Water-Data Report 2009

# 06810000 Nishnabotna River above Hamburg, IA

Missouri-Nishnabotna Basin
Nishnabotna Subbasin

LOCATION.--Lat 40°37′57″, long 95°37′32″ referenced to North American Datum of 1927, in SW ¼ SE ¼ sec.11, T.67 N., R.42 W., Fremont County, IA, Hydrologic Unit 10240004, on left bank on downstream side of bridge on U.S. Highway 275 and State Highway 333 in Hamburg, 4.7 mi downstream from confluence of East Nishnabotna River and West Nishnabotna River, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--2,806 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1922 to September 1923, October 1928 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1923, 1929-37, 1938-40 (M), 1943 (M). WSP 1440: Drainage area. WDR IA-74-1: 1973. WDR-US-2008: Location.

GAGE.--Water-stage recorder. Datum of gage is 894.17 ft above NGVD of 1929. See WSP 1730 for history of changes prior to November 16, 1950.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. U.S. Army Corps of Engineers rain gage and data collection platform with satellite telemetry at station. Precipitation records are available online at the U.S. Army Corps of Engineers website: www2.mvr.usace.army.mil/WaterControl/datamining2.cfm.

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1,270 | 1,290 | 1,210 | e1,310 | e1,110 | e811 | 1,690 | 3,490 | 1,700 | 2,290 | 1,640 | 1,470 |
| 2 | 1,040 | 1,190 | 1,140 | e1,610 | e1,290 | e918 | 1,660 | 3,120 | 2,040 | 2,200 | 1,570 | 1,370 |
| 3 | 802 | 1,150 | 1,040 | e1,790 | e1,160 | e1,080 | 1,620 | 2,830 | e1,850 | 2,130 | 1,500 | 1,300 |
| 4 | 745 | 1,120 | 944 | e1,430 | e968 | e1,240 | 1,600 | 2,600 | e1,820 | 2,560 | 1,550 | 1,330 |
| 5 | 681 | 1,130 | e1,400 | e1,100 | e989 | e1,610 | 1,620 | 2,420 | e1,670 | 7,440 | 1,440 | 1,220 |
| 6 | 665 | 1,380 | e1,570 | e1,190 | e1,120 | e1,750 | 1,680 | 2,300 | e1,840 | 3,630 | 1,390 | 1,170 |
| 7 | 724 | 1,320 | e1,380 | e1,400 | e1,590 | 2,130 | 1,730 | 2,350 | 3,690 | 2,850 | 1,330 | 1,110 |
| 8 | 614 | 1,260 | e1,430 | e1,450 | e2,540 | 4,460 | 1,710 | 2,290 | 4,690 | 2,990 | 1,990 | 1,080 |
| 9 | 629 | 1,090 | e1,400 | e1,290 | e3,410 | 4,630 | 1,710 | 2,070 | 5,990 | 4,150 | 1,630 | 1,090 |
| 10 | 760 | 1,030 | e1,310 | e1,240 | e3,820 | 4,380 | 1,750 | 1,940 | 4,330 | 4,760 | 1,450 | 1,050 |
| 11 | 605 | 1,180 | e1,360 | e1,260 | e4,990 | 3,150 | 1,760 | 1,840 | 3,640 | 5,600 | 1,500 | 1,000 |
| 12 | 582 | 1,520 | e1,350 | e1,180 | e3,260 | 2,660 | 1,720 | 1,800 | 3,250 | 3,870 | 1,380 | 975 |
| 13 | 585 | 1,670 | e1,360 | e1,120 | e2,170 | 2,240 | 1,710 | 1,940 | 3,180 | 5,360 | 1,250 | 965 |
| 14 | 708 | 1,820 | e1,390 | e1,010 | e1,650 | 2,160 | 1,720 | 2,000 | 3,320 | 6,090 | 1,150 | 906 |
| 15 | 1,200 | 1,740 | e1,230 | e860 | e1,390 | 2,110 | 1,680 | 2,390 | 3,160 | 4,080 | 1,090 | 853 |
| 16 | 1,450 | 1,690 | e1,150 | e946 | e1,340 | 2,020 | 1,640 | 2,950 | 2,970 | 3,580 | 1,770 | 808 |
