Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.

				Observed	flood event j USGS f	profiled at lood-prof	t streamga ile report	age location in								·		AEP an	alysis base	ed on data t	hrough wat	er year 2012	1							
2	-	nber ^b			ut	ent).	vent rs)	sport	cord ears)	AEP	c-	rved	val	val	/ed	10-p (10-	ercent AEP year recurre	(ft³/s) ence)	4-pe (25-y	ercent AEP /ear recurr	(ft³/s) ence)	2-p (50-	ercent AEP year recurr	(ft³/s) ence)	1-p (100-	ercent AEP -year recuri	(ft³/s) rence)	0.2-j (500	percent AEP -year recurr	(ft³/s) ence)
Streamgage numbe	Map number (fig. 3)	Flood-profile report nun	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood eve at stream-gage (ft³/s)	Historic AEP estimate of flood e from flood-profile report (perc	Historic RI estimate of flood ev from flood-profile report (yea	AEP streamgage flood-estima method used in flood-profile re	Uncensored peak-discharge re length used in AEP analysis (ye	Historic record length used in analysis (years)	Rank of observed flood event uncensored or historic peak discharge record length	Updated AEP estimate of obsei flood event (percent)	66.7% lower confidence inter (percent)	66.7% upper confidence inter (percent)	Updated RI estimate of observ flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05387440	1	44	Upper Iowa River at	6/9/2008	16,600	°2–4	°25–50	RRE (Eash,	10	10	1	3.4	1.8	16.4	29	11,700	7,890	17,300	15,800	10,500	24,000	18,500	11,900	28,800	21,500	13,400	34,500	28,200	16,200	49,300
05387500	2	44	Upper Iowa River at Decorah	6/9/2008	34,100	^d 0.2-1	^d 100– 500	WIE 2010 (Eash, 2001)	89	99	1	^d <0.2	0.18	1.8	^d >500	^d 14,100	^d 12,100	^d 16,400	^d 18,400	^d 15,300	^d 22,100	^d 21,600	^d 17,400	^d 26,700	^d 24,900	^d 19,500	^d 31,900	^d 32,600	^d 23,500	^d 45,300
05388250	3	44	Upper Iowa River near Dorchester	6/9/2008	31,200	0.2–1	100– 500	WIE 2010 (Eash, 2001)	37	72	1	0.49	0.25	2.5	204	14,900	12,400	17,800	19,800	15,900	24,600	23,400	18,100	30,100	27,200	20,400	36,300	36,200	24,900	52,600
05389500	4	3	Mississippi River at McGregor	4/24/1965	^{ef} 276,000	0.72	139	USGS (Dal- rymple, 1960)	^g 62	^{gh} 101	^{gh} 1	0.63	0.18	1.8	159	ⁱ 168,000	ND	ND	ⁱ 202,000	ND	ND	ⁱ 227,000	ND	ND	ⁱ 251,000	ND	ND	ⁱ 309,000	ND	ND
05412020	5	42	Turkey River above French Hollow Creek at Elkader	6/15/1991	38,300	°0.67	°149	RRE (Eash, 2001)	24	123	2	^j 0.8	0.60	2.6	^j 125	^j 20,700	^j 17,900	^j 24,100	^j 27,300	^j 22,800	^j 32,800	^j 32,000	^j 25,800	^j 39,600	^j 36,600	^j 28,500	^j 47,100	^j 47,000	^j 33,500	^j 65,800
05412020	5	42	Turkey River above French Hollow Creek at Elkader	5/23/2004	33,300	°1.4	°71	RRE (Eash, 2001)	do.	do.	3	^j 1.7	1.1	3.7	^j 59	do.	do.	do.												
05412400	6	42	Volga River at Little- port	3/19/1979	^k 12,600	°11.1	c9	RRE (Eash, 2001)	16	65	6	11.2	24.1	46.4	9	13,100	10,500	16,400	18,100	14,000	23,600	21,800	16,200	29,400	25,700	18,300	36,100	34,800	22,600	53,700
05412400	6	42	Volga River at Little- port	6/15/1991	^k 13,500	°10	°10	RRE (Eash, 2001)	do.	do.	5	9.4	18.8	40.0	11	do.	do.	do.												
05412400	6	42	Volga River at Little- port	5/17/1999	130,000	°0.31	°323	RRE (Eash, 2001)	do.	do.	1	0.48	0.28	2.7	208	do.	do.	do.												
05412400	6	42	Volga River at Little- port	5/23/2004	21,000	°2	°50	RRE (Eash, 2001)	do.	do.	2	2.4	1.1	4.9	42	do.	do.	do.												
05412500	7	31	Turkey River at Garber	3/19/1979	26,000	7.7	13	B17B through WY 1995	94	123	9	11.6	6.6	12.3	9	26,900	23,900	30,100	33,600	29,100	38,700	38,500	32,500	45,600	43,600	35,800	53,200	55,700	42,600	72,800
05412500	7	31	Turkey River at Garber	6/15/1991	^m 49,900	<1	>100	B17B through WY 1995	do.	do.	3	0.45	1.1	3.7	223	do.	do.	do.												
05412500	7	42	Turkey River at Garber	5/23/2004	66,700	<0.2	>500	B17B through WY 2004	do.	do.	1	<0.2	0.15	1.4	>500	do.	do.	do.												
05414450	8	46	North Fork Little Ma- quoketa River near Rickardsville	7/23/2010	4,200	4–10	10-25	WIE 2010 (Eash, 2001)	50	62	7	8.6	7.3	14.9	12	3,840	2,960	4,970	5,650	4,200	7,600	7,070	5,060	9,880	8,600	5,920	12,500	12,300	7,700	19,600
05414500	9	46	Little Maquoketa River near Durango	7/23/2010	^k 19,000	4–10	10–25	WIE 2010 (Eash, 2001)	58	136	7	5.5	7.8	15.8	18	15,200	13,100	17,700	20,500	17,000	24,700	24,700	19,900	30,700	29,100	22,600	37,500	40,200	28,700	56,200
05416900	10	41	Maquoketa River at Manchester	6/4/2002	10,800	10	10	B17B through WY 2003	65	88	8	ⁿ 14	8.3	15.9	ⁿ 7	ⁿ 12,300	ⁿ 10,200	ⁿ 14,800	ⁿ 17,400	ⁿ 14,000	ⁿ 21,500	ⁿ 21,200	ⁿ 16,600	ⁿ 26,900	ⁿ 25,000	ⁿ 19,000	ⁿ 32,900	ⁿ 34,700	ⁿ 24,100	ⁿ 50,000
05416900	10	42	Maquoketa River at Manchester	5/23/2004	26,000	1	100	B17B through WY 2004	do.	do.	2	ⁿ 0.90	0.83	3.6	ⁿ 111	do.	do.	do.												
05416900	10	46	Maquoketa River at Manchester	7/24/2010	26,600	ⁿ 0.2–1	ⁿ 100– 500	WIE 2010 (Eash, 2001)	do.	do.	1	ⁿ 0.84	0.21	2.0	ⁿ 119	do.	do.	do.												
05418400	11	41	North Fork Maquoketa River near Fulton	6/5/2002	22,600	°0.91	°110	B17B through WY 2003	30	59	2	°3.1	1.2	5.4	°32	°15,300	°12,600	°18,700	°20,900	°16,700	°26,200	°24,900	°19,400	°32,100	°28,800	°21,600	°38,300	°38,300	°26,300	°55,700
05418400	11	46	North Fork Maquoketa River near Fulton	7/24/2010	25,000	°1–2	°50– 100	WIE 2010 (Eash, 2001)	do.	do.	1	°2.0	0.31	3.0	°50	do.	do.	do.												

