

**Site Description**

<b>Study Name</b>	CBWQ-Central Kootenay
<b>Site</b>	NGJOS03
<b>Sampling Date</b>	Oct 22 2008
<b>Know Your Watershed Basin</b>	Central Kootenay
<b>Province / Territory</b>	British Columbia
<b>Terrestrial Ecological Classification</b>	Montane Cordillera EcoZone Southern Rocky Mountain Trench EcoRegion
<b>Coordinates (decimal degrees)</b>	49.57722 N, 115.75861 W
<b>Altitude</b>	2739
<b>Local Basin Name</b>	Joseph Creek
	St. Mary River
<b>Stream Order</b>	3



Figure 1. Location Map

Across Reach  
Aerial (No image found)



Down Stream

A photograph of a field sheet form. The form is titled "CABIN Field Sheet" and includes fields for "Field Crew", "Site Code", "Sampling Date (MM/YY)", "GAGC site", "Site Inspection Sheet Completed", "Primary Site Data", "CABIN Study Name", "Watershed", "CABIN Basin name", "Geographical description", and "Surrounding Land Use". Handwritten notes include "No Sess 05" in the top right corner, "10/20/10" for the sampling date, "Southern Rocky Mtn. Trench" for the basin name, and "Kootenay" for the watershed. A logo for "ORAN" is visible on the right side of the form.

Field Sheet

Miscellaneous (No image found)



Substrate



Up Stream

**Cabin Assessment Results**

<b>Reference Model Summary</b>					
<b>Model</b>	Columbia-Okanagan Preliminary March 2010				
<b>Analysis Date</b>	July 29, 2013				
<b>Taxonomic Level</b>	Family				
<b>Predictive Model Variables</b>	Depth-Avg Latitude Longitude Reg-Ice SlopeLT30%				
<b>Reference Groups</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Number of Reference Sites</b>	9	43	17	12	33
<b>Group Error Rate</b>	22.2%	24.5%	22.2%	25.0%	32.4%
<b>Overall Model Error Rate</b>	26.4%				
<b>Probability of Group Membership</b>	0.0%	47.6%	50.8%	1.4%	0.1%
<b>CABIN Assessment of NGJOS03 on Oct 22, 2008</b>	Divergent				

