SUPPLEMENTAL DATA

ASCE Journal of Hydrologic Engineering

Erratum for "Water Quality—Based Environmental Flow under Plausible Temperature and Pollution Scenarios" by Shushobhit Chaudhary, C. T. Dhanya, Arun Kumar, and Rehana Shaik

Shushobhit Chaudhary, C. T. Dhanya, Arun Kumar, and Rehana Shaik

DOI: 10.1061/(ASCE)HE.1943-5584.0001919

© ASCE 2020

www.ascelibrary.org

Table S3. Eflow recommendations considering different ratios of mean annual flow (MAF) based on hydrological-based Tennant method

Objective	Percentage of Mean Annual Flow (MAF)		Eflow of Yamuna River (m ³ /sec) [Values in ft ³ /s] MAF = 279.3 m ³ /sec [9864.2 ft ³ /s]		Eflow of Bhadra River (m³/sec) MAF = 81.4 m³/sec	
	Oct– March	Apr– Sept	Oct–March	Apr–Sept	Oct– March	Apr– Sept
Flushing or Maximum	200		558.6 [19728.4 ft ³ /s]		162.8	
Optimum range	60-100		167.6-279.3 [5918.5 - 9864.2 ft ³ /s]		48.8 - 81.4	
Outstanding	40	60	111.7 [3945.7 ft ³ /s]	167.6 [5918.5 ft ³ /s]	32.6	48.8
Excellent	30	50	83.8 [2959.3 ft ³ /s]	139.7 [4932.1 ft ³ /s]	24.4	40.7
Good	20	40	55.8 [1972.8 ft ³ /s]	111.7 [3945.7 ft ³ /s]	16.3	32.6
Fair or Degrading	10	30	27.9 [986.4 ft ³ /s]	83.8 [2959.3 ft ³ /s]	8.1	24.4
Poor or Minimum	10		27.9 [986.4 ft ³ /s]		8.1	
Severe Degradation	0-10		0 - 27.9 [986.4 ft ³ /s]		0 - 8.1	

Source: Data from Tennant (1976).

Table S5. Eflow recommendations considering different fractions of MAF and mean monthly flow (MMF) based on Tessmann method

Recommended Eflow (m³/sec) Month Yamuna Bhadra 93.8 [3312.8 ft³/s] 14.4 Jan 102.7 [3627.7 ft³/s] Feb 7.3 111.7 [3945.7 ft³/s] 4.2 Mar 111.7 [3945.7 ft³/s] 4.4 Apr 111.7 [3945.7 ft³/s] 5.8 May 111.7 [3945.7 ft³/s] Jun 39.7 195.0 [6885.5 ft³/s] Jul 115.1 368.5 [13014.0 ft³/s] 118.1 Aug 234.8 [8293.3 ft³/s] 44.3 Sep 111.7 [3945.7 ft³/s] Oct 34.2 111.7 [3945.7 ft³/s] Nov 32.6 111.7 [3646.7 ft³/s] Dec 21.4

Source: Data from Tessmann (1980).

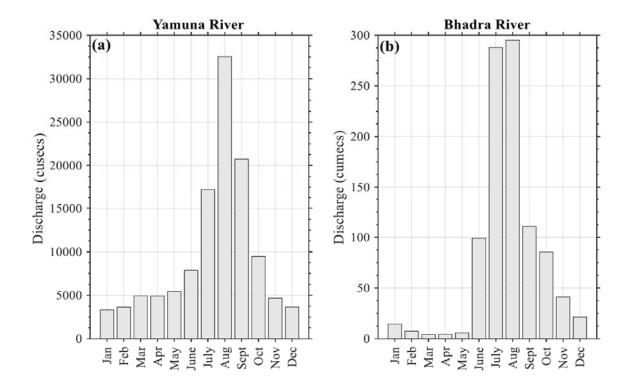


Fig. S2. (a) Observed unregulated flow at the upstream of Hathinikund Barrage on the Yamuna River over the period of 1995–2004. Units of discharge are in cusecs (ft³/s); and **(b)** Average inflow to the Bhadra reservoir upstream of the Bhadravati segment of Bhadra River over the period of 1981–1999. Units of discharge are in cusecs (m³/sec).

References

- Tennant, D. L. 1976. "Instream flow regimens for fish, wildlife, recreation and related environmental resources." *Fisheries* 1 (4): 6–10. <a href="https://doi.org/10.1577/1548-8446(1976)001<0006:IFRFFW>2.0.CO;2">https://doi.org/10.1577/1548-8446(1976)001<0006:IFRFFW>2.0.CO;2.
- Tessmann, S. 1980. "Environmental assessment," Technical Appendix E in *Environmental use sector: Reconnaissance elements of the Western Dakotas region of South Dakota study*.

 Brookings, SD: Water Resources Institute.