

National Weather Service North Platte, NE



***Information On NWS Flood Stage For The
North Platte River At North Platte***

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Topics Covered

- *What Occurs Near Flood Stage At The North Platte River At North Platte*
- *Stage And Flow 1983 To 2008*
- *How Flood Stage Is Determined*
- *Gage Datum At The Gage Site*
- *Timeline Of Changes Which Have Occurred At The Gage Site*



North Platte River At North Platte Stage 5.8 Feet on July 17, 2008

07/17/08 stage 5.8 ft
showing gage house




**Downstream From Gage House
Stage 5.8 Feet on July 17, 2008**

07/17/08 stage 5.8 ft downstream
from gage house



**250 Yards Downstream From Gage House
Stage 5.8 Feet on July 17, 2008**

07/17/08 stage 5.8 ft looking
upstream from 250 yds
downstream of gage house

A photograph of the North Platte River. In the foreground, there is a large, conical pile of dark gravel on a sandy bank. To the right of the gravel, a line of weathered wooden posts extends into the water. A person wearing a blue shirt and light-colored pants is wading through the shallow water on the left side of the frame. In the background, a concrete bridge spans across the river, surrounded by lush green trees and vegetation under a clear blue sky.

**North Platte River At North Platte
Stage 5.91 Feet on August 04,
2008**

08/04/08 stage 5.91 ft looking
toward gage house and boat ramp



**Downstream From Gage House
Stage 5.91 Feet on August 04, 2008**

08/04/08 stage 5.91 ft looking
further downstream at cody park



**North Platte River At North Platte
Stage 6.15 Feet on August 06,
2008**

08/06/08 stage 6.15 ft looking
toward gage house



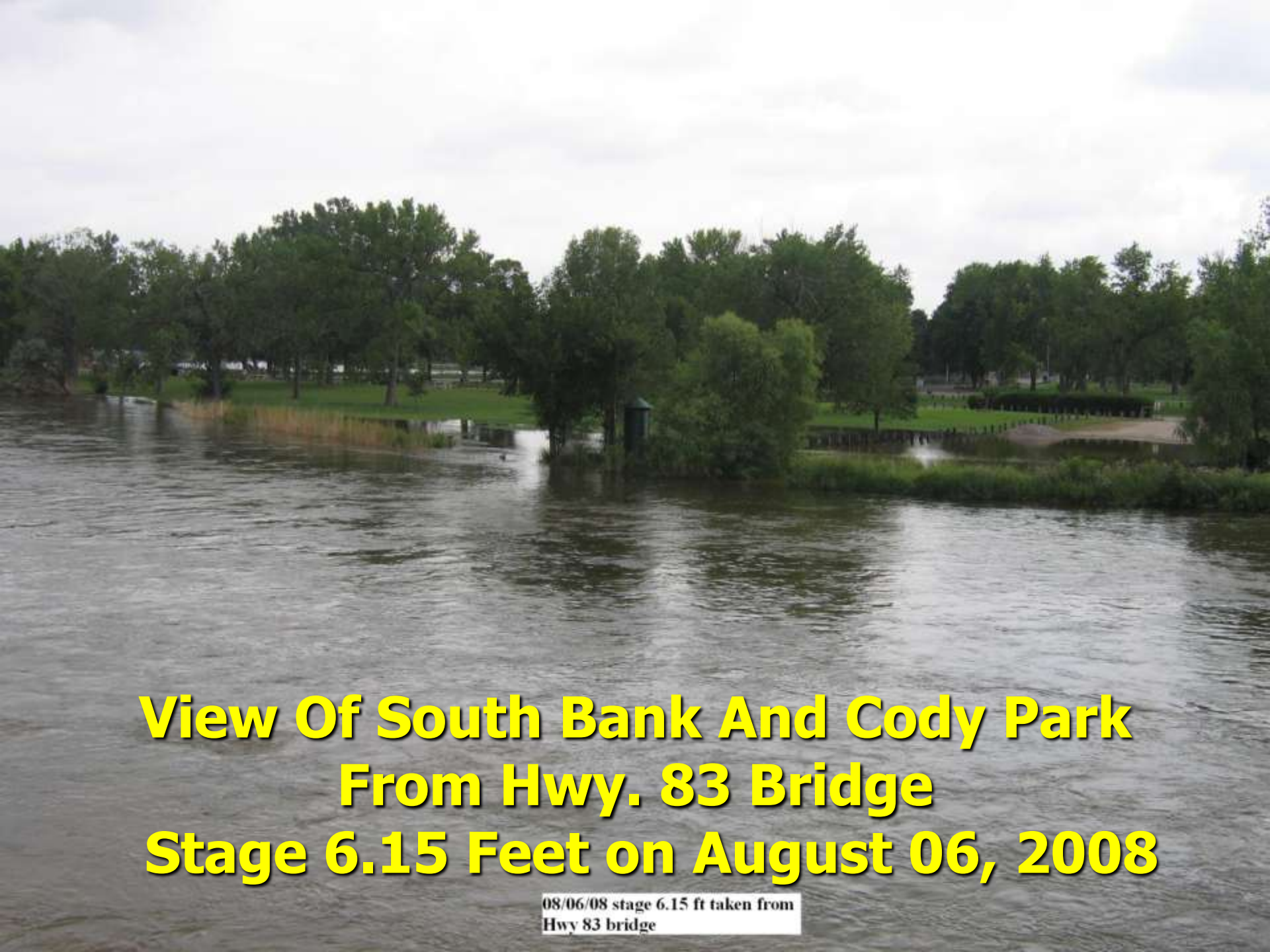
Water Visibly Flowing Into Cody Park Stage 6.15 Feet on August 06, 2008

