

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Oct 25 2007
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.23348 N, 117.23335 W
Altitude	2319
Local Basin Name	Salmo River
	Columbia
Stream Order	6



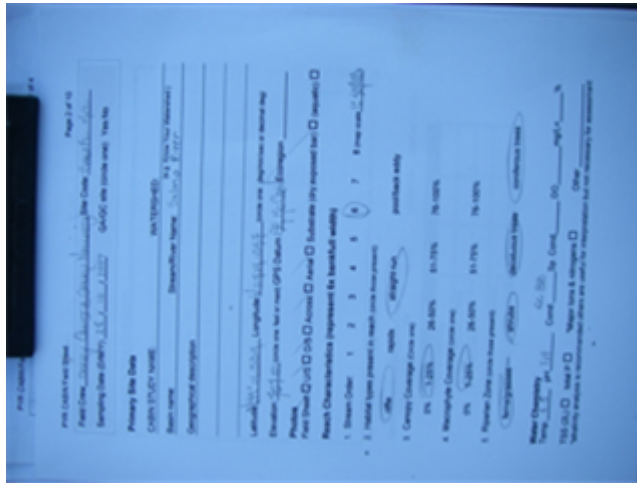
Figure 1. Location Map



Across Reach
Aerial (No image found)



Down Stream



Field Sheet



Miscellaneous



Substrate



Up Stream

Cabin Assessment Results

Reference Model Summary					
Model	Columbia-Okanagan Preliminary March 2010				
Analysis Date	August 28, 2017				
Taxonomic Level	Family				
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%				
Reference Groups	1	2	3	4	5
Number of Reference Sites	9	43	17	12	33
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%
Overall Model Error Rate	26.4%				
Probability of Group Membership	0.0%	11.7%	10.7%	74.7%	2.9%
CABIN Assessment of NESLM02 on Oct 25, 2007	Mildly Divergent				

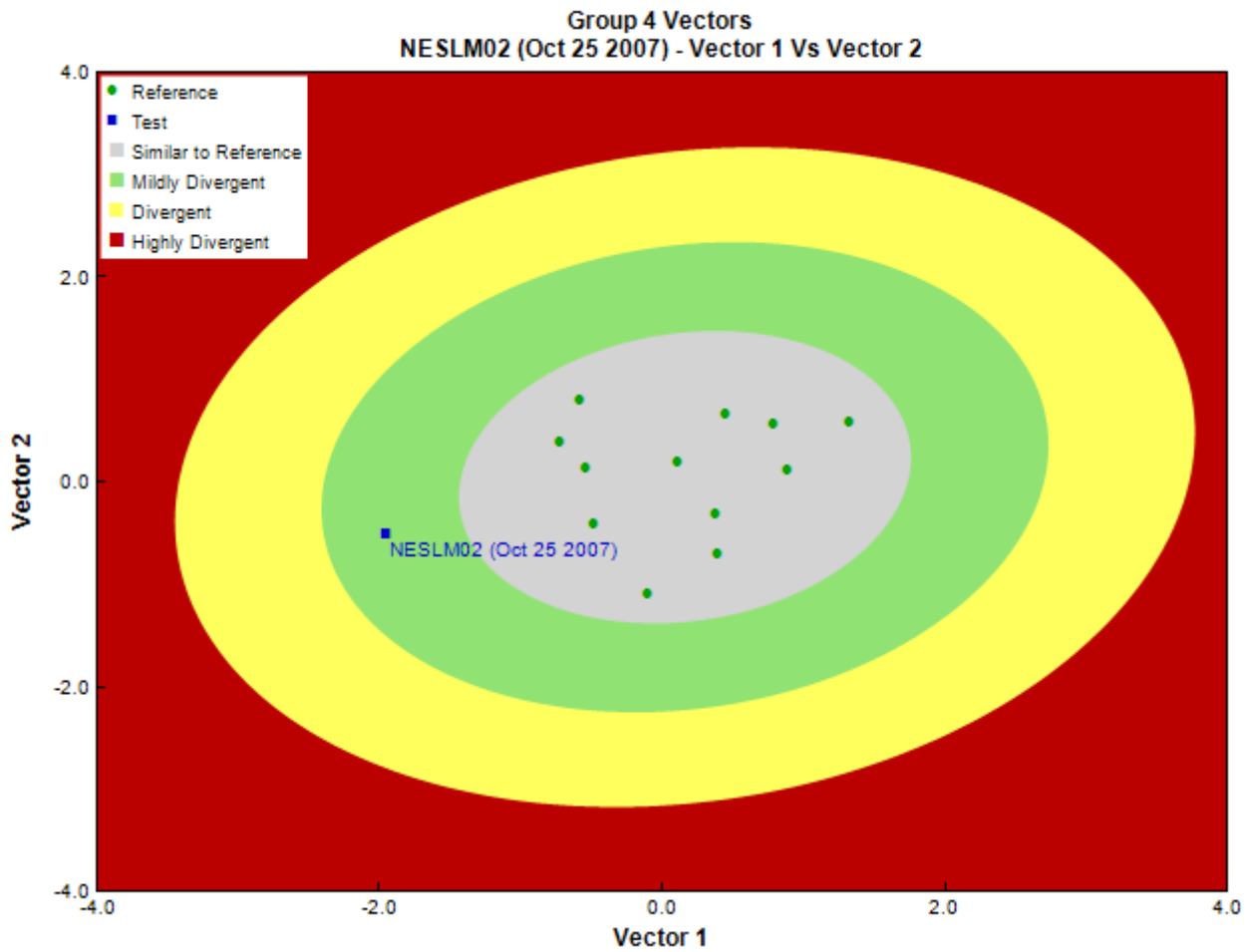


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Gary Lester, Ecoanalysts Inc.
Date Taxonomy Completed	October 27, 2007
	Marchant Box
Sub-Sample Proportion	11/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count		
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	2	18.2		
Arthropoda	Arachnida	Trombidiformes	Hygrobatidae	4	36.4		
			Lebertiidae	3	27.3		
	Insecta	Diptera	Ceratopogonidae	2	18.2		
			Chironomidae	20	181.8		
			Psychodidae	81	736.4		
			Tipulidae	1	9.1		
			Ephemeroptera	Ameletidae	20	181.8	
				Baetidae	3	27.3	
					Ephemerellidae	39	354.5
					Heptageniidae	104	945.5
					Leptophlebiidae	2	18.2
				Plecoptera	Capniidae	8	72.7
					Chloroperlidae	10	90.9
					Leuctridae	1	9.1

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
		Trichoptera	Brachycentridae	1	9.1
			Hydropsychidae	1	9.1
			Hydroptilidae	2	18.2
			Lepidostomatidae	15	136.4
			Total	319	2,900.2

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.86	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	5.2	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	--	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	0.6	2.2 \pm 1.8
% Gatherers	56.4	38.4 \pm 12.4
% Predatores	12.5	19.0 \pm 8.5
% Scrapers	37.9	63.2 \pm 19.7
% Shredder	8.2	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	6.3	7.4 \pm 6.4
% Coleoptera	0.0	1.5 \pm 3.9
% Diptera + Non-insects	35.4	10.8 \pm 7.6
% Ephemeroptera	52.7	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	1.8	40.6 \pm 30.0
% EPT Individuals	64.6	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	58.0	57.9 \pm 14.2
% of 5 dominant taxa	82.8	81.6 \pm 7.9
% of dominant taxa	32.6	39.8 \pm 14.9
% Plecoptera	6.0	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	5.3	27.0 \pm 26.2
% Tricoptera	6.0	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.9	0.9 \pm 0.1
Total Abundance	2900.0	587.4 \pm 299.1
Richness		
Chironomidae taxa (genus level only)	1.0	1.0 \pm 0.0
Coleoptera taxa	0.0	0.4 \pm 0.5
Diptera taxa	4.0	3.3 \pm 1.0
Ephemeroptera taxa	5.0	3.8 \pm 0.8
EPT Individuals (Sum)	1872.7	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	3.0	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	19.0	19.3 \pm 3.7
Trichoptera taxa	4.0	3.2 \pm 1.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESLM02
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Capniidae	78%	55%	50%	92%	68%	0.82
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.98

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESLM02
	Group 1	Group 2	Group 3	Group 4	Group 5	
EphemereIIDae	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%	0.88
Perlodidae	78%	78%	89%	92%	81%	0.89
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.88

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.29
RIVPACS : Observed taxa P>0.50	10.00
RIVPACS : O:E (p > 0.5)	0.70
RIVPACS : Expected taxa P>0.70	11.34
RIVPACS : Observed taxa P>0.70	7.00
RIVPACS : O:E (p > 0.7)	0.62

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	18.6	23.6 \pm 11.1
Depth-Max (cm)	26.0	34.6 \pm 12.3
Discharge (m ³ /s)	2.290	0.000 \pm 0.000
Macrophyte (PercentRange)	1	0 \pm 0
Reach-%CanopyCoverage (PercentRange)	1.00	1.33 \pm 0.78
Reach-Pools (Binary)	0	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)	0.0200000	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)	0.65	0.48 \pm 0.22
Velocity-Max (m/s)	0.91	0.76 \pm 0.36
Width-Bankfull (m)	46.0	13.4 \pm 9.9
Width-Wetted (m)	19.0	8.5 \pm 5.8
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Substrate Data		
Dominant-1st (Category(0-9))	5	7 \pm 1
Dominant-2nd (Category(0-9))	7	7 \pm 1
Embeddedness (Category(1-5))	5	5 \pm 1
SurroundingMaterial (Category(0-9))	2	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStdev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42325	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
Ag (mg/L)	0.0000100	0.0000050
Al (mg/L)	0.0130000	0.0049000
As (mg/L)	0.0003000	0.0002700
B (mg/L)	0.0025000	0.0500000
Ba (mg/L)	0.0130000	0.0682000
Be (mg/L)	0.0000500	0.0000100
Bi (mg/L)	0.0005000	0.0000050
Ca (mg/L)	18.4000000	21.1083333 \pm 16.8005659
Cd (mg/L)	0.0001900	0.0000050
Co (mg/L)	0.0002500	0.0000100
Cr (mg/L)	0.0005000	0.0001000
Cu (mg/L)	0.0001000	0.0001000
Fe (mg/L)	0.0220000	0.0080000
General-Conductivity (μ S/cm)	107.0000000	121.8083333 \pm 87.6800844
General-DO (mg/L)	14.0000000	11.4175000 \pm 0.7986708
General-Hardness (mg/L)	51.8000000	84.2750000 \pm 70.6251066
General-pH (pH)	7.6	7.9 \pm 0.4
General-TempAir (Degrees Celsius)	6.5	26.0
Hg (ng/L)	0.0000100	0.0000000 \pm 0.0000000
K (mg/L)	0.7500000	0.6141667 \pm 0.4056971
Li (mg/L)	0.0025000	0.0011000
Mg (mg/L)	1.4600000	7.6666667 \pm 7.9748848
Mn (mg/L)	0.0010000	0.0006100
Mo (mg/L)	0.0010000	0.0006900
Na (mg/L)	1.3000000	1.5383333 \pm 1.2751459
Ni (mg/L)	0.0005000	0.0003000
Pb (mg/L)	0.0001000	0.0000520
S (mg/L)	1.5000000	5.0000000
Sb (mg/L)	0.0002500	0.0000700
Se (mg/L)	0.0003000	0.0001200
Si (mg/L)	3.5900000	3.1516667 \pm 1.2277017
Sn (mg/L)	0.0025000	0.0000100
Sr (mg/L)	0.0920000	0.0443000
Ti (mg/L)	0.0025000	0.0005000
Tl (mg/L)	0.0000250	0.0000020
U (mg/L)	0.0002000	0.0011700
V (mg/L)	0.0025000	0.0002000
Zn (mg/L)	0.0150000	0.0010000
Zr (mg/L)	0.0002500	0.0000000 \pm 0.0000000

Site Description

Study Name	CBWQ-Salmo
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Sampling Date	Oct 13 2008
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.23361 N, 117.23333 W
Altitude	2319
Local Basin Name	Salmo River
	Columbia
Stream Order	6



Figure 1. Location Map



Across Reach
Aerial (No image found)



Down Stream

A handwritten field sheet on a white background. The top section contains handwritten text including 'Cabin RCBA', 'Field Date', 'Sampling Date', and 'Site Inspection Sheet Completed'. Below this is a 'Primary Site Data' section with handwritten notes and a 'Secondary Site Data' section. A 'Site Location Map Drawing' is included at the bottom, showing a map of the site with a north arrow and the text 'Cabin RCBA' and 'Substrate Creek'. The date 'April 2008' is written at the bottom.