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.—Continued

				Observed f	ilood event p USGS f	profiled at lood-profi	t streamga ile report	age location in										AEP ar	nalysis base	ed on data t	hrough wa	ter year 2012	9							
L		her ^b			nt	ent)	/ent rs)	tion	cord ears)	AEP	r of	rved	val	val	ved	10-p (10-	ercent AEP year recurr	(ft³/s) ence)	4-pe (25-	ercent AEP year recurr	(ft³/s) ence)	2-p (50-	ercent AEP year recurr	(ft³/s) ence)	1-pe (100-	ercent AEP year recurr	(ft³/s) ence)	0.2-p (500-	ercent AEP year recurr	(ft³/s) ence)
Streamgage numbe	Map number (fig. 3)	Flood-profile report nun	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood eve at stream-gage (ft³/s)	Historic AEP estimate of flood (from flood-profile report (perc	Historic RI estimate of flood e from flood-profile report (yea	AEP streamgage flood-estima method used in flood-profile r	Uncensored peak-discharge re length used in AEP analysis (y	Historic record length used in analysis (years)	Rank of observed flood event uncensored or historic peal discharge record length	Updated AEP estimate of obse flood event (percent)	66.7% lower confidence inter (percent)	66.7% upper confidence inter (percent)	Updated RI estimate of observ flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05418450	12	41	North Fork Maquoketa River at Fulton	6/5/2002	^k 22,600	^p 0.91	^p 110	B17B through WY 2002	30	59	2	p3.1	1.2	5.4	^p 32	p15,700	p12,900	p19,100	^p 21,000	^p 16,900	^p 26,200	^p 24,800	^p 19,300	p31,800	^p 28,300	^p 21,300	^p 37,600	^p 36,900	^p 25,300	°53,700
05418500	13	41	Maquoketa River near Maquoketa	6/5/2002	47,900	2	50	B17B through WY 2003	99	110	2	1.2	0.67	2.9	83	29,700	26,200	33,700	37,800	32,600	44,000	43,700	36,600	52,100	49,300	40,200	60,500	62,700	47,400	82,900
05420500	14	3	Mississippi River at Clinton	4/28/1965	^{ef} 307,000	0.72	139	USGS (Dal- rymple, 1960)	^{gh} 101	^{gh} 101	^{gh} 1	0.63	0.18	1.8	159	^q 202,000	ND	ND	ND	ND	ND	°259,000	ND	ND	°283,000	ND	ND	q337,000	ND	ND
05420560	15	14	Wapsipinicon River near Elma	6/29/1969	5,500	<2	>50	RRE (Schwob, 1966a)	35	41	7	15.5	13.1	25.7	6	6,300	5,200	7,640	8,270	6,670	10,200	9,690	7,610	12,300	11,100	8,440	14,500	14,500	10,100	20,600
05420560	15	39	Wapsipinicon River near Elma	7/21/1999	^k 3,800	25	4	B17B through WY 2000	do.	do.	14	36.2	31.0	46.7	3	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05420650	16	14	Little Wapsipinicon River near New Hampton	7/14/1966	2,250	>4	<25	RRE (Schwob, 1966a)	24	49	11	46.7	34.4	53.6	2	6,820	5,170	9,000	9,640	7,220	12,900	11,600	8,450	15,900	13,600	9,540	19,300	18,700	11,900	29,400
05420650	16	14	Little Wapsipinicon River near New Hampton	6/27/1969	9,200	<2	>50	RRE (Schwob, 1966a)	do.	do.	3	4.8	5.9	18.0	21	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05420690	17	14	East Fork Wapsipinicon River near New Hampton	7/14/1966	4,350	<2	>50	RRE (Schwob, 1966a)	18	49	5	10.2	16.6	35.9	10	4,380	3,230	5,940	6,390	4,680	8,720	7,800	5,560	10,900	9,220	6,340	13,400	13,000	8,090	21,000
05420690	17	14	East Fork Wapsipinicon River near New Hampton	6/26/1969	11,000	<2	>50	RRE (Schwob, 1966a)	do.	do.	1	0.63	0.37	3.6	159	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05420850	18	38	Little Wapsipinicon River near Oran	5/17/1999	^m 12,800	0.24	417	B17B through WY 1999	42	65	1	0.62	0.28	2.7	161	4,810	3,890	5,960	7,260	5,730	9,200	9,090	6,970	11,900	10,900	8,080	14,700	15,400	10,400	22,900
05421000	19	14	Wapsipinicon River at Independence	7/18/1968	26,800	<2	>50	RRE (Schwob, 1966a)	79	112	2	2.3	0.65	2.9	43	16,800	14,400	19,600	23,000	19,200	27,500	27,500	22,300	33,800	31,900	25,100	40,500	42,500	30,700	58,800
05421000	19	38	Wapsipinicon River at Independence	5/18/1999	31,100	1.1	90	B17B through WY 1999	do.	do.	1	1.2	0.16	1.6	83	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05421200	20	14	Pine Creek near Win- throp	7/17/1968	24,200	<2	>50	RRE (Schwob, 1966a)	37	73	1	<0.2	0.25	2.4	>500	3,870	3,010	4,970	5,760	4,390	7,570	7,160	5,300	9,680	8,600	6,140	12,000	12,400	8,030	19,200
05421550	21	14	Buffalo Creek above Winthrop	7/17/1968	14,100	<2	>50	RRE (Schwob, 1966a)	29	41	1	0.74	0.44	4.3	135	5,810	4,310	7,840	8,610	6,340	11,700	10,600	7,590	14,700	12,500	8,670	18,000	17,700	11,000	28,200
05421550	21	14	Buffalo Creek above Winthrop	7/18/1969	8,800	<2	>50	RRE (Schwob, 1966a)	do.	do.	3	3.8	4.9	15.0	26	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05421600	22	14	Buffalo Creek near Winthrop	7/17/1968	^k 14,800	<2	>50	RRE (Schwob, 1966a)	20	41	1	0.57	0.44	4.3	175	5,600	4,130	7,580	8,320	6,110	11,300	10,200	7,310	14,300	12,100	8,360	17,500	17,100	10,600	27,400
05421600	22	14	Buffalo Creek near Winthrop	7/18/1969	8,800	<2	>50	RRE (Schwob, 1966a)	do.	do.	3	3.4	7.1	21.4	29	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05422000	23	14	Wapsipinicon River near De Witt	4/6/1962	17,600	>4	<25	RRE (Schwob, 1966a)	78	78	16	19.3	15.9	24.6	5	21,900	18,800	25,500	28,000	23,400	33,500	32,200	26,200	39,600	36,300	28,600	46,100	46,100	33,500	63,400
05448500	24	15	West Branch Iowa River near Klemme	6/21/1954	1,920	16.7	6	USGS (Hein- itz, 1973a)	10	10	1	10.1	1.8	16.4	10	1,930	1,260	2,950	2,800	1,750	4,480	3,480	2,090	5,800	4,220	2,430	7,340	6,000	3,090	11,700
05449000	25	15	East Branch Iowa River near Klemme	6/19/1954	5,960	<1	>100	USGS (Hein- itz, 1973a)	46	46	1	0.84	0.40	3.8	119	2,640	2,000	3,480	3,760	2,710	5,220	4,670	3,210	6,780	5,640	3,700	8,580	8,040	4,700	13,800
05449500	26	15	Iowa River near Rowan	6/21/1954	8,460	2.6	38	USGS (Hein- itz 1973a)	71	72	1	1.6	0.25	2.5	63	4,830	4,000	5,820	6,540	5,180	8,260	7,950	6,040	10,500	9,490	6,920	13,000	13,400	8,850	20,400

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963-2012 to those computed using data updated through the 2012 water year.-Continued

