

## Summary of Lower Platte & Elkhorn Rivers

### Ice Report 3/8/2014 through 3/14/2014:

#### Summary (3/14/2014) Happy Pi Day!

The observations from the Platte River, the confluence of the Platte and Elkhorn Rivers and the Elkhorn River are summarized as having an average temperature of 29°F with wind speeds averaging 3 mph out of the NW during the readings.

The Platte and Elkhorn Rivers were experiencing nearly all 100% open channels with several areas of the Platte showing ice build ups still on the sandbars. These will continue to melt as the warmer temperatures continue to rise above normal into the 60's & 70's this next week. The Elkhorn River was 100% open when readings were taken this week as was the Confluence with some frazil slush ice flowing.

NO Ice Jams on the Rivers at this time.

**\*\*NOTE: Papio MO NRD, Marlin Petermann's spring flood assessment at the end of this report! \*\***

## Platte River:

### LN1 - Saunders/Dodge County, on the Platte Hwy 77 at Fremont

**Latitude: 41:21:14 Longitude: 96:30:9 (Thursday, March 13, 2014 @ 8:00AM CDT)**

Temperature was 28°F. The average wind speed was 0 mph (0). It was estimated that it was less than 1' feet bank full at this location. The channel remains NA%. It was noted: "The Platte River at the Hwy 77 Bridge has a wide open channel on the south side and middle of the river right at the bridge. The channel upstream is widening. There is still a lot of ice piled on the sandbars and river banks that looks ominous, but will pose no threat. Looks like we may have dodged the bullet again this year! "

### PM4 - Douglas County, on the Platte Hwy 92

**Latitude: 41:14:2 Longitude: 96:21:55 (Wednesday, March 12, 2014 @ 08:10AM CDT)**

Temperature was 28°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 9 feet bank full at this location. The channel remains 80%. It was noted: "West side is 100% open with water flowing bank to bank. East side is 20% open with channel not open all the way. Additional ice Breakup occurred March 10 and 11 with water levels fluctuating 2-3 feet in areas as channels opened up. A varying width of open channel now exists from North Bend to the Missouri River. "

### PM7 - Douglas County, on the Platte Union Dike, 1/4 mile west of Hwy 275 & 3.1 miles upstream of Hwy 64

**Latitude: 41:21:40 Longitude: 96:25:0 (Wednesday, March 12, 2014 @ 08:50AM CDT)**

Temperature was 30°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 4 feet bank full at this location. The channel remains 50%. It was noted: "River is 50% open with some frazil slush ice. There is ice sitting on sand bars. Additional ice breakup occurred March 10 and 11 with water levels fluctuating 2-3 feet in areas as channel opened up. A varying width open channel now exists from North Bend to the Missouri River. "

## Confluence of the Platte and Elkhorn Rivers:

### E1 - Sarpy County, on the Platte/Elkhorn Confluence of Platte and Elkhorn Rivers

**Latitude: 41:8:0 Longitude: 96:19:0 (Wednesday, March 12, 2014 @ 07:40AM CDT)**

Temperature was 27°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 12 feet bank full at this location. The channel remains 100%. It was noted: "Platte river at confluence is 100% open with a lot of water and some frazil slush ice. "

## **Elkhorn River:**

### **PM2 - Douglas County, on the Elkhorn Hwy 36**

**Latitude: 41:22:45 Longitude: 96:18:9 (Wednesday, March 12, 2014 @ 08:35AM CDT)**

Temperature was 30°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 13 feet bank full at this location. The channel remains 100%. It was noted: "Elkhorn River is 100% open with some frazil slush ice. You can see all sand bars."

### **PM3 - Douglas/Saunders County, on the Elkhorn Hwy 92**

**Latitude: 41:13:51 Longitude: 96:16:41 (Wednesday, March 12, 2014 @ 09:10AM CDT)**

Temperature was 30°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 13 feet bank full at this location. The channel remains 100%. It was noted: "River is 100% open with some frazil slush ice. You can see all sandbars. "

### **PM6 - Douglas County, on the Elkhorn Hwy 64**

**Latitude: 41:17:30 Longitude: 96:17:0 (Wednesday, March 12, 2014 @ 08:25AM CDT)**

Temperature was 28°F. The average wind speed was 3 mph (NW). It was estimated that it was less than 13 feet bank full at this location. The channel remains 100%. It was noted: "Elkhorn is 100% open with some frazil slush ice. You can see sandbars. "

## **Papio-Missouri NRD**

**No ice thickness measurements taken this week due to the warming conditions.**

## **Marlin Petermann, PE, Papio-Missouri NRD**

All,

With the warm temperatures the last few days, P-MRNRD crews observed (ground observations along levees and at bridge crossings) significant movement and flushing of ice and water in the Lower Platte River below North Bend which resulted in the opening and widening of a channel in this reach to the Missouri River. Attached are copies of the USGS gage records from the NWS web site during the past few days in this reach, demonstrating the surge of ice and water during these ice-out events. Ice breakup and movement was first noted in the Union Dike area near Valley on Monday (3/10/14) afternoon which resulted in opening of a clear channel in the area 1-2 miles north of Hwy 64, which had been noted as a trouble spot a couple of weeks ago before a cold spell set in. Stages rose 2-3 feet during the ice out, resulting in about one foot of water along the Union Dike in that area, before breaking through an open channel and sending a minor peak of ice and water downstream as noted on the attached, beginning at the LeShara gage (Hwy 64) near Valley at approximately 6 pm Monday. It was good to see this area clear out, especially with events that were to occur later that night.

At approximately 9 pm Monday (3/10/14) evening a large surge of ice and water passed the North Bend gage (presumably from the release of a jam between North Bend and Schuyler) raising stages to nearly 1.5 feet above flood stage at the Hwy 79 Bridge. This large run of ice and water reached Hwy 77 at Fremont at about midnight and Hwy 64 near Valley/LeShara at about 2 am (3/11/14). This ice flow extended for an estimated 2-3 miles in length of channel full flow moving rapidly downstream. The times penciled in on the attached graphs are the time of peak stage. Although not observed by P-MRNRD crews, gage readings denote that stages at the Venice gage (adjacent to the MUD Platte West well field about 3 miles south of Hwy 92; also noted as a potential trouble spot a couple of weeks ago) peaked a little over 1 foot above flood stage. Stages at all other gage locations peaked close to bank full levels. As a result of these events it is believed that the threat of ice jam flooding is significantly diminished and that the sand bag closure of the Western Sarpy-Clear Creek Levee "fuse plug notch" at Camp Ashland can be removed.

If you have any questions, please contact me.

Thanks,

Marlin J. Petermann, PE  
Assistant General Manager  
Papio-Missouri River NRD  
Office: (402) 444-6222  
Direct: (402) 315-1702