Field Sheet

Miscellaneous (No image found)



Substrate



Up Stream

Cabin Assessment Results

Reference Model Summary					
Model	Columbia-Okanagan Preliminary March 2010				
Analysis Date	August 28, 2017				
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Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%
Overall Model Error Rate	26.4%				
Probability of Group Membership	8.9%	5.2%	8.3%	75.6%	2.0%
CABIN Assessment of NESLM02 on Oct 13, 2008	Mildly Divergent				

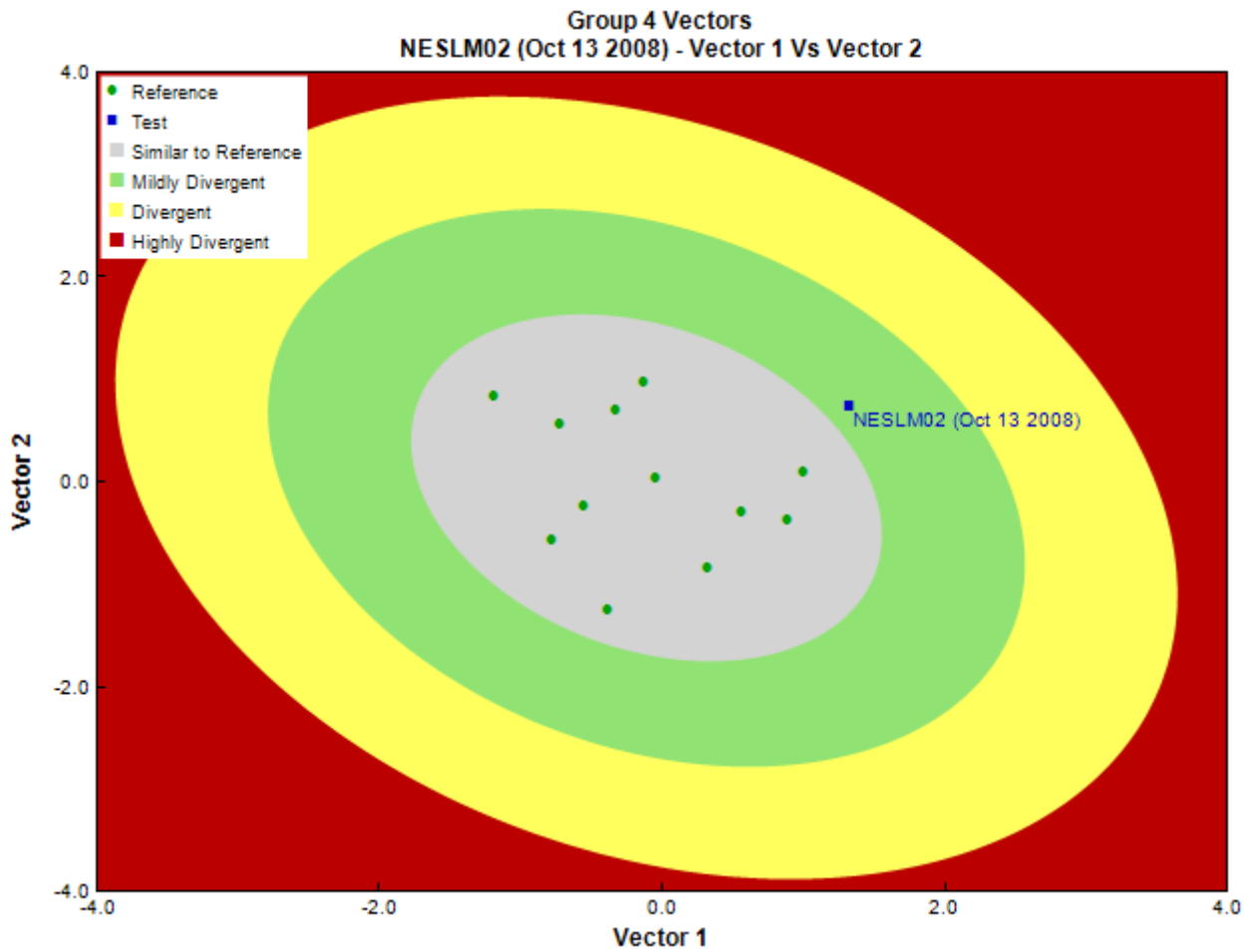


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	-
Taxonomist	Eco Analysts, EcoAnalysts
Date Taxonomy Completed	October 19, 2008
	Visual Estimate
Sub-Sample Proportion	17.9/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count	
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	1	5.6	
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	1	5.6	
			Sperchontidae	1	5.6	
			Torrenticolidae	7	39.1	
	Insecta	Coleoptera	Diptera	Elmidae	3	16.8
				Chironomidae	10	55.9
		Ephemeroptera	Psychodidae	4	22.3	
			Tipulidae	3	16.8	
			Baetidae	14	78.2	
			Ephemerellidae	70	391.1	
			Heptageniidae	149	832.4	
			Leptophlebiidae	1	5.6	
		Plecoptera	Chloroperlidae	10	55.9	
			Leuctridae	1	5.6	
Nemouridae	1		5.6			

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Perlidae	2	11.2
			Taeniopterygidae	15	83.8
		Trichoptera	Apataniidae	1	5.6
			Brachycentridae	1	5.6
			Glossosomatidae	10	55.9
			Hydropsychidae	4	22.3
			Lepidostomatidae	31	173.2
			Rhyacophilidae	7	39.1
			Total	347	1,938.8

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.69	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	3.0	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	2.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	1.4	2.2 \pm 1.8
% Gatherers	34.3	38.4 \pm 12.4
% Predatores	12.1	19.0 \pm 8.5
% Scrapers	58.2	63.2 \pm 19.7
% Shredder	16.1	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	2.9	7.4 \pm 6.4
% Coleoptera	0.9	1.5 \pm 3.9
% Diptera + Non-insects	7.8	10.8 \pm 7.6
% Ephemeroptera	67.4	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	6.0	40.6 \pm 30.0
% EPT Individuals	91.4	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	63.1	57.9 \pm 14.2
% of 5 dominant taxa	80.4	81.6 \pm 7.9
% of dominant taxa	42.9	39.8 \pm 14.9
% Plecoptera	8.4	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	7.4	27.0 \pm 26.2
% Tricoptera	15.6	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	1.0	0.9 \pm 0.1
Total Abundance	1938.4	587.4 \pm 299.1
Richness		
Chironomidae taxa (genus level only)	1.0	1.0 \pm 0.0
Coleoptera taxa	1.0	0.4 \pm 0.5
Diptera taxa	3.0	3.3 \pm 1.0
Ephemeroptera taxa	4.0	3.8 \pm 0.8
EPT Individuals (Sum)	1770.9	526.0 \pm 285.8
EPT taxa (no)	15.0	13.3 \pm 2.7
Odonata taxa	--	0.0 \pm 0.0
Pielou's Evenness	0.6	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	0.2	0.3 \pm 0.1
Total No. of Taxa	23.0	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 NESLM02
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Capniidae	78%	55%	50%	92%	68%	0.85
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.97
Ephemerellidae	78%	100%	100%	100%	100%	0.98
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.83
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%	0.90

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	13.69
RIVPACS : Observed taxa P>0.50	13.00
RIVPACS : O:E (p > 0.5)	0.95
RIVPACS : Expected taxa P>0.70	11.25
RIVPACS : Observed taxa P>0.70	10.00
RIVPACS : O:E (p > 0.7)	0.89

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	54.5	23.6 \pm 11.1
Depth-Max (cm)	82.0	34.6 \pm 12.3
Reach-%CanopyCoverage (PercentRange)	1.00	1.33 \pm 0.78
Reach-Pools (Binary)	0	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)	0.0200000	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)	0.32	0.48 \pm 0.22
Velocity-Max (m/s)	0.40	0.76 \pm 0.36
Width-Bankfull (m)	44.0	13.4 \pm 9.9
Width-Wetted (m)	18.0	8.5 \pm 5.8
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Substrate Data		
Dominant-1st (Category(0-9))	5	7 \pm 1
Dominant-2nd (Category(0-9))	6	7 \pm 1
Embeddedness (Category(1-5))	4	5 \pm 1
PeriphytonCoverage (Category(1-5))	2	1 \pm 0
SurroundingMaterial (Category(0-9))	4	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStdev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42325	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
Al (mg/L)	0.0110000	0.0049000
As (mg/L)	0.0003000	0.0002700
Ba (mg/L)	0.0150000	0.0682000
Ca (mg/L)	20.5000000	21.1083333 \pm 16.8005659
Cd (mg/L)	0.0002100	0.0000050
Cu (mg/L)	0.0021000	0.0001000
Fe (mg/L)	0.0180000	0.0080000
General-Alkalinity (mg/L)	53.0000000	71.7000000 \pm 53.9231440
General-Conductivity (μ S/cm)	120.0000000	121.8083333 \pm 87.6800844
General-DO (mg/L)	14.0000000	11.4175000 \pm 0.7986708
General-Hardness (mg/L)	59.1000000	84.2750000 \pm 70.6251066
General-pH (pH)	8.0	7.9 \pm 0.4
General-SpCond (μ S/cm)	120.0000000	168.9833333 \pm 123.7858182
General-TempWater (Degrees Celsius)	5.9000000	7.3183333 \pm 2.7240839
K (mg/L)	0.8500000	0.6141667 \pm 0.4056971
Mg (mg/L)	1.7500000	7.6666667 \pm 7.9748848
Mn (mg/L)	0.0010000	0.0006100
Mo (mg/L)	0.0010000	0.0006900
Na (mg/L)	1.4600000	1.5383333 \pm 1.2751459
Nitrogen-TN (mg/L)	0.0300000	0.0883333 \pm 0.0521943
Pb (mg/L)	0.0004000	0.0000520
Se (mg/L)	0.0004000	0.0001200
Si (mg/L)	3.4500000	3.1516667 \pm 1.2277017
Sr (mg/L)	0.1050000	0.0443000
U (mg/L)	0.0002000	0.0011700
Zn (mg/L)	0.0070000	0.0010000

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Oct 15 2009
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.23348 N, 117.23335 W
Altitude	2319
Local Basin Name	Salmo River
	Columbia
Stream Order	6



