

TABLE S1 | Local variables and collection methodology according to the adapted version of Callisto *et al.* (2014) of the stream assessment protocol of the US Environmental Protection Agency (Kaufmann *et al.*, 1999; Peck *et al.*, 2006).

Local variables	Sampling methodology
Channel morphology	
Distance excavated margins average (m)	Measured at both margins with a measuring tape at 11 equidistant transects.
Thalweg depth average (cm)	Measured with a graduated pipe at 150 equidistant points along the 150 m stretch.
Margins angle average (degrees)	Measured at both margins using a clinometer and a pipe at 11 equidistant transects.
Ratio width & depth section	Width and depth ratio of the longitudinal section.
Substrate	
Fine gravel (%)	Visually determined at five equidistant transverse points and at the 8th point of the longitudinal section. Substrate immersion in the fine sediment is visually estimated.
Substrate > 16mm Diameter (%)	
Sand (%)	
Fine sediments (%)	
Roots (%)	
Fine litter (%)	
Coarse litter (%)	
Wood (%)	
Immersion average (Channel + Margins) (%)	
Organic matter (%)	
Flow types	
Riffle (%) - Rapids flow	Visually determined in transverse lines at 150 equidistant points, ranging from smooth flow to cascade and waterfall. There may be formation of pool types.
Glides (%) - Smooth flow	
Any type of pool	
Riparian vegetation cover/canopy estimate and coverage	
Ground cover average	Visual estimation of coverage provided by the riparian zone at both margins. It ranges from large trees to undergrowth and bare soil plants. This estimate is made considering 5 m before and after the transection, and an extension of 10 m from each bank, forming plots of 100 m ² .
Canal canopy average (%)	Measured at six points (right, right center, upstream center, downstream center left center and left) using a densiometer at 5 equidistant points of the 150 m stretch.
Fish shelter	
Shelter – Leaf bank average	Visual estimation of some structural components of the stream, such as leaf bank. This estimate is made considering 5 m before and after the transection, covering an extension of 10 m.
Sinuosity	
Sinuosity stretch	Measured using a compass along the curvature of the stream in the 150 m stretch.
Water chemistry	
pH	Measured with a multiparameter at three equidistant points of the longitudinal section.
OD (mg/L)	

REFERENCES

- **Callisto M, Alves CBM, Lopes JM, Castro MA.** Condições ecológicas em bacias hidrográficas de empreendimentos hidrelétricos. Belo Horizonte: Companhia Energética de Minas Gerais, v. 1; 2014. Available from: https://www.cemig.com.br/wp-content/uploads/2020/07/Indice_de_Integridade_Biotica.pdf
- **Kaufmann PR, Levine P, Robison EG, Seeliger C, Peck DV.** Quantifying physical habitat in Wadeable streams. EPA/620/R-99/003. US Environmental Protection Agency, Washington, DC. 1999. Available from: <https://archive.epa.gov/emap/archive-emap/web/pdf/phyhab.pdf>
- **Peck DV, Herlihy BH, Hill RM, Hugles PR, Kaufmann DJ, Klemm JM *et al.*** Environmental monitoring and assessment program-surface waters western pilot study: Field operations manual for Wadeable streams 2006; EPA 600/R-06/003. U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC. 2006.



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