Site Description

Study Name	Yukon Territory - DFO
Site	YPS-576
Sampling Date	Jul 22 2015
Know Your Watershed Basin	Headwaters Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera EcoZone Yukon Plateau -Central EcoRegion
Coordinates (decimal degrees)	62.31479 N, 137.20802 W
Altitude	2293
Local Basin Name	Seymour Creek
	Big Creek
Stream Order	4

Figure 1. Location Map

Down Stream

Up Stream

Cabin Assessment Results

Reference Model Summary	
Model	Yukon 2013
Analysis Date	December 14, 2016
Taxonomic Level	Family
Predictive Model Variables	Altitude Depth-Avg Longitude Natl-BroadLeafopen Natl-Bryoids Natl-MixedWoodOpen Natl-WetlandHerb Precip02_FEB Precip03_MAR Precip06_JUN Precip07_JUL RainFall06_JUN Temp04_APRmax Velocity-Avg

Reference Groups	**1**	**2**	**3**	**4**	**5**

Number of Reference Sites	23	98	44	108	13
Group Error Rate	34.8%	49.0%	59.1%	53.7%	30.8%
Overall Model Error Rate	50.3%				
Probability of Group Membership	1.2%	11.9%	30.3%	48.0%	8.6%
CABIN Assessment of YPS-576 on Jul 22, 2015	Similar to Reference				

