

## Supplementary 1

**Table S1.** Technical parameters of concrete damming thresholds on the Rgilewka River.

No.	River course [km]	Year of construction	Construction material	Width [m]	Height [m]	Range of effect [m <sup>2</sup> ]
1	17 + 225	1972	concrete	2.6	0,4	~819
2	25 + 790	1972	concrete	~2.6	0,4	~1149
3	30 + 545	1972	concrete	~2.0	0,4	~1146
4	31 + 118	1972	concrete	~2.0	0,4	~1164
5	31 + 700	1972	concrete	~2.0	0,4	~600
6	32 + 974	1972	concrete	~2.0	0,4	~776

## Supplementary 2

**Table S2.** Technical parameters of weirs on the Rgilewka River. Bold font signifies weirs analyzed in the paper-covered with reconstruction in the recent period.

No.	Year of construction	Structure	Width of weir [m]	Maximum water level [m]	Water level for agricultural purposes [m]	Crest ordinate = MinPP [m a.s.l.]	NPP = MaxPP [m a.s.l.]	Range of backwater [km]	Channel retention [km <sup>3</sup> ]	Range of direct effect [ha]	Range of indirect effect [ha]
1	2014	Weir reinforced concrete	12.0 (3.0×3.0×3.0×3.0)	1.3	0.81	91.65	92.95	2.078	19.3	6.5	70
2	2014	Weir reinforced concrete	10.0 (2.0×2.0×2.0×2.0×2.0)	2.0	1.99	93.25	95.25	2.471	29.6	9.9	64
3	2018	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.10	---	94.80	95.90	1.774	10.9	9.7	120
4	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.15	---	96.00	97.15	1.16	5.3	2.7	55
5	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.36	---	96.9	98.26	1.328	5.4	3.5	70
6	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.04	---	98.40	9.44	1.187	3.7	2.7	45
7	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.10	---	100.35	101.45	1.088	3.6	3.0	42

8	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	0.85	---	102.75	103.60	0.873	2.2	1.9	34
9	2020/2021	Weir reinforced concrete	10.0 (3.0×4.0×3.0)	1.45	---	104.90	106.35	1.193	5.2	2.6	38

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