

Supplementary Materials:

Table S1. SWAT parameters calibrated for the monthly streamflow and the TN load in the Biliuhe reservoir basin.

Parameter	Description	Min value	Max value	Fitted value
r_CN2	SCS runoff curve number for soil condition 2	−0.2	0.2	0.12
v_ALPHA_BF	Baseflow alpha factor (days)	0	1	0.46
v_GW_DELAY	Groundwater delay (days)	30	450	221.10
v_GWQMN	Threshold depth of water in the shallow aquifer required for return flow to occur (mm)	0	2	1.17
v_CH_N2	Manning's "n" value for the main channel	0	0.3	0.029
v_CH_K2	Effective hydraulic conductivity in main channel alluvium	0	500	79.38
v_ALPHA_BNK	Baseflow alpha factor for bank storage	0	1	0.37
r_SOL_AWC	Available water capacity of the soil layer	−0.2	0.4	0.12
r_SOL_K	Saturated hydraulic conductivity	−0.8	0.8	−0.58
r_SOL_BD	Moist bulk density	−0.5	0.6	0.46
v_SFTMP	Snowfall temperature	−5	5	0.35
v_ESCO	Soil evaporation compensation factor	0	1	0.98
v_ERORGN	Organic N enrichment ratio	0	5	0.60
v_NPERCO	Nitrogen percolation coefficient	0	1	0.093
v_SDNCO	Denitrification threshold water content	0	1	0.97
v_ANION_EXCL	Fraction of porosity (void space) from which anions are excluded	0.01	1	0.87
v_CANMX	Maximum canopy storage	0	100	7.75
v_SHALLST_N	Concentration of nitrate in groundwater contribution to streamflow from subbasin (mg N/l)	0	1000	136.07

Note: r means the parameter was multiplied by one plus a given value; v means the parameter was replaced by a given value.