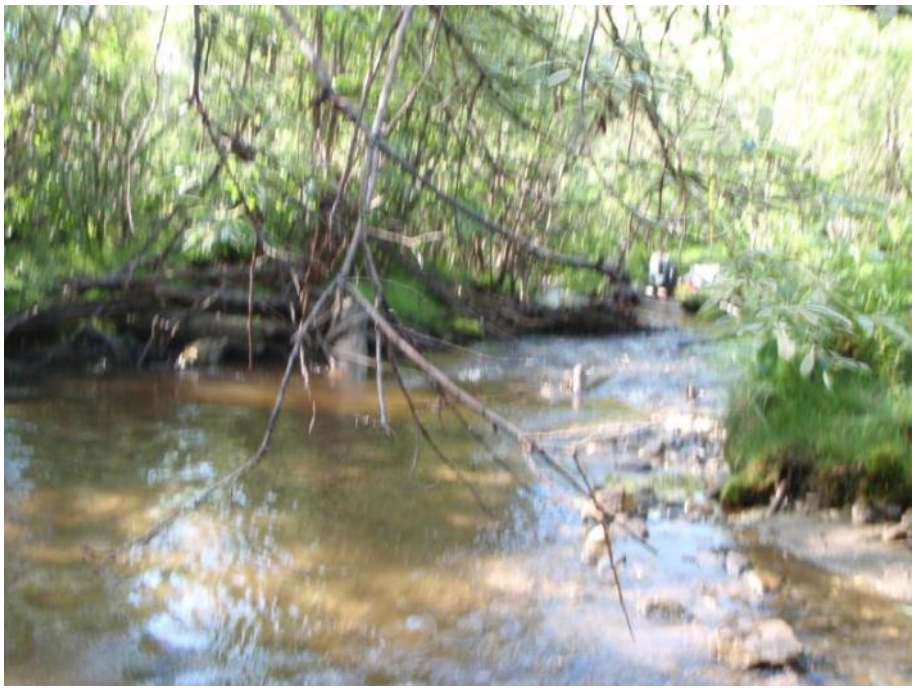
Site Assessment Report 2014 – YPS-570

Site Data

Site	YPS-570
Sample Date	Jul 21 2014
Latitude	62.91865 N
Longitude	139.95653 W
Altitude	1433
Feature Name	Ballarat Creek
Stream Order	4

Site Photograph - Downstream view



Context Map

Refer to Yukon River South Watershed Aquatic Health Monitoring Sites 2014 map.

Site Sampling History

This site was also sampled in 2016.

Assignment of the Test Site to a Group

The test site is assigned to a benthic insect community group (Group) based on the 2013 Yukon CABIN model (BEAST Prediction Results). The site is assigned to the Group for which it has the highest probability of belonging based on habitat attributes.

Predictor Variables	Altitude (ft), Longitude, LC-Bryoids (%), LC-Broadleaf open (%), LC-Mixed wood open (%), LC-Wetland herbaceous (%), Precipitation Feb (mm), Precipitation March (mm), Precipitation June (mm), Precipitation July (mm), Rainfall June (mm), April Max temp (C), Average Depth (cm), Average Velocity (m/s)				
Predicted Group	4				
Group	1	2	3	4	5
Probability that the site belongs to each Group	23.3%	22.2%	12.3%	41.2%	1.0%

Habitat Attributes of Site

This table reports on how the habitat predictor variables measured at the test site compare to the mean habitat predictor variables for the reference sites in the same group.

Variable	Site	Reference Mean	Reference SD
Longitude	-139.96	-137.45	2.65
Altitude (ft)	1433	2296.81	838.01
Depth-Avg (cm)	21.70	29.80	14.62
Velocity-Avg (m/s)	0.43	0.52	0.32
Precip. FEB (mm)	36.68	29.34	11.79
Precip. MAR (mm)	35.92	27.46	11.91
Precip. JUN (mm)	58.32	53.49	18.49
Precip. JUL (mm)	75.08	65.85	22.37
Rainfall JUN (mm)	55.11	48.44	16.06
April Max Temp (C)	-2.25	-0.98	3.38
Broadleaf Open (%)	0.97	0.38	1.31
Bryoids (%)	0.68	0.54	1.04
Mixedwood Open (%)	1.81	0.77	2.87
Wetland Herb (%)	0.00	0.14	0.46

Summary Results of the Benthic Invertebrate Data

The table presents the summary values of the benthic community of the test site compared to expected values and the average benthic community of the reference sites.

	Test Site	Reference Average	Reference Standard Deviation	Expected Families (RIVPACS)
Total Abundance	229.00	2059.44	1572.86	
Total No. of Taxa	12.00	12.95	4.37	11.6

This table shows how the benthic community of the test site compares to the average of the reference sites to which it is being compared. Both the presence of certain families and their abundance (the number of individuals found) are compared.

Family (bold = characteristic of group)	RIVPACS Prediction (probability)	Test Site (# of individuals)	Reference Average	Reference Standard Deviation
Chironomidae	0.98	87	911	827
Baetidae	0.75	27	233	309
Simuliidae	0.74	4	207	367
Nemouridae	0.72	17	130	184
Heptageniidae	0.62	17	120	216
Sperchontidae	0.52	0	35	60
Tipulidae	0.51	7	19	41

Using the predictive model with the RIVAPCS weighted probability of the sites predicted membership, we would expect 11.6 families at this site, but 12 families were observed.

