

**Site Description**

<b>Study Name</b>	CBWQ-Slocan
<b>Site</b>	NJNIX01
<b>Sampling Date</b>	Oct 05 2010
<b>Know Your Watershed Basin</b>	Slocan
<b>Province / Territory</b>	British Columbia
<b>Terrestrial Ecological Classification</b>	Montane Cordillera EcoZone Columbia Mountains and Highlands EcoRegion
<b>Coordinates (decimal degrees)</b>	49.68917 N, 117.51361 W
<b>Altitude</b>	1707
<b>Local Basin Name</b>	Slocan
	Slocan
<b>Stream Order</b>	1



Figure 1. Location Map

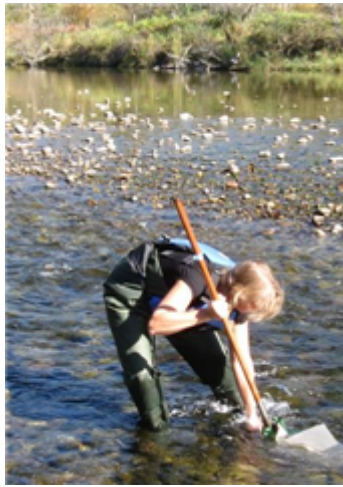
Across Reach (No image found)

Aerial (No image found)



Down Stream

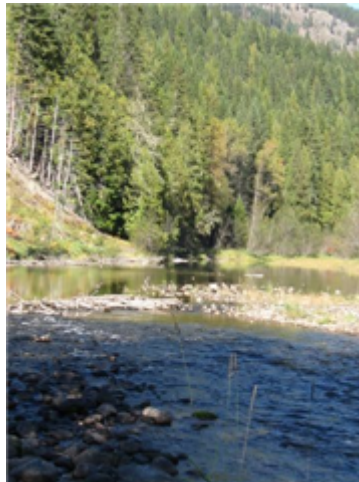
Field Sheet (No image found)



Miscellaneous



Substrate



Up Stream

### Cabin Assessment Results

Reference Model Summary	
<b>Model</b>	Columbia-Okanagan Preliminary March 2010
<b>Analysis Date</b>	September 15, 2017
<b>Taxonomic Level</b>	Family

**Cabin Assessment Results**

<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>	5.1%	5.4%	8.9%	73.7%	7.0%
<b>CABIN Assessment of NJNIX01 on Oct 05, 2010</b>	Mildly Divergent				