| 17 | 1,430 | 1,670 | e1,260 | e1,060 | e1,240 | 1,940 | 1,600 | 2,390 | 3,280 | 3,250 | 1,540 | 767 |
| 18 | 1,390 | 1,620 | e1,360 | e1,110 | e1,270 | 1,880 | 1,600 | 2,260 | 3,670 | 2,900 | 1,350 | 739 |
| 19 | 1,120 | 1,580 | e1,480 | e1,090 | e1,220 | 1,850 | 1,600 | 2,020 | 3,100 | 2,650 | 1,150 | 765 |
| 20 | 976 | 1,530 | e1,330 | e989 | e1,060 | 1,810 | 1,570 | 1,900 | 3,460 | 2,490 | 1,310 | 748 |
| 21 | 907 | 1,510 | e1,250 | e946 | e1,160 | 1,760 | 1,540 | 1,800 | 3,740 | 2,490 | 1,860 | 754 |
| 22 | 1,460 | 1,450 | e1,140 | e1,040 | e972 | 1,750 | 1,510 | 1,730 | 4,780 | 2,580 | 1,460 | 778 |
| 23 | 2,380 | 1,330 | e1,370 | e1,080 | e1,000 | 1,810 | 1,500 | 1,680 | 4,190 | 2,570 | e1,240 | 756 |
| 24 | 3,660 | 1,470 | e1,270 | e892 | e1,190 | 1,940 | 1,490 | 1,710 | 3,490 | 2,280 | 1,090 | 773 |
| 25 | 3,180 | 1,450 | e1,440 | e871 | e1,120 | e2,070 | 1,470 | 1,670 | 3,360 | 2,140 | 952 | 730 |
| 26 | 2,380 | 1,380 | e1,770 | e935 | e1,070 | e2,180 | 1,560 | 1,780 | 3,310 | 2,020 | 957 | 705 |
| 27 | 1,920 | 1,310 | e3,680 | e860 | e1,310 | e1,990 | 5,680 | 1,770 | 2,960 | 1,910 | 1,560 | 693 |
| 28 | 1,660 | 1,230 | e5,300 | e795 | e1,030 | e1,830 | 8,020 | 2,070 | 2,770 | 1,850 | 5,120 | 659 |
| 29 | 1,510 | 1,210 | e3,960 | e935 | --- | e1,820 | 5,030 | 2,000 | 2,570 | 1,780 | 2,680 | 630 |
| 30 | 1,450 | 1,250 | e2,720 | e871 | --- | 1,760 | 3,970 | 1,810 | 2,410 | 1,720 | 1,970 | 585 |
| 31 | 1,370 | --- | e2,080 | e946 | --- | 1,700 | --- | 1,700 | --- | 1,650 | 1,640 | --- |
| Total | 39,853 | 41,570 | 52,074 | 34,606 | 46,439 | 65,439 | 65,140 | 66,620 | 96,230 | 97,860 | 49,509 | 27,779 |
| Mean | 1,286 | 1,386 | 1,680 | 1,116 | 1,659 | 2,111 | 2,171 | 2,149 | 3,208 | 3,157 | 1,597 | 926 |
| Max | 3,660 | 1,820 | 5,300 | 1,790 | 4,990 | 4,630 | 8,020 | 3,490 | 5,990 | 7,440 | 5,120 | 1,470 |
| Min | 582 | 1,030 | 944 | 795 | 968 | 811 | 1,470 | 1,670 | 1,670 | 1,650 | 952 | 585 |
| Ac-ft | 79,050 | 82,450 | 103,300 | 68,640 | 92,110 | 129,800 | 129,200 | 132,100 | 190,900 | 194,100 | 98,200 | 55,100 |
| Cfsm | 0.46 | 0.49 | 0.60 | 0.40 | 0.59 | 0.75 | 0.77 | 0.77 | 1.14 | 1.13 | 0.57 | 0.33 |
| In. | 0.53 | 0.55 | 0.69 | 0.46 | 0.62 | 0.87 | 0.86 | 0.88 | 1.28 | 1.30 | 0.66 | 0.37 |

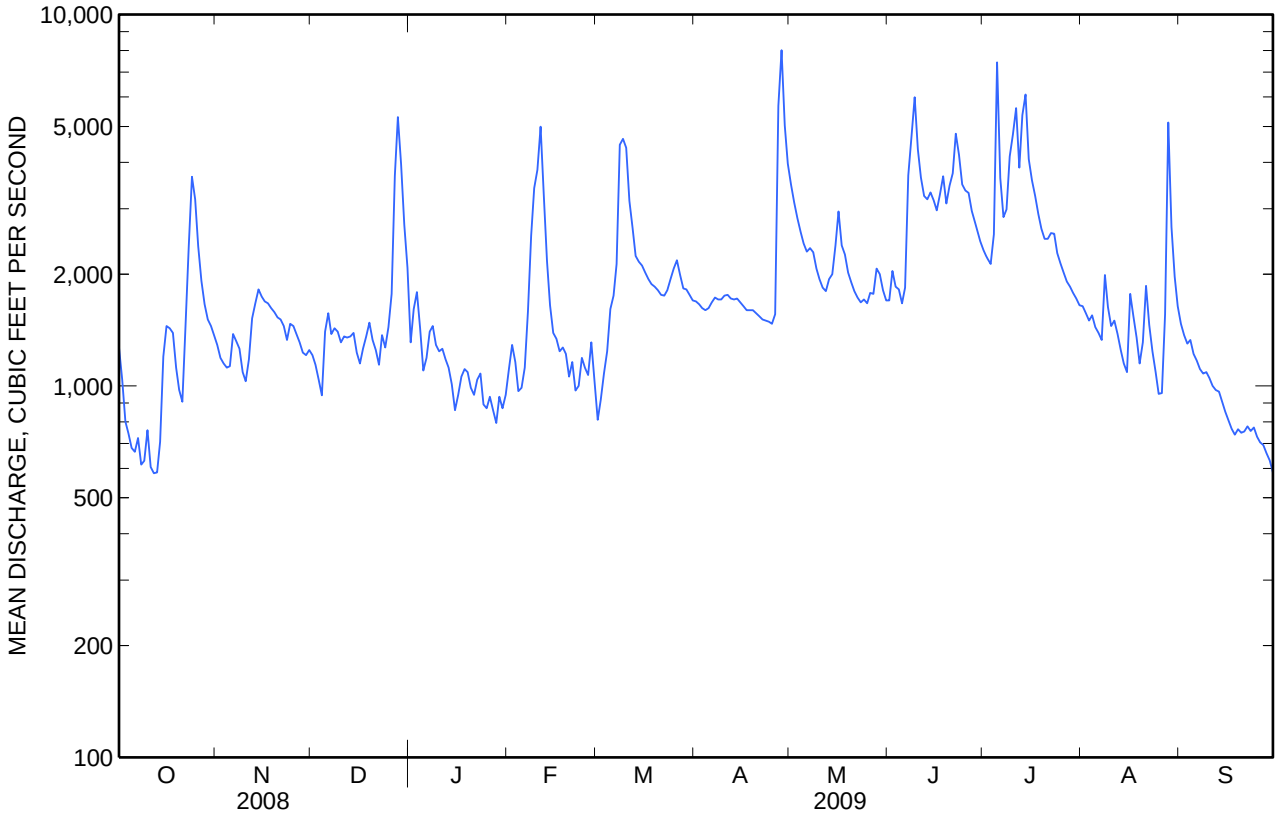
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2009, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 711 | 679 | 574 | 566 | 1,018 | 1,798 | 1,548 | 2,095 | 2,725 | 1,715 | 1,098 | 974 |
| Max | 5,004 | 3,083 | 2,557 | 3,585 | 4,720 | 7,229 | 5,866 | 11,560 | 16,430 | 17,780 | 6,266 | 7,385 |
| (WY) | (1987) | (1973) | (1973) | (1973) | (1973) | (1979) | (1973) | (2007) | (1947) | (1993) | (1993) | (1993) |
| Min | 39.5 | 42.9 | 27.1 | 21.3 | 30.3 | 115 | 89.7 | 68.2 | 151 | 52.8 | 16.8 | 44.1 |
