PAPIO-MISSOURI RIVER
NATURAL
RESOURCES
DISTRICT

8901 S. 154TH ST.
OMAHA, NE 68138-3621
(402) 444-6222
FAX (402) 895-6543
www.papionrd.org

MEMORANDUM

TO: File

FROM: Marlin J. Petermann, Asst. General Manager, P-MRNRD

SUBJECT: Flood Emergency Activities on the Platte and Elkhorn Rivers February 2004

DATE: March 11, 2004

WEEKLY RIVER ICE OBSERVATIONS:

Heavy snowfall and severe cold temperatures in late January and early February 2004 set the stage for possible ice jam induced flooding along the Platte and Elkhorn Rivers in Eastern Nebraska as snow melting and ice break-up occurred.

Preparations in readiness for such a possible event had begun months before with a River Ice Observers Workshop sponsored by the Nebraska Emergency management Agency on December 17, 2003. The observers began filing weekly reports, along with summary statements prepared by NEMA, with the Nebraska Department of Natural Resources (NDNR) who places them on their web site for dissemination.

ICE THICKNESS MEASUREMENTS:

Weekly Platte River ice thickness measurements taken by P-MRNRD personnel began on February 4, 2004 and were posted on the NDNR web site. The ice thickness at the Union Dike near Valley reached an average of 15 inches by the last day it was measured on February 18th. This is not much different than average ice thickness during that same time of the year in 1993 and 1997 when ice jam flooding occurred along the Lower Platte (see attached table).

CONFERENCE CALLS:

Weekly ice reporting conference calls between river ice observers and other interested agencies, sponsored by the National Weather Service (NWS) in Valley to more effectively communicate upstream and downstream conditions, began as the potential ice breakup period (appeared eminent) neared. Conference calls were held at 10:00a.m. on February 10, 24, and 27.

ICE DUSTING:

Readiness activities also included preparations by NEMA for "dusting" of the Lower Platte River ice as a preventative measure to help melt and weaken the ice cover prior to breakup. NEMA had photos flown of the river and requested technical assistance from the Omaha District, Corps of Engineers on this activity. On February 20th the Corps recommended against dusting the ice due primarily to the forecasted mild temperatures to average 34° during the next week, dipping into the 20's at night and the 40's during the day. Although temperatures were a bit warmer than anticipated, averaging 37° during the following week, they turned out ideal for slowly melting the snow and weakening the ice as major breakup of the Platte River ice occurred on Saturday February 28th.

DAILY MONITORING:

District personnel monitored river ice conditions from the ground daily from February 16th until ice out; and by air via helicopter on February 16, 19, 23, and 27. Following is a listing of major breakup events on the Lower Platte and Elkhorn Rivers as ice moved out of the system. Graphs showing these events at river gauge locations are attached.

ICE BREAKUP:

February 22-23, 2004: Platte River ice breakup and moved out from the mouth of Elkhorn to Highway 6 overnight. Minor jamming was evident at the Lincoln Water System Bridge on Platte and the Highway 36 Bridge on the Elkhorn.

February 26-27, 2004: Elkhorn River breakup occurred and ice cleared from Arlington downstream to the mouth and Platte River ice out occured from Highway 6 to its mouth.

February 28: Lower Platte River ice breakup and ice out from Northbend to the mouth of the Elkhorn was first reported by NRD personnel at 7:00a.m. at Highway 64 near Valley. NRD personnel followed the breakup downstream reaching the mouth of the Elkhorn at about 11:00a.m. The ice and water surge was stalled for about an hour approximately 2 miles upstream of Highway 92 creating some concern. This was noted as an area of concern during the previous days aerial inspection. The surge of water and ice, fluctuating from 1 to 3 feet, made it through the Clear Creek Levee/Vencil's Island area downstream of Highway 92 (where a January thaw ice jam had been reported to still be in place) without event. River stages in many areas reached near bank full and are shown on the attached USGS gauge graphs.

