

Site Description

Study Name	CBWQ-Elk
Site	Liz-01
Sampling Date	Oct 07 2014
Know Your Watershed Basin	Central Kootenay
Province / Territory	British Columbia
Terrestrial Ecological Classification	Montane Cordillera EcoZone Northern Continental Divide EcoRegion
Coordinates (decimal degrees)	49.47101 N, 115.07666 W
Altitude	3254
Local Basin Name	Lizard Creek
	Elk River
Stream Order	3



Figure 1. Location Map



Across Reach



Down Stream

Field Crew: Alicia Dickhut / Ayala Borratt Site Code: L1201
Sampling Date: (DD/MM/YYYY) 07/10/2014

Occupational Health & Safety: Site Inspection Sheet completed

PRIMARY SITE DATA
CABIN Study Name: FEA Elk River Tributaries Local Basin Name: Elk River
River/Stream Name: Lizard Creek Stream Order: (map scale 1:50,000) 3
Select one: Test Site Potential Reference Site

Geographical Description/Notes:
Surrounding Land Use: (check those present) Information Source: local
 Forest Field/Pasture Agriculture Residential/Urban
 Logging Mining Commercial/Industrial Other _____
Dominant Surrounding Land Use: (check one) Information Source: _____
 Forest Field/Pasture Agriculture Residential/Urban
 Logging Mining Commercial/Industrial Other _____

Location Data
Latitude: 41.4710° N Longitude: 115.0765° W (DMS or DD)
Elevation: 992 (ft or m) GPS Datum: GRS80 (NAD83/WGS84) Other: _____

Site Location Map Drawing

The map drawing shows a cross-section of a stream. A north arrow is at the top. An arrow labeled 'FLOW' points to the right. A vertical line across the stream is labeled 'cross section'. Two arrows labeled 'Water Samples' point to the left bank. One arrow labeled 'Kick Sample' points to the right bank.

Note: Indicate north

Field Sheet



Up Stream

Cabin Assessment Results

Reference Model Summary					
Model	Columbia-Okanagan Preliminary March 2010				
Analysis Date	January 25, 2016				
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%	0.6%	77.2%	20.4%	1.8%
CABIN Assessment of Liz-01 on Oct 07, 2014	N/A				

Sample Information

Sampling Device	Kick Net
Mesh Size	400
Sampling Time	3
Taxonomist	Pina Viola, Consultant
Date Taxonomy Completed	March 03, 2015
	Marchant Box
Sub-Sample Proportion	8/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Tubificida	Naididae	21	262.5
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	12	150.0
			Torrenticolidae	1	12.5
	Insecta	Coleoptera	Elmidae	30	375.0
		Diptera	Chironomidae	17	212.5
			Empididae	2	25.0
			Psychodidae	8	100.0
			Simuliidae	1	12.5
			Tipulidae	24	300.0
		Ephemeroptera	Ameletidae	3	37.5
			Baetidae	80	1,000.0
			Ephemerellidae	36	450.0
			Heptageniidae	24	300.0
		Plecoptera		9	112.5
			Capniidae	7	87.5
			Chloroperlidae	4	50.0
			Leuctridae	2	25.0
			Nemouridae	26	325.0
			Perlidae	3	37.5
			Perlodidae	1	12.5
			Taeniopterygidae	7	87.5
		Trichoptera	Brachycentridae	1	12.5
			Hydropsychidae	1	12.5
			Rhyacophilidae	10	125.0
			Uenoidae	2	25.0
			Total	332	4,150.0

Metrics

Name	Liz-01	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.55	0.4 \pm 0.2
Biotic Indices		
Intolerant taxa	--	
Long-lived taxa	4.0	1.9 \pm 1.3
Tolerant individuals (%)	--	0.3
Number Of Individuals		
% EPT Individuals	64.1	84.9 \pm 14.3
% of dominant taxa	24.8	39.5 \pm 10.9
Total Abundance	4150.0	5780.5 \pm 4895.3
Richness		
EPT Individuals (Sum)	2587.5	4527.1 \pm 3161.8
EPT taxa (no)	15.0	11.5 \pm 1.2
Total No. of Taxa	24.0	17.7 \pm 2.6