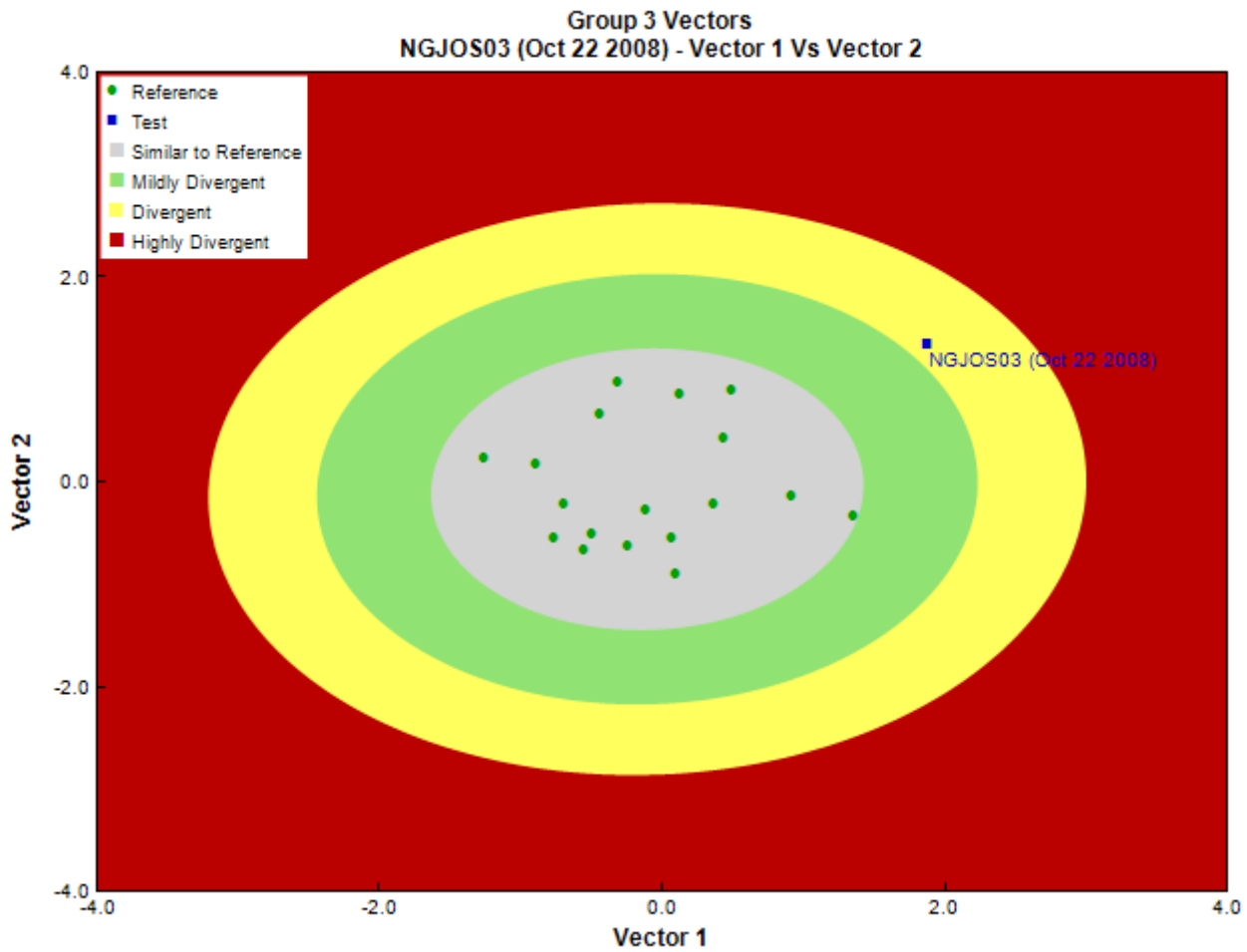


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**Sample Information**

<b>Sampling Device</b>	Kick Net
<b>Mesh Size</b>	400
<b>Sampling Time</b>	3
<b>Taxonomist</b>	Dave Langill, EcoAnalysts, Inc.
<b>Date Taxonomy Completed</b>	October 15, 2008
	Marchant Box
<b>Sub-Sample Proportion</b>	2/100

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count	
Arthropoda	Insecta	Coleoptera	Elmidae	20	1,000.0	
			Diptera	Chironomidae	57	2,850.0
				Empididae	1	50.0
			Psychodidae	1	50.0	
			Tipulidae	5	250.0	
		Ephemeroptera	Baetidae	143	7,150.0	
			Ephemerellidae	153	7,650.0	
			Heptageniidae	1	50.0	
		Plecoptera	Nemouridae	3	150.0	
			Perlidae	2	100.0	
		Trichoptera	Brachycentridae	6	300.0	
			Lepidostomatidae	51	2,550.0	
			<b>Total</b>	<b>443</b>	<b>22,150.0</b>	

**Metrics**

Name	NGJOS03	Predicted Group Reference Mean $\pm$ SD
<b>Bray-Curtis Distance</b>	0.92	0.4 $\pm$ 0.2
<b>Number Of Individuals</b>		
% Chironomidae	12.8	8.2 $\pm$ 13.6
% Ephemeroptera	66.9	43.5 $\pm$ 15.9
% Ephemeroptera that are Baetidae	48.1	33.9 $\pm$ 27.7
% of 2 dominant taxa	66.7	59.2 $\pm$ 10.0
% of dominant taxa	34.5	39.7 $\pm$ 10.9
% Plecoptera	1.1	34.8 $\pm$ 17.8
% Trichoptera	12.8	6.9 $\pm$ 8.6
No. EPT individuals/Chironomids+EPT Individuals	0.9	0.9 $\pm$ 0.1
<b>Total Abundance</b>	22200.0	5757.3 $\pm$ 4889.9
<b>Richness</b>		
Ephemeroptera taxa	3.0	3.4 $\pm$ 0.5
EPT taxa (no)	7.0	11.5 $\pm$ 1.2
Plecoptera taxa	2.0	5.3 $\pm$ 0.9
Shannon-Wiener Diversity	1.6	1.9 $\pm$ 0.3
Simpson's Diversity	0.7	0.8 $\pm$ 0.1
<b>Total No. of Taxa</b>	13.0	17.1 $\pm$ 2.4
Trichoptera taxa	2.0	2.8 $\pm$ 1.0