| (WY) | (1938) | (1938) | (1938) | (1940) | (1940) | (1931) | (1956) | (1934) | (1956) | (1936) | (1934) | (1937) |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2008 | | Water Year 2009 | | Water Years 1922 - 2009 | |
|---|---|---|---|---|---|---|
| **Annual total** | 1,200,000 | | 683,119 | | | |
| **Annual mean** | 3,279 | | 1,872 | | 1,295 | |
| **Highest annual mean** | | | | | 5,062 | 1993 |
| **Lowest annual mean** | | | | | 170 | 1934 |
| **Highest daily mean** | 30,300 | Jun 14 | 8,020 | Apr 28 | 53,700 | Jun 17, 1998 |
| **Lowest daily mean** | 569 | Aug 26 | 582 | Oct 12 | 4.5 | Aug 30, 1934 |
| **Annual seven-day minimum** | 640 | Oct 8 | 640 | Oct 8 | 9.9 | Aug 24, 1934 |
| **Maximum peak flow** | | | 9,980 | Apr 28 | 65,100 | Jun 17, 1998 |
| **Maximum peak stage** | | | 20.42 | Apr 28 | 33.18 | Jun 17, 1998 |
| **Instantaneous low flow** | | | 544 | Sep 30 | | |
| **Annual runoff (ac-ft)** | 2,380,000 | | 1,355,000 | | 938,100 | |
| **Annual runoff (cfsm)** | 1.17 | | 0.667 | | 0.461 | |
| **Annual runoff (inches)** | 15.91 | | 9.06 | | 6.27 | |
| **10 percent exceeds** | 6,960 | | 3,430 | | 2,960 | |
| **50 percent exceeds** | 1,590 | | 1,570 | | 618 | |
| **90 percent exceeds** | 975 | | 907 | | 131 | |



**06810000 Nishnabotna River above Hamburg, IA—Continued**

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--1979-93, 1979-81, October 2003 to current year.

### WATER-QUALITY DATA
### WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 7

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Time | Barometric pressure, mm Hg (00025) | Instantaneous discharge, $ft^3/s$ (00061) | Dissolved oxygen, mg/L (00300) | Dissolved oxygen, percent of saturation (00301) | pH, water, unfltrd field, std units (00400) | Specific conductance, wat unf µS/cm @ 25 degC (00095) | Temperature, water, deg C (00010) | Turbdty white light, det ang 90+/-30 corrctd NTRU (63676) | Stream width, feet (00004) | Number of sampling points, count (00063) | Dissolved solids dried @ 180degC wat flt mg/L (70300) | Alkalinity, wat flt inf tit field, mg/L as CaCO3 (39086) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | 1100 | 739 | 1,460 | 11.1 | 95 | 8.3 | 568 | 7.2 | 73 | 240 | 12 | -- | 229 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | 1030 | 733 | E1,360 | 13.2 | 94 | 8.6 | 625 | .0 | E8.2 | 270 | 9 | -- | 252 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | 1030 | 725 | E1,400 | 11.7 | 84 | 8.2 | 590 | .0 | 29 | 340 | 3 | -- | 231 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | 1130 | 729 | 5,720 | 10.0 | 72 | 7.6 | 629 | .4 | 2,810 | 320 | 11 | -- | 104 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | 1045 | 745 | 8,240 | 7.2 | 68 | 7.5 | 297 | 11.7 | 7,590 | 290 | 11 | -- | 103 |
| **May** | | | | | | | | | | | | | |
| **12...** | 1030 | 735 | 1,790 | 8.8 | 93 | 8.2 | 521 | 16.2 | 160 | 150 | 10 | 338 | 205 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | 1100 | 734 | 4,920 | 6.6 | 75 | 7.8 | 359 | 19.8 | 2,260 | 280 | 10 | 218 | 124 |
