Site Description

Study Name	CBWQ-Central Kootenay
Site	NGJOS01
Sampling Date	Sep 14 2009
Know Your Watershed Basin	Central Kootenay
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Columbia Mountains and Highlands EcoRegion
Coordinates (decimal degrees)	49.45167 N, 115.68667 W
Altitude	3658
Local Basin Name	Joseph Creek
	St. Mary River
Stream Order	3

Figure 1. Location Map

Across Reach
Aerial (No image found)

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

Up Stream

Cabin Assessment Results

Reference Model Summary	
Model	Columbia-Okanagan Preliminary March 2010
Analysis Date	July 29, 2013
Taxonomic Level	Family
Predictive Model Variables	Depth-Avg Latitude Longitude Reg-Ice 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%	11.1%	75.7%	12.3%	0.9%
CABIN Assessment of NGJOS01 on Sep 14, 2009	Similar to Reference				

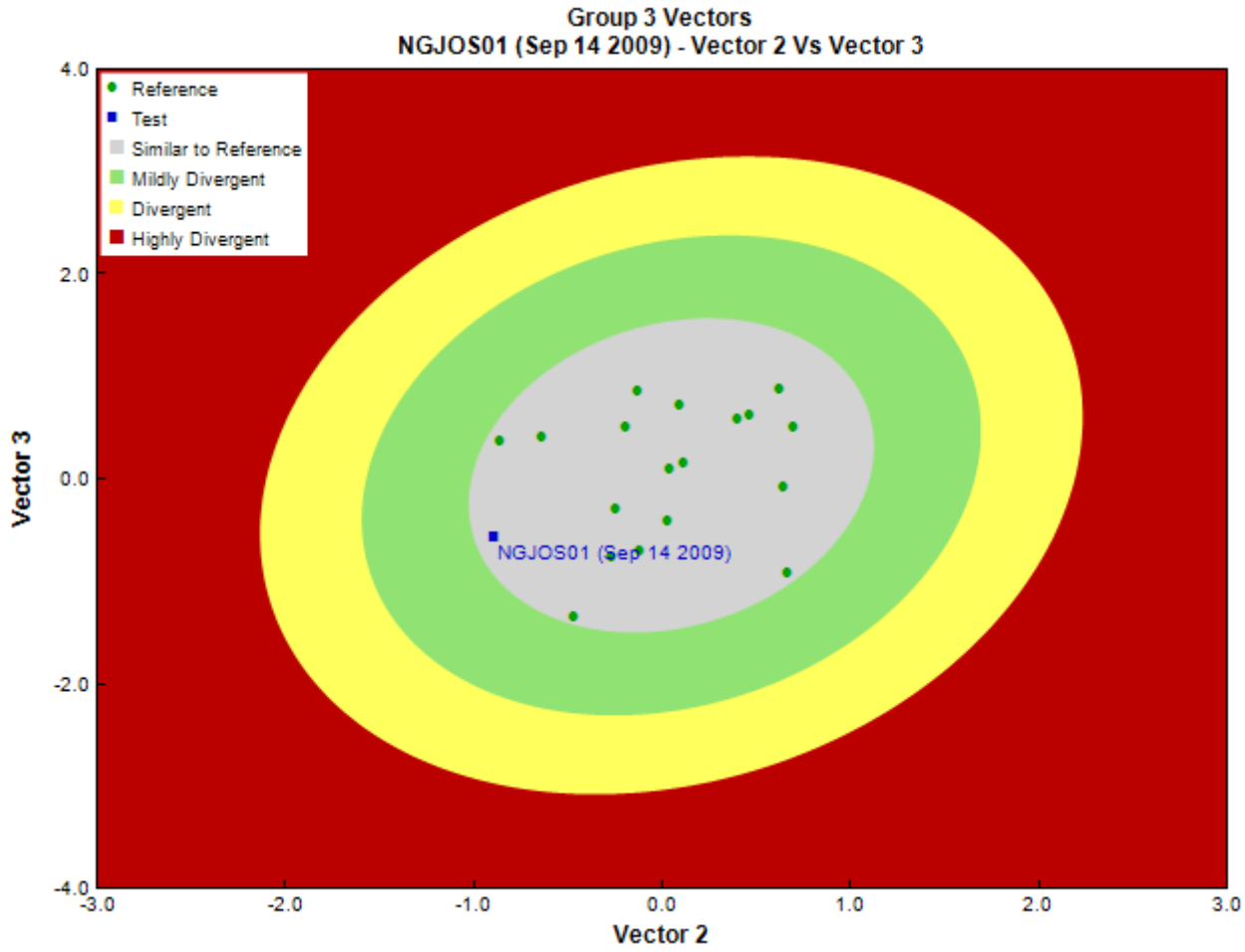

Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

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

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	1	33.3
Arthropoda	Arachnida	Trombidiformes	Sperchontidae	1	33.3
	Insecta	Coleoptera	Elmidae	37	1,233.3
		Diptera	Chironomidae	48	1,600.0
			Empididae	1	33.3
			Pelecorhynchidae	1	33.3
			Psychodidae	3	100.0
			Tipulidae	1	33.3
		Ephemeroptera	Ameletidae	3	100.0
			Baetidae	61	2,033.3
			Ephemerellidae	52	1,733.3
			Heptageniidae	52	1,733.3
		Plecoptera	Chloroperlidae	19	633.3
			Nemouridae	8	266.7
			Perlidae	6	200.0

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Perlodidae	1	33.3
			Taeniopterygidae	1	33.3
		Trichoptera	Brachycentridae	5	166.7
			Glossosomatidae	1	33.3
			Hydropsychidae	2	66.7
			Rhyacophilidae	10	333.3
			Total	314	10,466.3