				Observed	flood event USGS f	profiled a	t streamga ile renort	age location in										AEP ar	nalysis base	ed on data t	hrough wat	er year 2012	a				· · · · · · · · · · · · · · · · · · ·			
7	mber ig. 3) t number ^b ame				tu	event cent)	vent ars)	ation eport	ecord ears)	AEP	t of k-	erved	rval	rval	ved	10-p (10-	ercent AEP year recurre	(ft³/s) ence)	4-pe (25-	ercent AEP (year recurre	(ft³/s) ence)	2-p (50-	ercent AEP -year recurr	(ft³/s) ence)	1-p (100	ercent AEP -year recurr	(ft³/s) rence)	0.2- (500	percent AEP -year recurr	(ft³/s) ence)
Streamgage numb	Map number (fig. 3	Flood-profile report nu	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood eve at stream-gage (ft ³ /s)	Historic AEP estimate of flood from flood-profile report (per	Historic RI estimate of flood e from flood-profile report (ye	AEP streamgage flood-estims method used in flood-profile	Uncensored peak-discharge r length used in AEP analysis (y	Historic record length used in analysis (years)	Rank of observed flood even uncensored or historic pea discharge record length	Updated AEP estimate of obse flood event (percent)	66.7% lower confidence inte (percent)	66.7% upper confidence inte (percent)	Updated RI estimate of obser flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05449500	26	45	Iowa River near Rowan	6/9/2008	7,890	1–2	50-100	WIE 2008 (Eash, 2001)	do.	do.	3	2.1	2.0	6.3	48	do.	do.	do.	do.	do.	do.									
05451500	27	45	Iowa River at Marshall- town	6/13/2008	22,400	2–4	25–50	WIE 2008 (Eash, 2001)	96	131	3	4.5	1.5	4.7	22	17,700	15,600	20,100	22,900	19,700	26,600	26,600	22,300	31,800	30,300	24,600	37,200	38,900	29,300	51,600
05452500	28	15	Iowa River near Belle Plaine	6/14/1947	34,000	>4	<25	USGS (Hein- itz, 1973a)	20	131	2	r3.0	1.4	6	r33	r24,500	r21,700	r27,800	r31,600	r27,200	r36,700	r36,800	r30,900	r43,800	r41,800	r34,100	^r 51,200	r53,800	r40,800	r71,000
05453100	29	45	Iowa River at Marengo	6/12/2008	51,000	0.2–1	100– 500	WIE 2008 (Eash, 2001)	56	131	1	^s 0.41	0.14	1.4	^{\$} 450	^s 25,400	^s 22,400	^s 28,700	^s 32,600	^s 28,200	°37,800	°37,900	°31,900	^s 45,000	^s 43,000	°35,100	^s 52,500	^s 55,100	^s 41,900	°72,400
05453520	30	34	Iowa River below Coralville Dam near Coralville	7/19/1993	^f 25,800	۲<1	t>100	USACE (1994)	ghx105	ghx105	^{ghx} 5	1.4	2.8	6.6	71	^u 10,900	ND	ND	^u 11,600	ND	ND	^u 22,200	ND	ND	^u 28,600	ND	ND	^u 44,400	ND	ND
05453520	30	45	Iowa River below Coralville Dam near Coralville	6/15/2008	^f 39,900	^u 0.2–1	"100– 500	USACE (2009)	do.	do.	^{ghx} 2	0.39	0.70	3.0	256	do.	do.	do.	do.	do.	do.									
05454300	31	28	Clear Creek near Coralville	6/17/1990	10,200	1.3	80	B17B through WY 1993	60	60	1	1.3	0.3	2.9	77	4,920	3,990	6,060	7,220	5,710	9,130	8,950	6,880	11,600	10,700	7,930	14,400	15,100	10,200	22,300
05454500	32	34	Iowa River at Iowa City	8/10/1993	^f 28,200	^t <1	^t >100	USACE (1994)	ghu105	ghu105	ghu5	1.3	2.8	6.6	77	^u 11,700	ND	ND	^u 13,100	ND	ND	^u 23,800	ND	ND	^u 30,000	ND	ND	^u 45,300	ND	ND
05454500	32	45	Iowa River at Iowa City	6/15/2008	^f 41,100	^u 0.2–1	^u 100– 500	USACE (2009)	do.	do.	ghu2	0.39	0.70	3.0	256	do.	do.	do.	do.	do.	do.									
05455100	33	12	Old Mans Creek near Iowa City	3/3/1970	7,400	<2	>50	USGS (Schwob, 1970a)	60	62	7	10.1	7.3	14.9	10	7,420	5,980	9,190	10,900	8,600	13,900	13,500	10,300	17,700	16,100	11,900	21,800	22,700	15,300	33,700
05455500	34	22	English River at Kalona	9/21/1965	20,000	2.9	35	RRE (Lara, 1973)	74	83	3	3.9	1.7	5.4	26	14,600	12,300	17,300	19,800	16,300	24,100	23,700	19,000	29,700	27,600	21,300	35,600	37,200	26,500	52,300
05455700	35	45	Iowa River near Lone Tree	6/15/2008	^f 53,700	^u 0.2–1	^u 100– 500	USACE (2009)	ghx105	ghx105	ghx2	0.99	0.70	3.0	101	^u 21,800	ND	ND	^u 30,200	ND	ND	^u 33,100	ND	ND	^u 53,400	ND	ND	^u 76,100	ND	ND
05457700	36	39	Cedar River at Charles City	7/21/1999	31,200	1.1	90	B17B through WY 1999	58	79	2	1.9	1.3	5.5	53	19,800	17,000	23,100	26,000	21,700	31,100	30,600	24,900	37,600	35,000	27,600	44,300	45,900	33,400	63,000
05457700	36	45	Cedar River at Charles City	6/9/2008	34,600	0.2–1	100– 500	WIE 2008 (Eash, 2001)	do.	do.	1	1.1	0.23	2.2	91	do.	do.	do.	do.	do.	do.									
05458000	37	2	Little Cedar River near Ionia	3/27/1961	10,800	2–4	25–50	RRE (Schwob, 1963)	59	59	4	7.6	3.6	9.6	13	9,340	7,400	11,800	13,400	10,400	17,300	16,300	12,300	21,600	19,100	13,900	26,300	26,200	17,300	39,700
05458000	37	2	Little Cedar River near Ionia	3/29/1962	8,720	>4	<25	RRE (Schwob, 1963)	do.	do.	7	11.9	7.7	15.6	8	do.	do.	do.	do.	do.	do.									
05458300	38	45	Cedar River at Waverly	6/10/2008	52,600	v<0.2	v>500	Eq. 4 (Eash, 2001)	12	108	1	0.32	0.17	1.6	313	22,800	19,600	26,500	30,700	25,700	36,600	36,300	29,600	44,500	41,900	33,100	52,900	55,200	40,200	75,800
05458500	39	2	Cedar River at Janes- ville	3/28/1961	37,000	<2	>50	RRE (Schwob, 1963)	92	108	3	2.9	1.5	4.9	34	25,200	21,700	29,400	33,700	28,200	40,300	39,700	32,300	48,900	45,600	35,900	57,900	59,800	43,300	82,500
05458500	39	2	Cedar River at Janes- ville	3/31/1962	24,000	>4	<25	RRE (Schwob, 1963)	do.	do.	12	11.7	9.6	16.2	9	do.	do.	do.	do.	do.	do.									
05458500	39	39	Cedar River at Janes- ville	7/22/1999	42,200	1.3	80	B17B through WY 2000	do.	do.	2	1.6	0.80	3.5	63	do.	do.	do.	do.	do.	do.									