Figure 1. Location Map

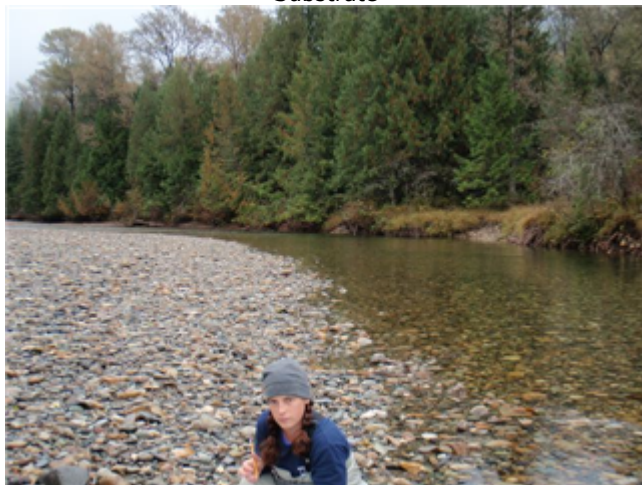
Across Reach
Aerial (No image found)



Down Stream
Field Sheet (No image found)
Miscellaneous (No image found)



Substrate



Up Stream

Cabin Assessment Results

Reference Model Summary	
Model	Columbia-Okanagan Preliminary March 2010
Analysis Date	August 28, 2017
Taxonomic Level	Family

Cabin Assessment Results

Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%				
Reference Groups	1	2	3	4	5
Number of Reference Sites	9	43	17	12	33
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%
Overall Model Error Rate	26.4%				
Probability of Group Membership	0.2%	8.9%	10.1%	78.1%	2.6%
CABIN Assessment of NESLM02 on Oct 15, 2009	Mildly Divergent				

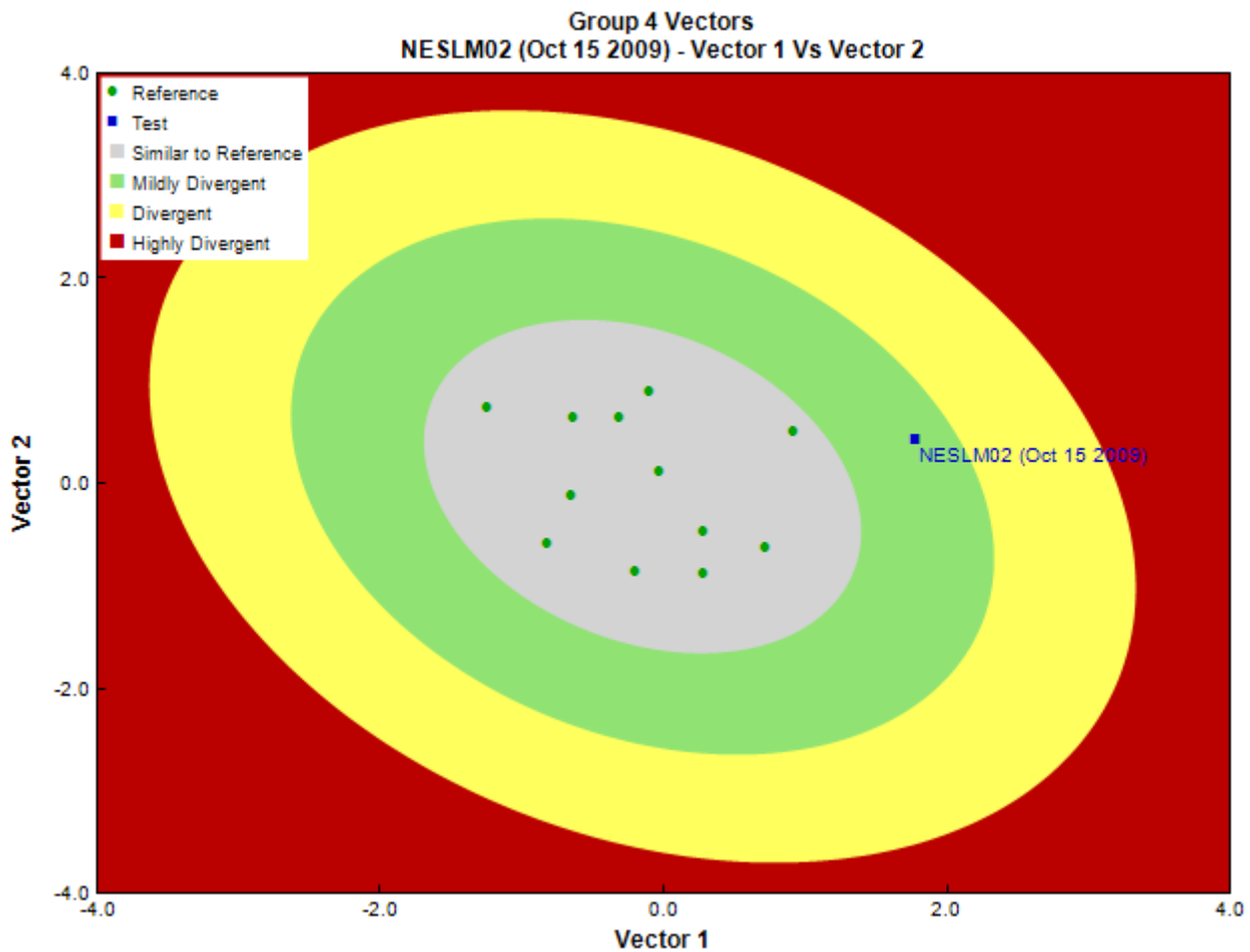


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Eco Analyts, EcoAnalysts
Date Taxonomy Completed	February 26, 2010
	Marchant Box
Sub-Sample Proportion	6/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	1	16.7
Arthropoda	Arachnida	Trombidiformes	Hydryphantidae	1	16.7
			Lebertiidae	2	33.3
			Torrenticolidae	2	33.3
	Insecta	Coleoptera	Elmidae	2	33.3
		Diptera	Ceratopogonidae	1	16.7
			Chironomidae	51	850.0
			Psychodidae	10	166.7
			Tipulidae	1	16.7
		Ephemeroptera	Baetidae	4	66.7
			Ephemerellidae	31	516.7
			Heptageniidae	137	2,283.3
			Leptophlebiidae	2	33.3
		Plecoptera	Chloroperlidae	6	100.0
			Nemouridae	8	133.3
			Perlidae	1	16.7
			Perlodidae	1	16.7
			Taeniopterygidae	7	116.7
		Trichoptera	Apataniidae	3	50.0
			Brachycentridae	1	16.7
			Glossosomatidae	35	583.3
			Hydropsychidae	4	66.7
			Lepidostomatidae	24	400.0
			Rhyacophilidae	5	83.3
			Total	340	5,666.8

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.87	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	3.5	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	2.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	1.5	2.2 \pm 1.8
% Gatherers	35.6	38.4 \pm 12.4
% Predatores	21.8	19.0 \pm 8.5
% Scrapers	57.4	63.2 \pm 19.7
% Shredder	13.5	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	15.0	7.4 \pm 6.4
% Coleoptera	0.6	1.5 \pm 3.9
% Diptera + Non-insects	20.3	10.8 \pm 7.6
% Ephemeroptera	51.2	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	2.3	40.6 \pm 30.0
% EPT Individuals	79.1	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	55.3	57.9 \pm 14.2
% of 5 dominant taxa	81.8	81.6 \pm 7.9
% of dominant taxa	40.3	39.8 \pm 14.9
% Plecoptera	6.8	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	5.6	27.0 \pm 26.2
% Tricoptera	21.2	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.8	0.9 \pm 0.1
Total Abundance	5666.6	587.4 \pm 299.1
Richness		
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

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Ephemeroptera taxa	4.0	3.8 \pm 0.8
EPT Individuals (Sum)	4483.3	526.0 \pm 285.8
EPT taxa (no)	15.0	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	2.1	1.9 \pm 0.4
Simpson's Diversity	0.8	0.8 \pm 0.1
Simpson's Evenness	0.2	0.3 \pm 0.1
Total No. of Taxa	24.0	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 NESLM02
	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%	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%	0.89
Perlodidae	78%	78%	89%	92%	81%	0.90
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.89

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.34
RIVPACS : Observed taxa P>0.50	14.00
RIVPACS : O:E (p > 0.5)	0.98
RIVPACS : Expected taxa P>0.70	11.38
RIVPACS : Observed taxa P>0.70	11.00
RIVPACS : O:E (p > 0.7)	0.97

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	32.5	23.6 \pm 11.1
Depth-BankfullMinusWetted (cm)	100.00	51.38 \pm 29.42
Depth-Max (cm)	45.0	34.6 \pm 12.3
Macrophyte (PercentRange)	1	0 \pm 0
Reach-%CanopyCoverage (PercentRange)	1.00	1.33 \pm 0.78
Reach-DomStreamsideVeg (Category (1-4))	2	4 \pm 1
Reach-Pools (Binary)	0	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)	0.0200000	0.0546683 \pm 0.0376269
Veg-Coniferous (Binary)	1	1 \pm 0

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
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)	0.43	0.48 \pm 0.22
Velocity-Max (m/s)	0.68	0.76 \pm 0.36
Width-Bankfull (m)	44.0	13.4 \pm 9.9
Width-Wetted (m)	15.9	8.5 \pm 5.8
XSEC-VelInstrumentDirect (Category (1-3))	3	0 \pm 0
XSEC-VelMethod (Category (1-3))	3	1 \pm 0
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	1.19263 \pm 2.03874
Natl-BroadleafSparse (%)	0.00000	0.00000 \pm 0.00000
Natl-Coniferous (%)	0.00000	0.00000 \pm 0.00000

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-ConiferousDense (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	0	9 \pm 9
%Cobble (%)	44	51 \pm 15
%Gravel (%)	4	3 \pm 3
%Pebble (%)	48	37 \pm 20
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	4	0 \pm 0
D50 (cm)	5.45	15.12 \pm 14.26
Dg (cm)	4.5	8.2 \pm 2.8
Dominant-1st (Category(0-9))	5	7 \pm 1
Dominant-2nd (Category(0-9))	6	7 \pm 1
PeriphytonCoverage (Category(1-5))	1	1 \pm 0
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStdev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42325	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
Ag (mg/L)	0.0000200	0.0000050
Al (mg/L)	0.0140000	0.0049000
As (mg/L)	0.0003000	0.0002700
B (mg/L)	0.0250000	0.0500000
Ba (mg/L)	0.0160000	0.0682000
Be (mg/L)	0.0000500	0.0000100
Bi (mg/L)	0.0005000	0.0000050
Ca (mg/L)	22.2000000	21.1083333 \pm 16.8005659
Cd (mg/L)	0.0002500	0.0000050
Co (mg/L)	0.0002500	0.0000100
Cr (mg/L)	0.0005000	0.0001000

