

**Site Description**

<b>Study Name</b>	CBWQ-Arrow
<b>Site</b>	NESNO01
<b>Sampling Date</b>	Oct 01 2012
<b>Know Your Watershed Basin</b>	Central Columbia
<b>Province / Territory</b>	British Columbia
<b>Terrestrial Ecological Classification</b>	Montane Cordillera EcoZone Columbia Mountains and Highlands EcoRegion
<b>Coordinates (decimal degrees)</b>	49.96833 N, 117.88336 W
<b>Altitude</b>	1670
<b>Local Basin Name</b>	Snow Cr.
	Columbia River
<b>Stream Order</b>	5



Figure 1. Location Map

Across Reach  
Aerial (No image found)



Down Stream

Field Sheet

Field Crew: *C. Jackson, H. Dornier* Site Code: *RCBA*  
Sampling Date: (DDMMYYYY) *10/1/2017*

Occupational Health & Safety: Site Inspection Sheet completed

PRIMARY SITE DATA  
Cabin Study Name: *Cabin RCBA* Local Basin Name: \_\_\_\_\_  
River/Stream Name: \_\_\_\_\_ Stream Order (app scale 1-10,000): \_\_\_\_\_

Select one  Test Site  Potential Reference Site

Geographical Description/Notes  
Surrounding Land Use (check those present) Information Source: *Local*  
 Forest  Pasture  Agriculture  Residential/Urban  
 Logging  Mining  Commercial/Industrial  Other \_\_\_\_\_  
Upstream Surrounding Land Use (check those present) Information Source: *Local*  
 Forest  Pasture  Agriculture  Residential/Urban  
 Logging  Mining  Commercial/Industrial  Other \_\_\_\_\_

Location Data  
Latitude: \_\_\_\_\_ N Longitude: \_\_\_\_\_ W (DMS or DD)  
Elevation: \_\_\_\_\_ (ft or m) GPS Status:  Initial assessment  Other \_\_\_\_\_

Site Location Map Drawing  
*Hand-drawn map showing a stream with labels 'Cabin RCBA' and '10/1/2017'.*

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>	August 11, 2017				
<b>Taxonomic Level</b>	Family				
<b>Predictive Model Variables</b>	Depth-Avg Latitude Longitude Reg-Ice Reg-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>	0.1%	3.8%	5.2%	72.3%	18.6%
<b>CABIN Assessment of NESNO01 on Oct 01, 2012</b>	Mildly Divergent				

