

**Report of activities, Turbidity, Suspended Sediment and Water Quality Monitoring, FIA project
4745001**

BC Ministry of Forests and Range, Southern Interior Forest Region, Nelson
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This report covers water quality sampling and analysis and related tasks, on Redfish and Sitkum Creeks, Kootenay Lake Forest District, in fiscal 2007-08.

The following standards were used for the sampling and analysis program:

- Guidelines for Interpreting Water Quality Data, Version 1.0, Prepared by Ministry of Environment, Lands and Parks, 1998
- Ambient Freshwater and Effluent Sampling Manual, Prepared by Resource Inventory Standards committee, 1997
- Guidelines for Designing and Implementing a Water Quality Monitoring Program in British Columbia, Volume 1.0, Prepared by Ministry of Environment, Lands and Parks, 1998

Water samples were collected at four locations:

- Redfish Creek at Water Survey of Canada station 08NJ061 – water quality, turbidity, and suspended sediment concentration
- Laird Creek at Beggs Road – turbidity and suspended sediment concentration
- a headwaters tributary of Redfish Creek – turbidity and suspended sediment concentration
- Sitkum Creek – water quality.

Samples at the two Redfish Creek sites were collected from April through November, with an ISCO automatic pump sampler, daily during the snowmelt runoff period, and every 3 days for the remainder of the season. At Laird Creek, samples were collected manually. Additional samples for water quality analysis were collected manually at Redfish Creek and Sitkum Creek, at intervals of about 2 months during the winter.

Samples were sent to three labs:

- Maxxam Analytics Inc. lab, Burnaby, BC for water quality analysis
- Ministry of Forests and Range research lab, Victoria, BC for suspended sediment concentration
- Environment Canada lab in Edmonton, Alberta for quality control samples, turbidity and suspended sediment concentration.

Samples were analysed in our own lab for turbidity using a Hach 2100N turbidimeter, and electrical conductivity using a YSI 30 conductivity meter.

The sampling program in Redfish and Laird Creeks is intended to continue the 15-year study of streamflow, turbidity, and suspended sediment concentration in the West Arm Demonstration Forest, and to monitor possible impacts of forest development in Laird Creek. Midway through

the year, sampling in Sitkum Creek was begun to monitor the effects of the 2007 Sitkum fire on the water quality of the Sitkum Creek community watershed.

The number of samples collected and analysed were:

creek	total	turbidity	suspended sediment	water quality
Redfish at WSC station	99	99	42	3
Upper Redfish tributary	93	93	46	
Laird	48	48	20	
Sitkum	16	16	0	3

In addition, 9 quality control samples were prepared and sent to three different labs for analysis of turbidity, suspended sediment concentration, and conductivity.

The accompanying data files are the raw data as received from the lab. A data summary in the format required by BC Ministry of Environment will be prepared in the next few weeks.

1. WADF_Turbidity_2007.xls – turbidity and conductivity data, from our lab
2. BCFSLabReport_2007.xls – Suspended sediment concentration data, BC Ministry of Forests and Range research lab
3. 21122007maxxam.pdf and 17032008maxxam.pdf – Water quality data, Maxxam Analytics Inc.

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