BLASTING:

The District was prepared to implement the explosives contract called for in the Ice Jam Interlocal Agreement between the 4 counties and 3 NRDs along the Lower Platte below Fremont; having contacted the contractor, insurance carriers, County Emergency Management personnel, etc. Thankfully this last resort measure was not needed.

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Water Resources

Data Category: Real-time | Geographic Area: Nebraska | go

USGS 06796000 PLATTE RIVER AT NORTH BEND, NEBR.

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Real-time GO

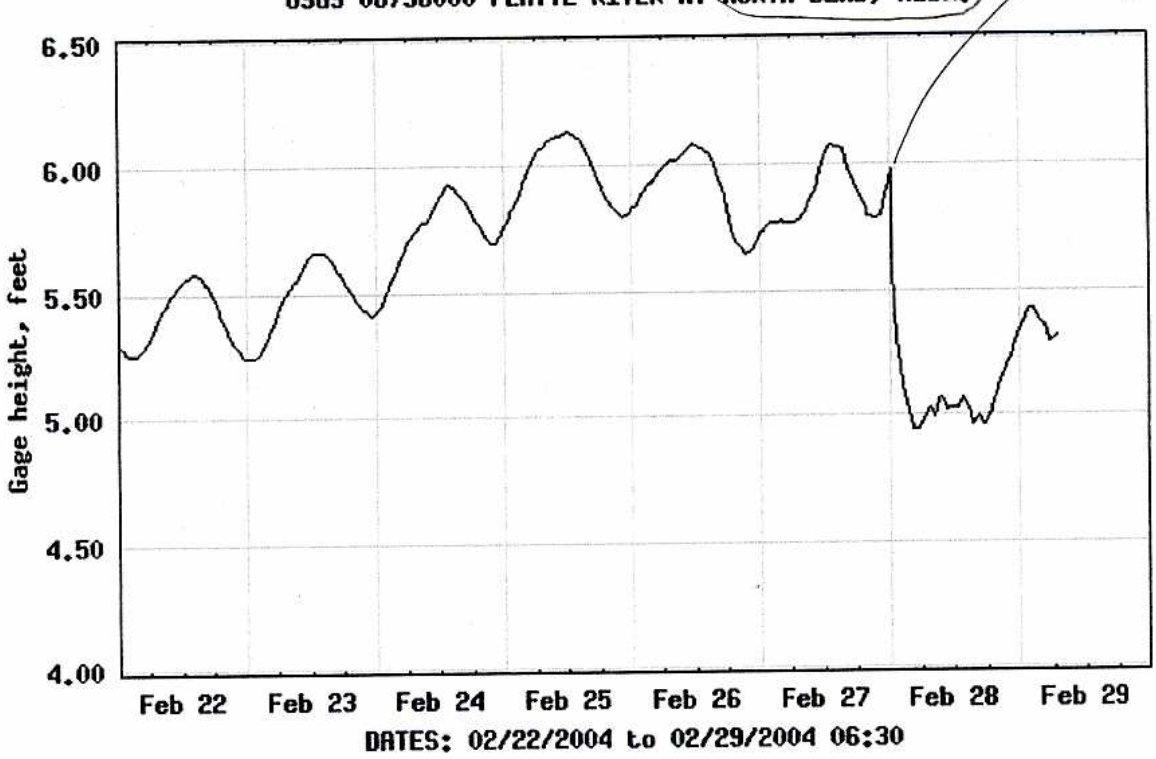
Available Parameters	Output format	Days	
All 4 parameters available at this site 00065 Gage height (DD 06) 00060 Discharge (DD 07) 00045 Precipitation (DD 08)	Graph	7 (1-31)	get data

