

Field Comparison of Continuous Monitoring for Sea-Bird and Hydrolab
Instruments in the Snake River, Idaho 2013

Chuck Hoovestol, Idaho Power Company
PO Box 70
Boise, Idaho
83707
Telephone: 208-388-2327
Email: choovestol@idahopower.com

Idaho Power Company has been operating continuous dissolved oxygen and temperature sensors at multiple locations throughout the Snake River for the last 15 years. We have endeavored to stay current with the latest technologies as the water quality industry has grown and improved over the last two decades. Recently, Sea-Bird Electronics has developed an instrument capable of long term deployment with minimal maintenance in a freshwater environment. The Sea-bird SBE 37 MicroCAT is designed for high performance in productive environments with high rates of biofouling. Many of Idaho Power's monitoring locations exhibit extensive biofouling and have required frequent sensor service and recalibration (i.e., biweekly to weekly site visits). In the summer and fall of 2013, Sea-Bird's MicroCAT was deployed at an existing IPC monitoring location in the Snake River near Weiser, Idaho in order to compare performance with our current instruments (Hydrolab Minisonde 5) and procedures. Both instruments were placed side-by-side in separate 6 inch pipes and both instruments were programmed to autonomously measure and log temperature, specific conductance and dissolved oxygen at 10 minute intervals. The Hydrolab was replaced every two weeks with a freshly calibrated unit. The MicroCAT was allowed to log data, undisturbed, for a period of approximately two months before a large flow event dictated necessary service. After servicing, the unit was again allowed to log data, undisturbed, for approximately two more months. Comparing the three parameters showed the MicroCAT performed very well especially relative to dissolved oxygen and considering the minimal service needed.