| **22...** | 1030 | 732 | 4,910 | 7.1 | 88 | 7.9 | 469 | 24.1 | 1,070 | 275 | 10 | 283 | 176 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | 0930 | 736 | 2,470 | 8.2 | 94 | 8.1 | 537 | 20.1 | 150 | 250 | 10 | 322 | 220 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | 1100 | 743 | 1,010 | 8.4 | 99 | 8.3 | 569 | 21.9 | 49 | 105 | 10 | 349 | 244 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 2 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Bicarbonate, wat flt infl pt titr., field, mg/L (00453) | Total carbon, suspnd sedimnt total, mg/L (00694) | Carbonate, wat flt infl pt titr., field, mg/L (00452) | Chloride, water, fltrd, mg/L (00940) | Inorganic carbon, suspnd sedimnt total, mg/L (00688) | Silica, water, fltrd, mg/L as SiO2 (00955) | Sulfate water, fltrd, mg/L (00945) | Ammonia water, fltrd, mg/L as N (00608) | Nitrate + nitrite water, fltrd, mg/L as N (00631) | Nitrite water, fltrd, mg/L as N (00613) | Orthophosphate, water, fltrd, mg/L as P (00671) | Particulate nitrogen, susp, water, mg/L (49570) | Phosphorus, water, fltrd, mg/L as P (00666) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | 278 | 2.8 | 1.0 | 14.8 | <.04 | 18.8 | 26.4 | <.020 | 6.41 | .007 | .158 | .38 | .160 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | 306 | .4 | .7 | 15.1 | <.04 | 18.6 | 30.7 | .057 | 6.88 | .010 | .100 | .05 | .103 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | 281 | 1.4 | .5 | 15.4 | <.04 | 17.6 | 28.0 | .203 | 6.62 | .021 | .123 | .15 | .124 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | 127 | 73.1 | .0 | 14.5 | 1.2 | 10.2 | 16.8 | .784 | 2.89 | .039 | .152 | 6.88 | .188 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | 125 | 114 | .4 | 9.58 | 2.0 | 10.0 | 13.7 | .301 | 4.42 | .081 | .073 | 10.9 | .085 |
| **May** | | | | | | | | | | | | | |
| **12...** | 245 | 6.7 | 2.3 | 13.5 | E.1 | 15.2 | 26.0 | E.015 | 6.66 | .012 | .165 | .70 | .160 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | 150 | 75.2 | .7 | 9.40 | .8 | 12.8 | 17.8 | .059 | 5.57 | .087 | .146 | 7.93 | .151 |
| **22...** | 212 | 38.1 | 1.4 | 11.9 | .8 | 15.9 | 19.6 | <.020 | 7.28 | .031 | .173 | 3.89 | .174 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | 263 | 5.6 | 2.3 | 13.1 | E.1 | 17.8 | 25.4 | <.020 | 7.31 | E.008 | .184 | .51 | .180 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | 289 | 3.3 | 4.2 | 14.9 | E.1 | 15.3 | 30.8 | <.020 | 5.09 | .007 | .188 | .34 | .188 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 3 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Phosphorus, water, unfltrd mg/L as P (00665) | Total nitrogen, wat flt by analysis, mg/L (62854) | Total nitrogen, wat unf by analysis, mg/L (62855) | E coli, Defined Substr. Tech., water, MPN/100 mL (50468) | Total coliform, Defined Tech., MPN/100 mL (50569) | Chlorophyll a