

## **White River Watershed**

The White River, with a drainage area of about 50,504 square kilometres, adds vast amounts of silt and sediment from glacier and mountain runoff to Yukon River. Many large tributary rivers and streams flow into the catchment area of the White River basin. The confluence of the White River with the Yukon River creates the point that delineates the Yukon River North from the Yukon River South

In 2008, while making routine inspections in the White River area, CS&I staff collected 9 grab samples for water quality monitoring at 7 different locations in the basin.

In 2008, the effluent discharge standards for the White River Basin were those set under the existing *Yukon Placer Authorization*. Beginning in 2009, the effluent standards for all 19 separate watersheds in the Yukon, including the White River, will be set under the *Fish Habitat Management System*. The *Fish Habitat Management System* replaces the YPA with approximately 19 separate watershed authorizations, each of which are class authorizations under Section 35(2), governing placer mining in specific drainage basins.

### **Site Codes and Global Position of Water Quality Sampling Locations in the White River Watershed**

<b>SITE CODE</b>	<b>LOCATION</b>	<b>LAT_Y</b>	<b>LONG_X</b>
W 01	White River mouth	63.19370	-139.59580
W ARC 01	Arch Creek mouth	61.49255	-139.72307
W BUR 01	Burwash Creek Below All Mining (BAM)	61.44270	-139.21507
W DISC 01	Discovery Creek Mouth	62.07384	-137.22852
W DISC 03	Discovery Creek Above All Mining (AAM)	62.07954	-137.18932
W DOLL 02	Dolly Creek Below All Mining (BAM)	62.06233	-137.22121
W DOLL 03	Dolly Creek Above All Mining (AAM)	62.06499	-137.21320
W DON 01	Donjek River at hwy bridge	61.67894	-139.75711
W DUK 01	Duke River	61.37777	-139.13460
W GLAD 01	Gladstone Creek mouth	61.31580	-138.64999
W NAN 01	Nansen Creek mouth	61.98049	-137.19904
W NAN 02	Nansen Creek Below All Mining (BAM)	61.98052	-137.19963
W NAN 03	Nansen Creek East fork Above All Mining (AAM)	62.09598	-137.19000
W NISL 02	Nisling River d/s of Klaza River	62.09641	-138.49236
W NISL 03	Nisling River d/s of Nansen Creek at class change	61.84616	-137.47952
W NISL 04	Nisling River u/s Nansen Creek	61.98049	-137.19904
W QUIL 01	Quill Creek Below All Mining (BAM)	61.50624	-139.33156
W SAN 01	Sanpete Creek mouth	62.08206	-140.76778
W SWJ 01	Swede Johnson Creek Below All Mining (BAM)	61.59196	-139.42787
W VIC 02	Victoria Creek left fork Below All Mining (BAM)	62.02619	-137.05630
W VIC 03	Victoria Creek left fork Above All Mining (AAM)	62.09759	-137.14679

## **Water Quality Objective monitoring, White River Watershed – Summary**

The overall water quality in the basin, met the minimum objectives set under the *Fish Habitat Management System* throughout the monitoring season. On those occasions when the WQO were not met and the Total Suspended Solids levels were greater than the objectives, there is a direct correlation to environmental conditions influencing the amount of solids concentrations in the water.

In all cases, rain fall, either as localised events or basin wide occurrences, increased the amount of surface run off and subsequent soil erosion from the land, increasing the input of sediment into the receiving waters. These increases occurred simultaneously at the time of the rain event or immediately in a period of one or two days after the rain event, as surface water continued draining from the land and ground water infiltrated the water course.

Increases in sediment laden ground and surface water entering the system add to the amount of sediment in the water. The ability of the receiving water to dilute these inputs of sediment is negated by the re-suspension of stream bed material and by the further erosion of the streams banks that occurs along with the increased flows that are generated by the aftermath of these rain events.

All of these factors; precipitation leading to increased sediment input and increased flows from these rain events re-suspending and further eroding material, lead to an increase in suspended solids concentrations and a decrease in water quality.