

Appendix 2_11C Streamflow statistics for site S15 estimated using an interpolation method and historical streamflows (Olson, S.A., and Mack,T.J., 2011, Technique for estimation of streamflow statistics in mineral areas of interest in Afghanistan: U.S. Geological Survey Open-File Report 2011-1176)

[km², square kilometer; mm, milimeter; m, meter; m³/s, cubic meter per second; The streamgage, listed with Afghan identification number, is the historical site used for the ungaged site estimate.]

Basin Characteristics:

Drainage area:	9043.24 km ²	Basin percent above 3000 m:	35.17
Basin slope percent:	22.77	Mean October precipitation:	13.5 mm
Centroid elevation:	2540.5 m	Mean November precipitation:	20.5 mm
Basin percent irrigated:	2.02	Mean December precipitation:	31.2 mm
		Mean January precipitation:	36.2 mm

In basin interpolation

Streamgage: 8-0.000-5M		Streamgage: 8-0.000-7M	
Hari Rud River at Tagaw Ghaza (342100063390000)		Hari Rud River at Chekhcheran (343100065150000)	
Drainage area, km ² :	11929	Drainage area, km ² :	6110
Streamgage data:		Streamgage data:	computed exp
7Q10:	3.57 m ³ /s	7Q10:	2.77 m ³ /s 0.38
7Q2:	5.57 m ³ /s	7Q2:	3.87 m ³ /s 0.54
90% flow duration:	5.59 m ³ /s	90% flow duration:	3.99 m ³ /s 0.50
80% flow duration:	6.27 m ³ /s	80% flow duration:	4.69 m ³ /s 0.43
Mean annual discharge:	39.1 m ³ /s	Mean annual discharge:	31.8 m ³ /s 0.31
October mean monthly discharge:	7.4 m ³ /s	October mean monthly discharge:	5.48 m ³ /s 0.45
November mean monthly discharge:	8.23 m ³ /s	November mean monthly discharge:	5.53 m ³ /s 0.59
December mean monthly discharge:	7.76 m ³ /s	December mean monthly discharge:	4.96 m ³ /s 0.67
January mean monthly discharge:	8.13 m ³ /s	January mean monthly discharge:	4.75 m ³ /s 0.80
February mean monthly discharge:	9.59 m ³ /s	February mean monthly discharge:	5.78 m ³ /s 0.76
March mean monthly discharge:	33.6 m ³ /s	March mean monthly discharge:	19.4 m ³ /s 0.82
April mean monthly discharge:	138 m ³ /s	April mean monthly discharge:	110 m ³ /s 0.34
May mean monthly discharge:	170 m ³ /s	May mean monthly discharge:	153 m ³ /s 0.16
June mean monthly discharge:	56.7 m ³ /s	June mean monthly discharge:	48 m ³ /s 0.25
July mean monthly discharge:	14.2 m ³ /s	July mean monthly discharge:	11.3 m ³ /s 0.34
August mean monthly discharge:	7.54 m ³ /s	August mean monthly discharge:	5.8 m ³ /s 0.39
September mean monthly discharge:	7.34 m ³ /s	September mean monthly discharge:	5.79 m ³ /s 0.35
October minimum monthly discharge:	5.34 m ³ /s	October minimum monthly discharge:	3.47 m ³ /s 0.64
November minimum monthly discharge:	5.49 m ³ /s	November minimum monthly discharge:	3.33 m ³ /s 0.75
December minimum monthly discharge:	5.12 m ³ /s	December minimum monthly discharge:	2.42 m ³ /s 1.12
January minimum monthly discharge:	5.18 m ³ /s	January minimum monthly discharge:	3.03 m ³ /s 0.80
February minimum monthly discharge:	6.2 m ³ /s	February minimum monthly discharge:	4.36 m ³ /s 0.53
March minimum monthly discharge:	10.8 m ³ /s	March minimum monthly discharge:	5.75 m ³ /s 0.94
April minimum monthly discharge:	43.8 m ³ /s	April minimum monthly discharge:	38.6 m ³ /s 0.19
May minimum monthly discharge:	56 m ³ /s	May minimum monthly discharge:	55.3 m ³ /s 0.02
June minimum monthly discharge:	10.9 m ³ /s	June minimum monthly discharge:	11.2 m ³ /s -0.04
July minimum monthly discharge:	4.26 m ³ /s	July minimum monthly discharge:	3.06 m ³ /s 0.49
August minimum monthly discharge:	3.17 m ³ /s	August minimum monthly discharge:	3 m ³ /s 0.08
September minimum monthly discharge:	4.47 m ³ /s	September minimum monthly discharge:	3 m ³ /s 0.60

Logarithmic interpolated data

(Olson and Mack, 2011)

Streamgage: Hari Rud River at Chekhcheran (343100065150000)		8-0.000-7M	
Drainage area, km ² :	6110	Results	
Streamgage data:		Ungaged site estimate:	area exponent
7Q10:	2.77 m ³ /s	3.21 m ³ /s	0.38
7Q2:	3.87 m ³ /s	4.79 m ³ /s	0.54
90% flow duration:	3.99 m ³ /s	4.86 m ³ /s	0.50
80% flow duration:	4.69 m ³ /s	5.56 m ³ /s	0.43
Mean annual discharge:	31.8 m ³ /s	35.89 m ³ /s	0.31
October mean monthly discharge:	5.48 m ³ /s	6.53 m ³ /s	0.45
November mean monthly discharge:	5.53 m ³ /s	6.98 m ³ /s	0.59
December mean monthly discharge:	4.96 m ³ /s	6.45 m ³ /s	0.67
January mean monthly discharge:	4.75 m ³ /s	6.51 m ³ /s	0.80
February mean monthly discharge:	5.78 m ³ /s	7.78 m ³ /s	0.76
March mean monthly discharge:	19.4 m ³ /s	26.77 m ³ /s	0.82
April mean monthly discharge:	110 m ³ /s	125.63 m ³ /s	0.34
May mean monthly discharge:	153 m ³ /s	162.74 m ³ /s	0.16
June mean monthly discharge:	48 m ³ /s	52.92 m ³ /s	0.25
July mean monthly discharge:	11.3 m ³ /s	12.92 m ³ /s	0.34
August mean monthly discharge:	5.8 m ³ /s	6.76 m ³ /s	0.39
September mean monthly discharge:	5.79 m ³ /s	6.65 m ³ /s	0.35
October minimum monthly discharge:	3.47 m ³ /s	4.47 m ³ /s	0.64
November minimum monthly discharge:	3.33 m ³ /s	4.46 m ³ /s	0.75
December minimum monthly discharge:	2.42 m ³ /s	3.75 m ³ /s	1.12

January minimum monthly discharge:	3.03 m ³ /s	4.15 m ³ /s	0.80
February minimum monthly discharge:	4.36 m ³ /s	5.36 m ³ /s	0.53
March minimum monthly discharge:	5.75 m ³ /s	8.32 m ³ /s	0.94
April minimum monthly discharge:	38.6 m ³ /s	41.57 m ³ /s	0.19
May minimum monthly discharge:	55.3 m ³ /s	55.71 m ³ /s	0.02
June minimum monthly discharge:	11.2 m ³ /s	11.02 m ³ /s	-0.04
July minimum monthly discharge:	3.06 m ³ /s	3.71 m ³ /s	0.49
August minimum monthly discharge:	3 m ³ /s	3.10 m ³ /s	0.08
September minimum monthly discharge:	3 m ³ /s	3.79 m ³ /s	0.60