phytoplankton, fluoro, µg/L (70953) | Pheophytin a, phytoplankton, µg/L (62360) | 2,6-Diethylaniline water, fltrd 0.7µ GF µg/L (82660) | ClAT, water, fltrd, µg/L (04040) | Acetochlor, water, fltrd, µg/L (49260) | Alachlor, water, fltrd, µg/L (46342) | alpha-HCH, water, fltrd, µg/L (34253) | Atrazine, water, fltrd, µg/L (39632) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | .34 | 6.78 | 7.04 | -- | -- | 2.7 | 1.9 | <.006 | E.070 | E.008 | <.008 | <.008 | .083 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | .128 | 6.87 | 7.50 | -- | -- | 1.0 | .2 | <.006 | E.040 | <.010 | <.008 | <.008 | .042 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | .213 | 7.22 | 6.99 | -- | -- | .2 | .3 | <.006 | E.063 | E.006 | <.008 | <.008 | .060 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | 3.24 | 4.28 | 8.66 | -- | -- | 18.1 | 20.7 | <.006 | E.059 | .029 | <.008 | <.008 | .101 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | 2.07 | 5.29 | 9.78 | 110,000 | 250,000 | 17.5 | 34.7 | <.006 | E.232 | .788 | E.007 | <.008 | 4.78 |
| **May** | | | | | | | | | | | | | |
| **12...** | .652 | 6.87 | 7.68 | 440 | 11,000 | 5.5 | 3.9 | <.006 | E.100 | .120 | E.002 | <.008 | .550 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | 1.84 | 6.22 | 11.1 | 140,000 | 1,200,000 | 22.0 | 26.2 | <.006 | E.936 | .534 | .030 | <.008 | 11.2 |
| **22...** | 1.15 | 7.98 | 10.5 | 21,000 | 140,000 | 6.4 | 15.2 | <.006 | E.249 | .163 | E.003 | <.008 | 1.48 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | .679 | 7.91 | 8.23 | 740 | 42,000 | 3.2 | 2.9 | <.006 | E.088 | E.007 | E.004 | <.008 | .118 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | .355 | 5.28 | 5.57 | 310 | 16,000 | 17.1 | 4.6 | <.006 | E.069 | E.004 | <.008 | <.008 | .069 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 4 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Azinphos-methyl, water, fltrd 0.7µ GF µg/L (82686) | Benflur-alin, water, fltrd 0.7µ GF µg/L (82673) | Butylate, water, fltrd, µg/L (04028) | Carbaryl, water, fltrd 0.7µ GF µg/L (82680) | Carbofuran, water, fltrd 0.7µ GF µg/L (82674) | Chlorpyrifos water, fltrd, µg/L (38933) | cis-Permethrin water fltrd 0.7µ GF µg/L (82687) | Cyanazine, water, fltrd, µg/L (04041) | DCPA, water, fltrd 0.7µ GF µg/L (82682) | Desulfinyl-fipronil amide, wat flt µg/L (62169) | Desulfinyl-fipronil, water, fltrd, µg/L (62170) | Diazinon, water, fltrd, µg/L (39572) | Dieldrin, water, fltrd, µg/L (39381) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | <.120 | <.014 | <.002 | E.005 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | <.120 | <.014 | <.002 | E.007 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | <.120 | <.014 | <.002 | <.200 | <.060 | E.005 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |
| **May** | | | | | | | | | | | | | |
