

**Site Description**

<b>Study Name</b>	CBWQ-Elk
<b>Site</b>	Liz-01
<b>Sampling Date</b>	Oct 29 2013
<b>Know Your Watershed Basin</b>	Central Kootenay
<b>Province / Territory</b>	British Columbia
<b>Terrestrial Ecological Classification</b>	Montane Cordillera EcoZone Northern Continental Divide EcoRegion
<b>Coordinates (decimal degrees)</b>	49.47128 N, 115.07707 W
<b>Altitude</b>	3248
<b>Local Basin Name</b>	Lizard Creek
	Elk River
<b>Stream Order</b>	3



Figure 1. Location Map



Across Reach



Down Stream

Field Crew: Ayla Bennett, Allie Dickhaut, Lee-Anne Walker Site Code: LIZ-01  
 Sampling Date: (DD/MM/YYYY) 29/10/2013

Occupational Health & Safety: Site Inspection Sheet completed

**PRIMARY SITE DATA**  
 CABIN Study Name: Eik River Alliance Local Basin Name: Lizard Creek  
 River/Stream Name: Lizard Creek Stream Order: (map scale 1:50,000) 3rd

Select one:  Test Site  Potential Reference Site

**Geographical Description/Notes:** Lizard Creek site 1. Near mouth, confluence with Eik River. Approx. 50m upstream of hwy 3 bridge over Lizard Creek

Surrounding Land Use: (check those present) Information Source: visual/local knowledge  
 Forest  Field/Pasture  Agriculture  Residential/Urban  
 Logging  Mining  Commercial/Industrial  Other: transportation: highway

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

**Location Data**  
 Latitude: \_\_\_\_\_ N Longitude: - \_\_\_\_\_ W (DMS or DD)  
 Elevation: \_\_\_\_\_ (fast or mast) GPS Datum:  GRS80 (NAD83/WGS84)  Other: \_\_\_\_\_

**Site Location Map Drawing**

Note: Indicate north

CABIN Field Sheet June 2012 Page 1 of 6

Field Sheet



Up Stream

### Cabin Assessment Results

Reference Model Summary					
<b>Model</b>	Columbia-Okanagan Preliminary March 2010				
<b>Analysis Date</b>	January 25, 2016				
<b>Taxonomic Level</b>	Family				
<b>Predictive Model Variables</b>	Depth-Avg Latitude Longitude Reg-Ice Reg-SlopeLT30%				
<b>Reference Groups</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Number of Reference Sites</b>	9	43	17	12	33
<b>Group Error Rate</b>	22.2%	24.5%	22.2%	25.0%	32.4%
<b>Overall Model Error Rate</b>	26.4%				
<b>Probability of Group Membership</b>	0.0%	0.6%	76.9%	20.8%	1.8%
<b>CABIN Assessment of Liz-01 on Oct 29, 2013</b>	N/A				

### Sample Information

<b>Sampling Device</b>	Kick Net
<b>Mesh Size</b>	400
<b>Sampling Time</b>	3
<b>Taxonomist</b>	-
<b>Date Taxonomy Completed</b>	-
<b>Sub-Sample Proportion</b>	8/100

### Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Tubificida	Naididae	5	62.5
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	1	12.5
	Insecta	Coleoptera	Elmidae	14	175.0
Chironomidae			50	625.0	
Empididae			2	25.0	
Tipulidae			13	162.5	
Ephemeroptera			Baetidae	24	300.0
			Ephemerellidae	17	212.5
			Heptageniidae	10	125.0
		Plecoptera	Capniidae	56	700.0
			Chloroperlidae	2	25.0
			Leuctridae	1	12.5
			Nemouridae	123	1,537.5
			Perlidae	4	50.0

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count
			Perlodidae	2	25.0
			Taeniopterygidae	3	37.5
		Trichoptera	Hydroptilidae	1	12.5
			Rhyacophilidae	12	150.0
			Uenoidae	1	12.5
			Total	341	4,262.5