Gage height, feet

Most recent value: 5.32 02-29-2004 06:30

Hwy 79

Ice out 5.98' peak 12:30 am



Download a presentation-quality graph Parameter Code 00065; DD 06

Discharge, cubic feet per second

Most recent value: Ice 02-29-2004 06:30

Water Resources

Data Category: Real-time | Geographic Area: Nebraska | go

USGS 06796500 PLATTE RIVER NR LESHARA, NE

PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Real-time GO

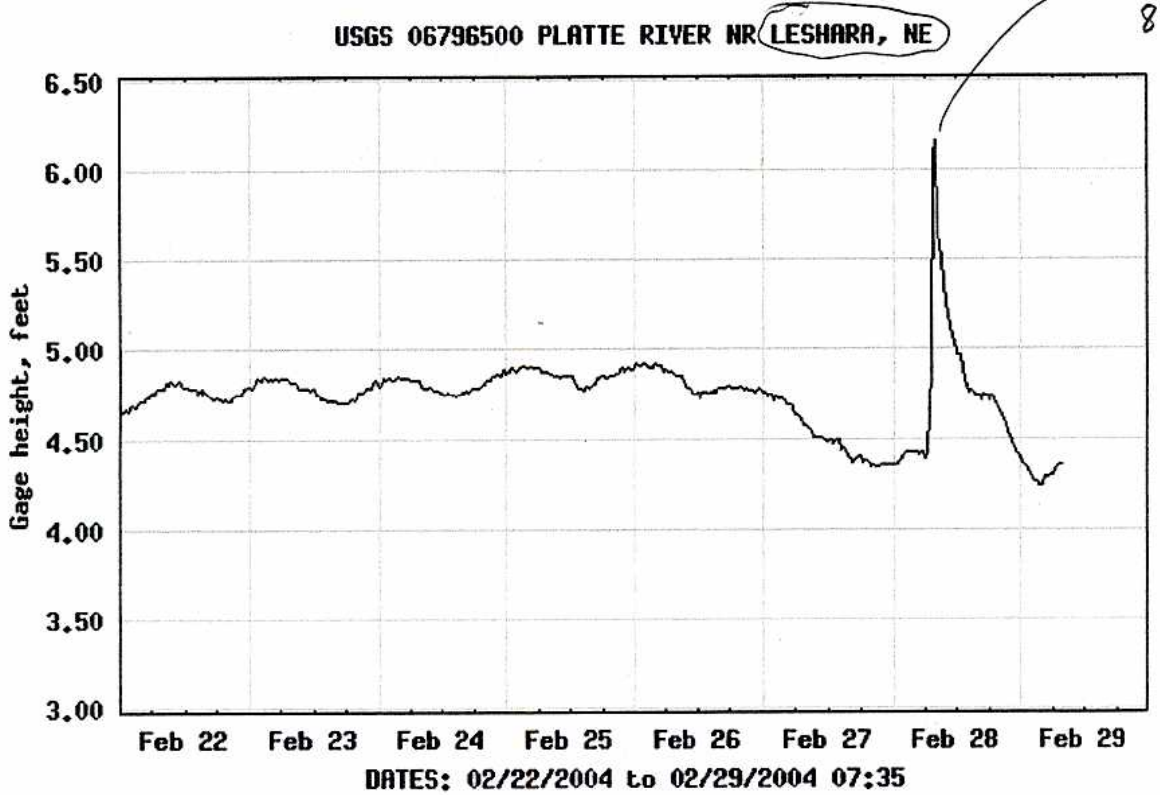
Available Parameters	Output format	Days	
All 3 parameters available at this site 00065 Gage height (DD 01) 00060 Discharge (DD 02) 70969 DCP battery voltage (DD 03)	Graph	7 (1-31)	get data

Gage height, feet

Most recent value: 4.36 02-29-2004 07:30

Hwy 64

Ice Out 6.17' peak 8:00 am



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Discharge, cubic feet per second