**Frequency and Probability of Taxa Occurrence**

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NGJOS03
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.91
Ephemerellidae	78%	100%	100%	100%	100%	1.00
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.85
Nemouridae	100%	100%	100%	100%	100%	1.00
Perlodidae	78%	78%	89%	92%	81%	0.84
Psychodidae	22%	65%	94%	8%	11%	0.79
Rhyacophilidae	100%	92%	100%	100%	95%	0.96
Taeniopterygidae	89%	49%	100%	92%	97%	0.76

**RIVPACS Ratios**

<b>RIVPACS : Expected taxa P&gt;0.50</b>	13.49
<b>RIVPACS : Observed taxa P&gt;0.50</b>	9.00
<b>RIVPACS : O:E (p &gt; 0.5)</b>	0.67
<b>RIVPACS : Expected taxa P&gt;0.70</b>	10.10
<b>RIVPACS : Observed taxa P&gt;0.70</b>	6.00
<b>RIVPACS : O:E (p &gt; 0.7)</b>	0.59

**Habitat Description**

Variable	NGJOS03	Predicted Group Reference Mean $\pm$ SD
<b>Channel</b>		
Depth-Avg (cm)	16.6	22.5 $\pm$ 10.5
Depth-BankfullMinusWetted (cm)	41.00	26.00 $\pm$ 4.24
Depth-Max (cm)	18.0	32.9 $\pm$ 17.9
Discharge (m <sup>3</sup> /s)	0.250	0.000 $\pm$ 0.000
Macrophyte (PercentRange)	0	0 $\pm$ 0
Reach-%CanopyCoverage (PercentRange)	0.00	0.94 $\pm$ 0.80
Reach-Pools (Binary)	0	0 $\pm$ 1
Reach-Rapids (Binary)	0	0 $\pm$ 1
Reach-Riffles (Binary)	1	1 $\pm$ 0
Reach-StraightRun (Binary)	1	1 $\pm$ 0
Slope (m/m)	0.0120000	0.0235102 $\pm$ 0.0284557
Veg-Coniferous (Binary)	0	1 $\pm$ 0