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Cu (mg/L)	0.0003000	0.0001000
Fe (mg/L)	0.0180000	0.0080000
General-Alkalinity (mg/L)	48.0000000	71.7000000 \pm 53.9231440
General-Conductivity (μ S/cm)	112.0000000	121.8083333 \pm 87.6800844
General-DO (mg/L)	13.0000000	11.4175000 \pm 0.7986708
General-Hardness (mg/L)	50.7000000	84.2750000 \pm 70.6251066
General-pH (pH)	8.3	7.9 \pm 0.4
General-SolidsTSS (mg/L)	2.0000000	0.8849836 \pm 1.2378575
General-SpCond (μ S/cm)	132.0000000	168.9833333 \pm 123.7858182
General-TempAir (Degrees Celsius)	8.0	26.0
General-TempWater (Degrees Celsius)	5.7000000	7.3183333 \pm 2.7240839
Hg (ng/L)	0.0000100	0.0000000 \pm 0.0000000
K (mg/L)	0.9000000	0.6141667 \pm 0.4056971
Li (mg/L)	0.0025000	0.0011000
Mg (mg/L)	1.9000000	7.6666667 \pm 7.9748848
Mn (mg/L)	0.0010000	0.0006100
Mo (mg/L)	0.0010000	0.0006900
Na (mg/L)	1.5900000	1.5383333 \pm 1.2751459
Ni (mg/L)	0.0005000	0.0003000
Nitrogen-TN (mg/L)	0.0800000	0.0883333 \pm 0.0521943
Pb (mg/L)	0.0002000	0.0000520
Phosphorus-TP (mg/L)	0.0080000	0.0045833 \pm 0.0049992
S (mg/L)	1.5000000	5.0000000
Sb (mg/L)	0.0002500	0.0000700
Se (mg/L)	0.0004000	0.0001200
Si (mg/L)	3.9500000	3.1516667 \pm 1.2277017
Sn (mg/L)	0.0025000	0.0000100
Sr (mg/L)	0.1090000	0.0443000
Ti (mg/L)	0.0025000	0.0005000
Tl (mg/L)	0.0000250	0.0000020
U (mg/L)	0.0002000	0.0011700
V (mg/L)	0.0025000	0.0002000
Zn (mg/L)	0.0060000	0.0010000
Zr (mg/L)	0.0002500	0.0000000 \pm 0.0000000

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Oct 01 2010
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.23348 N, 117.23335 W
Altitude	2319
Local Basin Name	Salmo River
	Columbia
Stream Order	6



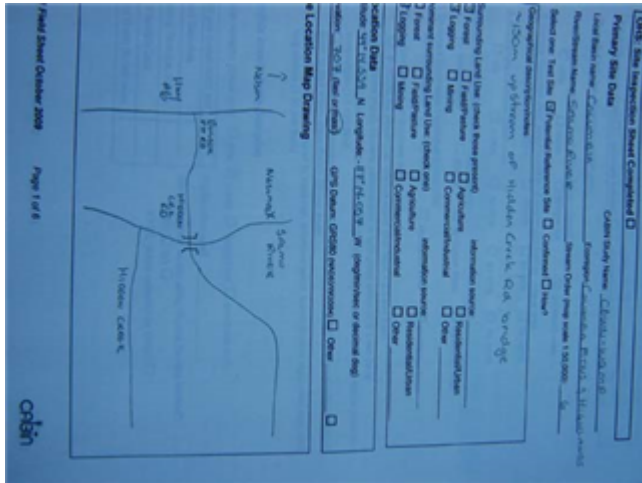
Figure 1. Location Map



Across Reach
Aerial (No image found)



Down Stream



Field Sheet

Miscellaneous (No image found)



Substrate



Up Stream

Cabin Assessment Results

Reference Model Summary					
Model	Columbia-Okanagan Preliminary March 2010				
Analysis Date	August 28, 2017				
Taxonomic Level	Family				
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%				
Reference Groups	1	2	3	4	5
Number of Reference Sites	9	43	17	12	33
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%
Overall Model Error Rate	26.4%				
Probability of Group Membership	0.5%	8.1%	9.9%	79.0%	2.5%
CABIN Assessment of NESLM02 on Oct 01, 2010	Divergent				

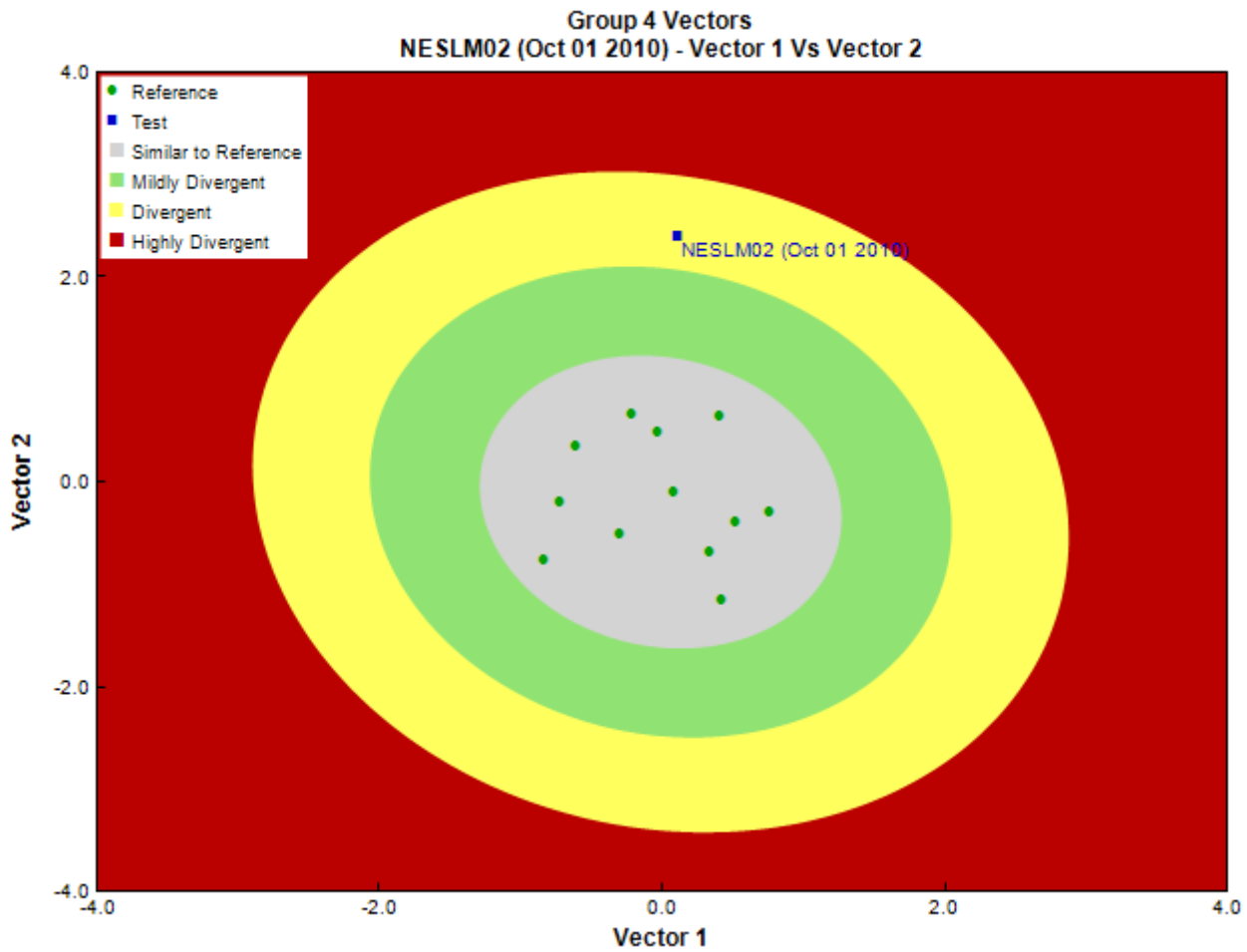


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Gary Lester, Ecoanalysts Inc.
Date Taxonomy Completed	March 09, 2011
	Marchant Box
Sub-Sample Proportion	4/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count	
Arthropoda	Arachnida	Trombidiformes	Hydryphantidae	1	25.0	
			Lebertiidae	1	25.0	
			Stygothrombidiidae	1	25.0	
				Torrenticolidae	6	150.0
		Insecta	Coleoptera	Elmidae	1	25.0
				Diptera		
				Ceratopogonidae	1	25.0
				Chironomidae	14	350.0
				Psychodidae	17	425.0
				Tipulidae	4	100.0
			Ephemeroptera	Baetidae	2	50.0
				Ephemerellidae	37	925.0
				Heptageniidae	165	4,125.0
			Leptophlebiidae	1	25.0	
		Plecoptera	Chloroperlidae	17	425.0	
			Leuctridae	1	25.0	

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Nemouridae	9	225.0
			Perlidae	3	75.0
			Perlodidae	1	25.0
			Taeniopterygidae	2	50.0
		Trichoptera	Apataniidae	7	175.0
			Glossosomatidae	13	325.0
			Hydropsychidae	2	50.0
			Lepidostomatidae	55	1,375.0
			Rhyacophilidae	3	75.0
			Total	364	9,100.0

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.92	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	3.5	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	2.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	0.5	2.2 \pm 1.8
% Gatherers	28.3	38.4 \pm 12.4
% Predatores	13.7	19.0 \pm 8.5
% Scrapers	57.1	63.2 \pm 19.7
% Shredder	21.7	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	3.8	7.4 \pm 6.4
% Coleoptera	0.3	1.5 \pm 3.9
% Diptera + Non-insects	12.4	10.8 \pm 7.6
% Ephemeroptera	56.3	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	1.0	40.6 \pm 30.0
% EPT Individuals	87.4	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	60.4	57.9 \pm 14.2
% of 5 dominant taxa	79.9	81.6 \pm 7.9
% of dominant taxa	45.3	39.8 \pm 14.9
% Plecoptera	9.1	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	2.5	27.0 \pm 26.2
% Tricoptera	22.0	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	1.0	0.9 \pm 0.1
Total Abundance	9100.0	587.4 \pm 299.1
Richness		
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)	7950.0	526.0 \pm 285.8
EPT taxa (no)	15.0	13.3 \pm 2.7
Odonata taxa	--	0.0 \pm 0.0
Pielou's Evenness	0.6	0.7 \pm 0.1
Plecoptera taxa	6.0	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	0.2	0.3 \pm 0.1
Total No. of Taxa	24.0	19.3 \pm 3.7
Trichoptera taxa	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 NESLM02
	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%	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%	0.89
Perlodidae	78%	78%	89%	92%	81%	0.90
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.89

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.35
RIVPACS : Observed taxa P>0.50	15.00
RIVPACS : O:E (p > 0.5)	1.05
RIVPACS : Expected taxa P>0.70	11.39
RIVPACS : Observed taxa P>0.70	11.00
RIVPACS : O:E (p > 0.7)	0.97