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at Liz-01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	56%	53%	22%	50%	68%	0.29
Apataniidae	22%	24%	28%	25%	3%	0.27
Athericidae	0%	2%	0%	17%	0%	0.03
Aturidae	0%	8%	0%	0%	0%	0.00
Baetidae	100%	100%	100%	100%	97%	1.00
Blephariceridae	0%	0%	0%	0%	5%	0.00
Brachycentridae	11%	69%	0%	42%	3%	0.09
Capniidae	78%	55%	50%	92%	68%	0.59
Ceratopogonidae	0%	55%	28%	42%	5%	0.30
Chironomidae	100%	100%	100%	100%	95%	1.00
Chloroperlidae	78%	88%	94%	100%	100%	0.96
Corixidae	11%	0%	0%	0%	0%	0.00
Curculionidae	0%	4%	0%	0%	0%	0.00
Deuterophlebiidae	0%	0%	0%	0%	3%	0.00

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at Liz-01
	Group 1	Group 2	Group 3	Group 4	Group 5	
Dixidae	0%	10%	0%	0%	0%	0.00
Dytiscidae	0%	8%	6%	0%	0%	0.04
Elmidae	0%	86%	50%	50%	5%	0.49
Empididae	67%	55%	50%	67%	57%	0.54
Enchytraeidae	11%	14%	0%	8%	0%	0.02
Ephemerellidae	78%	100%	100%	100%	100%	1.00
Ephydriidae	0%	2%	0%	0%	0%	0.00
Glossosomatidae	11%	49%	39%	42%	35%	0.39
Heptageniidae	100%	100%	100%	100%	100%	1.00
Hydraenidae	0%	4%	0%	0%	0%	0.00
Hydrophilidae	11%	2%	0%	0%	0%	0.00
Hydropsychidae	11%	92%	78%	92%	86%	0.81
Hydroptilidae	11%	8%	0%	0%	0%	0.00
Hydrozetidae	0%	10%	17%	8%	16%	0.15
Hydryphantidae	11%	31%	11%	8%	8%	0.11
Hygrobatidae	0%	29%	0%	0%	11%	0.00
Lebertiidae	78%	65%	39%	58%	5%	0.42
Lepidostomatidae	0%	53%	6%	17%	8%	0.08
Leptohyphidae	0%	2%	0%	0%	0%	0.00
Leptophlebiidae	0%	90%	11%	33%	3%	0.16
Leuctridae	22%	43%	56%	67%	54%	0.58
Limnephilidae	22%	31%	6%	25%	41%	0.10
Limnesiidae	0%	2%	0%	0%	0%	0.00
Lumbriculidae	0%	20%	17%	25%	3%	0.18
Mideopsidae	0%	2%	0%	0%	0%	0.00
Naididae	0%	6%	39%	0%	3%	0.30
Nemouridae	100%	100%	100%	100%	100%	1.00
Pelecorynchidae	0%	22%	6%	0%	0%	0.04
Peltoperlidae	22%	12%	6%	8%	41%	0.07
Perlidae	11%	84%	33%	100%	3%	0.47
Perlodidae	78%	78%	89%	92%	81%	0.89
Philopotamidae	0%	31%	0%	0%	3%	0.00
Pisidiidae	0%	6%	0%	8%	0%	0.02
Planariidae	0%	8%	67%	17%	3%	0.55
Planorbidae	0%	0%	0%	0%	3%	0.00
Psychodidae	22%	65%	94%	8%	11%	0.75
Pteronarcyidae	0%	12%	6%	0%	3%	0.04
Rhyacophilidae	100%	92%	100%	100%	95%	1.00
Simuliidae	33%	49%	39%	33%	16%	0.37
Sperchontidae	78%	63%	50%	42%	65%	0.49
Stygothrombidiidae	0%	4%	0%	17%	0%	0.03
Taeniopterygidae	89%	49%	100%	92%	97%	0.98
Thaumaleidae	11%	4%	0%	0%	0%	0.00
Tipulidae	56%	55%	28%	67%	43%	0.36
Torrenticolidae	11%	86%	11%	17%	11%	0.13
Tubificidae	0%	2%	0%	0%	0%	0.00
Uenoidae	22%	37%	17%	25%	46%	0.19
Valvatidae	0%	2%	6%	0%	0%	0.04

