Water-Data Report 2009

06808500 West Nishnabotna River at Randolph, IA

Missouri-Nishnabotna Basin
West Nishnabotna Subbasin

LOCATION.--Lat 40°52′23″, long 95°34′48″ referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.17, T.70 N., R.41 W., Fremont County, IA, Hydrologic Unit 10240002, on right bank on upstream side of bridge on State Highway 184, 0.5 mi west of Randolph, 0.3 mi downstream from Deer Creek, 16.0 mi upstream from confluence with East Nishnabotna River, and 30.6 mi upstream from mouth of Nishnabotna River.

DRAINAGE AREA.--1,326 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1948 to current year.

REVISED RECORDS.--WSP 1440: Drainage area. WDR IA-74-1: 1973 (M). WDR IA-76-1: 1975 (P).

GAGE.--Water-stage recorder. Datum of gage is 932.99 ft above NGVD of 1929. Prior to August 26, 1955, nonrecording gage at same site and datum, with supplementary water-stage recorder operating above 8.4 ft gage height from June 30, 1949 to August 25, 1955.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. U.S. Geological Survey rain gage and data collection platform with satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1947 reached a stage of about 24 ft, discharge not determined, from information by local residents.

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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	607	767	757	e705	e565	426	578	1,140	850	1,170	874	719
2	545	759	732	e936	e641	478	566	1,070	1,020	1,140	834	684
3	523	751	728	e1,080	e536	519	555	1,010	879	1,110	817	687
4	514	748	693	e856	e473	579	554	974	813	2,830	792	688
5	503	746	657	e607	e504	786	576	943	780	2,460	787	645
6	513	810	722	e672	e602	819	608	930	864	1,520	761	612
7	533	779	679	e766	e783	1,350	602	1,030	2,280	1,340	916	595
8	514	751	725	e774	e1,210	1,600	588	937	1,880	1,550	1,050	587
9	516	716	706	e714	e2,130	1,310	601	880	1,730	2,170	791	578
10	503	699	646	e714	1,960	1,400	616	858	1,390	1,770	810	561
11	488	779	682	e721	2,240	977	627	829	1,270	1,850	781	550
12	485	929	675	e672	1,160	874	614	833	1,210	1,460	726	561
13	507	956	707	e607	911	764	623	927	1,280	2,310	688	546
14	554	954	715	e506	778	726	614	958	1,240	1,850	660	528
15	677	901	635	e421	724	697	602	1,190	1,170	1,510	803	517
16	685	896	e597	e473	747	671	588	1,060	1,160	1,410	1,040	507
17	648	879	e635	e533	721	658	580	1,110	1,590	1,330	817	497
18	596	855	e682	e557	738	651	583	977	1,330	1,240	739	482
19	579	841	e736	e547	651	638	590	932	1,270	1,180	695	472
20	560	830	e701	e473	613	621	583	901	1,630	1,150	825	464
21	543	805	e635	e469	580	608	566	874	1,850	1,200	805	464
22	880	780	e581	e533	525	607	559	853	2,280	1,240	735	462
23	1,500	789	e659	e542	516	626	554	843	1,750	1,180	658	456
24	1,760	824	e635	e397	e615	684	551	885	1,580	1,090	628	448
25	1,330	802	e721	e412	e586	705	540	839	1,640	1,050	609	442
26	1,100	793	e858	e449	e558	693	715	844	1,550	1,000	601	436
27	946	780	e1,470	e401	606	643	2,140	875	1,400	968	1,780	436
28	864	769	2,610	e366	480	614	1,620	882	1,340	952	1,510	422
29	824	766	2,000	e444	---	601	1,360	827	1,280	928	1,010	407
30	804	771	1,560	e417	---	596	1,220	794	1,220	895	845	396
31	784	---	e1,220	e449	---	589	---	776	---	866	765	---
Total	22,385	24,225	26,759	18,213	23,153	23,510	21,673	28,781	41,526	43,719	26,152	15,849
Mean	722	808	863	588	827	758	722	928	1,384	1,410	844	528
Max	1,760	956	2,610	1,080	2,240	1,600	2,140	1,190	2,280	2,830	1,780	719
Min	485	699	581	366	473	426	540	776	780	866	601	396
Ac-ft	44,400	48,050	53,080	36,130	45,920	46,630	42,990	57,090	82,370	86,720	51,870	31,440
Cfsm	0.54	0.61	0.65	0.44	0.62	0.57	0.54	0.70	1.04	1.06	0.64	0.40
In.	0.63	0.68	0.75	0.51	0.65	0.66	0.61	0.81	1.16	1.23	0.73	0.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	398	360	311	274	526	915	808	1,137	1,324	893	592	509
Max	2,002	1,277	1,140	1,201	1,777	3,877	2,867	4,950	6,010	6,357	2,610	2,531
(WY)	(1987)	(1973)	(1973)	(1973)	(1973)	(1979)	(1973)	(2007)	(2008)	(1993)	(1993)	(1972)
Min	27.1	33.6	20.6	17.4	19.4	67.8	42.7	97.3	65.6	71.2	30.1	41.0
(WY)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1967)	(1956)	(1954)	(1955)	(1955)