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.—Continued

				Observed f	flood event j USGS f	profiled a lood-prof	t streamga ile report	age location in										AEP an	alysis base	ed on data t	hrough wat	ter year 2012	1							
-	-	, nber ^b			ant	event :ent)	vent ars)	tion eport	ears)	AEP	t of k-	rved	rval	rval	ved	10-p (10-	ercent AEP (year recurre	(ft³/s) ence)	4-pe (25-y	ercent AEP year recurr	(ft³/s) ence)	2-p (50-	ercent AEP year recurre	(ft³/s) ence)	1-p (100	ercent AEP -year recur	(ft³/s) rence)	0.2-µ (500	ercent AEP year recurr	(ft³/s) rence)
ıgage numbe	umber (fig. 3	ile report nur	mgage name	ood event ay/year)	e of flood eve jage (ft³/s)	ate of flood (e report (perc	ate of flood e le report (yea	flood-estima ood-profile r	-discharge re P analysis (y	ngth used in (years)	d flood even historic peal cord length	mate of obse t (percent)	fidence inter cent)	fidence inter :ent)	nate of obser nt (years)		fidence	idence		fidence	idence		lidence	iidence		fidence	iidence		fidence	iidence
Stream	Map n	Flood-profi	Strea	Date of flo (month/d	Peak discharge at stream-(Historic AEP estim from flood-profile	Historic RI estima from flood-profil	AEP streamgage method used in flo	Uncensored peak [.] length used in AEI	Historic record le analysis	Rank of observe uncensored or discharge re	Updated AEP esti flood even	66.7% lower con (perc	66.7% upper con (perc	Updated RI estirr flood evei	Estimate	95% lower cont interval	95% upper con interval	Estimate	95% lower cont interval	95% upper cont interval	Estimate	95% lower cont interval	95% upper conf interval	Estimate	95% lower cont interval	95% upper conf interval	Estimate	95% lower cont interval	95% upper cont interval
05458500	39	9 45	Cedar River at Janes- ville	6/10/2008	53,400	0.2–1	100– 500	WIE 2008 (Eash, 2001)	do.	do.	1	0.51	0.17	1.6	196	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05458900	40) 2	West Fork Cedar River at Finchford	3/27/1961	17,400	>4	<25	RRE (Schwob, 1963)	68	84	6	8.3	5.5	11.9	12	15,900	13,300	19,000	21,800	17,800	26,700	26,100	20,700	32,900	30,200	23,100	39,300	40,100	28,200	57,200
05458900	40	2	West Fork Cedar River at Finchford Winnehago River at	3/30/1962	14,000	>4 2_4	<25 25-50	RRE (Schwob, 1963) RRE (Schwob	do. 80	do. 80	10	14.3 2.9	10.4	18.5	7 34	do. 7 260	do.	do. 8 630	do. 9 550	do. 7 740	do.	do.	do. 8 850	do.	do.	do. 9 890	do.	do.	do.	do. 25 700
05459500	41	2	Mason City Winnebago River at	3/29/1962	7,200	>4	<25	1963) RRE (Schwob,	do.	do.	8	10.3	6.7	13.0	10	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05462000	42	2 2	Mason City Shell Rock River at	3/28/1961	33,500	2–4	25-50	1963) RRE (Schwob, 1963)	60	157	3	3.1	2.3	7.4	32	22,700	19,800	26,000	30,800	26,200	36,300	36,900	30,500	44,600	42,800	34,200	53,400	57,200	42,200	77,400
05462000	42	2 2	Shell Rock River at Shell Rock	3/30/1962	16,400	>4	<25	RRE (Schwob, 1963)	do.	do.	13	21.1	16.3	26.3	5	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05462000	42	2 39	Shell Rock River at Shell Rock	7/22/1999	27,500	5	20	B17B through WY 2000	do.	do.	4	6.2	3.6	9.5	16	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05463500	43	3 2	Black Hawk Creek at Hudson	5/30/1957	2,490	>4	<25	RRE (Schwob, 1963)	55	61	33	>50	52.6	65.3	<2	10,600	8,340	13,400	16,000	12,400	20,800	20,000	15,000	26,700	23,900	17,300	33,000	33,800	22,200	51,500
06564000	44	+ 2	Cedar River at Wa- terloo	3/31/1960	48,100	>4	<25	RRE (Schwob, 1963)	74	84	17	15.0	18.0	27.3	7	54,300	46,400	63,500	70,300	58,400	84,400	81,900	66,300	101,000	93,100	73,100	119,000	122,000	88,000	168,000
06564000	44	+ 2 1 30	Cedar River at Wa- terloo	3/29/1961	6,700	<2	>50	RRE (Schwob, 1963) B17B through	do.	do.	2	2.9	0.87	5.8	35	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06564000	44	45	terloo Cedar River at Wa-	6/11/2008	112,000	w0.2-1	w100-	WY 2000 B17B through	do.	do.	1	0.43	0.22	2.1	234	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05464500	45	5 2	terloo Cedar River at Cedar	4/2/1960	55,100	>4	500 <25	WY 2008 RRE (Schwob,	110	110	11	9.4	7.2	12.6	11	53,600	46,700	61,400	69,400	58,900	81,700	80,800	66,900	97,600	91,800	73,700	114,000	119,000	88,400	160,000
05464500	45	5 2	Cedar River at Cedar Rapids	3/31/1961	73,000	<2	>50	1963) RRE (Schwob, 1963)	do.	do.	2	3.3	0.7	2.9	30	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05464500	45	5 2	Cedar River at Cedar Rapids	4/2/1962	50,000	>4	<25	RRE (Schwob, 1963)	do.	do.	19	12.8	13.7	20.5	8	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05464500	45	5 45	Cedar River at Cedar Rapids	6/13/2008	140,000	^w <0.2	^w >500	B17B through WY 2009	do.	do.	1	< 0.2	0.17	1.6	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05464942	46	5 8	Hoover Creek at Hoover National Historic Site, West Branch	6/7/1967	1,500	<2	>50	RRE (Schwob, 1966a)	13	45	2	2.5	1.6	7.0	40	783	588	1,040	1,250	927	1,700	1,600	1,150	2,230	1,960	1,360	2,820	2,900	1,810	4,620
05465000	47	2	Cedar River near Conesville	4/4/1960	58,800	>4	<25	RRE (Schwob, 1963)	73	83	9	9.0	8.5	15.8	11	56,500	49,000	65,100	71,200	60,200	84,200	81,700	67,300	99,100	91,700	73,400	115,000	116,000	86,400	157,000
05465000	47	2	Cedar River near Conesville	4/2/1961	70,800	2-4	25-50	RRE (Schwob, 1963)	do.	do.	3	4.1	1.9	6.1	24	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05465500	47	45 3 45	Conesville Iowa River at Wapello	6/14/2008	127,000 f188,000	u<0.2	500 u>500	WY 2010 USACE (2009)	ao. ^{ghx} 105	ao. ^{ghx} 105	I ghx]	< 0.2	0.22	2.1 1.7	>500	u73,200	ao. ND	ao. ND	ao. ¤86,100	ao. ND	ao. ND	u0. 121,000	ao. ND	do. ND	u0. 140,000	do. ND	ao. ND	u0. 185,000	ao. ND	ao. ND

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963-2012 to those computed using data updated through the 2012 water year.—Continued

				Observed f	ilood event p USGS fl	profiled at	t streamga ile report	nge location in										AEP and	alysis base	d on data t	hrough wat	er year 2012ª								
-	_	nber ^b			ŧ	ent)	vent rs)	eport	cord ears)	AEP	t of <-	rved	val	val	ved	10-р (10-у	ercent AEP (year recurre	ft³/s) nce)	4-pe (25-y	rcent AEP lear recurr	(ft³/s) ence)	2-pe (50-y	ercent AEP (/ear recurre	(ft³/s) ence)	1-pe (100-	ercent AEP year recurr	(ft³/s) rence)	0.2-p (500-	ercent AEP year recurre	(ft³/s) ence)
Streamgage numbe	Map number (fig. 3)	Flood-profile report nun	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood eve at stream-gage (ft³/s)	Historic AEP estimate of flood (from flood-profile report (perc	Historic RI estimate of flood e from flood-profile report (yea	AEP streamgage flood-estima method used in flood-profile r	Uncensored peak-discharge re length used in AEP analysis (y	Historic record length used in analysis (years)	Rank of observed flood event uncensored or historic peah discharge record length	Updated AEP estimate of obse flood event (percent)	66.7% lower confidence inter (percent)	66.7% upper confidence inter (percent)	Updated RI estimate of obser flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05470000	49	17	South Skunk River near	6/28/1975	5,230	16.7	6	RRE (Lara,	88	94	15	18.8	13.0	20.7	5	6,630	5,660	7,770	8,800	7,230	10,700	10,500	8,360	13,300	12,400	9,470	16,200	17,000	11,900	24,400
05470000	49	29	South Skunk River near	6/17/1990	6,600	6.7	15	B17B through	do.	do.	7	10.2	5.1	10.6	10	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05470000	49	29	South Skunk River near	7/9/1993	11,100	<1	>100	B17B through	do.	do.	4	1.7	2.3	6.1	59	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05470000	49	29	South Skunk River near	8/16/1993	11,200	<1	>100	B17B through	do.	do.	3	1.6	1.5	4.8	62	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05470000	49	47	Ames South Skunk River near Ames	8/11/2010	14,800	0.2–1	100– 500	WY 1994 WIE 2010 (Eash, 2001)	do.	do.	1	0.44	0.19	1.9	227	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05470500	50	17	Squaw Creek at Ames	6/27/1975	11,300	<1	>100	RRE (Lara,	57	95	6	2.5	3.9	8.6	40	6,770	5,550	8,260	9,620	7,510	12,300	12,000	8,980	16,100	14,700	10,500	20,500	21,600	13,800	33,700
05470500	50	29	Squaw Creek at Ames	6/17/1990	12,500	1.3	75	B17B through	do.	do.	5	1.8	3.1	7.3	56	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05470500	50	29	Squaw Creek at Ames	7/9/1993	24,300	<1	>100	B17B through	do.	do.	1	<0.2	0.19	1.9	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05471000	51	17	South Skunk River below Squaw Creek	6/27/1975	14,700	<1	>100	RRE (Lara, 1973)	50	94	5	6.1	3.1	7.4	16	12,200	10,300	14,300	16,200	13,200	20,000	19,500	15,300	24,900	23,100	17,400	30,700	32,200	22,000	47,100
05471000	51	29	South Skunk River below Squaw Creek near Ames	6/17/1990	13,000	4	25	B17B through WY 1994	do.	do.	6	8.7	7.5	16.0	11	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05471000	51	29	South Skunk River below Squaw Creek near Ames	7/9/1993	26,500	<1	>100	B17B through WY 1994	do.	do.	2	0.55	0.78	3.4	182	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05471000	51	47	South Skunk River below Squaw Creek near Ames	8/11/2010	36,200	<0.2	>500	WIE 2010 (Eash, 2001)	do.	do.	1	<0.2	0.19	1.9	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05471050	52	47	South Skunk River at Colfax	8/14/2010	24,000	0.2–1	100– 500	WIE 2010 (Eash, 2001)	27	27	1	0.56	0.67	6.4	179	11,700	9,230	14,800	15,500	11,900	20,000	18,100	13,600	24,100	20,600	15,000	28,400	26,800	17,800	40,500
05471500	53	47	South Skunk River near Oskaloosa	8/16/2010	25,200	1–2	50-100	WIE 2010 (Eash, 2001)	68	82	2	1.7	1.1	4.7	59	16,300	14,300	18,700	20,900	17,800	24,600	24,300	20,200	29,300	27,700	22,300	34,300	35,900	26,900	47,900
05473500	54	19	Big Creek near Mount Pleasant	4/22/1973	10,500	1.1	90	RRE (Lara, 1973)	24	24	1	2.9	0.76	7.2	34	6,240	4,730	8,250	9,320	6,980	12,500	11,500	8,400	15,800	13,600	9,600	19,300	19,000	12,200	29,600
05474000	55	19	Skunk River at Augusta	4/23/1973	66,800	<1	>100	RRE (Lara, 1973)	99	161	1	<0.2	0.11	1.1	>500	37,000	34,000	40,100	44,300	40,000	49,000	49,300	43,700	55,700	54,100	46,800	62,400	64,600	52,900	79,000
05474500	56	3	Mississippi River at Keokuk	5/1/1965	^{ef} 327,000	1.4	70	USGS (Dal- rymple, 1960)	^{gh} 101	^{gh} 101	^{gh} 3	2.4	1.4	4.5	41	^q 262,000	ND	ND	ND	ND	ND	q331,000	ND	ND	^q 366,000	ND	ND	٩429,000	ND	ND
05476500	57	10	Des Moines River at Estherville	4/10/1965	10,200	>4	<25	RRE (Schwob, 1966a)	43	43	3	6.5	3.3	10.3	15	8,090	6,000	10,900	12,000	8,480	17,100	15,300	10,300	22,700	18,900	12,100	29,400	28,000	15,900	49,200
05476500	57	10	Des Moines River at Estherville	4/12/1969	16,000	<2	>50	RRE (Schwob, 1966a)	do.	do.	1	1.8	0.42	4.1	56	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05476750	58	10	Des Moines River at Humboldt	7/31/1964	6,110	>4	<25	RRE (Schwob, 1966a)	73	73	26	37.9	29.8	40.5	3	11,000	9,260	13,100	14,500	11,800	17,900	17,200	13,500	22,000	20,100	15,200	26,600	27,100	18,600	39,400