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	36.8	23.6 \pm 11.1
Depth-BankfullMinusWetted (cm)	110.00	51.38 \pm 29.42
Depth-Max (cm)	53.0	34.6 \pm 12.3
Macrophyte (PercentRange)	1	0 \pm 0
Reach-%CanopyCoverage (PercentRange)	1.00	1.33 \pm 0.78
Reach-DomStreamsideVeg (Category (1-4))	3	4 \pm 1
Reach-Pools (Binary)	0	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)	0.0200000	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)	0.43	0.48 \pm 0.22
Velocity-Max (m/s)	0.73	0.76 \pm 0.36
Width-Bankfull (m)	54.0	13.4 \pm 9.9
Width-Wetted (m)	18.0	8.5 \pm 5.8
XSEC-VelInstrumentDirect (Category (1-3))	3	0 \pm 0
XSEC-VelMethod (Category (1-3))	3	1 \pm 0
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Sediment Chemistry		
Ag (ppm)	0.380	0.000
Al (ppm)	10300.000	0.005
As (ppm)	9.400	0.000
Ba (ppm)	60.800	0.068
Be (ppm)	0.300	0.000
Bi (ppm)	0.050	0.000
Ca (ppm)	3690.000	21.108 \pm 16.801
Cd (ppm)	2.000	0.000
Co (ppm)	8.500	0.000
Cr (ppm)	25.000	0.000
Cu (ppm)	23.500	0.000
Fe (ppm)	20600.000	0.008
Hg (ppm)	0.025	0.000 \pm 0.000
K (ppm)	1310.000	0.614 \pm 0.406
Li (ppm)	16.000	0.001
Mg (ppm)	6990.000	7.667 \pm 7.975
Mn (ppm)	367.000	0.001
Mo (ppm)	1.100	0.001
Na (ppm)	157.000	1.538 \pm 1.275
Ni (ppm)	21.300	0.000
Pb (ppm)	75.400	0.000
Sb (ppm)	0.500	0.000
Se (ppm)	0.250	0.000
Sn (ppm)	0.200	0.000
Sr (ppm)	28.000	0.044
Ti (ppm)	588.000	0.001
Tl (ppm)	0.120	0.000
TP (ppm)	861.000	0.000 \pm 0.000
U (ppm)	0.780	0.001
V (ppm)	45.000	0.000
Zn (ppm)	229.000	0.001
Zr (ppm)	0.600	0.000 \pm 0.000
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	4	9 \pm 9
%Cobble (%)	49	51 \pm 15
%Gravel (%)	5	3 \pm 3
%Pebble (%)	42	37 \pm 20
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	0	0 \pm 0
D50 (cm)	6.55	15.12 \pm 14.26
Dg (cm)	6.5	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))	5	5 \pm 1
PeriphytonCoverage (Category(1-5))	2	1 \pm 0
SurroundingMaterial (Category(0-9))	2	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStddev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42325	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pmSD
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
General-Conductivity (μS/cm)	116.4000000	121.8083333 \pm 87.6800844
General-DO (mg/L)	11.0000000	11.4175000 \pm 0.7986708
General-pH (pH)	8.5	7.9 \pm 0.4
General-TempAir (Degrees Celsius)	9.2	26.0
General-TempWater (Degrees Celsius)	7.5000000	7.3183333 \pm 2.7240839
General-Turbidity (NTU)	0.3300000	0.2020000

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Sep 22 2011
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.23348 N, 117.23335 W
Altitude	2286
Local Basin Name	Salmo River
	Columbia
Stream Order	6



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

		Reference Model Summary				
Model	Columbia-Okanagan Preliminary March 2010					
Analysis Date	August 28, 2017					
Taxonomic Level	Family					
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%					
Reference Groups	1	2	3	4	5	
Number of Reference Sites	9	43	17	12	33	
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%	
Overall Model Error Rate	26.4%					
Probability of Group Membership	0.0%	10.8%	10.5%	75.8%	2.8%	
CABIN Assessment of NESLM02 on Sep 22, 2011	Mildly Divergent					

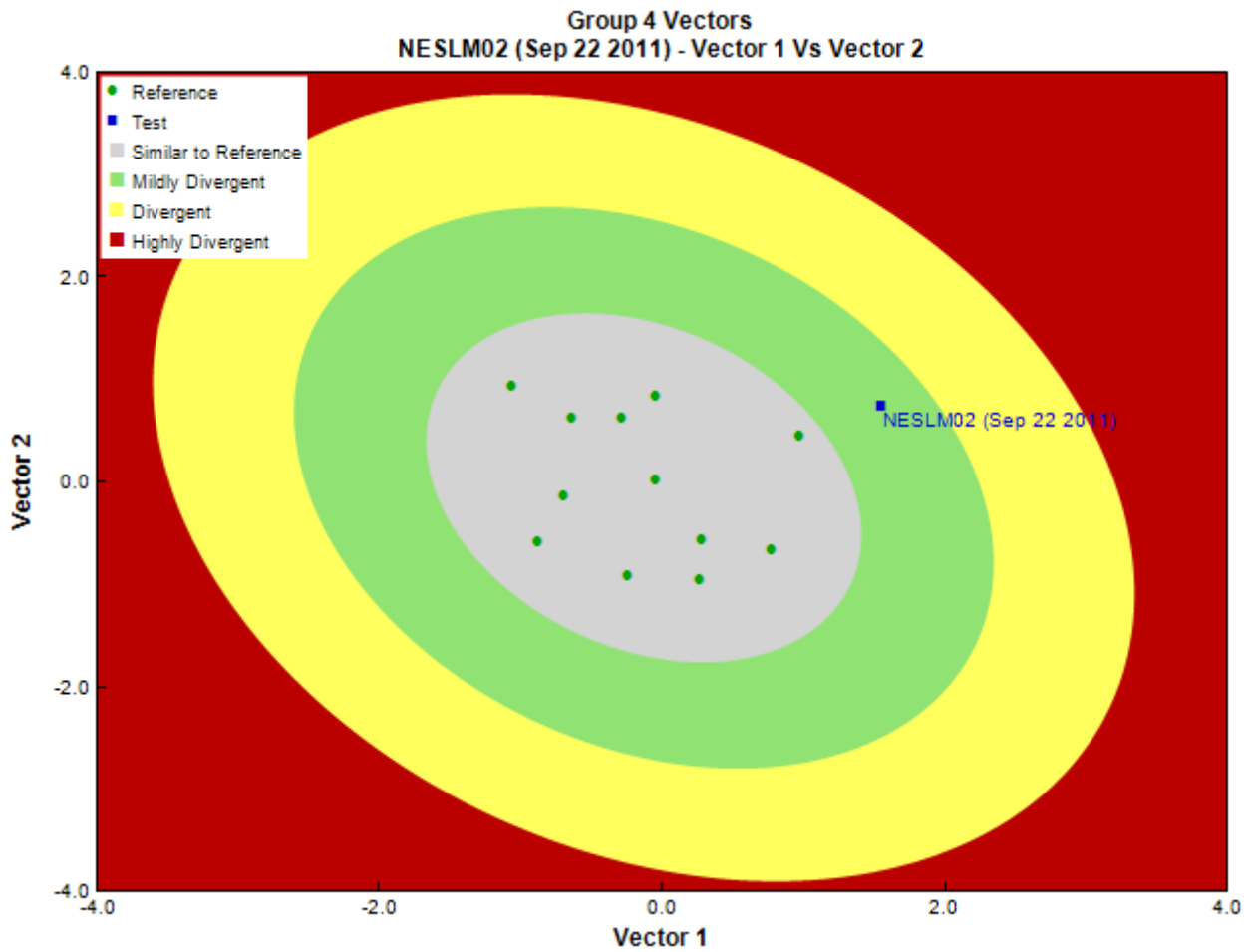


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Eco Analysts, EcoAnalysts
Date Taxonomy Completed	January 27, 2012
	Marchant Box
Sub-Sample Proportion	6/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count	
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	8	133.3	
		Lumbriculida	Lumbriculidae	1	16.7	
Arthropoda	Insecta	Diptera	Trombidiformes	Hydryphantidae	8	133.3
				Lebertiidae	6	100.0
				Sperchontidae	1	16.7
				Torrenticolidae	13	216.7
				Ceratopogonidae	1	16.7
				Chironomidae	27	450.0
				Psychodidae	7	116.7
				Tanyderidae	1	16.7
				Tipulidae	1	16.7
				Ephemeroptera	Ameletidae	6
		Baetidae	14	233.3		
		Ephemerellidae	36	600.0		
		Heptageniidae	143	2,383.3		

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
		Plecoptera	Chloroperlidae	19	316.7
			Nemouridae	5	83.3
			Perlidae	1	16.7
			Taeniopterygidae	17	283.3
		Trichoptera	Apataniidae	23	383.3
			Glossosomatidae	7	116.7
			Hydropsychidae	1	16.7
			Lepidostomatidae	6	100.0
			Rhyacophilidae	3	50.0
			Total	355	5,916.8

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.86	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	3.7	3.2 \pm 0.3
Intolerant taxa	1.0	
Long-lived taxa	1.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	0.3	2.2 \pm 1.8
% Gatherers	36.1	38.4 \pm 12.4
% Predatores	22.5	19.0 \pm 8.5
% Scrapers	63.1	63.2 \pm 19.7
% Shredder	14.6	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	7.6	7.4 \pm 6.4
% Coleoptera	0.0	1.5 \pm 3.9
% Diptera + Non-insects	20.8	10.8 \pm 7.6
% Ephemeroptera	56.1	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	7.0	40.6 \pm 30.0
% EPT Individuals	79.2	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	50.4	57.9 \pm 14.2
% of 5 dominant taxa	69.9	81.6 \pm 7.9
% of dominant taxa	40.3	39.8 \pm 14.9
% Plecoptera	11.8	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	2.5	27.0 \pm 26.2
% Tricoptera	11.3	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.9	0.9 \pm 0.1
Total Abundance	5916.6	587.4 \pm 299.1
Richness		
Chironomidae taxa (genus level only)	1.0	1.0 \pm 0.0
Coleoptera taxa	0.0	0.4 \pm 0.5
Diptera taxa	5.0	3.3 \pm 1.0
Ephemeroptera taxa	4.0	3.8 \pm 0.8
EPT Individuals (Sum)	4683.3	526.0 \pm 285.8
EPT taxa (no)	13.0	13.3 \pm 2.7
Odonata taxa	--	0.0 \pm 0.0
Pielou's Evenness	0.7	0.7 \pm 0.1
Plecoptera taxa	4.0	6.3 \pm 1.1
Shannon-Wiener Diversity	2.3	1.9 \pm 0.4
Simpson's Diversity	0.8	0.8 \pm 0.1
Simpson's Evenness	0.2	0.3 \pm 0.1
Total No. of Taxa	24.0	19.3 \pm 3.7
Trichoptera taxa	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 NESLM02
	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%	0.88
Perlodidae	78%	78%	89%	92%	81%	0.90
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.88

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.30
RIVPACS : Observed taxa P>0.50	12.00
RIVPACS : O:E (p > 0.5)	0.84
RIVPACS : Expected taxa P>0.70	11.36
RIVPACS : Observed taxa P>0.70	10.00
RIVPACS : O:E (p > 0.7)	0.88