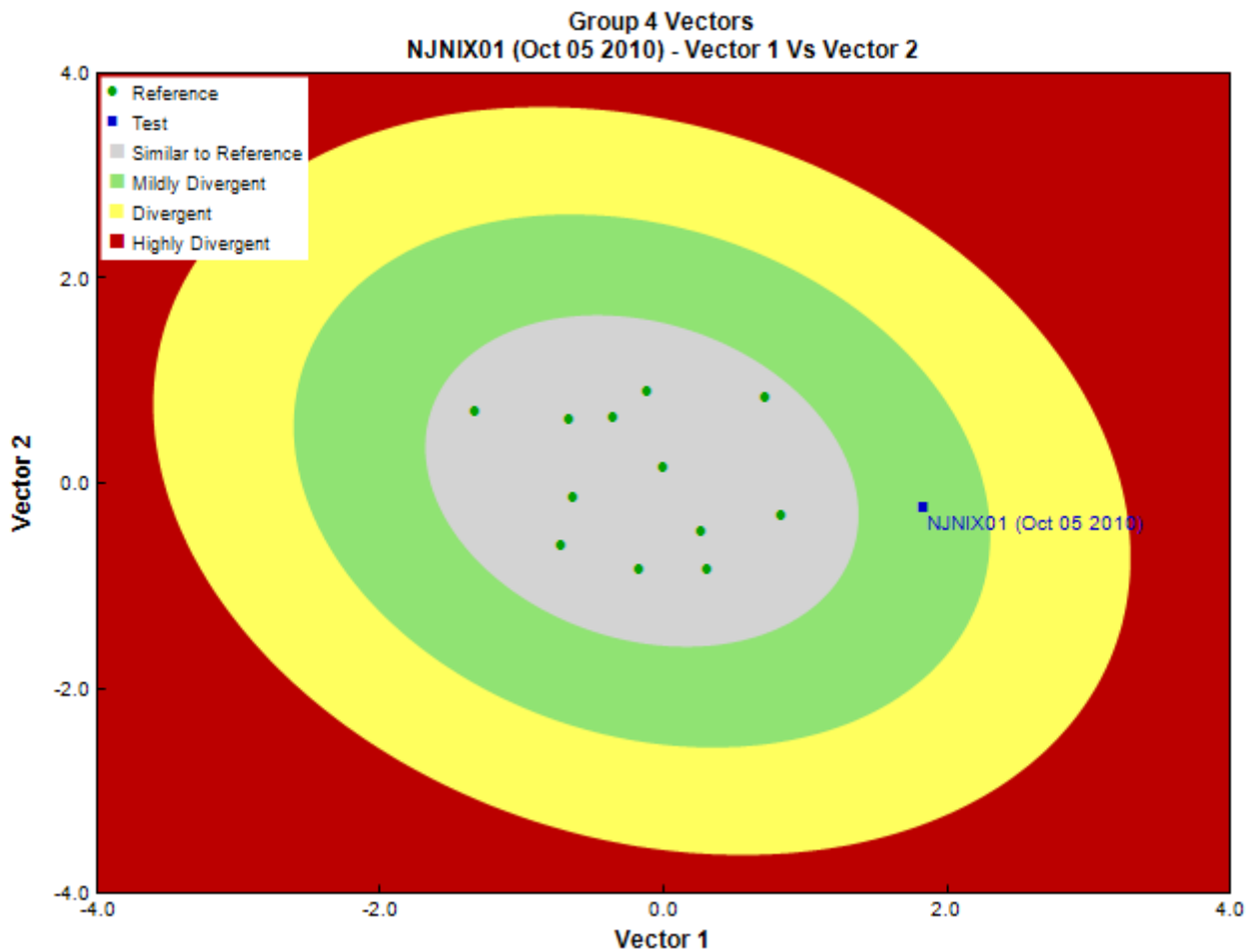


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**Sample Information**

<b>Sampling Device</b>	Kick Net
<b>Mesh Size</b>	400
<b>Sampling Time</b>	3
<b>Taxonomist</b>	Gary Lester, Ecoanalysts Inc.
<b>Date Taxonomy Completed</b>	February 16, 2011
	Marchant Box
<b>Sub-Sample Proportion</b>	28/100

## Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Tubificida		2	7.1
Arthropoda	Arachnida			5	17.9
		Trombidiformes	Hydryphantidae	1	3.6
			Hygrobatidae	4	14.3
			Torrenticolidae	61	217.9
	Insecta	Coleoptera	Elmidae	149	532.1
		Diptera	Chironomidae	16	57.1
			Simuliidae	11	39.3
			Tipulidae	9	32.1
		Ephemeroptera	Baetidae	7	25.0
			Ephemerellidae	45	160.7
			Heptageniidae	9	32.1
		Plecoptera	Perlodidae	1	3.6
			Pteronarcyidae	2	7.1
		Trichoptera	Brachycentridae	8	28.6
			Hydropsychidae	35	125.0
			Hydroptilidae	1	3.6
			Lepidostomatidae	7	25.0
			Leptoceridae	1	3.6
	Malacostraca	Amphipoda		9	32.1
			Crangonyctidae	6	21.4
Mollusca	Bivalvia	Veneroida	Pisidiidae	9	32.1
	Gastropoda	Basommatophora	Lymnaeidae	4	14.3
			Physidae	1	3.6
			Planorbidae	2	7.1
			Total	405	1,446.3

## Metrics

Name	NJNIX01	Predicted Group Reference Mean $\pm$ SD
<b>Bray-Curtis Distance</b>	0.88	0.4 $\pm$ 0.1
<b>Biotic Indices</b>		
<b>Hilsenhoff Family index (North-West)</b>	3.7	3.2 $\pm$ 0.3
<b>Intolerant taxa</b>	--	
<b>Long-lived taxa</b>	1.0	2.1 $\pm$ 1.0
<b>Tolerant individuals (%)</b>	1.7	0.8 $\pm$ 0.3
<b>Functional Measures</b>		
<b>% Filterers</b>	13.3	2.2 $\pm$ 1.8
<b>% Gatherers</b>	60.2	38.4 $\pm$ 12.4
<b>% Predatores</b>	31.9	19.0 $\pm$ 8.5
<b>% Scrapers</b>	47.4	63.2 $\pm$ 19.7
<b>% Shredder</b>	43.5	27.6 $\pm$ 15.2
<b>No. Clinger Taxa</b>	12.0	23.2 $\pm$ 6.3
<b>Number Of Individuals</b>		
<b>% Chironomidae</b>	4.1	7.4 $\pm$ 6.4
<b>% Coleoptera</b>	38.3	1.5 $\pm$ 3.9
<b>% Diptera + Non-insects</b>	31.9	10.8 $\pm$ 7.6
<b>% Ephemeroptera</b>	15.7	51.7 $\pm$ 18.8
<b>% Ephemeroptera that are Baetidae</b>	11.5	40.6 $\pm$ 30.0
<b>% EPT Individuals</b>	29.8	87.7 $\pm$ 7.4
<b>% Odonata</b>	0.0	0.0 $\pm$ 0.0
<b>% of 2 dominant taxa</b>	54.0	57.9 $\pm$ 14.2
<b>% of 5 dominant taxa</b>	78.7	81.6 $\pm$ 7.9
<b>% of dominant taxa</b>	38.3	39.8 $\pm$ 14.9
<b>% Plecoptera</b>	0.8	31.4 $\pm$ 15.4
<b>% Tribe Tanyatarisini</b>	--	
<b>% Trichoptera that are Hydropsychida</b>	67.3	27.0 $\pm$ 26.2
<b>% Tricoptera</b>	13.4	4.5 $\pm$ 2.8
<b>No. EPT individuals/Chironomids+EPT Individuals</b>	0.9	0.9 $\pm$ 0.1
<b>Total Abundance</b>	1446.4	587.4 $\pm$ 299.1
<b>Richness</b>		
<b>Chironomidae taxa (genus level only)</b>	1.0	1.0 $\pm$ 0.0

