banks are clean on right with some willow growth on left bank. Left bank will overflow at approximately 21.0 ft gage-height. Control is a well defined split riffle at head of island 0.5 mi downstream from gage. Riffle consists of sand, gravel, and cobbles that is subject to some shifting.

DISCHARGE MEASUREMENTS.--THE CABLEWAY HAS BEEN REMOVED. All measurements are made by boat using an ADCP until such time as the cableway is re-installed.

Bed of stream is composed of boulders and gravel, not subject to moss growth but subject to shifts. One channel at all stages, approximate depth at zero gage-height is 10.4 ft. GZF is too deep to measure. Flow smooth, velocities uniform. Current is normal to measuring section.

(Made with ADCP in vicinity of gage or with a current meter from cable located 10 ft upstream from gage shelter for all stages. Cable is a 1-in tramway. Clear span is 637 ft. Cable rests on a 14 ft pipe A-frame on right bank and a 25 ft steel A-frame on left bank. Anchors are reinforced concrete-type. Right bank is 6 ft x 7 ft x 5 ft with a 1 1/2-in U-bar and left bank anchor is ft x ft x ft with 1 3/4-in U-bar. A 6 ft takeup is provided on left bank. Initial point at left bank A-frame. Cable marked at 10 ft intervals: Two marks at each 50 ft, and three marks at each 100 ft station.)

(50# lead weight can be used on stages up to about 7.5 ft,
75# at stages from 7.5-10.00 ft,
100# at stages 10.0-15 ft, 150# above.

Care should be taken to observe vertical angles on protractor at high stages and use sufficient tags in order to eliminate air line corrections and able one to compute wet-line correction when sounding. This is only an issue when cableway is re activated.

Adjust measured discharge using the Boyer method when changes in stage of over 0.10 ft have occurred. The formula is:

Formula for Adjusting Discharge
 $Q_c = Q_m (1 \pm 1/USc \times dh/dt)^{1/2}$ (square-root) where:

Q_c =adjusted Q in ft³/s

Q_m = measured Q in ft³/s

1/USc=0.2 (constant)

dh/dt=change in head/unit time in ft/hr, *

*(+ or - depending on whether stage is rising or falling))

FLOODS.--Maximum discharge, 177,000 ft³/s May 29, 1948 (gage-height 23.76 ft).

WINTER FLOW.--Stage-discharge relation can be affected by ice during severe cold periods. Regulation by Dworshak Dam generally keeps flows warmer than normal and ice conditions are rare.

REGULATION AND DIVERSIONS.--Regulation by Dworshak Dam.

COOPERATION.--Station is maintained in cooperation with the U. S. Corps of Army Engineers, Walla Walla District.

MAP.--Site Sketch

REFERENCE MARKS.--

BM 2 is top of bolt marked with yellow paint on downstream support of left bank
A-frame. Elev. 21.332 ft

BM 3 is standard Parks Department corner brass cap 15 ft shoreward from gage house.
This brass cap is located in a parking area and is UNSTABLE. Cap is listing.
Measure elevation at highest point on cap.
Elev. 21.831 ft

BM 5 is a USGS brass cap located in the house floor just inside the doorway and is
the ORIGIN FOR LEVELS. Elev. 23.946 ft (Levels of 9/30/14 USED AS ORIGIN)

RM 6 is the top of bolt securing the sloping gage, located 6-inches above the 20
foot mark. Elev. 20.370 ft

RM 7 is a chiseled square outlined in yellow on the downstream shoreward corner of the 6
foot left bank anchor block. Elev. 24.132 ft

State of Idaho Department of Highways RM 71 is the northwest corner of the grate
over a highway drain approximately 25 ft south of the centerline of U.S. Highway 95,
about 0.2 mi east of the access road to the gaging station and local residence,
1 mi east of U.S. Highway 95 Clearwater bridge, 1.2 mi from junction with
Idaho Highway 12, and 10.8 mi east along U. S. Highway 95 from Nez Perce County
Courthouse in Lewiston. Elev. 844.290 ft NGVD

No information found as to elevation or origin of brass cap located 25 feet shoreward
from gage shelter (corner marker for park).

AERIAL PHOTO.--Google Earth

PHOTOGRAPHS.--

Further pictures are archived on the IWSC server at \\igswiawwfs001\SiteData\SurfaceWater\13342500\Images.

WATER QUALITY.--Daily maximum and minimum water temperatures recorded to the nearest 0.1 degrees Celsius
and rounded to the nearest 0.5 degrees Celcius are published.

DATE OF LAST LEVELS.--

Last run: Sep 30, 2014; Next run: Sep 29, 2017; Frequency: 3 years; Status: OPEN

Levels were last run on September 30, 2014. A new correction table was developed for the outside sloping gage.

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