Table 1. Parameters used for calibration in SWAT.

| Parameter | Description | Model Range | Default value | Calibrated Value |
| --- | --- | --- | --- | --- |
| CN2 | Initial SCS runoff curve number for moisture condition II | 35-98 | Varies | -22% |
| ESCO | Soil evaporation Compensation Factor | 0-1 | 0.95 | 0.08 |
| EPCO | Plant uptake compensation factor | 0-1 | 1 | 0.1 |
| SMFMX | Melt factor for snow on June 21(mm H2O/oC-day) | 0-10 | 4.5 | 2 |
| SMFMN | Melt factor for snow on December 21 (mm H2O/oC-day) | 0-10 | 4.5 | 1.75 |
| SNOCOVMX | Minimum snow water content that corresponds to 100% snow cover (mm) | 0-500 | 1 | 195 |
| SNO50CV | Fraction of snow volume represented by SNOCOVMX that corresponds to 50% snow cover | 0-1 | 0.5 | 0.76 |
| SOL\_AWC | Available water capacity of the soil layer (mmH2O/mm soil) | 0-1 | Varies | -15% |
| PRF | Peak rate adjustment factor for sediment routing in the main channel | 0-2 | 1.0 | 0.104 |
| SPCON | Linear parameter for calculating the maximum amount of sediment that can be re-entrained during the channel sediment routing | 0.0001-0.01 | 0.0001 | 0.0045 |
| SPEXP | Exponent parameter for calculating re-entrained in the channel sediment routing | 1-1.5 | 1 | 1.4 |
| ADJ\_PRF | Peak rate adjustment factor for sediment routing in the subbasin (tributary) | 0.5-2 | 1.0 | 0.5 |
| ALPHA\_BFψ | Baseflow recession factor (days) | 0-1 | 0.048 | 0.014 |
| PHOSKD | Phosphorus soil partitioning coefficient (m3/Mg) | 100-200 | 175 | 180 |
| PSP | Phosphorus availability index | 0.01-0.7 | 0.4 | 0.55 |
| GW\_DELAY | Groundwater delay time (days) | 0-500 | 31 | 210 |
| USLE P | USLE support practice factor | 0-1 | 1 | 0.75 |
| P\_UPDIS | Phosphorus uptake distribution factor | 0-100 | 20 | 100 |

Ψ Determined from baseflow filter program (Arnold et al., 1999)