Total abundance is below average for this group and outside the normal range. Richness (total number of families) is as expected.

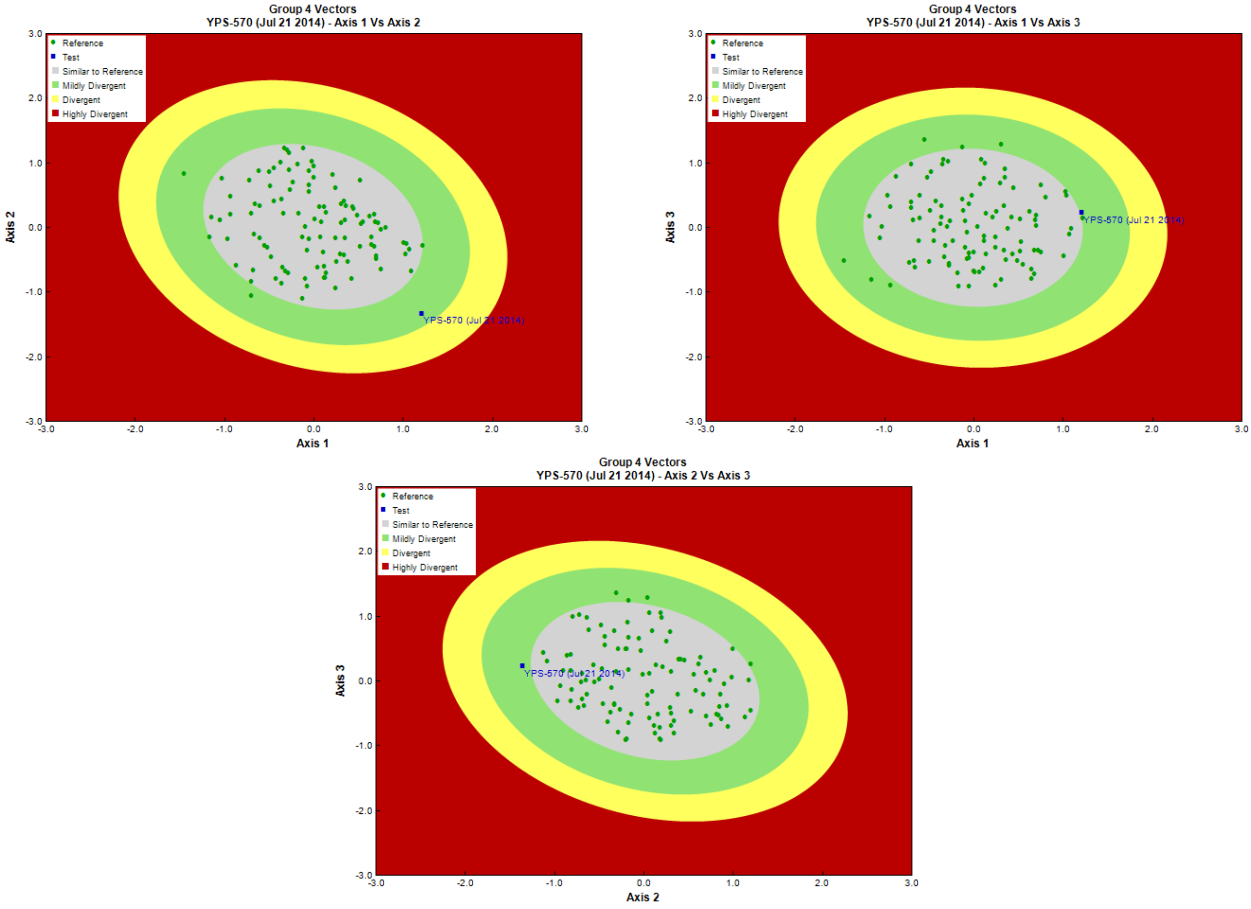
Of the 7 families expected to occur (P>0.5), 1 (Sperchontidae) was absent.

All of the five families characteristic of the group to which this site was predicted were present.

Visual Reports on Site Condition

This figure displays three site assessment graphs which show the site relative to the group of reference sites to which it is compared. The three axes (or vectors) represent three dimensional space, and the probability bands (from center) are 75 - 90% (Similar to Reference), 90 – 99% (Mildly Divergent from Reference), 99 – 99.9% (Divergent from Reference), and outside 99.9% (Highly Divergent from Reference).

A 0-75% probability band was provided in past annual monitoring reports. Programming is currently being developed in order to incorporate this function into the CABIN model, however at this time the 0-75% band cannot be included here.



Assessment of Overall Site Condition

Vector 1 vs Vector 2	Mildly Divergent from Reference Condition
Vector 1 vs Vector 3	Mildly Divergent from Reference Condition
Vector 2 vs Vector 3	Mildly Divergent from Reference Condition
Overall	Mildly Divergent from Reference Condition

Using CABIN, YPS-570 is assessed as Mildly Divergent from Reference Condition.