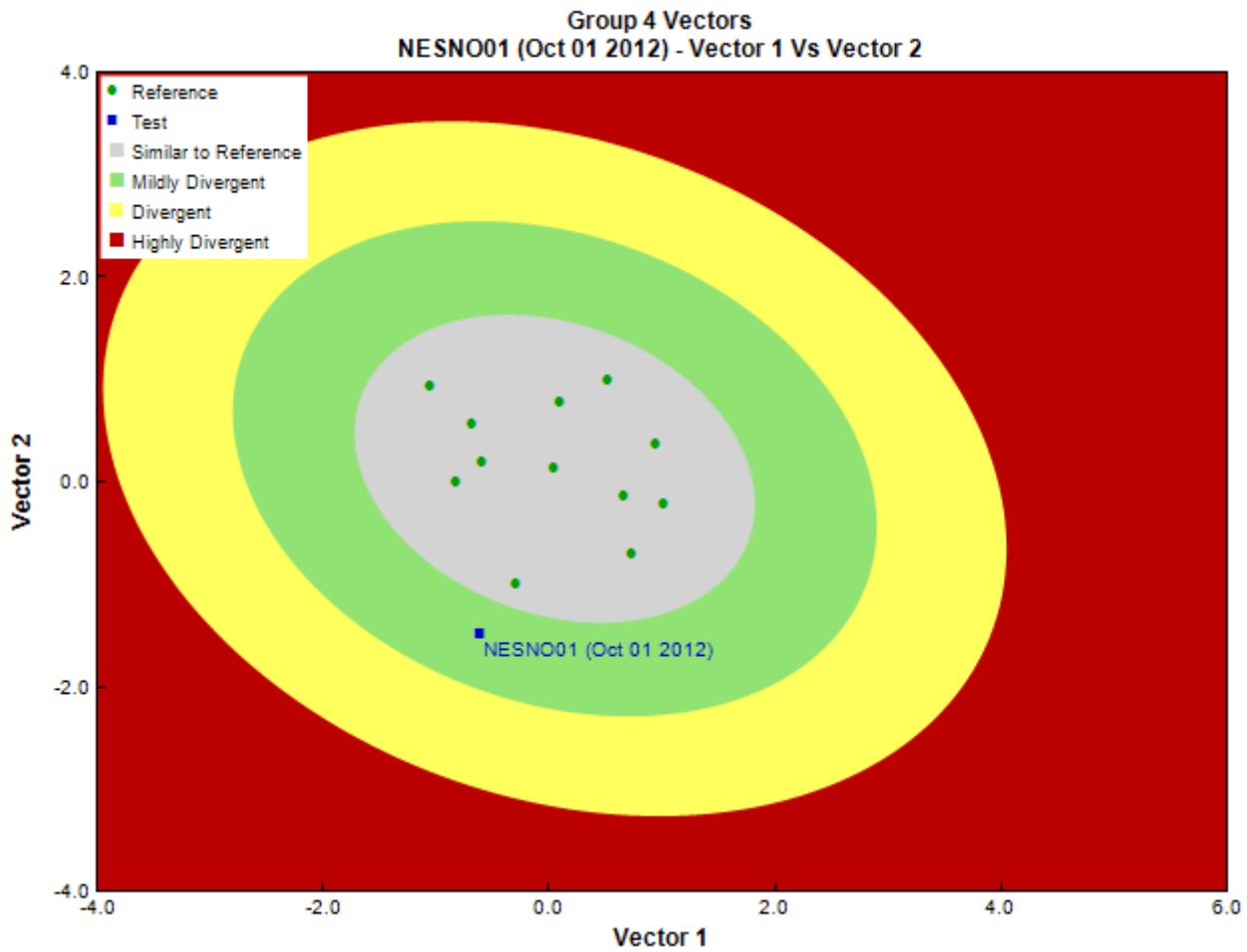


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**Sample Information**

<b>Sampling Device</b>	Kick Net
<b>Mesh Size</b>	400
<b>Sampling Time</b>	3
<b>Taxonomist</b>	Eco Analsyts, EcoAnalysts
<b>Date Taxonomy Completed</b>	February 13, 2013
	Marchant Box
<b>Sub-Sample Proportion</b>	6/100

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count	
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	14	233.3	
		Insecta	Coleoptera	Elmidae	3	50.0
	Diptera		Ceratopogonidae	4	66.7	
			Chironomidae	8	133.3	
			Psychodidae	4	66.7	
	Ephemeroptera		Tipulidae	1	16.7	
			Ameletidae	2	33.3	
			Baetidae	26	433.3	
			Ephemerellidae	29	483.3	
			Heptageniidae	95	1,583.3	
			Plecoptera	Chloroperlidae	12	200.0
				Leuctridae	2	33.3
				Nemouridae	6	100.0
	Perlodidae			10	166.7	
					Taeniopterygidae	100

## Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
		Trichoptera	Glossosomatidae	1	16.7
			Hydropsychidae	1	16.7
			Rhyacophilidae	12	200.0
			Total	330	5,500.0