**Metrics**

Name	Liz-01	Predicted Group Reference Mean $\pm$ SD
<b>Bray-Curtis Distance</b>	0.7	0.4 $\pm$ 0.2
<b>Biotic Indices</b>		
<b>Intolerant taxa</b>	--	
<b>Long-lived taxa</b>	3.0	1.9 $\pm$ 1.3
<b>Tolerant individuals (%)</b>	--	0.3
<b>Number Of Individuals</b>		
<b>% EPT Individuals</b>	75.1	84.9 $\pm$ 14.3
<b>% of dominant taxa</b>	36.1	39.5 $\pm$ 10.9
<b>Total Abundance</b>	4262.5	5780.5 $\pm$ 4895.3
<b>Richness</b>		
<b>EPT Individuals (Sum)</b>	3200.0	4527.1 $\pm$ 3161.8
<b>EPT taxa (no)</b>	13.0	11.5 $\pm$ 1.2
<b>Total No. of Taxa</b>	19.0	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
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
Leptohiphidae	0%	2%	0%	0%	0%	0.00
Leptophlebiidae	0%	90%	11%	33%	3%	0.16



### 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	
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	12.00
RIVPACS : O:E (p > 0.5)	0.95
RIVPACS : Expected taxa P>0.70	10.38
RIVPACS : Observed taxa P>0.70	9.00
RIVPACS : O:E (p > 0.7)	0.87

### Habitat Description

Variable	Liz-01	Predicted Group Reference Mean $\pm$ SD
<b>Channel</b>		
Depth-Avg (cm)	18.6	22.5 $\pm$ 10.5
Depth-BankfullMinusWetted (cm)	14.00	67.33 $\pm$ 71.65
Depth-Max (cm)	27.0	32.9 $\pm$ 17.9
Discharge (m <sup>3</sup> /s)	0.490	0.000 $\pm$ 0.000
Macrophyte (PercentRange)	0	0 $\pm$ 0
Reach-%CanopyCoverage (PercentRange)	1.00	0.94 $\pm$ 0.80
Reach-DomStreamsideVeg (Category (1-4))	3	3 $\pm$ 1
Reach-Pools (Binary)	1	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)	0.010000	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)	0.34	0.51 $\pm$ 0.25
Velocity-Max (m/s)	0.77	0.75 $\pm$ 0.28
Width-Bankfull (m)	11.4	15.6 $\pm$ 12.8

## Habitat Description

Variable	Liz-01	Predicted Group Reference Mean $\pm$ SD
Width-Wetted (m)	8.8	10.2 $\pm$ 7.0
XSEC-VelMethod (Category (1-3))	1	2 $\pm$ 1
<b>Landcover</b>		
Reg-Ice (%)	0.00000	0.46949 $\pm$ 1.15785
<b>Substrate Data</b>		
%Bedrock (%)	0	0 $\pm$ 0
%Boulder (%)	5	6 $\pm$ 7
%Cobble (%)	49	61 $\pm$ 27
%Gravel (%)	10	1 $\pm$ 2
%Pebble (%)	34	31 $\pm$ 28
%Sand (%)	0	0 $\pm$ 0
%Silt+Clay (%)	2	1 $\pm$ 3
D50 (cm)	7.10	79.45 $\pm$ 47.98
Dg (cm)	5.6	73.9 $\pm$ 48.0
Dominant-1st (Category(0-9))	6	6 $\pm$ 2
Dominant-2nd (Category(0-9))	5	6 $\pm$ 2
Embeddedness (Category(1-5))	3	4 $\pm$ 1
PeriphytonCoverage (Category(1-5))	4	2 $\pm$ 1
SurroundingMaterial (Category(0-9))	3	4 $\pm$ 2
<b>Topography</b>		
Reg-SlopeLT30% (%)	34.66000	27.92073 $\pm$ 14.83033
SlopeLT30% (%)	34.66000	29.33739 $\pm$ 12.62448
<b>Water Chemistry</b>		
General-Conductivity ( $\mu$ S/cm)	240.0000000	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-SolidsTSS (mg/L)	0.5000000	0.5604289 $\pm$ 1.4627232
General-TempAir (Degrees Celsius)	1.0	10.5 $\pm$ 4.2
General-TempWater (Degrees Celsius)	1.2000000	6.6716667 $\pm$ 2.0277755
General-Turbidity (NTU)	0.0000000	0.0000000 $\pm$ 0.0000000
Nitrogen-NO2 (mg/L)	0.0049500	0.0023889 $\pm$ 0.0063351
Nitrogen-NO2+NO3 (mg/L)	0.0100000	0.0130000 $\pm$ 0.0088111
Nitrogen-NO3 (mg/L)	0.0450000	0.0245003 $\pm$ 0.0229452
Phosphorus-TP (mg/L)	0.0061000	0.0032778 $\pm$ 0.0061816