**Metrics**

Name	NJNIX01	Predicted Group Reference Mean $\pm$ SD
<b>Coleoptera taxa</b>	1.0	0.4 $\pm$ 0.5
<b>Diptera taxa</b>	3.0	3.3 $\pm$ 1.0
<b>Ephemeroptera taxa</b>	3.0	3.8 $\pm$ 0.8
<b>EPT Individuals (Sum)</b>	414.3	526.0 $\pm$ 285.8
<b>EPT taxa (no)</b>	10.0	13.3 $\pm$ 2.7
<b>Odonata taxa</b>	0.0	0.0 $\pm$ 0.0
<b>Pielou's Evenness</b>	0.7	0.7 $\pm$ 0.1
<b>Plecoptera taxa</b>	2.0	6.3 $\pm$ 1.1
<b>Shannon-Wiener Diversity</b>	2.1	1.9 $\pm$ 0.4
<b>Simpson's Diversity</b>	0.8	0.8 $\pm$ 0.1
<b>Simpson's Evenness</b>	0.2	0.3 $\pm$ 0.1
<b>Total No. of Taxa</b>	22.0	19.3 $\pm$ 3.7
<b>Trichoptera taxa</b>	5.0	3.2 $\pm$ 1.4

**Frequency and Probability of Taxa Occurrence**

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NJNIX01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Capniidae	78%	55%	50%	92%	68%	0.84
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.98
Ephemerellidae	78%	100%	100%	100%	100%	0.99
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.86
Nemouridae	100%	100%	100%	100%	100%	1.00
Perlidae	11%	84%	33%	100%	3%	0.82
Perlodidae	78%	78%	89%	92%	81%	0.89
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.90

**RIVPACS Ratios**

<b>RIVPACS : Expected taxa P&gt;0.50</b>	13.66
<b>RIVPACS : Observed taxa P&gt;0.50</b>	7.00
<b>RIVPACS : O:E (p &gt; 0.5)</b>	0.51
<b>RIVPACS : Expected taxa P&gt;0.70</b>	11.26
<b>RIVPACS : Observed taxa P&gt;0.70</b>	6.00
<b>RIVPACS : O:E (p &gt; 0.7)</b>	0.53

**Habitat Description**

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
<b>Bedrock Geology</b>		
<b>Alluvium (%)</b>	0.00000	0.00000 $\pm$ 0.00000
<b>Intrusive (%)</b>	49.90554	11.07346 $\pm$ 28.63466
<b>Metamorphic (%)</b>	21.63943	17.96649 $\pm$ 35.53463
<b>Sedimentary (%)</b>	27.10734	70.96005 $\pm$ 44.90394
<b>Ultramafic (%)</b>	0.00000	0.00000 $\pm$ 0.00000
<b>Volcanic (%)</b>	1.34768	0.00000 $\pm$ 0.00000
<b>Channel</b>		
<b>Depth-Avg (cm)</b>	43.9	23.6 $\pm$ 11.1
<b>Depth-Max (cm)</b>	63.0	34.6 $\pm$ 12.3
<b>Macrophyte (PercentRange)</b>	1	0 $\pm$ 0
<b>Reach-%CanopyCoverage (PercentRange)</b>	0.00	1.33 $\pm$ 0.78
<b>Reach-%Logging (PercentRange)</b>	1	0 $\pm$ 0
<b>Reach-Pools (Binary)</b>	1	1 $\pm$ 0
<b>Reach-Rapids (Binary)</b>	0	0 $\pm$ 0
<b>Reach-Riffles (Binary)</b>	1	1 $\pm$ 0
<b>Reach-StraightRun (Binary)</b>	1	1 $\pm$ 1
<b>Veg-Coniferous (Binary)</b>	0	1 $\pm$ 0

