

Table 8. Streamflow estimates (fit) for selected annual exceedance probabilities and associated confidence intervals (lower and upper) and variance estimates for flood-frequency analysis under three different scenarios using U.S. Geological Survey PeakFQ software (Veilleux and others, 2014) version 7.2 for streamgage station 09337500 Escalante River near Escalante, Utah, with comparisons to Webb and others (1988), Webb and Rathburn (1988), and Kenney and others (2008).

[PILF, potentially influential low flood; AEP, annual exceedance probability; ft³/s, cubic foot per second; PE3, Pearson type III distribution; NA, not applicable to method; --, not reported]

Analysis scenario	Number of peaks in record	Gaged peaks in analysis	Historical or paleoflood peak point estimates in analysis	Flow intervals in analysis ^a	Beginning year	Ending year	Historical period length	PILF threshold	Number of PILFs	Statistic	AEP of 0.1 (ft³/s)	AEP of 0.01 (ft³/s)	AEP of 1×10 ⁻³ (ft³/s)	AEP of 1×10 ⁻⁴ (ft³/s)	AEP of 1×10 ⁻⁵ (ft³/s)	AEP of 1×10 ⁻⁶ (ft³/s)
1. Systematic peaks with weighted skew	57	57	0	0	1943	2015	73	315	9	Lower	1,945	3,529	4,697	5,534	6,137	6,137
										Fit	2,486	4,962	7,622	10,370	13,140	15,870
										Upper	3,389	8,712	18,790	38,440	78,220	78,220
										Variance	0.0034	0.0086	0.0192	0.0351	0.0555	0.0797
2. Systematic and historical peaks, weighted skew	60	57	3	0	1910	2015	106	315	9	Lower	1,887	3,462	4,680	5,589	6,268	6,774
										Fit	2,388	4,794	7,464	10,320	13,300	16,340
										Upper	3,210	8,365	18,700	39,920	85,040	185,400
										Variance	0.0032	0.0080	0.0185	0.0347	0.0559	0.0815
3. Systematic peaks and paleo information with weighted skew	63	57	6	1	1909	2015	107	315	9	Lower	2,905	8,900	19,140	34,430	55,600	83,350
										Fit	4,206	15,730	43,850	106,100	235,000	488,600
										Upper	6,444	37,090	207,300	1,136,000	6,139,000	32,790,000
										Variance	0.0074	0.0218	0.0551	0.1113	0.1928	0.3005
4. Kenney and others, 2008, systematic record, PE3, method of moments fitting, weighted skew ^b	50	47	3	0	1910	2005	96	NA	NA	Fit	--	5,290	--	--	--	--
5. Webb and others, 1988, systematic record, PE3, method of moments fitting, weighted skew	27	27	0	0	1943	1985	43	NA	NA	Fit	--	6,820	--	--	--	--
6. Webb and others, 1988, systematic record plus four historical peaks that occurred during settlement and were estimated using paleoflood techniques, PE3, method of moments fitting, weighted skew	31	27	4	(^c)	1909	1985	77	NA	NA	Fit	--	22,200	--	--	--	--
7. Webb and others, 1988, systematic record plus four historical peaks that occurred during settlement and were estimated using paleoflood technique and the knowledge that those four peaks were the largest since settlement in 1875, PE3, method of moments fitting, weighted skew	31	27	4	(^c)	1875	1985	111	NA	NA	Fit	--	17,000	--	--	--	--
8. Webb and Ratheburn, 1988, plus four paleo peaks used in scenarios 3, 6, and 7, plus nine paleo peaks using intervals estimates and estimated dates, PE3, maximum likelihood estimation fitting, there is a brief discussion of skew, but unclear what skew was used	28	28	0	13	450	1986	1,537	NA	NA	Fit	--	13,100	--	--	--	--

^aIn keeping with PeakFQ results, flow intervals are not included in the number of peaks in record. Therefore, the total number of peak point and interval estimates used in the analysis is Number of peaks in record + Flow intervals in analysis.

^bKenney and others (2008) do not mention using historical peaks, those with qualification code 7, but indicate that 50 peaks were used for this gage and that the data were through water year 2005, which implies there were 47 gaged peaks and 3 historical peaks.

^cOne of the historical peaks was an interval estimate of 17,700–20,100 ft³/s. Webb and others (1988) implies a point estimate was used but does not definitively state what that was, but the article context implies 20,100 ft³/s.