

Table 2. Results of regression analysis relating streamflow and phosphorus loads at five sampling sites upstream from Cheney Reservoir

[PL, total phosphorus load, in grams per second; Q, streamflow, in cubic feet per second; r, residual of log-log regression model; g/s, grams per second; ft³/s, cubic feet per second. All estimation equations are significant at a p-value of less than 0.0001]

| Sampling-site map index number (fig. 1) | Estimation equation | Bias corrector ^a [($\sum 10^r$)/n] | Number of data pairs used in analysis (n) | Coefficient of determination (R ²) | Standard error of regression (log ₁₀ g/s) | Range of streamflow used to develop equations (ft ³ /s) | Range of daily mean streamflow used in estimation equations (ft ³ /s) |
|---|-----------------------------------|---|---|--|--|--|--|
| 1 | PL = 0.00065(Q ^{1.533}) | 1.19 | 93 | 0.79 | 0.264 | 15 – 513 | 13.0 – 507 |
| 2 | PL = 0.00335(Q ^{1.141}) | 1.21 | 70 | .89 | .278 | .1 – 573 | .01 – 560 |
| 3 | PL = 0.00250(Q ^{1.363}) | 1.25 | 65 | .93 | .274 | .08 – 469 | .03 – 408 |
| 4 | PL = 0.00066(Q ^{1.428}) | 1.30 | 79 | .81 | .321 | 12 – 2,260 | 11.0 – 1,920 |
| 5 | PL = 0.00389(Q ^{1.301}) | 1.14 | 99 | .94 | .271 | .42 – 1,040 | .27 – 1,100 |

a.Duan (1983).