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	22.7	23.6 \pm 11.1
Depth-BankfullMinusWetted (cm)	130.00	51.38 \pm 29.42
Depth-Max (cm)	38.0	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))	2	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)	0.0200000	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)	0.38	0.48 \pm 0.22
Velocity-Max (m/s)	0.68	0.76 \pm 0.36
Width-Bankfull (m)	54.0	13.4 \pm 9.9
Width-Wetted (m)	17.0	8.5 \pm 5.8
XSEC-VelInstrumentDirect (Category (1-3))	3	0 \pm 0
XSEC-VelMethod (Category (1-3))	3	1 \pm 0
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Sediment Chemistry		
Ag (ppm)	0.510	0.000
Al (ppm)	11700.000	0.005
As (ppm)	10.700	0.000
Ba (ppm)	87.100	0.068
Be (ppm)	0.200	0.000
Bi (ppm)	0.400	0.000
Ca (ppm)	6990.000	21.108 \pm 16.801
Cd (ppm)	8.060	0.000
Co (ppm)	9.900	0.000
Cr (ppm)	33.000	0.000
Cu (ppm)	33.200	0.000
Fe (ppm)	23400.000	0.008
Hg (ppm)	0.070	0.000 \pm 0.000
K (ppm)	1580.000	0.614 \pm 0.406
Li (ppm)	17.000	0.001
Mg (ppm)	7330.000	7.667 \pm 7.975
Mn (ppm)	390.000	0.001
Mo (ppm)	1.400	0.001
Na (ppm)	189.000	1.538 \pm 1.275
Ni (ppm)	23.300	0.000
Pb (ppm)	137.000	0.000
Sb (ppm)	0.800	0.000
Se (ppm)	1.800	0.000
Sn (ppm)	0.500	0.000
Sr (ppm)	49.600	0.044
Ti (ppm)	756.000	0.001
Tl (ppm)	0.150	0.000
TP (ppm)	1020.000	0.000 \pm 0.000
U (ppm)	2.130	0.001
V (ppm)	49.000	0.000
Zn (ppm)	400.000	0.001
Zr (ppm)	0.600	0.000 \pm 0.000
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	6	9 \pm 9
%Cobble (%)	49	51 \pm 15
%Gravel (%)	5	3 \pm 3
%Pebble (%)	40	37 \pm 20
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	0	0 \pm 0
D50 (cm)	6.65	15.12 \pm 14.26
Dg (cm)	6.7	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))	5	5 \pm 1
PeriphytonCoverage (Category(1-5))	2	1 \pm 0
SurroundingMaterial (Category(0-9))	3	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStddev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42000	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
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SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
General-Alkalinity (mg/L)	59.0000000	71.7000000 \pm 53.9231440
General-DO (mg/L)	12.0000000	11.4175000 \pm 0.7986708
General-pH (pH)	9.0	7.9 \pm 0.4
General-SpCond (μ S/cm)	121.0000000	168.9833333 \pm 123.7858182
General-TempAir (Degrees Celsius)	9.7	26.0
General-TempWater (Degrees Celsius)	8.7000000	7.3183333 \pm 2.7240839
General-Turbidity (NTU)	0.2300000	0.2020000
Nitrogen-NO2 (mg/L)	0.0025000	0.0027500 \pm 0.0062831
Nitrogen-NO2+NO3 (mg/L)	0.0100000	0.0690000
Nitrogen-NO3 (mg/L)	0.0100000	0.0546667 \pm 0.0498148
Phosphorus-OrthoP (mg/L)	0.0025000	0.0002727 \pm 0.0004671

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Sep 25 2012
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.24207 N, 117.23455 W
Altitude	2286
Local Basin Name	Salmo River
	Columbia
Stream Order	6



Figure 1. Location Map

Across Reach
Aerial (No image found)



Down Stream

Field Crew: GN, GA, CN Site Code: NEGLM02
Sampling Date: (DD/MM/YYYY) 05/09/2012

Occupational Health & Safety: Site Inspection Sheet completed

PRIMARY SITE DATA
CABIN Study Name: CBUN Local Basin Name: COLUMBIA BASIN
River/Stream Name: SALMON RIVER Stream Order: (map scale 1:50,000) 6

Select one: Test Site Potential Reference Site

Geographical Description/Notes
~150m UPSTREAM OF HIDDEN CREEK BRIDGE

Surrounding Land Use: (check those present)
 Forest Field/Pasture Agriculture Residential/Urban
 Logging Mining Commercial/Industrial Other

Dominant Surrounding Land Use: (check one)
 Forest Field/Pasture Agriculture Residential/Urban
 Logging Mining Commercial/Industrial Other

Information Source: _____

Location Data: UTM: 28XU02

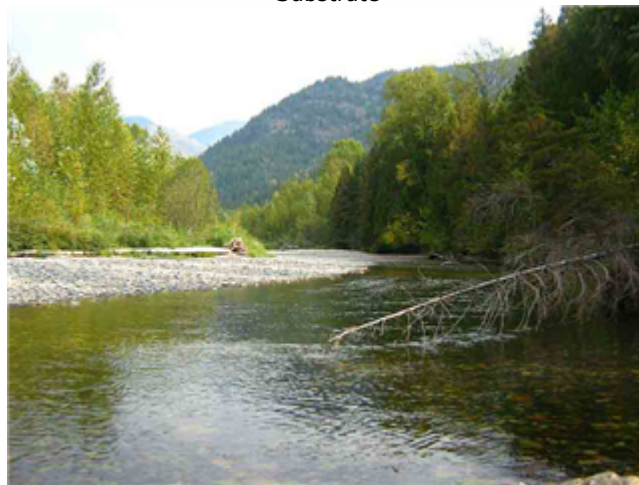
Field Sheet



Miscellaneous



Substrate



Up Stream

Cabin Assessment Results

Reference Model Summary					
Model	Columbia-Okanagan Preliminary March 2010				
Analysis Date	August 28, 2017				
Taxonomic Level	Family				
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%				
Reference Groups	1	2	3	4	5
Number of Reference Sites	9	43	17	12	33
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%
Overall Model Error Rate	26.4%				
Probability of Group Membership	0.1%	9.6%	10.4%	77.1%	2.8%
CABIN Assessment of NESLM02 on Sep 25, 2012	Mildly Divergent				

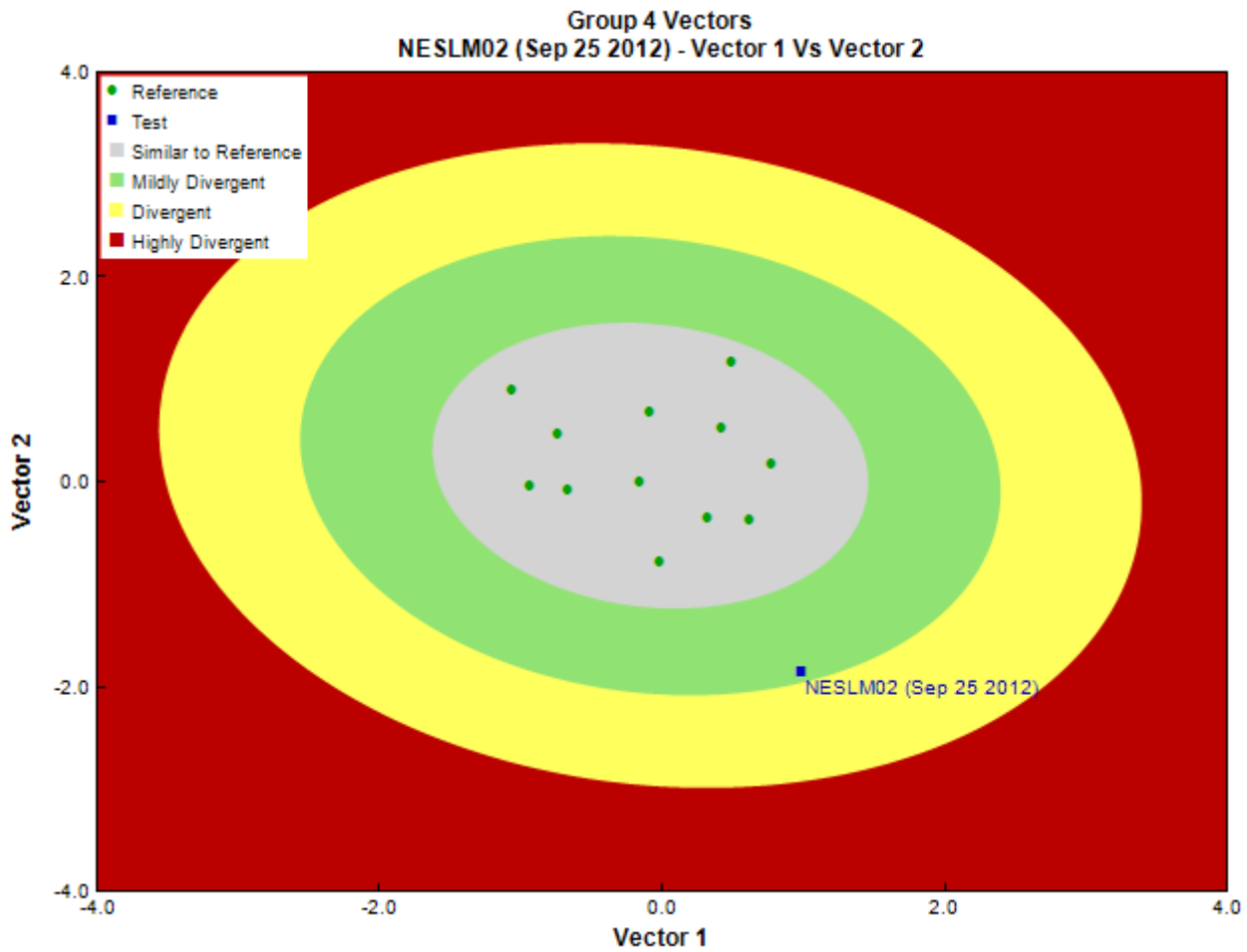


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Eco Analysts, EcoAnalysts
Date Taxonomy Completed	February 13, 2013
	Marchant Box
Sub-Sample Proportion	7/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count						
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	2	28.6						
Arthropoda	Arachnida	Trombidiformes	Hydryphantidae	3	42.8						
			Hygrobatidae	3	42.8						
			Lebertiidae	7	100.0						
			Sperchontidae	1	14.3						
			Torrenticolidae	24	342.9						
			Insecta	Coleoptera	Diptera	Elmidae	2	28.6			
						Ceratopogonidae	4	57.1			
						Chironomidae	29	414.3			
						Psychodidae	20	285.7			
						Ephemeroptera	Ameletidae	1	14.3		
							Baetidae	3	42.8		
							Ephemerellidae	23	328.6		
									Heptageniidae	161	2,300.0
								Plecoptera	Chloroperlidae	20	285.7

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Nemouridae	11	157.1
			Perlidae	3	42.8
			Perlodidae	7	100.0
		Trichoptera	Apataniidae	14	200.0
			Glossosomatidae	2	28.6
			Lepidostomatidae	10	142.9
			Rhyacophilidae	6	85.7
			Total	356	5,085.6

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.89	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	4.1	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	2.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	--	2.2 \pm 1.8
% Gatherers	31.5	38.4 \pm 12.4
% Predatores	30.1	19.0 \pm 8.5
% Scrapers	57.9	63.2 \pm 19.7
% Shredder	10.4	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	8.1	7.4 \pm 6.4
% Coleoptera	0.6	1.5 \pm 3.9
% Diptera + Non-insects	26.1	10.8 \pm 7.6
% Ephemeroptera	52.8	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	1.6	40.6 \pm 30.0
% EPT Individuals	73.3	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	53.4	57.9 \pm 14.2
% of 5 dominant taxa	72.2	81.6 \pm 7.9
% of dominant taxa	45.2	39.8 \pm 14.9
% Plecoptera	11.5	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	0.0	27.0 \pm 26.2
% Tricoptera	9.0	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.9	0.9 \pm 0.1
Total Abundance	5085.6	587.4 \pm 299.1
Richness		
Chironomidae taxa (genus level only)	1.0	1.0 \pm 0.0
Coleoptera taxa	1.0	0.4 \pm 0.5
Diptera taxa	3.0	3.3 \pm 1.0
Ephemeroptera taxa	4.0	3.8 \pm 0.8
EPT Individuals (Sum)	3728.5	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	4.0	6.3 \pm 1.1
Shannon-Wiener Diversity	2.1	1.9 \pm 0.4
Simpson's Diversity	0.8	0.8 \pm 0.1
Simpson's Evenness	0.2	0.3 \pm 0.1
Total No. of Taxa	22.0	19.3 \pm 3.7
Trichoptera taxa	4.0	3.2 \pm 1.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESLM02
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NESLM02
	Group 1	Group 2	Group 3	Group 4	Group 5	
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%	0.89
Perlodidae	78%	78%	89%	92%	81%	0.90
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.89

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.32
RIVPACS : Observed taxa P>0.50	11.00
RIVPACS : O:E (p > 0.5)	0.77
RIVPACS : Expected taxa P>0.70	11.37
RIVPACS : Observed taxa P>0.70	9.00
RIVPACS : O:E (p > 0.7)	0.79