08/06/08 stage 6.15 ft looking
toward gage house



**100 Yards Downstream, Water Is
Clearly Out Of Bank
Stage 6.15 Feet on August 06, 2008**

08/06/08 stage 6.15 ft

A wide river flows through a landscape. The water is a murky, greyish-brown color. The right bank is heavily flooded, with water reaching up to the trunks of several trees. In the background, a dense line of green trees stretches across the horizon under a cloudy, overcast sky. The overall scene suggests a significant flood event.

**View Of South Bank And Cody Park
From Hwy. 83 Bridge
Stage 6.15 Feet on August 06, 2008**

08/06/08 stage 6.15 ft taken from
Hwy 83 bridge



**Rising Water Into Ditches Along Access
Road a Half Mile North Of River
Stage 6.13 Feet on August 08, 2008**

08/08/08 stage 6.13 ft

Stage and Flow 1983 to 2008

1983-1991 USGS Rating Tables

1997-2008 NDNR Rating Tables



How Flood Stage Is Determined By the NWS

- Flood Stage – An Established Gage Height For A Given Location At Which A Rise In Water Surface Level Begins To Impact Lives, Property, Or Commerce. The Issuance Of Flood Warnings Is Linked To Flood Stage.**
- Establishing A New Flood Stage Or Changing An Existing Flood Stage Requires Approval From Central Region Headquarters. Surveying Is Necessary To Determine The Elevation When The Water Leaves The Banks And Minor Flooding Begins.**
- Once A New Flood Stage Is Determined, A Service Change Notice Is Required To Notify The Family Of Services Users Of The Newly Established Flood Stage.**

Stage And Flood Categories For The North Platte River At North Platte

- ***Below flood stage, at a stage of 5.7 feet and a flow near 1350 cfs, minor overflows of low lying agricultural land begin along the north bank of the North Platte River from the Highway 83 bridge to approximately 4 miles west for areas south of North River Road.***
- ***At the flood stage of 6.0 feet, and a flow near 1600 cfs, minor flooding of low lying and agricultural land begins along the north bank of the North Platte River from the Highway 83 bridge to approximately 4 miles west for areas south of North River Road. Minor water intrusions into low lying areas of Cody Park in North Platte begin.***

Stage And Flood Categories For The North Platte River At North Platte Continued...

·Above flood stage, at a stage of 6.2 feet, and a flow near 2000 cfs, moderate and more widespread flooding of low lying and agricultural land occur along the north bank of the North Platte River from the Highway 83 bridge to approximately 4 miles west for areas south of North River Road. Water encroachment begins into some residences property along and south of North River Road. Water encroachment into low lying areas of Cody Park in North Platte worsens.

·Above flood stage, at a stage of 6.4 feet, and a flow near 2700 cfs, major and widespread flooding of low lying and agricultural land occur along the north bank of the North Platte River from the Highway 83 bridge to approximately 4 miles west for areas south of North River Road. Overflows occur along the south bank of the North Platte River. Flooding occurs with water encroachment into some residences and outbuildings along and south of North River Road. Access to properties will become significantly impaired. Widespread flooding occurs into low lying areas of Cody Park in North Platte.

What Is Gage Datum And How Is It Applied At The North Platte Gage Site?

- **Gage Datum - a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom .**
- **The Zero Datum For The North Platte River At North Platte Is 2792.14 Feet Established in 1968.**
- **Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks .**

A Timeline Of Changes Which Have Occurred At The North Platte Gage Site.

- Gage Was Moved In 1968 To Present Location 150 Feet Downstream Of Highway 83 Bridge On Right Bank.**
- The NDOR significantly shortened the Highway 83 Bridge In The Early 1970s.**
- In 1994, Cooperative Program With USGS Was Discontinued. NDNR Now Owns And Maintains Records For Gage Site.**
- In 1997, A Chain Gage Was Installed Adjacent To Gage House And Was The Base Gage Until 2007.**
- In 2002, The Flood Stage Was Lowered to 5.7 Feet.**

A Timeline Of Changes Which Have Occurred At The North Platte Gage (Continued).

- In 2007, A Wire Weight Gage Was Installed 50 Feet From The Right Down Stream End Of Bridge. This Became The New Base Gage. Chain Gage Was Removed In 2007.**
- There Is A +0.17 Foot Elevation Difference Between Wire Weight And Previous Chain Gage Due To The Wire Weight Location Being Approximately 150 Feet Upstream.**
- This Resulted In The Gage Reading At The Gage House 0.17 Foot Lower. Thus 6.0 Feet Prior To The 2007 Now Equates to 5.83 Feet.**
- Flood Stage Raised To 6.0 Feet In 2008. This Remains An Accurate Flood Stage Based On Surveying Done, Despite The Elevation Adjustment.**

QUESTIONS?