

**Coeur d'Alene Lake Tributaries Watershed Advisory Group
Monday November 30, 2015**

Idaho Panhandle National Forest, Fernan Ranger District Office
Conference Room AB/R1 (in basement)
2502 E. Sherman Ave
Coeur d'Alene

9:00 – 12:00

Meeting Notes

Introductions

Fernan Lake Research, Frank Wilhelm Limnologist, University of Idaho

Dr. Wilhelm gave an update on the research conducted by his graduate student, Trea LaCroix on Fernan Lake. The research came up with a mass balance of total phosphorus and total residue (sediment) for Fernan Lake using continuous monitoring on Fernan Creek, bi-weekly monitoring in Fernan Lake, monitoring of storm culverts from Fernan Lake Road, and using existing data. Results show 81% retention of total phosphorus and 67% of total sediment coming into Fernan Lake in Fernan Lake. The Fernan Creek watershed was the largest source of phosphorus (80.2%) and sediment (67%) to Fernan Lake. Precipitation was 10.2% of total phosphorus coming into the lake. Internal cycling was also a significant source (21-46%) of phosphorus in the summer months. Frank's presentation will be made available on the WAG Web site, and results of this study are detailed in Trea LaCroix's Master's of Science Thesis with the University of Idaho.

A discussion about restoration/remediation options for Fernan Lake followed Dr. Wilhelm's presentation. Frank said there are 3 options that would be feasible for Fernan Lake's cyanobacteria blooms and eutrophication problem: 1) dredging, which would be expensive and would require and large amount of land area; 2) alumn treatment, which is not the best option given the amount of sediment that comes into the lake each year from Fernan Creek; and 3) nutrient balance – adjusting the TN:TP ratio to an optimum level to provide an advantage to green algae over cyanobacteria. The WAG had many questions and the general consensus was a feasibility study with enclosure studies in Fernan Lake might be the best approach toward understanding whether nutrient balancing would be an acceptable remediation option for Fernan Lake.

Managing Idaho's Landscapes for Ecosystem Services (MILES), Mark Solomon, University of Idaho

Dr. Solomon gave an update on studies in the Fernan Watershed under the MILES program. The first update was on a study looking at sources of phosphorus in the Fernan Creek watershed. Soil samples were taken from 51 sites in the watershed and analyzed for extractable soil phosphorus. While there was high variability in the study, the two biggest sources were from grasslands and forests. Wetlands were determined to have the lowest extractable phosphorus (under aerobic conditions).

Another study using WEPP modeling looked at wildfire severity in the Fernan Lake watershed. Much of the land was rated with a high burn severity. Sediment yield from those high-severity areas could be significant. However, if prescribed burning were to be implemented in the watershed, the wildfire and sediment yield risk could be reduced significantly.

Another study looked at the long-term variability of sediment yield in the Fernan Lake watershed and whether land use has significantly affected delivery of sediment.

Last, the U of I conducted hedonic modeling for estimating economic value of amenities/benefits that directly affect market prices. Property values of lakefront property on Lake CDA were modeled with two indicators of water quality: water clarity (Secchi depth) and the presence/absence of milfoil. The results of the modeling show there is a larger decrease in mean property values as water clarity worsens. Also, the presence of milfoil significantly affects mean property values.

Western Watershed Grant Update, Bob Flagor, Kootenai-Shoshone Soil and Water Conservation District

The Kootenai-Shoshone Soil and Water Conservation District was awarded the second in a \$240,000 grant to conduct a watershed assessment and implement forestry plans and education in the Wolf Lodge, Blue Creek, and Fernan Creek watersheds. Lidar was flown in the fall 2014. Results are expected any day. Bob and Mark Hogan (Idaho Soil and Water Conservation Commission) did a culvert inventory this summer in Wolf Lodge, Blue Creek, and Fernan Creek watersheds. While the technical aspect of this grant continues toward the production of a watershed action plan, Bob is planning education and outreach with Jim Ekins, University of Idaho Extension Water Quality Educator, and Chris Schnepf, University of Idaho Extension Forester.

Next WAG meeting

The WAG decided to meet every other month. The next meeting will be February 1st from 9:00 – 12:00 at Idaho Department of Environmental Quality CDA Regional Office, Osprey Room.