## Metrics

Name	NESNO01	Predicted Group Reference Mean $\pm$ SD
Bray-Curtis Distance	0.85	0.4 $\pm$ 0.1
<b>Biotic Indices</b>		
Hilsenhoff Family index (North-West)	3.0	3.2 $\pm$ 0.3
Intolerant taxa	--	
Long-lived taxa	1.0	2.1 $\pm$ 1.0
Tolerant individuals (%)	--	0.8 $\pm$ 0.3
<b>Functional Measures</b>		
% Filterers	0.3	2.2 $\pm$ 1.8
% Gatherers	51.2	38.4 $\pm$ 12.4
% Predatores	18.5	19.0 $\pm$ 8.5
% Scrapers	73.0	63.2 $\pm$ 19.7
% Shredder	33.9	27.6 $\pm$ 15.2
No. Clinger Taxa	12.0	23.2 $\pm$ 6.3
<b>Number Of Individuals</b>		
% Chironomidae	2.4	7.4 $\pm$ 6.4
% Coleoptera	0.9	1.5 $\pm$ 3.9
% Diptera + Non-insects	9.4	10.8 $\pm$ 7.6
% Ephemeroptera	46.1	51.7 $\pm$ 18.8
% Ephemeroptera that are Baetidae	17.1	40.6 $\pm$ 30.0
% EPT Individuals	89.7	87.7 $\pm$ 7.4
% Odonata	--	0.0 $\pm$ 0.0
% of 2 dominant taxa	59.1	57.9 $\pm$ 14.2
% of 5 dominant taxa	80.0	81.6 $\pm$ 7.9
% of dominant taxa	30.3	39.8 $\pm$ 14.9
% Plecoptera	39.4	31.4 $\pm$ 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	7.1	27.0 $\pm$ 26.2
% Tricoptera	4.2	4.5 $\pm$ 2.8
No. EPT individuals/Chironomids+EPT Individuals	1.0	0.9 $\pm$ 0.1
Total Abundance	5499.9	587.4 $\pm$ 299.1
<b>Richness</b>		
Chironomidae taxa (genus level only)	1.0	1.0 $\pm$ 0.0
Coleoptera taxa	1.0	0.4 $\pm$ 0.5
Diptera taxa	4.0	3.3 $\pm$ 1.0
Ephemeroptera taxa	4.0	3.8 $\pm$ 0.8
EPT Individuals (Sum)	4933.3	526.0 $\pm$ 285.8
EPT taxa (no)	12.0	13.3 $\pm$ 2.7
Odonata taxa	--	0.0 $\pm$ 0.0
Pielou's Evenness	0.7	0.7 $\pm$ 0.1
Plecoptera taxa	5.0	6.3 $\pm$ 1.1
Shannon-Wiener Diversity	2.0	1.9 $\pm$ 0.4
Simpson's Diversity	0.8	0.8 $\pm$ 0.1
Simpson's Evenness	0.3	0.3 $\pm$ 0.1
Total No. of Taxa	18.0	19.3 $\pm$ 3.7
Trichoptera taxa	3.0	3.2 $\pm$ 1.4

## Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESNO01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	0.99
Capniidae	78%	55%	50%	92%	68%	0.84
Chironomidae	100%	100%	100%	100%	95%	0.99
Chloroperlidae	78%	88%	94%	100%	100%	0.99

**Frequency and Probability of Taxa Occurrence**

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESNO01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ephemerellidae	78%	100%	100%	100%	100%	1.00
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.90
Nemouridae	100%	100%	100%	100%	100%	1.00
Perlidae	11%	84%	33%	100%	3%	0.78
Perlodidae	78%	78%	89%	92%	81%	0.89
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.92

**RIVPACS Ratios**

<b>RIVPACS : Expected taxa P&gt;0.50</b>	13.66
<b>RIVPACS : Observed taxa P&gt;0.50</b>	13.00
<b>RIVPACS : O:E (p &gt; 0.5)</b>	0.95
<b>RIVPACS : Expected taxa P&gt;0.70</b>	11.28
<b>RIVPACS : Observed taxa P&gt;0.70</b>	10.00
<b>RIVPACS : O:E (p &gt; 0.7)</b>	0.89

**Habitat Description**

Variable	NESNO01	Predicted Group Reference Mean $\pm$ SD
<b>Bedrock Geology</b>		
<b>Channel</b>		
<b>XSEC-VelMethod (Category (1-3))</b>	1	1 $\pm$ 0
<b>Climate</b>		
<b>Hydrology</b>		
<b>Landcover</b>		
<b>Substrate Data</b>		
<b>Topography</b>		
<b>Water Chemistry</b>		