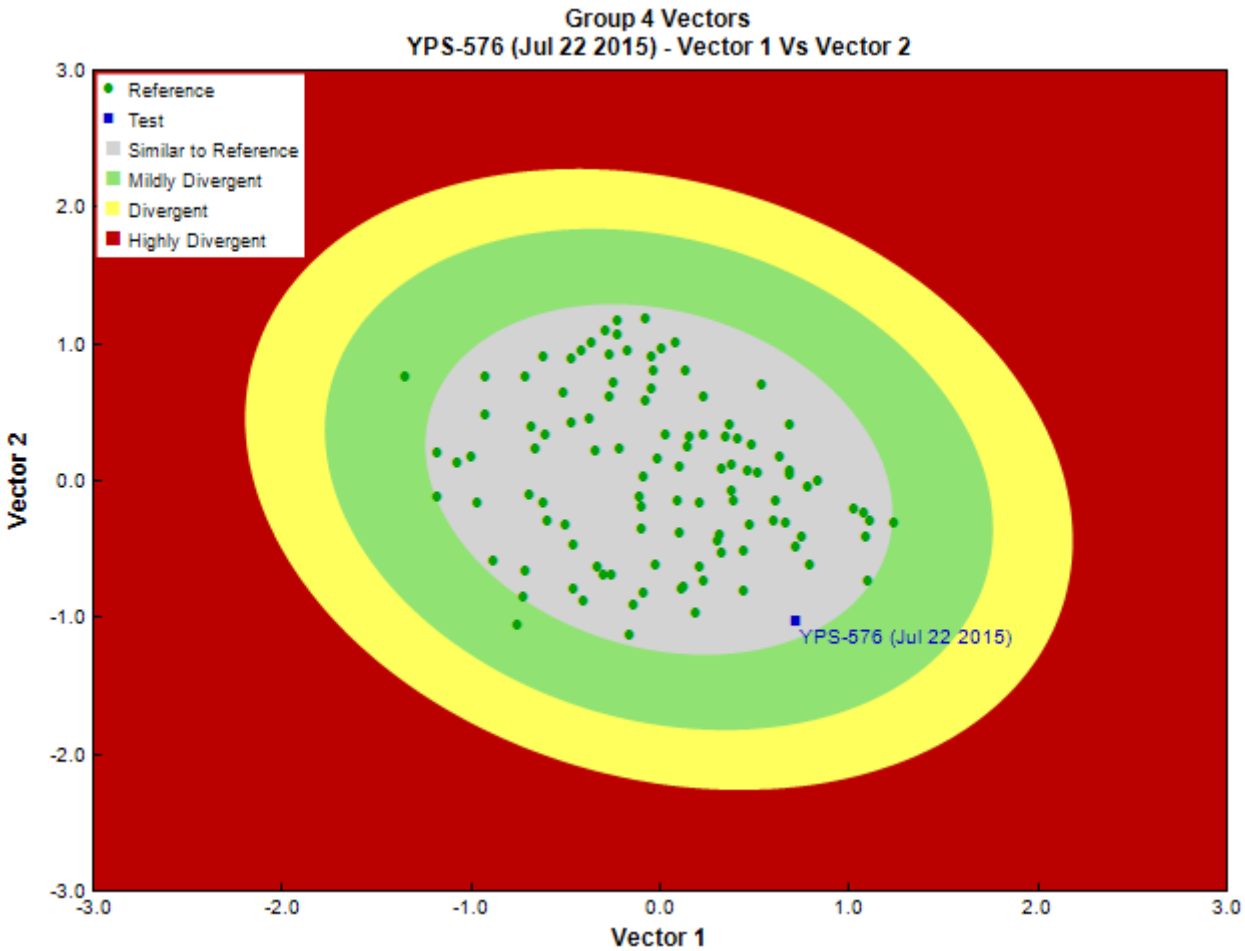

Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
Mesh Size	500
Sampling Time	3
Taxonomist	-
Date Taxonomy Completed	-
	-
Sub-Sample Proportion	38/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	9	23.7
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	4	10.5
			Sperchontidae	4	10.5
	Insecta	Diptera	Chironomidae	49	129.0
			Empididae	4	10.5
			Simuliidae	2	5.3
		Ephemeroptera	Baetidae	38	100.0
			Ephemerellidae	16	42.1

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
			Heptageniidae	161	423.7
		Plecoptera	Chloroperlidae	15	39.4
			Nemouridae	10	26.2
			Perlodidae	2	5.2
		Trichoptera	Glossosomatidae	1	2.6
			Limnephilidae	3	7.9
			Total	318	836.6

Metrics

Name	YPS-576	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.61	0.5 ± 0.2
Number Of Individuals		
Total Abundance	836.8	2059.4 ± 1572.9
Richness		
Total No. of Taxa	14.0	13.0 ± 4.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-576
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.46
Apataniidae	0%	1%	0%	3%	8%	0.02
Arrenuridae	0%	0%	2%	0%	0%	0.01
Athericidae	0%	1%	0%	0%	0%	0.00
Aturidae	0%	0%	5%	2%	8%	0.03
Baetidae	30%	85%	82%	94%	100%	0.89
Blephariceridae	0%	0%	5%	0%	0%	0.01
Brachycentridae	0%	15%	7%	23%	8%	0.16
Caenidae	0%	1%	0%	1%	0%	0.01
Capniidae	9%	23%	43%	50%	77%	0.47
Ceratopogonidae	22%	28%	30%	24%	0%	0.24
Chironomidae	91%	100%	100%	100%	100%	1.00
Chloroperlidae	22%	43%	77%	50%	38%	0.56
Corixidae	13%	8%	0%	0%	0%	0.01
Culicidae	9%	0%	0%	0%	0%	0.00
Curculionidae	0%	1%	0%	1%	0%	0.01
Deuterophlebiidae	0%	3%	14%	1%	0%	0.05
Dixidae	0%	5%	2%	1%	0%	0.02
Dolichopodidae	0%	0%	2%	1%	0%	0.01
Dytiscidae	4%	14%	0%	13%	0%	0.08
Elmidae	4%	3%	0%	2%	0%	0.01
Empididae	9%	49%	77%	59%	54%	0.62
Enchytraeidae	0%	0%	9%	2%	0%	0.04
Ephemerellidae	26%	37%	61%	37%	31%	0.44
Ephydridae	0%	0%	2%	0%	0%	0.01
Feltriidae	0%	0%	2%	6%	8%	0.04
Gammaridae	9%	2%	0%	13%	23%	0.09
Glossiphoniidae	0%	1%	0%	0%	0%	0.00
Glossosomatidae	0%	14%	23%	17%	0%	0.17
Helophoridae	0%	0%	2%	0%	0%	0.01
Heptageniidae	17%	63%	95%	76%	85%	0.80
Hirudinidae	0%	1%	0%	1%	0%	0.01
Hyalellidae	4%	5%	0%	6%	0%	0.03
Hydraenidae	0%	2%	0%	1%	0%	0.01
Hydrobiidae	9%	3%	2%	1%	0%	0.02
Hydropsychidae	4%	13%	36%	8%	0%	0.17
Hydroptilidae	4%	7%	0%	6%	0%	0.04
Hydrozetidae	4%	3%	20%	28%	31%	0.23
Hydryphantidae	4%	0%	9%	6%	0%	0.05
Hygrobatidae	0%	9%	25%	28%	0%	0.22
Isotomidae	9%	5%	2%	1%	0%	0.02