## Habitat Description

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
Veg-Deciduous (Binary)	0	1 $\pm$ 0
Veg-GrassesFerns (Binary)	1	1 $\pm$ 0
Veg-Shrubs (Binary)	1	1 $\pm$ 0
Velocity-Avg (m/s)	2.73	0.48 $\pm$ 0.22
Velocity-Max (m/s)	3.46	0.76 $\pm$ 0.36
Width-Bankfull (m)	47.2	13.4 $\pm$ 9.9
Width-Wetted (m)	35.5	8.5 $\pm$ 5.8
XSEC-VelMethod (Category (1-3))	1	1 $\pm$ 0
<b>Climate</b>		
Precip01_JAN (mm)	138.15789	104.85000 $\pm$ 26.28129
Precip02_FEB (mm)	112.28947	83.66667 $\pm$ 27.10278
Precip03_MAR (mm)	100.76316	77.23611 $\pm$ 27.15950
Precip04_APR (mm)	138.15789	104.85000 $\pm$ 26.28129
Precip05_MAY (mm)	81.36842	71.65833 $\pm$ 17.81753
Precip06_JUN (mm)	91.94737	78.56667 $\pm$ 15.58521
Precip07_JUL (mm)	75.13158	64.39167 $\pm$ 10.41611
Precip08_AUG (mm)	71.92105	60.53056 $\pm$ 10.43373
Precip09_SEP (mm)	68.86842	56.91944 $\pm$ 10.91783
Precip10_OCT (mm)	85.44737	65.08056 $\pm$ 14.41229
Precip11_NOV (mm)	135.47368	105.93889 $\pm$ 25.04104
Precip12_DEC (mm)	151.52632	116.84444 $\pm$ 29.80954
PrecipTotal_ANNUAL (mm)	1193.34211	952.64722 $\pm$ 226.04690
Temp01_JANMax (Degrees Celsius)	-4.71053	-4.39167 $\pm$ 2.51268
Temp01_JANmin (Degrees Celsius)	-10.71053	-11.40833 $\pm$ 3.53951
Temp02_FEBmax (Degrees Celsius)	-2.02632	-1.70000 $\pm$ 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.81579	-9.17500 $\pm$ 3.33361
Temp03_MARmax (Degrees Celsius)	1.42105	2.50556 $\pm$ 2.87525
Temp03_MARmin (Degrees Celsius)	-6.28947	-6.14167 $\pm$ 2.98556
Temp04_APRmax (Degrees Celsius)	5.81579	7.12222 $\pm$ 3.48771
Temp04_APRmin (Degrees Celsius)	-2.81579	-2.71667 $\pm$ 2.22785
Temp05_MAYmax (Degrees Celsius)	10.76316	12.03889 $\pm$ 3.55434
Temp05_MAYmin (Degrees Celsius)	0.71053	1.04722 $\pm$ 2.08663
Temp06_JUNMax (Degrees Celsius)	14.42105	15.72500 $\pm$ 3.40030
Temp06_JUNMin (Degrees Celsius)	3.71053	4.00278 $\pm$ 2.41085
Temp07_JULmax (Degrees Celsius)	18.21053	19.56111 $\pm$ 3.47275
Temp07_JULmin (Degrees Celsius)	6.18421	6.35833 $\pm$ 2.8332
Temp08_AUGmax (Degrees Celsius)	18.15789	19.52222 $\pm$ 3.51100
Temp08_AUGmin (Degrees Celsius)	6.02632	6.19167 $\pm$ 2.34422
Temp09_SEPmax (Degrees Celsius)	12.97368	14.04444 $\pm$ 3.03456
Temp09_SEPmin (Degrees Celsius)	2.07895	2.04722 $\pm$ 2.37208
Temp10_OCTmax (Degrees Celsius)	5.71053	6.88889 $\pm$ 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.36842	-1.46111 $\pm$ 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.44737	-0.79722 $\pm$ 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.63158	-6.68056 $\pm$ 2.97163
Temp12_DECmax (Degrees Celsius)	-4.94737	-4.66389 $\pm$ 2.69757
Temp12_DECmin (Degrees Celsius)	-10.36842	-10.65833 $\pm$ 3.71739
TempANNUALmax (Degrees Celsius)	5.92105	6.96389 $\pm$ 3.06157
TempANNUALmean (Degrees Celsius)	1.44737	2.25278 $\pm$ 2.66574
TempANNUALmin (Degrees Celsius)	-2.02632	-2.18056 $\pm$ 2.41152
<b>Hydrology</b>		
Drainage-Area (km <sup>2</sup> )	2195.36191	124.42081 $\pm$ 200.99192
Perimeter (Km)	410.69347	64.71360 $\pm$ 56.15436
StreamDensity (m/km <sup>2</sup> )	2262.30243	2246.06682 $\pm$ 604.89962
StreamLength (m)	4966572.60	302226.63 $\pm$ 500983.26
<b>Landcover</b>		
Natl-AnnCrops (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Barren (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-BroadleafDense (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-BroadleafOpen (%)	3.04214	1.19263 $\pm$ 2.03874
Natl-BroadleafSparse (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Coniferous (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-ConiferousDense (%)	0.38762	0.64845 $\pm$ 0.37668

## Habitat Description

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
Natl-ConiferousOpen (%)	49.02687	54.62780 $\pm$ 18.30692
Natl-ConiferousSparse (%)	1.16304	0.94121 $\pm$ 1.53621
Natl-Deciduous (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Developed (%)	0.10551	0.00000 $\pm$ 0.00000
Natl-ExposedLand (%)	17.50844	13.20054 $\pm$ 11.11850
Natl-Grassland (%)	1.49508	1.87556 $\pm$ 1.68508
Natl-Herb (%)	6.83128	5.75738 $\pm$ 2.89836
Natl-MixedForest (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-MixedwoodDense (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-MixedwoodOpen (%)	0.09190	0.04060 $\pm$ 0.10208
Natl-MixedwoodSparse (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-PerennCropsPast (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Rock/Rubble (%)	0.60490	1.56403 $\pm$ 2.75979
Natl-Shrubland (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-ShrubLow (%)	1.61545	4.98298 $\pm$ 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-SnowIce (%)	0.25499	0.08491 $\pm$ 0.15475
Natl-Water (%)	3.94819	0.22916 $\pm$ 0.36834
Natl-Wetland (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-WetlandHerb (%)	0.05335	0.12918 $\pm$ 0.35193
Natl-WetlandShrub (%)	0.00666	0.00000 $\pm$ 0.00000
Natl-WetlandTreed (%)	0.00466	0.00000 $\pm$ 0.00000
Reg-Ice (%)	0.10000	0.02487 $\pm$ 0.06034
<b>Substrate Data</b>		
%Bedrock (%)	0	0 $\pm$ 0
%Boulder (%)	0	9 $\pm$ 9
%Cobble (%)	100	51 $\pm$ 15
%Gravel (%)	0	3 $\pm$ 3
%Pebble (%)	0	37 $\pm$ 20
%Sand (%)	0	0 $\pm$ 0
%Silt+Clay (%)	0	0 $\pm$ 0
D50 (cm)	14.00	15.12 $\pm$ 14.26
Dg (cm)	13.9	8.2 $\pm$ 2.8
Dominant-1st (Category(0-9))	7	7 $\pm$ 1
Dominant-2nd (Category(0-9))	6	7 $\pm$ 1
Embeddedness (Category(1-5))	3	5 $\pm$ 1
PeriphytonCoverage (Category(1-5))	3	1 $\pm$ 0
SurroundingMaterial (Category(0-9))	2	4 $\pm$ 1
<b>Topography</b>		
ElevationMax (m)	3015.00000	2634.66667 $\pm$ 309.54023
ElevationMin (m)	512.00000	913.41667 $\pm$ 271.25180
ElevationStdev (m)	502.23679	349.02363 $\pm$ 92.12445
Reg-SlopeLT30% (%)	21.48000	18.88386 $\pm$ 9.29866
Slope30-50% (%)	26.66487	29.00215 $\pm$ 6.33837
Slope50-60% (%)	13.97946	13.91808 $\pm$ 1.91315
SlopeAvg (%)	51.29385	52.79851 $\pm$ 8.68755
SlopeGT60% (%)	35.58037	35.47207 $\pm$ 13.39684
SlopeLT30% (%)	23.77530	21.60770 $\pm$ 8.54172
SlopeMax (%)	574.77527	298.94390 $\pm$ 146.30679
SlopeMin (%)	0.00000	0.19777 $\pm$ 0.29213
SlopeStdev (%)	28.98687	26.57529 $\pm$ 4.62351
<b>Water Chemistry</b>		
General-Alkalinity (mg/L)	41.0000000	71.7000000 $\pm$ 53.9231440
General-Conductivity ( $\mu$ S/cm)	60.5000000	121.8083333 $\pm$ 87.6800844
General-DO (mg/L)	11.0000000	11.4175000 $\pm$ 0.7986708
General-pH (pH)	7.0	7.9 $\pm$ 0.4
General-SpCond ( $\mu$ S/cm)	82.6000000	168.9833333 $\pm$ 123.7858182
General-TempAir (Degrees Celsius)	19.0	26.0
General-TempWater (Degrees Celsius)	15.0000000	7.3183333 $\pm$ 2.7240839
General-Turbidity (NTU)	0.1500000	0.2020000

