Table 7. Streamflow estimates (fit) for selected annual exceedance probabilities and associated confidence intervals (lower and upper) and variance estimates for flood-frequency analysis under two different scenarios using U.S. Geological Survey PeakFQ software (Veilleux and others, 2014) version 7.2 for streamgage station 06712500 Cherry Creek near Melvin, Colorado, with comparisons to other distributions and fitting methods.

[PILF, potentially influential low flood; AEP, annual exceedance probability; ft³/s, cubic foot per second; NA, not applicable to method]

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	31	30	0	0	1940	1969	30	321	2	Lower	6,855	19,660	35,580	52,510	69,290	85,210
										Fit	11,660	41,260	101,100	207,600	382,900	653,900
										Upper	25,500	216,400	1,584,000	11,340,000	69,090,000	359,600,000
										Variance	0.0175	0.0482	0.1091	0.2020	0.3272	0.4836
2. Systematic peaks and paleo information with weighted skew	31	30	0	1	799*	3998*	3,200	321	2	Lower	5,860	17,040	34,890	58,660	88,010	117,600
										Fit	8,915	24,660	48,280	80,370	121,300	170,900
										Upper	14,370	37,500	66,290	107,100	187,800	342,400
										Variance	0.0094	0.0072	0.0046	0.0038	0.0056	0.0103
3. Asymmetric exponential power distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	10,740	65,946	364,136	1,885,728	9,328,633	44,542,802
4. Generalized extreme value distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	12,170	26,824	35,263	38,870	40,246	40,749
5. Generalized logistic distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	11,377	45,398	134,518	325,943	672,088	1,214,797
6. Generalized normal distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	11,769	33,289	63,525	101,590	146,622	197,785
7. Generalized Pareto distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	12,186	14,615	14,726	14,731	14,731	14,731
8. Pearson type III distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	11,813	32,377	58,736	88,410	119,417	150,281
9. Wakeby distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	11,991	48,789	103,451	154,721	191,943	215,435
10. Weibull distribution fitted by the method of L-moments (Asquith and others, 2017)	30	30	0	0	1940	1969	30	NA	NA	Fit	11,746	32,700	62,274	100,494	147,544	203,663

[a]In 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 is greater than or equal to the number of peaks in record.

*These dates are scaled so that all values are positive over the 3,200-year period of record.