Most recent value: Ice 02-29-2004 07:30

Water Resources

Data Category: Real-time | Geographic Area: Nebraska | go

USGS 06801000 PLATTE R NR ASHLAND, NE

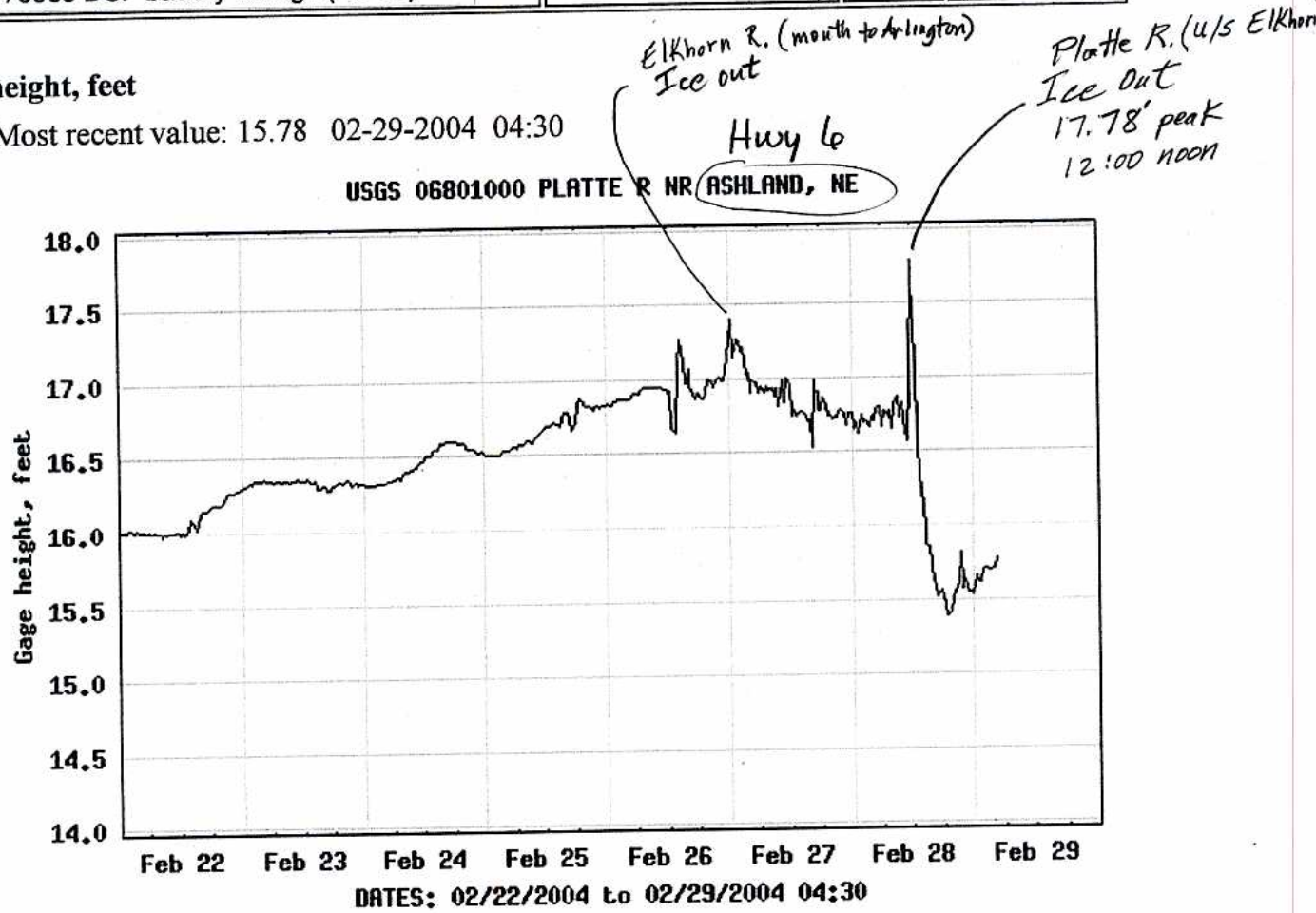
PROVISIONAL DATA SUBJECT TO REVISION

Available data for this site Real-time GO

Available Parameters	Output format	Days	
All 3 parameters available at this site 00065 Gage height (DD 03) 00060 Discharge (DD 04) 70969 DCP battery voltage (DD 05)	Graph	7 (1-31)	get data