**Site Description**

<b>Study Name</b>	CBWQ-Slocan
<b>Site</b>	NJNIX01
<b>Sampling Date</b>	Oct 30 2013
<b>Know Your Watershed Basin</b>	Slocan
<b>Province / Territory</b>	British Columbia
<b>Terrestrial Ecological Classification</b>	Montane Cordillera EcoZone Columbia Mountains and Highlands EcoRegion
<b>Coordinates (decimal degrees)</b>	49.68333 N, 117.51667 W
<b>Altitude</b>	1703
<b>Local Basin Name</b>	Slocan
	Slocan
<b>Stream Order</b>	1



Figure 1. Location Map

- Across Reach (No image found)
- Aerial (No image found)
- Down Stream (No image found)
- Field Sheet (No image found)
- Miscellaneous (No image found)
- Substrate (No image found)
- Up Stream (No image found)

**Cabin Assessment Results**

		<b>Reference Model Summary</b>				
<b>Model</b>	Columbia-Okanagan Preliminary March 2010					
<b>Analysis Date</b>	September 15, 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>	0.3%	8.1%	10.0%	73.3%	8.3%	
<b>CABIN Assessment of NJNIX01 on Oct 30, 2013</b>	Mildly Divergent					



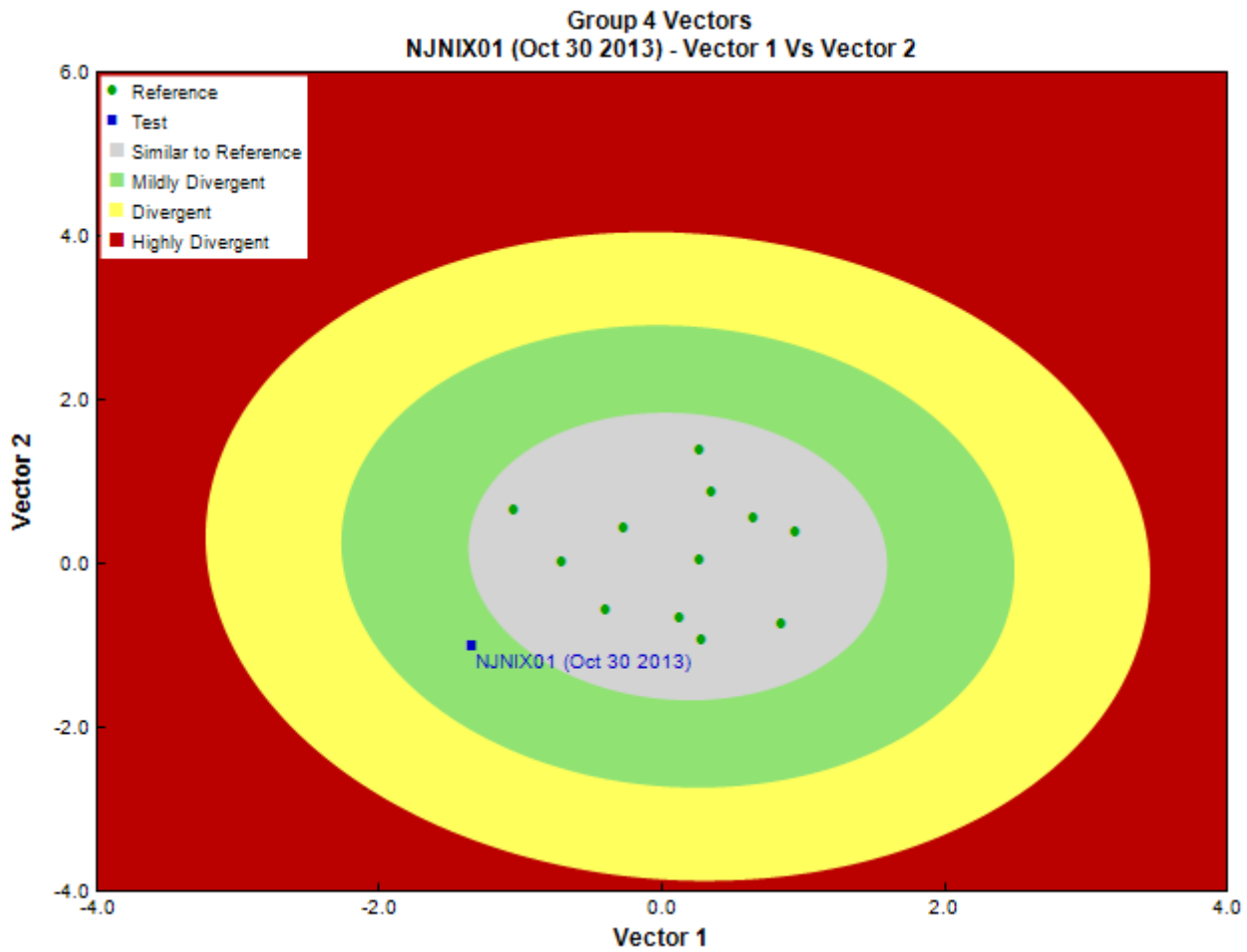


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**Sample Information**

<b>Sampling Device</b>	Kick Net
<b>Mesh Size</b>	400
<b>Sampling Time</b>	3
<b>Taxonomist</b>	Pina Viola, Consultant
<b>Date Taxonomy Completed</b>	March 12, 2014
	Marchant Box
<b>Sub-Sample Proportion</b>	28/100

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count			
Arthropoda	Arachnida	Trombidiformes	Aturidae	1	3.6			
			Hydryphantidae	5	17.9			
			Hygrobatidae	11	39.2			
			Lebertiidae	3	10.7			
			Torrenticolidae	10	35.7			
	Insecta	Coleoptera		Elmidae	22	78.5		
				Haliplidae	1	3.6		
		Diptera		Chironomidae	96	342.9		
				Empididae	2	7.1		
				Simuliidae	1	3.6		
				Tipulidae	3	10.7		
				Ephemeroptera		Baetidae	2	7.1
						Ephemerellidae	35	125.0
						Heptageniidae	35	125.0
							Leptophlebiidae	3

## Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
		Hemiptera	Corixidae	1	3.6
		Plecoptera	Perlodidae	9	32.2