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	28.2	23.6 \pm 11.1
Depth-BankfullMinusWetted (cm)	130.00	51.38 \pm 29.42
Depth-Max (cm)	39.0	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))	2	4 \pm 1
Reach-Pools (Binary)	0	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)	0.0200000	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)	0.45	0.48 \pm 0.22
Velocity-Max (m/s)	0.57	0.76 \pm 0.36
Width-Bankfull (m)	54.0	13.4 \pm 9.9
Width-Wetted (m)	17.0	8.5 \pm 5.8
XSEC-VelInstrumentDirect (Category (1-3))	3	0 \pm 0
XSEC-VelMethod (Category (1-3))	3	1 \pm 0
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Sediment Chemistry		
Ag (ppm)	0.262	0.000
Al (ppm)	9390.000	0.005
As (ppm)	5.730	0.000
Ba (ppm)	48.000	0.068
Be (ppm)	0.200	0.000
Bi (ppm)	0.170	0.000
Ca (ppm)	3760.000	21.108 \pm 16.801
Cd (ppm)	1.460	0.000
Co (ppm)	7.260	0.000
Cr (ppm)	22.400	0.000
Cu (ppm)	16.300	0.000
Fe (ppm)	19500.000	0.008
Hg (ppm)	0.025	0.000 \pm 0.000
K (ppm)	1260.000	0.614 \pm 0.406
Li (ppm)	14.400	0.001
Mg (ppm)	6570.000	7.667 \pm 7.975
Mn (ppm)	294.000	0.001
Mo (ppm)	1.200	0.001
Na (ppm)	125.000	1.538 \pm 1.275
Ni (ppm)	16.700	0.000
Pb (ppm)	59.600	0.000
Sb (ppm)	0.400	0.000
Se (ppm)	0.250	0.000
Sn (ppm)	0.150	0.000
Sr (ppm)	29.600	0.044
Ti (ppm)	556.000	0.001
Tl (ppm)	0.114	0.000
TP (ppm)	803.000	0.000 \pm 0.000
U (ppm)	0.813	0.001
V (ppm)	38.200	0.000
Zn (ppm)	196.000	0.001
Zr (ppm)	1.000	0.000 \pm 0.000
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	7	9 \pm 9
%Cobble (%)	42	51 \pm 15
%Gravel (%)	8	3 \pm 3
%Pebble (%)	43	37 \pm 20
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	0	0 \pm 0
D50 (cm)	6.25	15.12 \pm 14.26
Dg (cm)	6.6	8.2 \pm 2.8
Dominant-1st (Category(0-9))	5	7 \pm 1
Dominant-2nd (Category(0-9))	6	7 \pm 1
Embeddedness (Category(1-5))	5	5 \pm 1
PeriphytonCoverage (Category(1-5))	2	1 \pm 0
SurroundingMaterial (Category(0-9))	3	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStdev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42000	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pmSD
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
General-DO (mg/L)	10.0000000	11.4175000 \pm 0.7986708
General-pH (pH)	6.4	7.9 \pm 0.4
General-SpCond (μS/cm)	138.0000000	168.9833333 \pm 123.7858182
General-TempAir (Degrees Celsius)	17.2	26.0
General-TempWater (Degrees Celsius)	11.0000000	7.3183333 \pm 2.7240839
General-Turbidity (NTU)	0.3700000	0.2020000

Site Description

Study Name	CBWQ-Salmo
Site	NESLM02
Sampling Date	Oct 24 2013
Know Your Watershed Basin	Central Columbia
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Selkirk-Bitterroot Foothills EcoRegion
Coordinates (decimal degrees)	49.24207 N, 117.23455 W
Altitude	2286
Local Basin Name	Salmo River
	Columbia
Stream Order	6



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

		Reference Model Summary				
Model	Columbia-Okanagan Preliminary March 2010					
Analysis Date	August 28, 2017					
Taxonomic Level	Family					
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%					
Reference Groups	1	2	3	4	5	
Number of Reference Sites	9	43	17	12	33	
Group Error Rate	22.2%	24.5%	22.2%	25.0%	32.4%	
Overall Model Error Rate	26.4%					
Probability of Group Membership	1.2%	7.2%	9.7%	79.4%	2.5%	
CABIN Assessment of NESLM02 on Oct 24, 2013	Mildly Divergent					

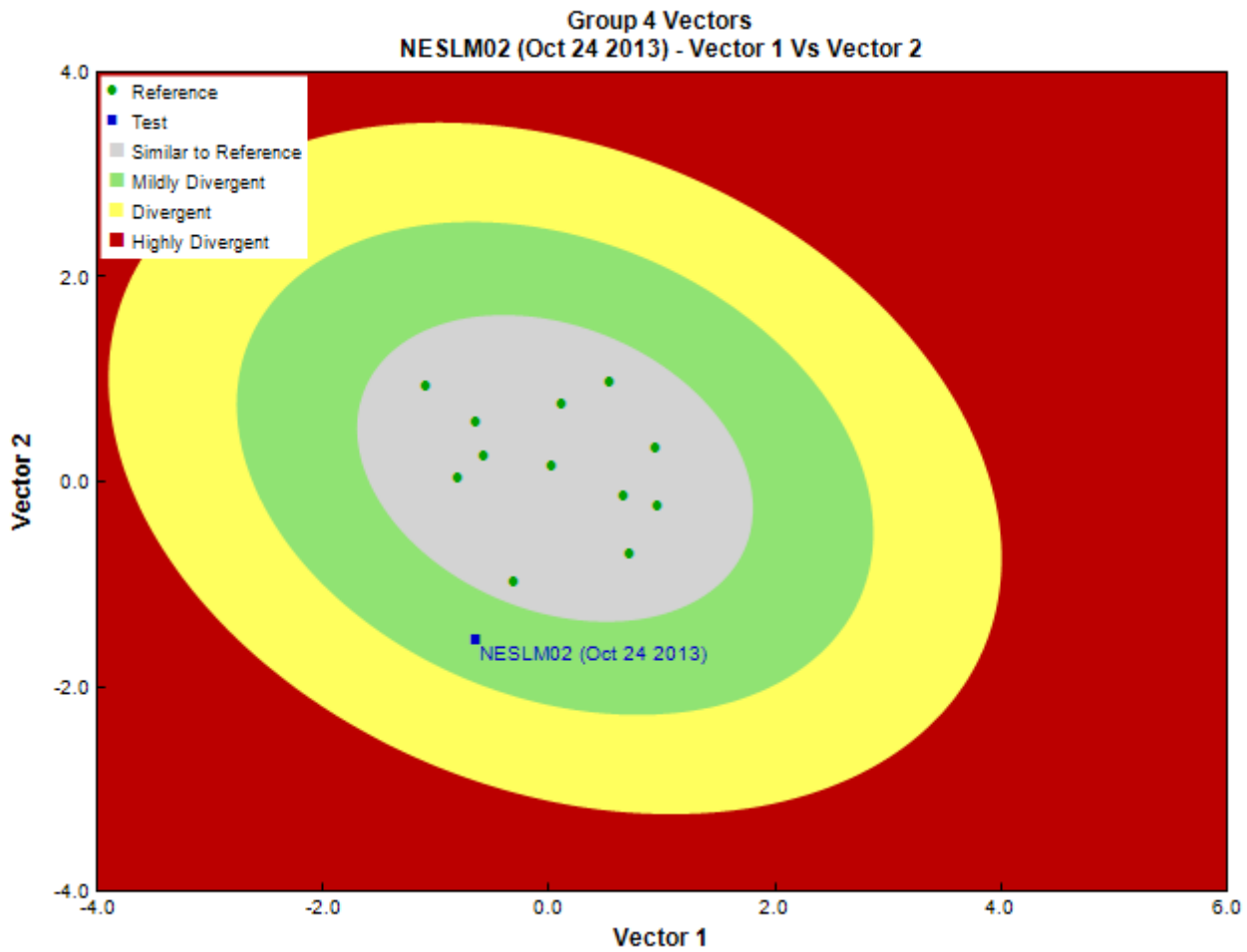


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Pina Viola, Consultant
Date Taxonomy Completed	January 27, 2014
	Marchant Box
Sub-Sample Proportion	6/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count				
Annelida	Oligochaeta	Tubificida		2	33.3				
Arthropoda	Arachnida	Trombidiformes	Hydryphantidae	1	16.7				
			Lebertiidae	2	33.3				
			Torrenticolidae	1	16.7				
	Insecta	Diptera		Ceratopogonidae	1	16.7			
				Chironomidae	85	1,416.7			
				Psychodidae	24	400.0			
				Tipulidae	3	50.0			
				Ephemeroptera	Ameletidae	1	16.7		
					Baetidae	24	400.0		
					Ephemerellidae	24	400.0		
							Heptageniidae	107	1,783.4
							Leptophlebiidae	1	16.7
				Plecoptera			3	50.0	
Capniidae	4	66.7							

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Chloroperlidae	10	166.7
			Nemouridae	2	33.3
			Perlidae	3	50.0
			Taeniopterygidae	2	33.3
		Trichoptera	Apataniidae	1	16.7
			Glossosomatidae	10	166.7
			Hydropsychidae	1	16.7
			Lepidostomatidae	18	300.0
			Rhyacophilidae	2	33.3
			Total	332	5,533.6

Metrics

Name	NESLM02	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.86	0.4 \pm 0.1
Biotic Indices		
Hilsenhoff Family index (North-West)	4.4	3.2 \pm 0.3
Intolerant taxa	--	
Long-lived taxa	1.0	2.1 \pm 1.0
Tolerant individuals (%)	--	0.8 \pm 0.3
Functional Measures		
% Filterers	0.3	2.2 \pm 1.8
% Gatherers	46.1	38.4 \pm 12.4
% Predatores	31.9	19.0 \pm 8.5
% Scrapers	46.7	63.2 \pm 19.7
% Shredder	9.0	27.6 \pm 15.2
Number Of Individuals		
% Chironomidae	26.0	7.4 \pm 6.4
% Coleoptera	0.0	1.5 \pm 3.9
% Diptera + Non-insects	35.8	10.8 \pm 7.6
% Ephemeroptera	48.0	51.7 \pm 18.8
% Ephemeroptera that are Baetidae	15.3	40.6 \pm 30.0
% EPT Individuals	64.2	87.7 \pm 7.4
% Odonata	--	0.0 \pm 0.0
% of 2 dominant taxa	58.7	57.9 \pm 14.2
% of 5 dominant taxa	80.7	81.6 \pm 7.9
% of dominant taxa	32.7	39.8 \pm 14.9
% Plecoptera	6.4	31.4 \pm 15.4
% Tribe Tanyatarisini	--	
% Trichoptera that are Hydropsychida	3.1	27.0 \pm 26.2
% Tricoptera	9.8	4.5 \pm 2.8
No. EPT individuals/Chironomids+EPT Individuals	0.7	0.9 \pm 0.1
Total Abundance	5533.3	587.4 \pm 299.1
Richness		
Chironomidae taxa (genus level only)	1.0	1.0 \pm 0.0
Coleoptera taxa	0.0	0.4 \pm 0.5
Diptera taxa	4.0	3.3 \pm 1.0
Ephemeroptera taxa	5.0	3.8 \pm 0.8
EPT Individuals (Sum)	3500.0	526.0 \pm 285.8
EPT taxa (no)	15.0	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	2.1	1.9 \pm 0.4
Simpson's Diversity	0.8	0.8 \pm 0.1
Simpson's Evenness	0.2	0.3 \pm 0.1
Total No. of Taxa	22.0	19.3 \pm 3.7
Trichoptera taxa	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 NESLM02
	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%	1.00
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.89
Nemouridae	100%	100%	100%	100%	100%	1.00
Perlidae	11%	84%	33%	100%	3%	0.89
Perlodidae	78%	78%	89%	92%	81%	0.90
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.89