Gage height, feet

Most recent value: 15.78 02-29-2004 04:30



Download a presentation-quality graph Parameter Code 00065; DD 03

Discharge, cubic feet per second

Most recent value: Ice 02-29-2004 04:30

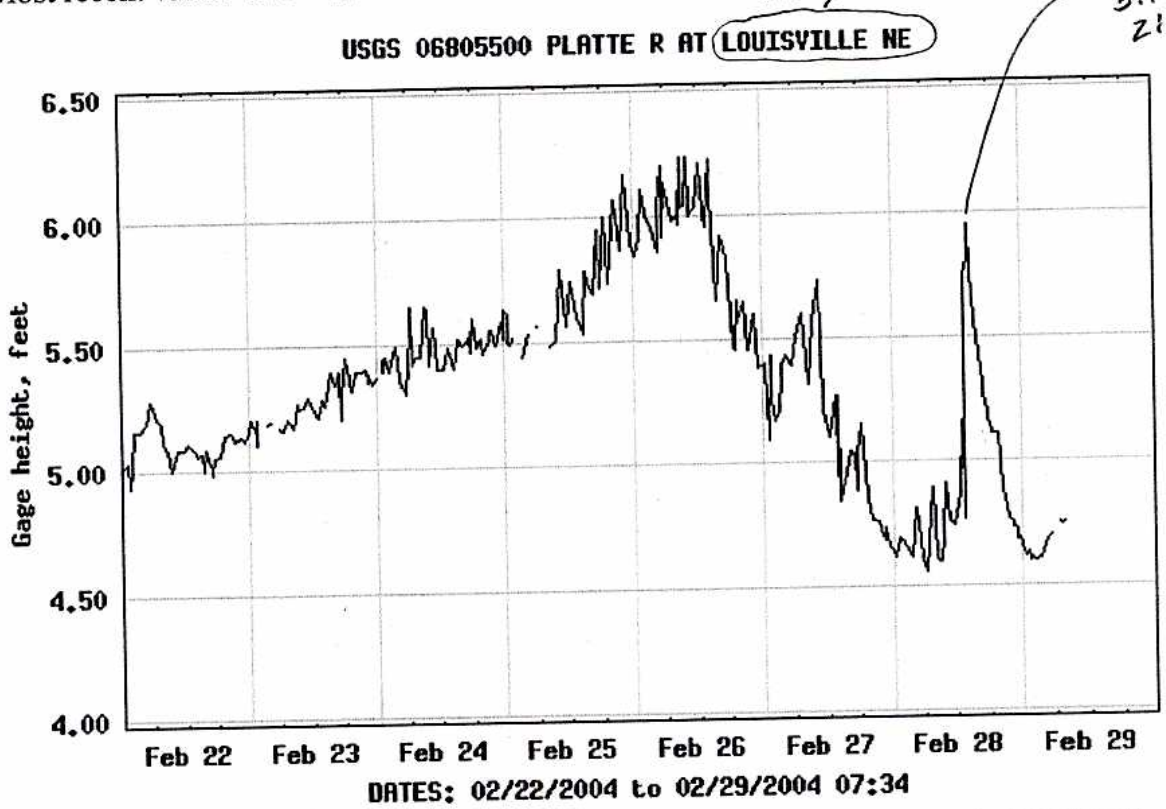
have been greater than the value shown.

