

North Platte River at Morrill, Nebraska 06678500

LOCATION

Latitude and Longitude

41.93662 -103.9295

Road Log

Scotts Bluff County, on right bank, 5 feet downstream from bridge on South Morrill Road (County Road 8), and 1.75 miles south of Morrill, NE.

Equipment Details

Recording Gage

SUTRON CBS flow meter and a SATLINK DCP radio connected to stream with an open-end orifice. Instrument logs data at 15-minute intervals and transmits via satellite each hour to the downlink stations.

Real-time data through the internet at <https://nednr.nebraska.gov/RealTime>

External Gage

Instrument referenced to wire-weight located on downstream side of bridge, 50 feet north of gaging station. Check bar elevation is 28.86 feet.

Bench Mark and Reference Marks

RM#1 "X" in concrete rail 250 feet from left upstream edge of bridge. Elevation 29.95 feet by levels dated 04/23/2018. (Origin)

Elevation 29.95 feet by levels dated 04/01/2021. (Origin)

RM#2 "X" in concrete rail at the right upstream edge of bridge. Elevation 30.26 feet by levels dated 04/23/2018.

Elevation 30.26 feet by levels dated 04/01/2021.

RM#3 "X" in concrete rail at right downstream edge of bridge. Elevation 30.23 feet by levels dated 04/23/2018.

Elevation 30.23 feet by levels dated 04/01/2021.

RP#1 downstream side of bridge 250 feet from left edge of bridge. Elevation 29.97 feet by levels 04/23/2018.

Elevation 29.98 feet by levels dated 04/01/2021.

Wire Weight Gage check bar 28.86 feet by levels 04/23/2018.

Elevation 28.86 feet by levels dated 04/01/2021.

Hydrology

Drainage Area

Not Determined.

Channel and Control

Velocities are comparatively low at this site. Soft streambed and alteration of control gates for Enterprise Canal approximately 100 yards downstream can cause rating curve volatility.

Both banks are heavily wooded. Overflow occurs frequently during high flows. Ice cover uncommon but can occur during severe winters

Discharge Measurements

Low flows waded near the gage. High flows measured from downstream side of concrete bridge at gage site.

Floods

On August 3, 2011, the average flow reached a maximum daily average of 9,880 cubic feet per second with a correlating average gage height of 19.89 feet.

Extremes for Period of Record

Peak discharge 9880 cubic feet per second August 3, 2011, gage height 19.89 feet; minimum daily discharge 103 cubic feet per second April 30, 2018.

Point of Zero Flow

Variable.

Winter Flow

Occasional ice cover during severe winters.

Regulation and Diversions

River seasonally regulated by the reservoir system in Wyoming; daily regulation is affected by myriad irrigation diversions above and below gaging station.

Accuracy

Records returns a high rate of accuracy for stages that can be waded and fair to poor accuracy for higher stages or periods of ice effect.

Establishment and History

6/23/2011 established gaging station (steel cubical shelter) with an ISCO 4230 Bubbler Flow Meter attached to the channel for data collection.

6/23/2011 established RP#1, RM #1, RM #2, and RM #3 and assigned elevations by levels.

11/29/2011 Installed wire weight on downstream side of highway bridge rail and assigned elevation by levels.

03/8/2016 Installed Sutron Accubar data logger and satellite transmitter for real time data information.

Revision History

Original description by: Trevor Massey 12/21/2016

Revised by: J A Marburger 11/22/2017

Revised by: J A Marburger 02/28/2019

Revised by: J Nichols 04/02/2021