		Trichoptera	Glossosomatidae	4	14.3
			Hydropsychidae	24	85.7
			Hydroptilidae	6	21.4
			Lepidostomatidae	36	128.6
			Leptoceridae	1	3.6
			Rhyacophilidae	1	3.6
	Malacostraca	Amphipoda	Hyalellidae	3	10.7
Mollusca	Bivalvia	Veneroida	Pisidiidae	4	14.3
			Total	319	1,139.3

## Metrics

Name	NJNIX01	Predicted Group Reference Mean $\pm$ SD
Bray-Curtis Distance	0.76	0.4 $\pm$ 0.1
<b>Biotic Indices</b>		
Hilsenhoff Family index (North-West)	4.3	3.2 $\pm$ 0.3
Intolerant taxa	--	
Long-lived taxa	4.0	2.1 $\pm$ 1.0
Tolerant individuals (%)	0.3	0.8 $\pm$ 0.3
<b>Functional Measures</b>		
% Filterers	7.8	2.2 $\pm$ 1.8
% Gatherers	54.9	38.4 $\pm$ 12.4
% Predatores	51.4	19.0 $\pm$ 8.5
% Scrapers	21.9	63.2 $\pm$ 19.7
% Shredder	19.7	27.6 $\pm$ 15.2
No. Clinger Taxa	20.0	23.2 $\pm$ 6.3
<b>Number Of Individuals</b>		
% Chironomidae	30.1	7.4 $\pm$ 6.4
% Coleoptera	7.2	1.5 $\pm$ 3.9
% Diptera + Non-insects	43.9	10.8 $\pm$ 7.6
% Ephemeroptera	23.5	51.7 $\pm$ 18.8
% Ephemeroptera that are Baetidae	2.7	40.6 $\pm$ 30.0
% EPT Individuals	48.9	87.7 $\pm$ 7.4
% Odonata	0.0	0.0 $\pm$ 0.0
% of 2 dominant taxa	41.4	57.9 $\pm$ 14.2
% of 5 dominant taxa	70.9	81.6 $\pm$ 7.9
% of dominant taxa	30.1	39.8 $\pm$ 14.9
% Plecoptera	2.8	31.4 $\pm$ 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	33.3	27.0 $\pm$ 26.2
% Tricoptera	22.6	4.5 $\pm$ 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.6	0.9 $\pm$ 0.1
Total Abundance	1139.2	587.4 $\pm$ 299.1
<b>Richness</b>		
Chironomidae taxa (genus level only)	1.0	1.0 $\pm$ 0.0
Coleoptera taxa	2.0	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)	557.1	526.0 $\pm$ 285.8
EPT taxa (no)	11.0	13.3 $\pm$ 2.7
Odonata taxa	0.0	0.0 $\pm$ 0.0
Pielou's Evenness	0.7	0.7 $\pm$ 0.1
Plecoptera taxa	1.0	6.3 $\pm$ 1.1
Shannon-Wiener Diversity	2.4	1.9 $\pm$ 0.4
Simpson's Diversity	0.9	0.8 $\pm$ 0.1
Simpson's Evenness	0.3	0.3 $\pm$ 0.1
Total No. of Taxa	25.0	19.3 $\pm$ 3.7
Trichoptera taxa	6.0	3.2 $\pm$ 1.4

### Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NJNIX01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Capniidae	78%	55%	50%	92%	68%	0.83
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.98
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%	0.84
Perlodidae	78%	78%	89%	92%	81%	0.89
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.89

### RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	13.69
RIVPACS : Observed taxa P>0.50	10.00
RIVPACS : O:E (p > 0.5)	0.73
RIVPACS : Expected taxa P>0.70	11.31
RIVPACS : Observed taxa P>0.70	7.00
RIVPACS : O:E (p > 0.7)	0.62

### Habitat Description

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
<b>Bedrock Geology</b>		
Alluvium (%)	0.00000	0.00000 $\pm$ 0.00000
Intrusive (%)	49.90554	11.07346 $\pm$ 28.63466
Metamorphic (%)	21.63943	17.96649 $\pm$ 35.53463
Sedimentary (%)	27.10734	70.96005 $\pm$ 44.90394
Ultramafic (%)	0.00000	0.00000 $\pm$ 0.00000
Volcanic (%)	1.34768	0.00000 $\pm$ 0.00000
<b>Channel</b>		
Depth-Avg (cm)	26.1	23.6 $\pm$ 11.1
Depth-BankfullMinusWetted (cm)	103.00	51.38 $\pm$ 29.42
Depth-Max (cm)	57.0	34.6 $\pm$ 12.3
Macrophyte (PercentRange)	0	0 $\pm$ 0
Reach-%CanopyCoverage (PercentRange)	1.00	1.33 $\pm$ 0.78
Reach-DomStreamsideVeg (Category (1-4))	1	4 $\pm$ 1
Reach-Pools (Binary)	1	1 $\pm$ 0
Reach-Rapids (Binary)	0	0 $\pm$ 0
Reach-Riffles (Binary)	1	1 $\pm$ 0
Reach-StraightRun (Binary)	1	1 $\pm$ 1
Slope (m/m)	0.0050000	0.0546683 $\pm$ 0.0376269
Veg-Coniferous (Binary)	1	1 $\pm$ 0
Veg-Deciduous (Binary)	1	1 $\pm$ 0
Veg-GrassesFerns (Binary)	1	1 $\pm$ 0
Veg-Shrubs (Binary)	1	1 $\pm$ 0
Velocity-Avg (m/s)	0.10	0.48 $\pm$ 0.22
Velocity-Max (m/s)	0.44	0.76 $\pm$ 0.36
Width-Bankfull (m)	31.5	13.4 $\pm$ 9.9
Width-Wetted (m)	17.3	8.5 $\pm$ 5.8
XSEC-VelMethod (Category (1-3))	1	1 $\pm$ 0
<b>Climate</b>		
Precip01_JAN (mm)	138.15789	104.85000 $\pm$ 26.28129
Precip02_FEB (mm)	112.28947	83.66667 $\pm$ 27.10278
Precip03_MAR (mm)	100.76316	77.23611 $\pm$ 27.15950
Precip04_APR (mm)	138.15789	104.85000 $\pm$ 26.28129
Precip05_MAY (mm)	81.36842	71.65833 $\pm$ 17.81753
Precip06_JUN (mm)	91.94737	78.56667 $\pm$ 15.58521
Precip07_JUL (mm)	75.13158	64.39167 $\pm$ 10.41611