Metrics

Name	NGJOS01	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.61	0.4 ± 0.2
Number Of Individuals		
% Chironomidae	15.3	8.2 ± 13.6
% Ephemeroptera	53.5	43.5 ± 15.9
% Ephemeroptera that are Baetidae	36.3	33.9 ± 27.7
% of 2 dominant taxa	36.0	59.2 ± 10.0
% of dominant taxa	19.4	39.7 ± 10.9
% Plecoptera	11.1	34.8 ± 17.8
% Tricoptera	5.7	6.9 ± 8.6
No. EPT individuals/Chironomids+EPT Individuals	0.8	0.9 ± 0.1
Total Abundance	10466.6	5757.3 ± 4889.9
Richness		
Ephemeroptera taxa	4.0	3.4 ± 0.5
EPT taxa (no)	13.0	11.5 ± 1.2
Plecoptera taxa	5.0	5.3 ± 0.9
Shannon-Wiener Diversity	2.2	1.9 ± 0.3
Simpson's Diversity	0.9	0.8 ± 0.1
Total No. of Taxa	21.0	17.1 ± 2.4
Trichoptera taxa	4.0	2.8 ± 1.0

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at NGJOS01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Baetidae	100%	100%	100%	100%	97%	1.00
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.94
Ephemerellidae	78%	100%	100%	100%	100%	1.00
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydropsychidae	11%	92%	78%	92%	86%	0.81
Nemouridae	100%	100%	100%	100%	100%	1.00
Perlodidae	78%	78%	89%	92%	81%	0.88
Psychodidae	22%	65%	94%	8%	11%	0.80
Rhyacophilidae	100%	92%	100%	100%	95%	0.99
Taeniopterygidae	89%	49%	100%	92%	97%	0.93

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	13.57
RIVPACS : Observed taxa P>0.50	14.00
RIVPACS : O:E (p > 0.5)	1.03
RIVPACS : Expected taxa P>0.70	10.36
RIVPACS : Observed taxa P>0.70	11.00
RIVPACS : O:E (p > 0.7)	1.06

Habitat Description

Variable	NGJOS01	Predicted Group Reference Mean ±SD
Channel		
Depth-Avg (cm)	10.2	22.5 ± 10.5

Habitat Description

Variable	NGJOS01	Predicted Group Reference Mean ±SD
Depth-BankfullMinusWetted (cm)	41.00	26.00 ± 4.24
Depth-Max (cm)	12.0	32.9 ± 17.9
Macrophyte (PercentRange)	0	0 ± 0
Reach-%CanopyCoverage (PercentRange)	2.00	0.94 ± 0.80
Reach-%Logging (PercentRange)	0	0 ± 0
Reach-DomStreamsideVeg (Category (1-4))	4	3 ± 1
Reach-Pools (Binary)	1	0 ± 1
Reach-Rapids (Binary)	0	0 ± 1
Reach-Riffles (Binary)	1	1 ± 0
Reach-StraightRun (Binary)	1	1 ± 0
Slope (m/m)	0.0600000	0.0235102 ± 0.0284557
Veg-Coniferous (Binary)	1	1 ± 0
Veg-Deciduous (Binary)	1	1 ± 0
Veg-GrassesFerns (Binary)	1	1 ± 0
Veg-Shrubs (Binary)	1	1 ± 0
Velocity-Avg (m/s)	1.19	0.51 ± 0.25
Velocity-Max (m/s)	1.31	0.75 ± 0.28
Width-Bankfull (m)	6.8	15.6 ± 12.8
Width-Wetted (m)	5.0	10.2 ± 7.0
XSEC-VelMethod (Category (1-3))	1	2 ± 1
Landcover		
Reg-Ice (%)	0.00000	0.46949 ± 1.15785
Substrate Data		
%Bedrock (%)	0	0 ± 0
%Boulder (%)	0	6 ± 7
%Cobble (%)	56	61 ± 27
%Gravel (%)	0	1 ± 2
%Pebble (%)	44	31 ± 28
%Sand (%)	0	0 ± 0
%Silt+Clay (%)	0	1 ± 3
D50 (cm)	7.00	79.45 ± 47.98
Dg (cm)	7.2	73.9 ± 48.0
Dominant-1st (Category(0-9))	5	6 ± 2
Dominant-2nd (Category(0-9))	6	6 ± 2
Embeddedness (Category(1-5))	4	4 ± 1
PeriphytonCoverage (Category(1-5))	2	2 ± 1
SurroundingMaterial (Category(0-9))	3	4 ± 2
Topography		
SlopeLT30% (%)	54.84410	27.92073 ± 14.83033
Water Chemistry		
Ca (mg/L)	35.0000000	38.6142857 ± 14.8464843
General-Alkalinity (mg/L)	120.0000000	121.5944444 ± 36.7225924
General-Hardness (mg/L)	120.0000000	146.8222222 ± 41.6699011
General-pH (pH)	8.2	8.0 ± 0.6
General-SolidsTSS (mg/L)	2.0000000	0.5604289 ± 1.4627232
General-SpCond (µS/cm)	222.0000000	214.2437500 ± 77.1891440
General-TempAir (Degrees Celsius)	22.0	10.5 ± 4.2
General-TempWater (Degrees Celsius)	12.5000000	6.8794444 ± 1.7335020
Mg (mg/L)	7.8300000	9.8814286 ± 6.1601202
Nitrogen-TN (mg/L)	0.1200000	0.0688889 ± 0.0759171
Phosphorus-TP (mg/L)	0.0025000	0.0032778 ± 0.0061816