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	12.64
RIVPACS : Observed taxa P>0.50	14.00
RIVPACS : O:E (p > 0.5)	1.11
RIVPACS : Expected taxa P>0.70	10.39
RIVPACS : Observed taxa P>0.70	11.00
RIVPACS : O:E (p > 0.7)	1.06

Habitat Description

Variable	Liz-01	Predicted Group Reference Mean \pm SD
Channel		
Depth-Avg (cm)	15.8	22.5 \pm 10.5
Depth-BankfullMinusWetted (cm)	20.00	67.33 \pm 71.65
Depth-Max (cm)	30.0	32.9 \pm 17.9
Macrophyte (PercentRange)	0	0 \pm 0
Reach-%CanopyCoverage (PercentRange)	2.00	0.94 \pm 0.80
Reach-DomStreamsideVeg (Category (1-4))	3	3 \pm 1
Reach-Pools (Binary)	0	0 \pm 1
Reach-Rapids (Binary)	0	0 \pm 1
Reach-Riffles (Binary)	1	1 \pm 0
Reach-StraightRun (Binary)	1	1 \pm 0
Slope (m/m)	0.0178000	0.0235102 \pm 0.0284557
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)	0.25	0.51 \pm 0.25
Velocity-Max (m/s)	0.89	0.75 \pm 0.28
Width-Bankfull (m)	9.8	15.6 \pm 12.8
Width-Wetted (m)	8.4	10.2 \pm 7.0
XSEC-VelMethod (Category (1-3))	1	2 \pm 1
Landcover		
Reg-Ice (%)	0.00000	0.46949 \pm 1.15785
Substrate Data		
%Bedrock (%)	0	0 \pm 0
%Boulder (%)	1	6 \pm 7
%Cobble (%)	49	61 \pm 27
%Gravel (%)	3	1 \pm 2
%Pebble (%)	44	31 \pm 28
%Sand (%)	0	0 \pm 0
%Silt+Clay (%)	3	1 \pm 3
D50 (cm)	6.45	79.45 \pm 47.98
Dg (cm)	5.6	73.9 \pm 48.0
Dominant-1st (Category(0-9))	5	6 \pm 2
Dominant-2nd (Category(0-9))	6	6 \pm 2
Embeddedness (Category(1-5))	4	4 \pm 1
PeriphytonCoverage (Category(1-5))	3	2 \pm 1
SurroundingMaterial (Category(0-9))	3	4 \pm 2
Topography		
Reg-SlopeLT30% (%)	34.66000	27.92073 \pm 14.83033
SlopeLT30% (%)	34.66000	29.33739 \pm 12.62448
Water Chemistry		
General-Conductivity (μ S/cm)	262.0000000	186.8500000 \pm 84.0864011
General-DO (mg/L)	10.0000000	10.4922222 \pm 0.8833463
General-pH (pH)	8.7	8.0 \pm 0.6
General-TempAir (Degrees Celsius)	17.0	10.5 \pm 4.2
General-TempWater (Degrees Celsius)	10.7000000	6.6716667 \pm 2.0277755
General-Turbidity (NTU)	0.0000000	0.0000000 \pm 0.0000000