Gage height, feet

Most recent value: 4.75 02-29-2004 07:30

Hwy 50

Platte R. (u/s Elkhorn) Ice out 5.95' peak 2:15 pm



Download a presentation-quality graph

Parameter Code 00065; DD 02

Questions about data gs-w-ne_NWISWeb_Data_Inquiries@usgs.gov

Feedback on this website gs-w-ne_NWISWeb_Maintainer@usgs.gov

Top

Explanation of terms

Real-time Data for Nebraska
http://waterdata.usgs.gov/ne/nwis/uv?

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USGS Water Resources of Nebraska
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1.7 1.47 nadww01

have been greater than the value shown.

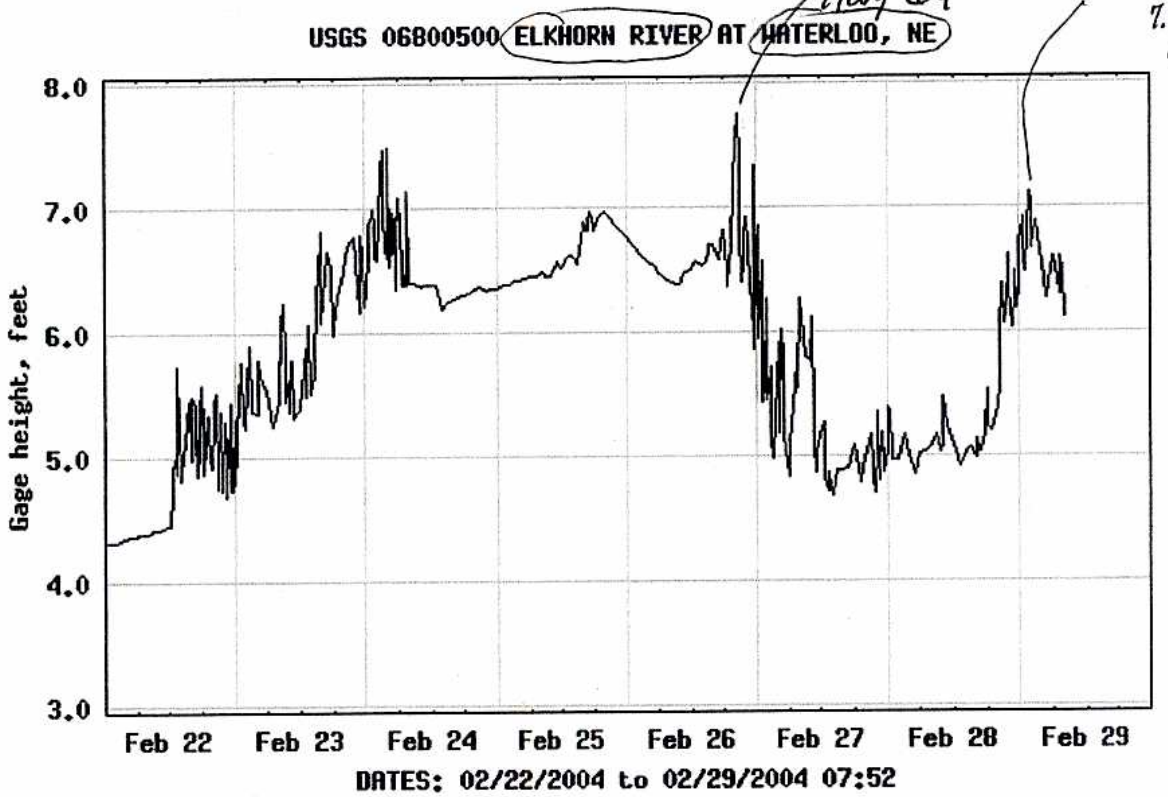
Gage height, feet

Most recent value: 6.11 02-29-2004 07:45

Ice Out (below Arlington) 7.75' peak 8:30 pm

Hwy 64

Ice out above Arlington 7.12' peak 1:45 am



Download a presentation-quality graph Parameter Code 00065; DD 02

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