

Snake River Water Quality Trends at King Hill and Weiser

Ralph Myers

Idaho Power Company

1221 W Idaho

Boise, ID 83707

208-388-2358

rmyers@idahopower.com

Identifying and interpreting trends in a highly manipulated, complex, and dynamic river such as the Snake River is challenging. Idaho Power Company has been monitoring water quality on the Snake River at King Hill and near Weiser for 21 and 18 years, respectively. We used a nonparametric Mann-Kendall statistical test to evaluate the presence of trends in data collected at the two sites. Data from the two locations show differing trends for several key water quality variables. Flows in the Snake River near Weiser have increased from 1990 through 2011. Data for water column chlorophyll a and total phosphorus show significantly declining trends in concentration and loads for data collected from May through September. Conversely, at King Hill, flow has significantly declined since 1991. Also, total phosphorus show either insignificant or increasing trends for the entire time period, as well as since the TMDL was approved in 1997. Similarly, turbidity increased at a rate of 1% per year, and almost 2% a year during the May through September time period. Further, chlorophyll a and total suspended solids showed a significant increasing trend in both concentrations and loads.