| **12...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | E.002 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | E.025 | <.006 | <.029 | <.012 | <.005 | E.002 |
| **22...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | E.002 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | <.120 | <.014 | <.002 | <.200 | <.060 | <.010 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | E.001 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | <.120 | <.014 | <.002 | <.200 | <.060 | E.003 | <.014 | <.040 | <.006 | <.029 | <.012 | <.005 | <.009 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 5 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Disulfoton, water, fltrd 0.7µ GF µg/L (82677) | EPTC, water, fltrd 0.7µ GF µg/L (82668) | Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663) | Ethoprop, water, fltrd 0.7µ GF µg/L (82672) | Fipronil sulfide water, fltrd, µg/L (62167) | Fipronil sulfone water, fltrd, µg/L (62168) | Fipronil, water, fltrd, µg/L (62166) | Fonofos water, fltrd, µg/L (04095) | Lindane water, fltrd, µg/L (39341) | Linuron water, fltrd 0.7µ GF µg/L (82666) | Malathion, water, fltrd, µg/L (39532) | Methyl parathion, water, fltrd 0.7µ GF µg/L (82667) | Metolachlor, water, fltrd, µg/L (39415) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .031 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | E.013 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .025 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .054 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | 1.16 |
| **May** | | | | | | | | | | | | | |
| **12...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .200 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | 3.27 |
| **22...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .385 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .039 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | <.04 | <.002 | <.009 | <.016 | <.013 | <.024 | <.040 | <.010 | <.014 | <.060 | <.020 | <.008 | .026 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 6 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Metribuzin, water, fltrd, µg/L (82630) | Molinate, water, fltrd 0.7µ GF µg/L (82671) | Napropamide, water, fltrd 0.7µ GF µg/L (82684) | p,p'-DDE, water, fltrd, µg/L (34653) | Parathion, water, fltrd, µg/L (39542) | Pebulate, water, fltrd 0.7µ GF µg/L (82669) | Pendimethalin, water, fltrd 0.7µ GF µg/L (82683) | Phorate water, fltrd 0.7µ GF µg/L (82664) | Prometon, water, fltrd, µg/L (04037) | Propachlor, water, fltrd, µg/L (04024) | Propanil, water, fltrd 0.7µ GF µg/L (82679) | Propargite, water, fltrd 0.7µ GF µg/L (82685) | Propyzamide, water, fltrd 0.7µ GF µg/L (82676) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | | | | | |
| **30...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | <.01 | <.012 | <.014 | <.02 | <.004 |
| **Dec** | | | | | | | | | | | | | |
| **11...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | <.01 | <.012 | <.014 | <.02 | <.004 |