Table 7. Comparison of annual excedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.—Continued

				Observed 1	flood event p USGS fl	orofiled a	t streamg	age location in										AEP an	alysis base	ed on data t	hrough wat	er year 2012	a							
a	ŝ	mber ^b			ant	event cent)	event ars)	ation eport	ecord ears)	AEP	it of Ik-	erved	rval	rval	rved	10-p (10-	ercent AEP year recurre	(ft³/s) ence)	4-ре (25- ₎	ercent AEP /ear recurr	(ft³/s) ence)	2-p (50-	ercent AEP year recurre	(ft³/s) ence)	1-pe (100-	ercent AEP year recurr	(ft³/s) ence)	0.2-µ (500	ercent AEP •year recurr	(ft³/s) ence)
Streamgage numb	Map number (fig. 3	Flood-profile report nu	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood ev at stream-gage (ft%s)	Historic AEP estimate of flood from flood-profile report (per	Historic RI estimate of flood from flood-profile report (ye	AEP streamgage flood-estim. method used in flood-profile	Uncensored peak-discharge r length used in AEP analysis (y	Historic record length used ir analysis (years)	Rank of observed flood ever uncensored or historic pea discharge record length	Updated AEP estimate of obso flood event (percent)	66.7% lower confidence inte (percent)	66.7% upper confidence inte (percent)	Updated RI estimate of obse flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05476750	58	10	Des Moines River at Humboldt	4/8/1965	14,400	>4	<25	RRE (Schwob, 1966a)	do.	do.	3	4.2	1.9	6.1	24	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05476750	58	10	Des Moines River at Humboldt	4/14/1969	18,000	3.3–5	20–30	RRE (Schwob, 1966a)	do.	do.	2	1.7	1.0	4.4	59	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05478000	59	10	East Fork Des Moines River near Burt	4/8/1969	3,280	20–25	4–5	RRE (Schwob, 1966a)	23	23	4	12.0	9.5	23.8	8	3,520	2,500	4,950	4,960	3,360	7,340	6,090	3,940	9,420	7,290	4,510	11,800	10,200	5,610	18,500
05479000	60	10	East Fork Des Moines River at Dakota City	4/9/1965	15,700	<2	>50	RRE (Schwob, 1966a)	74	75	4	3.5	2.9	7.6	29	11,000	8,970	13,500	15,000	11,700	19,200	17,900	13,500	23,900	21,000	15,100	29,200	28,100	18,200	43,600
05480500	61	10	Des Moines River at Fort Dodge	6/23/1947	34,000	>4	<25	RRE (Schwob, 1966a)	82	108	5	2.7	3.6	8.5	37	24,000	20,900	27,500	30,800	26,000	36,500	35,900	29,400	43,900	41,100	32,500	52,000	53,200	38,600	73,400
05480500	61	10	Des Moines River at Fort Dodge	6/21/1954	35,400	4	25	RRE (Schwob, 1966a)	do.	do.	3	2.2	1.7	5.5	45	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05481650	62	36	Des Moines River near Savlorville	7/11/1993	^f 38,400	41	^t >100	USACE (1994)	ghx92	ghx92	ghx5	3.4	3.2	7.6	29	×17,300	ND	ND	ND	ND	ND	×45,200	ND	ND	×53,400	ND	ND	×73,800	ND	ND
05481650	62	36	Des Moines River near Savlorville	7/21/1993	^f 45,700	41	^t >100	USACE (1994)	do.	do.	ghx4	1.9	2.3	6.2	53	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05482000	63	1	Des Moines River at 2nd Avenue at Des Moines	5/31/1903	42,000	<2	>50	USGS (Myers, 1963)	^h 65	^h 84	h3	4.2	2.2	6.9	24	^y 32,700	^y 27,600	^y 39,900	^y 42,300	^y 35,000	^y 54,600	^y 49,600	^y 40,100	^y 67,700	^y 56,900	^y 44,700	^y 82,800	^y 74,100	^y 53,800	^y 127,000
05482000	63	1	Des Moines River at 2nd Avenue at Des Moines	6/26/1947	39,500	<2	>50	USGS (Myers, 1963)	do.	do.	^h 4	5.6	3.3	8.8	18	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05482000	63	1	Des Moines River at 2nd Avenue at Des Moines	6/24/1954	60,200	<2	>50	USGS (Myers, 1963)	do.	do.	^h 1	0.83	0.22	2.1	120	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05482000	63	1	Des Moines River at 2nd Avenue at Des Moines	4/1/1960	36,200	2.5	40	USGS (Myers, 1963)	do.	do.	^h 5	7.6	4.5	10.6	13	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05482300	64	21	North Raccoon River near Sac City	3/23/1979	12,800	1.8	55	RRE (Lara, 1973)	55	59	1	0.88	0.31	3.0	114	8,420	7,260	9,750	10,200	8,560	12,200	11,500	9,370	14,200	12,800	10,100	16,300	15,600	11,300	21,600
05482500	65	33	North Raccoon River near Jefferson	7/10/1993	16,900	9.1	11	B17B through WY 1996	73	73	7	8.7	6.2	12.7	11	16,100	13,700	18,800	20,300	16,800	24,500	23,300	18,700	29,100	26,300	20,300	34,100	33,200	23,400	47,100
05483318	66	33	Brushy Creek near Templeton	7/9/1993	^m 19,000	<1	>100	B17B through WY 1996	26	65	1	<0.2	0.28	2.7	>500	5,800	4,530	7,420	8,320	6,370	10,900	10,200	7,560	13,700	12,000	8,610	16,800	16,900	11,000	26,100
05483450	67	27	Middle Raccoon River near Bayard	6/30/1986	12,300	5.6	18	B17B through WY 1990	35	127	3	5.4	4.0	12.6	19	9,590	8,140	11,300	13,300	10,900	16,200	16,200	12,800	20,600	19,300	14,600	25,500	26,900	18,400	39,300
05483450	67	33	Middle Raccoon River near Bayard	7/9/1993	27,500	<1	>100	B17B through WY 1996	do.	do.	1	<0.2	0.14	1.4	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05483600	68	27	Middle Raccoon River at Panora	6/30/1986	15,300	2.5	40	B17B through WY 1990	56	127	2	2.8	1.3	5.7	36	10,500	9,190	12,000	13,800	11,700	16,300	16,400	13,500	20,100	19,200	15,200	24,200	26,100	19,000	35,800
05483600	68	33	Middle Raccoon River at Panora	7/9/1993	22,400	<1	>100	B17B through WY 1996	do.	do.	1	0.48	0.14	1.4	208	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
05484000	69	27	South Raccoon River at Redfield	7/1/1986	26,300	3.33	30	B17B through WY 1990	73	73	6	6.2	5.1	11.1	16	22,600	19,200	26,500	28,800	23,900	34,800	33,300	26,900	41,300	37,700	29,500	48,200	48,700	35,100	67,500
05484000	69	33	South Raccoon River at Redfield	7/10/1993	44,000	<1	>100	B17B through WY 1996	do.	do.	1	0.49	0.25	2.4	204	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963-2012 to those computed using data updated through the 2012 water year.—Continued