## Habitat Description

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
Precip08_AUG (mm)	71.92105	60.53056 $\pm$ 10.43373
Precip09_SEP (mm)	68.86842	56.91944 $\pm$ 10.91783
Precip10_OCT (mm)	85.44737	65.08056 $\pm$ 14.41229
Precip11_NOV (mm)	135.47368	105.93889 $\pm$ 25.04104
Precip12_DEC (mm)	151.52632	116.84444 $\pm$ 29.80954
PrecipTotal_ANNUAL (mm)	1193.34211	952.64722 $\pm$ 226.04690
Temp01_JANMax (Degrees Celsius)	-4.71053	-4.39167 $\pm$ 2.51268
Temp01_JANmin (Degrees Celsius)	-10.71053	-11.40833 $\pm$ 3.53951
Temp02_FEBmax (Degrees Celsius)	-2.02632	-1.70000 $\pm$ 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.81579	-9.17500 $\pm$ 3.33361
Temp03_MARmax (Degrees Celsius)	1.42105	2.50556 $\pm$ 2.87525
Temp03_MARmin (Degrees Celsius)	-6.28947	-6.14167 $\pm$ 2.98556
Temp04_APRmax (Degrees Celsius)	5.81579	7.12222 $\pm$ 3.48771
Temp04_APRmin (Degrees Celsius)	-2.81579	-2.71667 $\pm$ 2.22785
Temp05_MAYmax (Degrees Celsius)	10.76316	12.03889 $\pm$ 3.55434
Temp05_MAYmin (Degrees Celsius)	0.71053	1.04722 $\pm$ 2.08663
Temp06_JUNMax (Degrees Celsius)	14.42105	15.72500 $\pm$ 3.40030
Temp06_JUNMin (Degrees Celsius)	3.71053	4.00278 $\pm$ 2.41085
Temp07_JULmax (Degrees Celsius)	18.21053	19.56111 $\pm$ 3.47275
Temp07_JULmin (Degrees Celsius)	6.18421	6.35833 $\pm$ 2.28332
Temp08_AUGmax (Degrees Celsius)	18.15789	19.52222 $\pm$ 3.51100
Temp08_AUGmin (Degrees Celsius)	6.02632	6.19167 $\pm$ 2.34422
Temp09_SEPmax (Degrees Celsius)	12.97368	14.04444 $\pm$ 3.03456
Temp09_SEPmin (Degrees Celsius)	2.07895	2.04722 $\pm$ 2.37208
Temp10_OCTmax (Degrees Celsius)	5.71053	6.88889 $\pm$ 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.36842	-1.46111 $\pm$ 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.44737	-0.79722 $\pm$ 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.63158	-6.68056 $\pm$ 2.97163
Temp12_DECmax (Degrees Celsius)	-4.94737	-4.66389 $\pm$ 2.69757
Temp12_DECmin (Degrees Celsius)	-10.36842	-10.65833 $\pm$ 3.71739
TempANNUALmax (Degrees Celsius)	5.92105	6.96389 $\pm$ 3.06157
TempANNUALmean (Degrees Celsius)	1.44737	2.25278 $\pm$ 2.66574
TempANNUALmin (Degrees Celsius)	-2.02632	-2.18056 $\pm$ 2.41152
<b>Hydrology</b>		
Drainage-Area (km <sup>2</sup> )	2195.36191	124.42081 $\pm$ 200.99192
Perimeter (Km)	410.69347	64.71360 $\pm$ 56.15436
StreamDensity (m/km <sup>2</sup> )	2262.30243	2246.06682 $\pm$ 604.89962
StreamLength (m)	4966572.60	302226.63 $\pm$ 500983.26
<b>Landcover</b>		
Natl-AnnCrops (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Barren (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-BroadleafDense (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-BroadleafOpen (%)	3.04214	1.19263 $\pm$ 2.03874
Natl-BroadleafSparse (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Coniferous (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-ConiferousDense (%)	0.38762	0.64845 $\pm$ 0.37668
Natl-ConiferousOpen (%)	49.02687	54.62780 $\pm$ 18.30692
Natl-ConiferousSparse (%)	1.16304	0.94121 $\pm$ 1.53621
Natl-Deciduous (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Developed (%)	0.10551	0.00000 $\pm$ 0.00000
Natl-ExposedLand (%)	17.50844	13.20054 $\pm$ 11.11850
Natl-Grassland (%)	1.49508	1.87556 $\pm$ 1.68508
Natl-Herb (%)	6.83128	5.75738 $\pm$ 2.89836
Natl-MixedForest (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-MixedwoodDense (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-MixedwoodOpen (%)	0.09190	0.04060 $\pm$ 0.10208
Natl-MixedwoodSparse (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-PerennCropsPast (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-Rock/Rubble (%)	0.60490	1.56403 $\pm$ 2.75979
Natl-Shrubland (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-ShrubLow (%)	1.61545	4.98298 $\pm$ 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 $\pm$ 0.00000

## Habitat Description

Variable	NJNIX01	Predicted Group Reference Mean $\pm$ SD
Natl-SnowIce (%)	0.25499	0.08491 $\pm$ 0.15475
Natl-Water (%)	3.94819	0.22916 $\pm$ 0.36834
Natl-Wetland (%)	0.00000	0.00000 $\pm$ 0.00000
Natl-WetlandHerb (%)	0.05335	0.12918 $\pm$ 0.35193
Natl-WetlandShrub (%)	0.00666	0.00000 $\pm$ 0.00000
Natl-WetlandTreed (%)	0.00466	0.00000 $\pm$ 0.00000
Reg-Ice (%)	0.10000	0.02487 $\pm$ 0.06034
<b>Substrate Data</b>		
%Bedrock (%)	0	0 $\pm$ 0
%Boulder (%)	0	9 $\pm$ 9
%Cobble (%)	50	51 $\pm$ 15
%Gravel (%)	4	3 $\pm$ 3
%Pebble (%)	45	37 $\pm$ 20
%Sand (%)	0	0 $\pm$ 0
%Silt+Clay (%)	1	0 $\pm$ 0
D50 (cm)	6.00	15.12 $\pm$ 14.26
Dg (cm)	5.0	8.2 $\pm$ 2.8
Dominant-1st (Category(0-9))	6	7 $\pm$ 1
Dominant-2nd (Category(0-9))	5	7 $\pm$ 1
Embeddedness (Category(1-5))	4	5 $\pm$ 1
PeriphytonCoverage (Category(1-5))	4	1 $\pm$ 0
SurroundingMaterial (Category(0-9))	6	4 $\pm$ 1
<b>Topography</b>		
ElevationMax (m)	3015.00000	2634.66667 $\pm$ 309.54023
ElevationMin (m)	512.00000	913.41667 $\pm$ 271.25180
ElevationStdev (m)	502.23679	349.02363 $\pm$ 92.12445
Reg-SlopeLT30% (%)	21.48000	18.88386 $\pm$ 9.29866
Slope30-50% (%)	26.66487	29.00215 $\pm$ 6.33837
Slope50-60% (%)	13.97946	13.91808 $\pm$ 1.91315
SlopeAvg (%)	51.29385	52.79851 $\pm$ 8.68755
SlopeGT60% (%)	35.58037	35.47207 $\pm$ 13.39684
SlopeLT30% (%)	23.77530	21.60770 $\pm$ 8.54172
SlopeMax (%)	574.77527	298.94390 $\pm$ 146.30679
SlopeMin (%)	0.00000	0.19777 $\pm$ 0.29213
SlopeStdev (%)	28.98687	26.57529 $\pm$ 4.62351
<b>Water Chemistry</b>		
General-DO (mg/L)	13.0000000	11.4175000 $\pm$ 0.7986708
General-TempAir (Degrees Celsius)	6.0	26.0
General-TempWater (Degrees Celsius)	10.0000000	7.3183333 $\pm$ 2.7240839