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	14.34
RIVPACS : Observed taxa P>0.50	13.00
RIVPACS : O:E (p > 0.5)	0.91
RIVPACS : Expected taxa P>0.70	11.39
RIVPACS : Observed taxa P>0.70	11.00
RIVPACS : O:E (p > 0.7)	0.97

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Alluvium (%)	0.00000	0.00000 \pm 0.00000
Intrusive (%)	39.10051	11.07346 \pm 28.63466
Metamorphic (%)	0.00000	17.96649 \pm 35.53463
Sedimentary (%)	37.68921	70.96005 \pm 44.90394
Ultramafic (%)	0.00000	0.00000 \pm 0.00000
Volcanic (%)	23.21029	0.00000 \pm 0.00000
Channel		
Depth-Avg (cm)	41.8	23.6 \pm 11.1
Depth-BankfullMinusWetted (cm)	125.00	51.38 \pm 29.42
Depth-Max (cm)	64.0	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))	3	4 \pm 1
Reach-Pools (Binary)	0	1 \pm 0
Reach-Rapids (Binary)	1	0 \pm 0
Reach-Riffles (Binary)	1	1 \pm 0
Reach-StraightRun (Binary)	1	1 \pm 1
Slope (m/m)	0.0200000	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)	0.42	0.48 \pm 0.22
Velocity-Max (m/s)	0.75	0.76 \pm 0.36
Width-Bankfull (m)	54.0	13.4 \pm 9.9
Width-Wetted (m)	20.0	8.5 \pm 5.8
XSEC-VelInstrumentDirect (Category (1-3))	3	0 \pm 0
XSEC-VelMethod (Category (1-3))	3	1 \pm 0
Climate		
Precip01_JAN (mm)	129.75000	104.85000 \pm 26.28129
Precip02_FEB (mm)	111.25000	83.66667 \pm 27.10278
Precip03_MAR (mm)	105.00000	77.23611 \pm 27.15950
Precip04_APR (mm)	129.75000	104.85000 \pm 26.28129
Precip05_MAY (mm)	94.62500	71.65833 \pm 17.81753
Precip06_JUN (mm)	96.00000	78.56667 \pm 15.58521

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Precip07_JUL (mm)	71.62500	64.39167 \pm 10.41611
Precip08_AUG (mm)	66.12500	60.53056 \pm 10.43373
Precip09_SEP (mm)	67.75000	56.91944 \pm 10.91783
Precip10_OCT (mm)	80.25000	65.08056 \pm 14.41229
Precip11_NOV (mm)	134.00000	105.93889 \pm 25.04104
Precip12_DEC (mm)	146.00000	116.84444 \pm 29.80954
PrecipTotal_ANNUAL (mm)	1191.62500	952.64722 \pm 226.04690
Temp01_JANMax (Degrees Celsius)	-4.25000	-4.39167 \pm 2.51268
Temp01_JANmin (Degrees Celsius)	-10.00000	-11.40833 \pm 3.53951
Temp02_FEBmax (Degrees Celsius)	-1.62500	-1.70000 \pm 2.12945
Temp02_FEBmin (Degrees Celsius)	-8.25000	-9.17500 \pm 3.33361
Temp03_MARmax (Degrees Celsius)	1.75000	2.50556 \pm 2.87525
Temp03_MARmin (Degrees Celsius)	-5.62500	-6.14167 \pm 2.98556
Temp04_APRmax (Degrees Celsius)	6.62500	7.12222 \pm 3.48771
Temp04_APRmin (Degrees Celsius)	-2.25000	-2.71667 \pm 2.22785
Temp05_MAYmax (Degrees Celsius)	11.37500	12.03889 \pm 3.55434
Temp05_MAYmin (Degrees Celsius)	1.00000	1.04722 \pm 2.08663
Temp06_JUNMax (Degrees Celsius)	15.00000	15.72500 \pm 3.40030
Temp06_JUNMin (Degrees Celsius)	4.25000	4.00278 \pm 2.41085
Temp07_JULmax (Degrees Celsius)	19.00000	19.56111 \pm 3.47275
Temp07_JULmin (Degrees Celsius)	6.87500	6.35833 \pm 2.28332
Temp08_AUGmax (Degrees Celsius)	19.00000	19.52222 \pm 3.51100
Temp08_AUGmin (Degrees Celsius)	6.62500	6.19167 \pm 2.34422
Temp09_SEPmax (Degrees Celsius)	13.50000	14.04444 \pm 3.03456
Temp09_SEPmin (Degrees Celsius)	2.37500	2.04722 \pm 2.37208
Temp10_OCTmax (Degrees Celsius)	6.37500	6.88889 \pm 2.71577
Temp10_OCTmin (Degrees Celsius)	-1.12500	-1.46111 \pm 1.64316
Temp11_NOVmax (Degrees Celsius)	-1.00000	-0.79722 \pm 2.43512
Temp11_NOVmin (Degrees Celsius)	-6.12500	-6.68056 \pm 2.97163
Temp12_DECmax (Degrees Celsius)	-4.50000	-4.66389 \pm 2.69757
Temp12_DECmin (Degrees Celsius)	-9.50000	-10.65833 \pm 3.71739
TempANNUALmax (Degrees Celsius)	6.37500	6.96389 \pm 3.06157
TempANNUALmean (Degrees Celsius)	2.12500	2.25278 \pm 2.66574
TempANNUALmin (Degrees Celsius)	-1.62500	-2.18056 \pm 2.41152
Hydrology		
Drainage-Area (km ²)	420.29652	124.42081 \pm 200.99192
Perimeter (Km)	146.56897	64.71360 \pm 56.15436
StreamDensity (m/km ²)	1881.59468	2246.06682 \pm 604.89962
StreamLength (m)	790827.69	302226.63 \pm 500983.26
Landcover		
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 (%)	0.93300	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 (%)	0.24499	0.64845 \pm 0.37668
Natl-ConiferousOpen (%)	69.37592	54.62780 \pm 18.30692
Natl-ConiferousSparse (%)	0.00000	0.94121 \pm 1.53621
Natl-Deciduous (%)	0.00000	0.00000 \pm 0.00000
Natl-Developed (%)	0.00000	0.00000 \pm 0.00000
Natl-ExposedLand (%)	2.99208	13.20054 \pm 11.11850
Natl-Grassland (%)	0.00000	1.87556 \pm 1.68508
Natl-Herb (%)	9.76779	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 (%)	0.00000	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 (%)	0.06490	1.56403 \pm 2.75979
Natl-Shrubland (%)	0.00000	0.00000 \pm 0.00000
Natl-ShrubLow (%)	9.44371	4.98298 \pm 3.22579

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pm SD
Natl-ShrubTall (%)	0.00000	0.00000 \pm 0.00000
Natl-SnowIce (%)	0.00000	0.08491 \pm 0.15475
Natl-Water (%)	0.11508	0.22916 \pm 0.36834
Natl-Wetland (%)	0.00000	0.00000 \pm 0.00000
Natl-WetlandHerb (%)	0.00420	0.12918 \pm 0.35193
Natl-WetlandShrub (%)	0.00950	0.00000 \pm 0.00000
Natl-WetlandTreed (%)	0.00000	0.00000 \pm 0.00000
Reg-Ice (%)	0.00000	0.02487 \pm 0.06034
Sediment Chemistry		
Ag (ppm)	0.259	0.000
Al (ppm)	10400.000	0.005
As (ppm)	7.330	0.000
Ba (ppm)	65.200	0.068
Be (ppm)	0.200	0.000
Bi (ppm)	0.270	0.000
Ca (ppm)	4000.000	21.108 \pm 16.801
Cd (ppm)	2.000	0.000
Co (ppm)	8.890	0.000
Cr (ppm)	24.500	0.000
Cu (ppm)	19.800	0.000
Fe (ppm)	21200.000	0.008
Hg (ppm)	0.025	0.000 \pm 0.000
K (ppm)	1480.000	0.614 \pm 0.406
Li (ppm)	17.000	0.001
Mg (ppm)	6730.000	7.667 \pm 7.975
Mn (ppm)	310.000	0.001
Mo (ppm)	1.190	0.001
Na (ppm)	131.000	1.538 \pm 1.275
Ni (ppm)	21.300	0.000
Pb (ppm)	65.000	0.000
Sb (ppm)	0.510	0.000
Se (ppm)	0.250	0.000
Sn (ppm)	0.050	0.000
Sr (ppm)	28.700	0.044
Ti (ppm)	676.000	0.001
Tl (ppm)	0.135	0.000
U (ppm)	0.886	0.001
V (ppm)	42.900	0.000
Zn (ppm)	233.000	0.001
Zr (ppm)	0.990	0.000 \pm 0.000
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	8	9 \pm 9
%Cobble (%)	34	51 \pm 15
%Gravel (%)	16	3 \pm 3
%Pebble (%)	42	37 \pm 20
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	0	0 \pm 0
D50 (cm)	5.35	15.12 \pm 14.26
Dg (cm)	5.2	8.2 \pm 2.8
Dominant-1st (Category(0-9))	5	7 \pm 1
Dominant-2nd (Category(0-9))	6	7 \pm 1
Embeddedness (Category(1-5))	5	5 \pm 1
PeriphytonCoverage (Category(1-5))	4	1 \pm 0
SurroundingMaterial (Category(0-9))	3	4 \pm 1
Topography		
ElevationMax (m)	2356.00000	2634.66667 \pm 309.54023
ElevationMin (m)	686.00000	913.41667 \pm 271.25180
ElevationStdev (m)	344.34665	349.02363 \pm 92.12445
Reg-SlopeLT30% (%)	23.42000	18.88386 \pm 9.29866
Slope30-50% (%)	35.27680	29.00215 \pm 6.33837
Slope50-60% (%)	14.55723	13.91808 \pm 1.91315

Habitat Description

Variable	NESLM02	Predicted Group Reference Mean \pmSD
SlopeAvg (%)	45.11876	52.79851 \pm 8.68755
SlopeGT60% (%)	23.65401	35.47207 \pm 13.39684
SlopeLT30% (%)	26.51196	21.60770 \pm 8.54172
SlopeMax (%)	204.50665	298.94390 \pm 146.30679
SlopeMin (%)	0.00000	0.19777 \pm 0.29213
SlopeStdev (%)	21.96144	26.57529 \pm 4.62351
Water Chemistry		
General-DO (mg/L)	10.0000000	11.4175000 \pm 0.7986708
General-pH (pH)	8.3	7.9 \pm 0.4
General-SpCond (μS/cm)	98.0000000	168.9833333 \pm 123.7858182
General-TempAir (Degrees Celsius)	3.9	26.0
General-TempWater (Degrees Celsius)	3.5000000	7.3183333 \pm 2.7240839
General-Turbidity (NTU)	0.2900000	0.2020000
Nitrogen-NO2 (mg/L)	0.0025000	0.0027500 \pm 0.0062831
Nitrogen-NO2+NO3 (mg/L)	0.0220000	0.0690000
Nitrogen-NO3 (mg/L)	0.0220000	0.0546667 \pm 0.0498148
Phosphorus-OrthoP (mg/L)	0.0094000	0.0002727 \pm 0.0004671