				Observed f	lood event p USGS f	profiled at	t streamga ile report	age location in										AEP ar	nalysis base	d on data t	hrough wat	ter year 2012)a -							
5		nber ^b			ant	event :ent)	vent ars)	tion eport	ecord ears)	AEP	t of k-	rved	rval	rval	ved	10-p (10-	ercent AEP year recurre	(ft³/s) ence)	4-pe (25-y	rcent AEP ear recurr	(ft³/s) ence)	2-p (50-	ercent AEP (-year recurre	(ft³/s) ence)	1-pe (100-	ercent AEP year recuri	(ft³/s) rence)	0.2-p (500-	ercent AEP year recurr	(ft³/s) ence)
Streamgage numbe	Map number (fig. 3	Flood-profile report nur	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood eve at stream-gage (ft³/s)	Historic AEP estimate of flood from flood-profile report (pero	Historic RI estimate of flood e from flood-profile report (yea	AEP streamgage flood-estima method used in flood-profile r	Uncensored peak-discharge re length used in AEP analysis (y	Historic record length used in analysis (years)	Rank of observed flood even uncensored or historic pea discharge record length	Updated AEP estimate of obse flood event (percent)	66.7% lower confidence inter (percent)	66.7% upper confidence inter (percent)	Updated RI estimate of obser flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
05484500	70	27	Raccoon River at Van Meter	7/1/1986	40,200	2.9	34	B17B through WY 1990	98	98	5	4.6	3.0	7.1	22	31,800	27,600	36,800	41,200	34,700	48,900	47,900	39,300	58,500	54,500	43,400	68,600	70,900	52,000	96,600
05484500	70	33	Raccoon River at Van Meter	7/10/1993	70,100	<1	>100	B17B through WY 1996	do.	do.	1	0.23	0.19	1.8	435	do.	do.	do.	do.	do.	do.									
05484800	71	27	Walnut Creek at Des Moines	5/10/1986	12,500	2.9	35	B17B through WY 1990	41	41	1	1.6	0.44	4.3	63	^w 6,730	^w 5,150	^w 9,820	^w 9,400	^w 6,920	^w 15,800	w11,600	^w 8,240	w22,100	^w 14,000	^w 9,540	w30,300	^w 20,500	^w 12,400	**59,700
05485500	72	1	Des Moines River be- low Raccoon River at Des Moines	6/26/1947	77,000	^h <2	^h >50	USGS (Myers, 1963)	^h 37	^h 73	h3	^{hw} 2.2	0.25	2.4	^{hw} 45	^{hw} 55,900	^{hw} 46,100	^{hw} 67,900	^{hw} 69,000	^{hw} 56,400	^{hw} 86,500	^{hw} 78,200	^{hw} 63,300	^{hw} 102,000	^{hw} 87,000	^{hw} 69,200	^{hw} 120,000	^{hw} 106,000	^{hw} 79,400	^{hw} 169,000
05485500	72	1	Des Moines River be- low Raccoon River at Des Moines	6/24/1954	67,300	^h <2	^h >50	USGS (Myers, 1963)	do.	do.	^h 5	^{hw} 4.7	3.8	11.9	^{hw} 21	do.	do.	do.	do.	do.	do.									
05485500	72	1	Des Moines River be- low Raccoon River at Des Moines	4/2/1960	68,900	^h <2	^h >50	USGS (Myers, 1963)	do.	do.	^h 4	^{hw} 4.0	2.0	8.5	^{hw} 25	do.	do.	do.	do.	do.	do.									
05485500	72	36	Des Moines River be- low Raccoon River at Des Moines	7/11/1993	^f 116,000	¹ <1	^t >100	USACE (1994)	^{ghx} 92	^{ghx} 92	^{ghx} 1	0.79	0.20	1.9	127	×44,100	ND	ND	ND	ND	ND	×83,300	ND	ND	×108,000	ND	ND	×142,000	ND	ND
05487470	73	23	South River near Ackworth	7/5/1981	32,700	<1	>100	RRE (Lara, 1973)	74	83	4	2.0	2.6	6.9	50	22,800	19,600	26,500	28,600	24,000	34,100	32,800	26,800	40,200	36,900	29,200	46,600	46,900	34,200	64,200
05487800	74	23	White Breast Creek at Lucas	7/4/1981	15,300	<1	>100	RRE (Lara, 1973)	36	39	1	2.5	0.47	4.5	40	10,300	7,850	13,500	13,700	10,000	18,700	16,200	11,400	22,900	18,600	12,600	27,400	23,900	14,900	38,300
05487980	75	23	White Breast Creek near Dallas	7/5/1981	12,300	6.7	15	RRE (Lara, 1973)	66	67	8	^z 17.7	8.1	15.7	²6	^z 14,900	^z 12,500	^z 17,700	^z 19,400	^z 15,700	^z 24,100	^z 23,100	^z 18,000	^z 29,500	^z 26,900	^z 20,200	^z 35,600	^z 36,000	^z 25,000	^z 51,900
05487980	75	23	White Breast Creek near Dallas	7/16/1982	37,300	<1	>100	RRE (Lara, 1973)	do.	do.	1	^z <0.2	0.27	2.6	z>500	do.	do.	do.	do.	do.	do.									
05489000	76	23	Cedar Creek near Bussey	7/4/1981	26,600	<1	>100	RRE (Lara, 1973)	66	161	7	6.5	6.9	14	15	21,800	18,700	25,300	30,800	25,300	37,400	38,400	30,500	48,300	46,700	35,800	61,100	68,500	48,000	97,800
05489000	76	23	Cedar Creek near Bussey	7/3/1982	96,000	<1	>100	RRE (Lara, 1973)	do.	do.	1	<0.2	0.11	1.1	>500	do.	do.	do.	do.	do.	do.									
06483270	77	7	Rock River at Rock Rapids	3/29/1962	16,400	3.3–4	25-30	RRE (Schwob, 1966a)	24	84	3	8.3	5.9	18.0	12	14,600	11,800	18,100	21,900	17,300	27,800	27,200	20,800	35,600	32,300	23,900	43,800	45,100	30,300	67,300
06483270	77	7	Rock River at Rock Rapids	9/7/1964	1,110	>4	<25	RRE (Schwob, 1966a)	do.	do.	20	>50	72.4	87.6	<2	do.	do.	do.	do.	do.	do.									
06483270	77	7	Rock River at Rock Rapids	4/2/1965	4,000	>4	<25	RRE (Schwob, 1966a)	do.	do.	12	>50	38.3	57.7	<2	do.	do.	do.	do.	do.	do.									
06483270	77	16	Rock River at Rock Rapids	4/8/1969	29,000	2	50	RRE (Lara, 1973)	do.	do.	1	1.6	0.22	2.1	63	do.	do.	do.	do.	do.	do.									
06483500	78	7	Rock River near Rock Valley	3/30/1962	28,400	3.3–4	25-30	RRE (Schwob, 1966a)	63	84	3	5.7	2.2	7.1	18	22,000	18,200	26,500	31,300	25,300	38,700	38,000	29,800	48,400	44,300	33,600	58,500	59,800	41,300	86,600
06483500	78	7	Rock River near Rock Valley	9/8/1964	1,390	>4	<25	RRE (Schwob, 1966a)	do.	do.	58	>50	87.2	94.1	<2	do.	do.	do.	do.	do.	do.									
06483500	78	7	Rock River near Rock Valley	4/2/1965	11,200	>4	<25	RRE (Schwob, 1966a)	do.	do.	23	33.6	30.1	41.7	3	do.	do.	do.	do.	do.	do.									
06483500	78	16	Rock River near Rock Valley	4/7/1969	40,400	2	50	RRE (Lara, 1973)	do.	do.	1	1.6	0.22	2.1	63	do.	do.	do.	do.	do.	do.									