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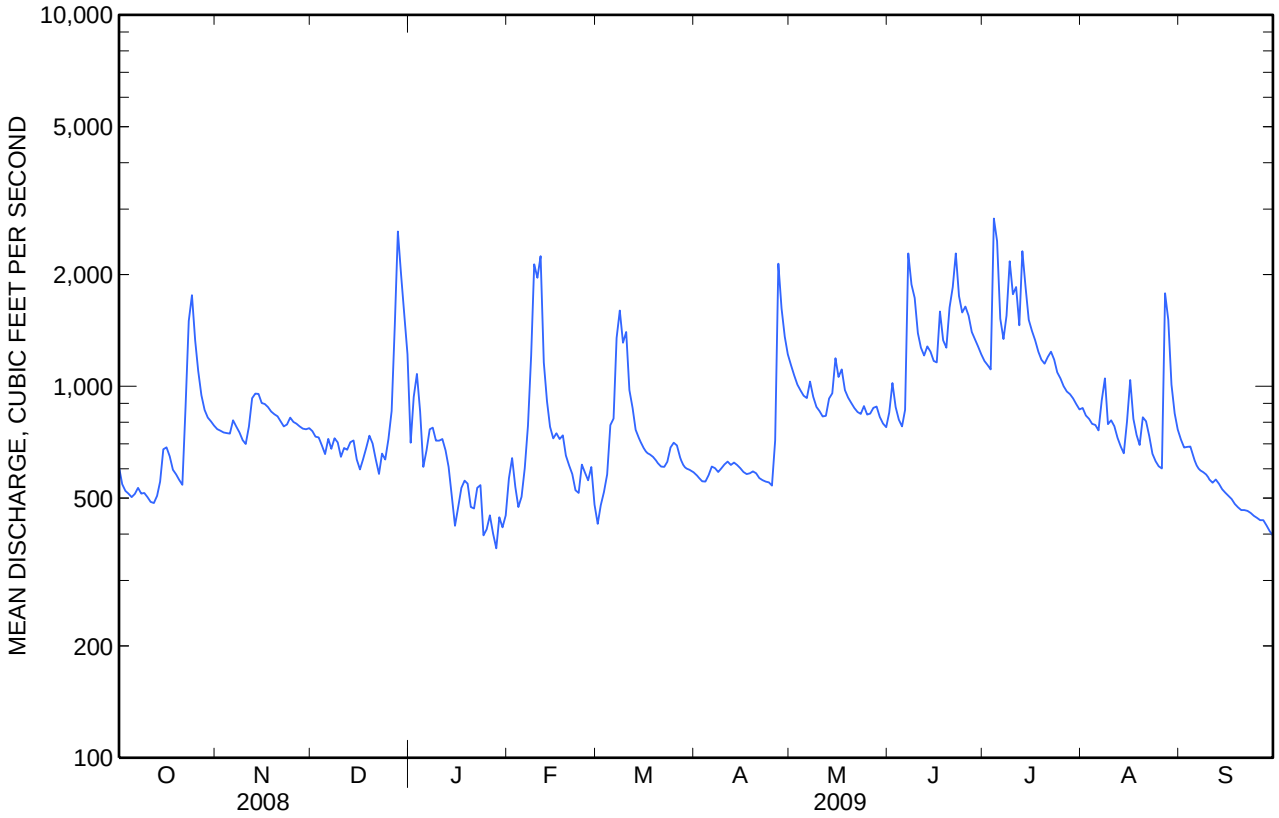
SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1949 - 2009	
Annual total	526,553		315,945			
Annual mean	1,439		866		671	
Highest annual mean					1,985	1993
Lowest annual mean					111	1968
Highest daily mean	21,500	Jun 12	2,830	Jul 4	25,800	Jun 15, 1998
Lowest daily mean	485	Feb 28	366	Jan 28	10	Dec 17, 1955[a]
Annual seven-day minimum	507	Oct 7	412	Jan 24	11	Dec 16, 1955
Maximum peak flow			6,580	Jul 4	40,800	May 26, 1987
Maximum peak stage			16.10	Jul 4	[b]24.60	Mar 5, 1949
Instantaneous low flow					10	Dec 17, 1955
Annual runoff (ac-ft)	1,044,000		626,700		485,900	
Annual runoff (cfsm)	1.08		0.653		0.506	
Annual runoff (inches)	14.77		8.86		6.87	
10 percent exceeds	2,650		1,430		1,440	
50 percent exceeds	820		748		355	
90 percent exceeds	544		507		96	

[a] Also Dec 18-21, 1955.

[b] From graph based on gage readings, backwater from ice.