## Habitat Description

Variable	NGJOS03	Predicted Group Reference Mean $\pm$ SD
Veg-Deciduous (Binary)	1	1 $\pm$ 0
Veg-Grasses (Binary)	1	1 $\pm$ 0
Veg-Shrubs (Binary)	0	1 $\pm$ 0
Velocity-Avg (m/s)	0.38	0.51 $\pm$ 0.25
Velocity-Max (m/s)	0.43	0.75 $\pm$ 0.28
Width-Bankfull (m)	5.5	15.6 $\pm$ 12.8
Width-Wetted (m)	4.0	10.2 $\pm$ 7.0
<b>Landcover</b>		
Reg-Ice (%)	0.00000	0.46949 $\pm$ 1.15785
<b>Substrate Data</b>		
Dominant-1st (Category(0-9))	5	6 $\pm$ 2
Dominant-2nd (Category(0-9))	4	6 $\pm$ 2
Embeddedness (Category(1-5))	4	4 $\pm$ 1
PeriphytonCoverage (Category(1-5))	2	2 $\pm$ 1
SurroundingMaterial (Category(0-9))	2	4 $\pm$ 2
<b>Topography</b>		
SlopeLT30% (%)	85.87000	27.92073 $\pm$ 14.83033
<b>Water Chemistry</b>		
Ag (mg/L)	0.0000100	0.0000004 $\pm$ 0.0000014
Al (mg/L)	0.1630000	0.0059500 $\pm$ 0.0039700
As (mg/L)	0.0006000	0.0002175 $\pm$ 0.0001795
B (mg/L)	0.0250000	0.0500000
Ba (mg/L)	0.0580000	0.0639025 $\pm$ 0.0450861
Be (mg/L)	0.0000500	0.0000025 $\pm$ 0.0000062
Bi (mg/L)	0.0005000	0.0000004 $\pm$ 0.0000014
Ca (mg/L)	50.9000000	38.6142857 $\pm$ 14.8464843
Cd (mg/L)	0.0000050	0.0000059 $\pm$ 0.0000067
Co (mg/L)	0.0002500	0.0000043 $\pm$ 0.0000057
Cr (mg/L)	0.0005000	0.0000833 $\pm$ 0.0001403
Cu (mg/L)	0.0013000	0.0001875 $\pm$ 0.0001434
Fe (mg/L)	0.2980000	0.0090000
General-Alkalinity (mg/L)	170.0000000	121.5944444 $\pm$ 36.7225924
General-Conductivity ( $\mu$ S/cm)	400.0000000	186.8500000 $\pm$ 84.0864011
General-DO (mg/L)	14.0000000	10.4922222 $\pm$ 0.8833463
General-Hardness (mg/L)	199.0000000	146.8222222 $\pm$ 41.6699011
General-pH (pH)	8.3	8.0 $\pm$ 0.6
General-SolidsTSS (mg/L)	7.0000000	0.5604289 $\pm$ 1.4627232
General-TempAir (Degrees Celsius)	9.5	10.5 $\pm$ 4.2
General-TempWater (Degrees Celsius)	9.3000000	6.8794444 $\pm$ 1.7335020
Hg (ng/L)	0.0001000	0.0000000 $\pm$ 0.0000000
K (mg/L)	2.3800000	0.6471429 $\pm$ 0.7154652
Li (mg/L)	0.0025000	0.0011817 $\pm$ 0.0004768
Mg (mg/L)	17.6000000	9.8814286 $\pm$ 6.1601202
Mn (mg/L)	0.0130000	0.0011426 $\pm$ 0.0016097
Mo (mg/L)	0.0005000	0.0024883 $\pm$ 0.0065339
Na (mg/L)	19.0000000	2.6357143 $\pm$ 3.7712414
Ni (mg/L)	0.0005000	0.0000808 $\pm$ 0.0000811
Nitrogen-TN (mg/L)	0.5000000	0.0688889 $\pm$ 0.0759171
Pb (mg/L)	0.0008000	0.0000224 $\pm$ 0.0000176
Phosphorus-TP (mg/L)	0.0250000	0.0032778 $\pm$ 0.0061816
S (mg/L)	1.5000000	5.0000000
Sb (mg/L)	0.0002500	0.0000361 $\pm$ 0.0000135
Se (mg/L)	0.0000500	0.0004382 $\pm$ 0.0004486
Si (mg/L)	5.1600000	3.0657143 $\pm$ 1.4070046
Sn (mg/L)	0.0025000	0.0000167 $\pm$ 0.0000078
Sr (mg/L)	0.1140000	0.1159167 $\pm$ 0.0982749
Ti (mg/L)	0.0080000	0.0009000
Tl (mg/L)	0.0000250	0.0000038 $\pm$ 0.0000064
U (mg/L)	0.0012000	0.0005298 $\pm$ 0.0003220
V (mg/L)	0.0025000	0.0001642 $\pm$ 0.0001203
Zn (mg/L)	0.0060000	0.0004083 $\pm$ 0.0008361
Zr (mg/L)	0.0002500	0.0000000 $\pm$ 0.0000000