Table 7. Comparison of annual excedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.—Continued

				Observed	llood event USGS f	profiled at lood-profi	t streamga ile report	age location in										AEP an	alysis base	ed on data 1	hrough wat	er year 2012	a							
		ber ^b			±	vent ent)	ent . rs)	ion port	cord ars)	AEP	of .	ved	/al	/al	ed	10-р (10-	ercent AEP year recurre	(ft³/s) ence)	4-pe (25-y	ercent AEP /ear recurr	(ft³/s) ence)	2-p (50-	ercent AEP year recurr	(ft³/s) ence)	1-pe (100-	ercent AEP year recuri	(ft³/s) rence)	0.2-p (500-	ercent AEP year recurre	(ft³/s) ence)
Streamgage number	Map number (fig. 3)	Flood-profile report num	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood ever at stream-gage (ft ³ /s)	Historic AEP estimate of flood e from flood-profile report (perc	Historic RI estimate of flood ev from flood-profile report (yea	AEP streamgage flood-estimat method used in flood-profile re	Uncensored peak-discharge re length used in AEP analysis (ye	Historic record length used in <i>i</i> analysis (years)	Rank of observed flood event uncensored or historic peak discharge record length	Updated AEP estimate of obser flood event (percent)	66.7% lower confidence inter (percent)	66.7% upper confidence inter (percent)	Updated RI estimate of observ flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
06599950	79	30	Perry Creek near Hinton	5/19/1990	^k 4,600	7.1	14	B17B through WY 1995	41	60	3	6.2	2.3	7.4	16	3,470	2,620	4,610	5,390	3,920	7,410	6,900	4,830	9,880	8,540	5,740	12,700	12,400	7,560	20,200
06600000	80	30	Perry Creek at 38th Street, Sioux City	5/19/1990	8,670	2.9	35	B17B through WY 1995	60	72	2	1.8	1.2	5.3	56	5,240	4,400	6,250	7,010	5,690	8,640	8,400	6,600	10,700	9,870	7,500	13,000	13,400	9,370	19,200
06600100	81	25	Floyd River at Alton	3/28/1962	12,200	5	20	RRE (Lara, 1973)	58	137	4	5.9	3.7	9.8	17	8,670	6,990	10,700	14,300	11,300	18,300	18,700	14,200	24,600	23,100	17,000	31,500	34,800	23,200	52,300
06600100	81	25	Floyd River at Alton	6/20/1983	16,300	2	50	RRE (Lara, 1973)	do.	do.	2	3.0	1.3	5.5	33	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06600300	82	25	West Branch Floyd River near Struble	3/3/1973	3,100	50	2	RRE (Lara, 1973)	53	57	23	39.9	36.1	49.1	3	6,580	5,420	7,990	9,490	7,630	11,800	11,700	9,120	14,900	13,800	10,400	18,200	19,000	13,100	27,400
06600300	82	25	West Branch Floyd River near Struble	6/20/1983	7,590	11.1	9	RRE (Lara, 1973)	do.	do.	4	7.7	4.1	10.7	13	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06600500	83	25	Floyd River at James	6/8/1953	71,500	<1	>100	RRE (Lara, 1973)	78	137	1	<0.2	0.13	1.3	>500	13,100	10,900	15,800	20,000	15,900	25,000	25,600	19,700	33,300	31,900	23,600	42,900	47,200	32,000	69,700
06600500	83	25	Floyd River at James	3/29/1962	20,600	5.9	17	RRE (Lara, 1973)	do.	do.	2	3.8	0.94	4.1	26	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06600500	83	25	Floyd River at James	6/21/1983	18,000	9.1	11	RRE (Lara, 1973)	do.	do.	3	5.5	1.8	5.8	18	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06605600	84	4	Little Sioux River at Gillette Grove	3/31/1962	9,680	>4	<25	RRE (Schwob, 1966a)	16	119	5	16.2	18.8	40.0	6	11,800	9,970	14,000	16,300	13,200	20,100	19,800	15,500	25,300	23,400	17,600	31,200	32,100	21,800	47,400
06605600	84	4	Little Sioux River at Gillette Grove	9/11/1964	3,980	>4	<25	RRE (Schwob, 1966a)	do.	do.	9	>50	41.2	64.6	<2	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06605600	84	4	Little Sioux River at Gillette Grove	4/7/1965	20,200	<2	>50	RRE (Schwob, 1966a)	do.	do.	2	1.9	4.6	18.8	53	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06606600	85	4	Little Sioux River at Corretionville	3/30/1962	19,800	2–4	25-50	RRE (Schwob, 1966a)	87	121	7	7.8	5.2	10.7	13	17,400	15,100	20,100	24,700	20,800	29,300	30,100	24,700	36,800	35,500	28,200	44,700	48,500	35,500	66,100
06606600	85	4	Little Sioux River at Corretionville	4/7/1965	29,800	<2	>50	RRE (Schwob, 1966a)	do.	do.	1	2.1	0.15	1.5	48	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06606700	86	4	Little Sioux River near Kennebec	3/31/1962	19,000	2–4	25-50	RRE (Schwob, 1966a)	30	30	2	12.1	2.5	10.4	8	20,200	15,600	26,100	27,000	20,200	36,100	31,500	22,800	43,600	36,400	25,400	52,100	46,800	30,000	73,000
06606700	86	4	Little Sioux River near Kennebec	4/8/1965	29,700	<2	>50	RRE (Schwob, 1966a)	do.	do.	1	2.8	0.61	5.8	36	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06609560	87	43	Willow Creek near Soldier	5/6/2007	6,110	3.3	30	B17B through WY 2007	33	47	2	3.4	1.6	6.9	29	3,670	2,720	4,950	5,650	4,040	7,890	7,230	4,990	10,500	8,960	5,960	13,500	13,100	7,970	21,600
06807410	88	26	West Nishnabotna River at Hancock	9/13/1972	26,400	2.2	45	B17B through WY 1988	53	53	2	3.1	1.4	6.0	32	19,100	15,800	23,100	24,600	19,700	30,700	28,600	22,200	36,900	32,700	24,500	43,600	41,900	28,900	60,800
06807470	89	24	Indian Creek near Emerson	6/15/1982	15,800	<1	>100	RRE (Lara, 1973)	28	47	1	<0.2	0.39	3.7	>500	3,900	2,750	5,540	5,800	3,960	8,490	7,190	4,730	10,900	8,550	5,430	13,500	11,500	6,660	20,000
06808500	90	26	West Nishnabotna River at Randolph	9/14/1972	18,500	33.3	3	B17B through WY 1988	64	64	22	32.4	28.2	39.5	3	27,700	23,700	32,300	34,200	28,400	41,100	38,700	31,200	47,900	43,100	33,700	55,100	52,600	38,000	72,700
06809210	91	26	East Nishnabotna River near Atlantic	9/12/1972	26,700	4	25	B17B through WY 1988	53	65	4	4.4	4.1	10.7	23	21,000	17,200	25,500	27,200	21,600	34,300	31,600	24,200	41,300	35,900	26,600	48,600	45,300	30,700	66,900
06809210	91	37	East Nishnabotna River near Atlantic	6/15/1998	41,400	0.40	250	B17B through WY 1998	do.	do.	1	0.42	0.28	2.7	238	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06809500	92	26	East Nishnabotna River at Red Oak	9/13/1972	38,000	1	100	B17B through WY 1988	86	96	2	1.3	0.76	3.3	77	22,600	19,400	26,400	29,400	24,400	35,400	34,500	27,700	42,800	39,600	30,800	50,800	51,200	36,800	71,200