| **Jan** | | | | | | | | | | | | | |
| **07...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | <.01 | <.012 | <.014 | <.02 | <.004 |
| **Feb** | | | | | | | | | | | | | |
| **11...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | <.01 | <.012 | <.014 | <.02 | <.004 |
| **Apr** | | | | | | | | | | | | | |
| **28...** | .165 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | <.01 | <.012 | <.014 | <.02 | <.004 |
| **May** | | | | | | | | | | | | | |
| **12...** | E.012 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | M | <.012 | <.014 | <.02 | <.004 |
| **Jun** | | | | | | | | | | | | | |
| **08...** | .035 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | .03 | <.012 | <.014 | <.02 | <.004 |
| **22...** | .017 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | E.01 | <.012 | <.014 | <.02 | <.004 |
| **Jul** | | | | | | | | | | | | | |
| **21...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | M | <.012 | <.014 | <.02 | <.004 |
| **Sep** | | | | | | | | | | | | | |
| **11...** | <.016 | <.002 | <.018 | <.003 | <.020 | <.016 | <.012 | <.020 | M | <.012 | <.014 | <.02 | <.004 |

**06810000 Nishnabotna River above Hamburg, IA—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**
Part 7 of 7
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

| Date | Simazine, water, fltrd, µg/L (04035) | Tebuthiuron water, fltrd 0.7µ GF µg/L (82670) | Terbacil, water, fltrd 0.7µ GF µg/L (82665) | Terbufos, water, fltrd 0.7µ GF µg/L (82675) | Thiobencarb water, fltrd 0.7µ GF µg/L (82681) | Triallate, water, fltrd 0.7µ GF µg/L (82678) | Trifluralin, water, fltrd 0.7µ GF µg/L (82661) | Organic carbon, suspnd sedimnt total, mg/L (00689) | Suspended sediment concentration mg/L (80154) |
|---|---|---|---|---|---|---|---|---|---|
| **Oct** | | | | | | | | | |
| **30...** | <.010 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 2.82 | 206 |
| **Dec** | | | | | | | | | |
| **11...** | <.010 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | .39 | 76 |
| **Jan** | | | | | | | | | |
| **07...** | <.010 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 1.41 | 51 |
| **Feb** | | | | | | | | | |
| **11...** | <.010 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 71.8 | 5,520 |
| **Apr** | | | | | | | | | |
| **28...** | .032 | <.02 | <.040 | <.02 | <.016 | <.006 | E.002 | 112 | 10,300 |
| **May** | | | | | | | | | |
| **12...** | E.005 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 6.57 | 555 |
| **Jun** | | | | | | | | | |
| **08...** | .088 | <.02 | <.040 | <.02 | <.016 | <.006 | E.003 | 74.4 | 4,820 |
| **22...** | .032 | <.02 | <.040 | <.02 | <.016 | <.006 | E.002 | 37.4 | 3,010 |
| **Jul** | | | | | | | | | |
| **21...** | E.002 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 5.53 | 587 |
| **Sep** | | | | | | | | | |
| **11...** | <.010 | <.02 | <.040 | <.02 | <.016 | <.006 | <.012 | 3.23 | 216 |