Table 7. Comparison of annual exceedance-probability estimates of observed flood-peak discharges published in U.S. Geological Survey flood-profile reports during 1963–2012 to those computed using data updated through the 2012 water year.—Continued

[USGS, U.S. Geological Survey; ft³/s, cubic feet per second; AEP, annual exceedance probability; RI, recurrence interval; %, percent; RRE, regional regression equation; WIE, weighted independent estimates; do., ditto; B17B, Bulletin 17B (Interagency Advisory Committee on Water Data, 1982); <, less than; >, greater than; WY, water year; USACE, U.S. Army Corps of Engineers; ND, not determined; Eq., equation. Substantial differences between historic and updated AEP estimates are highlighted in grey]

				Observed	flood event USGS f	profiled at lood-profi	t streamga ile report	age location in										AEP an	nalysis base	ed on data t	hrough wat	er year 2012	3							
er	3)	mber ^b	n		ent	event cent)	event ars)	ation report	ecord /ears)	ו AEP	ıt of ık-	erved	ırval	rval	rved	10-p (10-	ercent AEP year recurre	(ft³/s) ence)	4-pe (25-y	ercent AEP year recurr	(ft³/s) ence)	2-pc (50-	ercent AEP year recurre	(ft³/s) ence)	1-р (100	ercent AEP -year recurr	(ft³/s) rence)	0.2-µ (500-	ercent AEP year recurre	(ft³/s) ence)
Streamgage numb	Map number (fig. 3	Flood-profile report nu	Streamgage name	Date of flood event (month/day/year)	Peak discharge of flood ev at stream-gage (ft ³ /s)	Historic AEP estimate of flood from flood-profile report (per	Historic RI estimate of flood ¢ from flood-profile report (ye	AEP streamgage flood-estim. method used in flood-profile	Uncensored peak-discharge r length used in AEP analysis ()	Historic record length used ir analysis (years)	Rank of observed flood ever uncensored or historic pea discharge record length	Updated AEP estimate of obso flood event (percent)	66.7% lower confidence inte (percent)	66.7% upper confidence inte (percent)	Updated RI estimate of obse flood event (years)	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval	Estimate	95% lower confidence interval	95% upper confidence interval
06809500	92	37	East Nishnabotna River at Red Oak	6/15/1998	60,500	<0.2	>500	B17B through WY 1998	do.	do.	1	<0.2	0.19	1.8	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06810000	93	26	Nishnabotna River above Hamburg	9/15/1972	25,200	14.3	7	B17B through WY 1988	86	91	15	22.0	13.3	21.1	5	32,600	28,400	37,300	41,200	34,900	48,600	47,600	39,200	57,700	54,100	43,300	67,600	68,800	51,100	92,700
06810000	93	26	Nishnabotna River above Hamburg	5/27/1987	31,400	5.9	17	B17B through WY 1988	do.	do.	10	11.7	8.2	14.7	9	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06810000	93	37	Nishnabotna River above Hamburg	6/17/1998	65,100	<0.2	>500	B17B through WY 1998	do.	do.	1	0.33	0.20	1.9	303	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06897950	94	32	Elk Creek near Decatur City	9/15/1992	16,200	11.1	9	B17B through WY 1995	46	161	6	6.9	8.1	17.4	14	13,900	12,000	16,100	18,700	15,600	22,300	22,300	18,100	27,600	25,900	20,300	33,200	34,400	24,700	47,900
06898000	95	32	Thompson River at Davis City	9/16/1992	57,000	<1	>100	B17B through WY 1995	82	128	1	<0.2	0.14	1.4	>500	18,200	15,900	20,800	24,100	20,400	28,500	28,700	23,500	34,900	33,400	26,600	42,000	44,800	33,000	60,800
06898400	96	32	Weldon River near Leon	9/15/1992	^{km} 76,200	<1	>100	B17B through WY 1995	34	94	1	<0.2	0.19	1.9	>500	15,500	12,900	18,700	21,100	16,800	26,300	25,500	19,700	33,000	30,000	22,400	40,300	41,300	28,100	60,500
06903400	97	23	Chariton River near Chariton	7/4/1981	16,600	1	100	RRE (Lara, 1973)	49	66	2	2.7	1.1	4.8	37	9,990	8,000	12,500	14,300	11,000	18,600	17,900	13,200	24,100	21,600	15,500	30,300	30,800	20,100	47,300
06903400	97	32	Chariton River near Chariton	9/15/1992	^m 37,700	<1	>100	B17B through WY 1995	do.	do.	1	<0.2	0.28	2.7	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
06903700	98	32	South Fork Chariton River near Promise City	7/4/1981	28,000	<1	>100	RRE (Lara, 1973)	46	161	2	2.4	1.6	6.9	42	16,900	14,500	19,600	23,600	19,600	28,500	29,100	23,400	36,200	34,900	27,100	45,000	49,300	35,200	69,200
06903700	98	32	South Fork Chariton River near Promise City	9/15/1992	^m 70,600	<1	>100	B17B through WY 1995	do.	do.	1	<0.2	0.11	1.1	>500	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.

^aUnless noted otherwise, AEP analyses, and associated AEP or RI estimates and confidence intervals, were computed using theWIE method. The WIE program (Cohn and others, 2012) was used to estimate AEPs following guidelines in appendix 8 of B17B (Interagency Advisory Committee on Water Data, 1982). The WIE program uses the variance and estimate of the B17B annual streamgage-probability analysis and the variance and estimate of the RRE probability calculation (Eash and others, 2013) to compute a weighted probability estimate and variance at a streamgage. The AEP estimates computed at a streamgage are then used to calculate AEP estimates and confidence intervals for observed flood events. Note the AEP estimates for observed flood events will occasionally be outside of the range of the 66.7 percent confidence intervals because the uncertainty of these estimates is large. Note the AEP estimates computed by USACE for regulated streamgages on the Mississippi River are based on data through the 1998 water year, and estimates computed for regulated streamgages on the Iowa and Des Moines Rivers are based on data through the 2008 water year.

^bSee report number for report where AEP estimate for flood event was originally published.

°Computed using RREs (Eash, 2001) because of short peak-flow record.

^dAnnual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued downstream streamgage (05388000).

^eDischarge is a maximum daily average.

^fDischarge affected by regulation.

^gRegulated period of record.

^hPre-regulated period of record.

¹Data source: Upper Mississippi River System Flow Frequency Study, Hydrology and Hydraulics Appendix B, St. Paul District (U.S. Army Corps of Engineers, 2004). ¹Annual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued upstream streamgage (05412000).

*Estimate.

¹Based on indirect measurement of discharge at Mederville.

^mDischarge computed from indirect measurement.

^aAnnual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued downstream streamgage (05417000).
 ^aAnnual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued downstream streamgage (05418450).
 ^bAnnual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from active upstream streamgage (05418400).
 ^aData source: Upper Mississippi River System Flow Frequency Study, Hydrology & Hydraulics Appendix C Mississippi River, Rock Island District (U.S. Army Corps of Engineers, 2004).

⁴Annual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from active downstream streamgage (05453100).
⁵Annual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued upstream streamgage (05452500).
⁶Based on information from the U.S. Army Corps of Engineers (Hydraulics Branch, oral commun., 1994).
⁹Data source: Iowa River Regulated Flow Frequency Study, Final Report, Rock Island District (U.S. Army Corps of Engineers, 2009).
⁹Computed using weighted estimates from nearby downstream streamgage (05458500) and regional regression estimates for this site (05458300) (Eash, 2001).
⁹Computed using B17B streamgage-probability analysis (Interagency Advisory Committee on Water Data, 1982) because RREs were not applicable.
⁹Data source: Des Moines River Regulated Flow Frequency Study, Rock Island District (U.S. Army Corps of Engineers, 2010).
⁹Annual exceedance-probability estimate computed for pre-regulated period of record and is based on inclusion of additional annual-peak discharges from upstream streamgage (05481650).

^zAnnual exceedance-probability estimate is based on inclusion of additional annual-peak discharges from discontinued downstream streamgage (05488000).