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-576
	Group 1	Group 2	Group 3	Group 4	Group 5	
Lebertiidae	13%	20%	52%	54%	23%	0.46
Lepidostomatidae	0%	1%	5%	4%	8%	0.04
Leptoceridae	0%	1%	0%	2%	0%	0.01
Leptophlebiidae	4%	7%	0%	7%	8%	0.05
Leuctridae	4%	14%	32%	10%	0%	0.16
Limnephilidae	13%	48%	43%	46%	23%	0.43
Limnesiidae	0%	1%	2%	6%	8%	0.04
Limnocharidae	0%	0%	0%	1%	0%	0.00
Lumbriculidae	26%	22%	34%	42%	23%	0.35
Lymnaeidae	13%	9%	0%	3%	0%	0.03
Metretopodidae	0%	1%	0%	1%	0%	0.01
Mideopsidae	0%	0%	2%	0%	0%	0.01
Muscidae	0%	4%	7%	7%	0%	0.06
Naididae	35%	43%	9%	22%	31%	0.22
Nemouridae	39%	74%	100%	81%	100%	0.87
Noctuidae	0%	0%	0%	1%	0%	0.00
Oreoleptidae	0%	0%	0%	1%	0%	0.00
Oxidae	0%	0%	0%	1%	0%	0.00
Peltoperlidae	0%	2%	0%	0%	0%	0.00
Perlidae	0%	2%	2%	1%	0%	0.01
Perlodidae	17%	31%	70%	49%	62%	0.54
Phryganeidae	0%	1%	0%	0%	0%	0.00
Physidae	4%	1%	2%	4%	0%	0.03
Pionidae	0%	0%	2%	2%	0%	0.02
Pisidiidae	17%	9%	2%	7%	8%	0.06
Planariidae	0%	2%	2%	3%	0%	0.02
Planorbidae	13%	4%	2%	2%	8%	0.03
Poduridae	0%	1%	0%	1%	0%	0.01
Psychodidae	22%	15%	11%	25%	8%	0.18
Rhyacophilidae	4%	34%	68%	25%	15%	0.38
Scathophagidae	0%	2%	0%	0%	0%	0.00
Simuliidae	39%	78%	86%	87%	77%	0.84
Sperchontidae	22%	49%	68%	68%	31%	0.62
Staphylinidae	4%	0%	0%	1%	0%	0.00
Stratiomyidae	0%	0%	0%	2%	0%	0.01
Tabanidae	4%	0%	0%	0%	0%	0.00
Taeniopterygidae	0%	1%	5%	2%	15%	0.04
Tipulidae	35%	47%	55%	62%	46%	0.56
Torrenticolidae	0%	0%	0%	5%	8%	0.03
Tubificidae	4%	1%	9%	13%	0%	0.09
Uenoidae	0%	8%	30%	1%	0%	0.10
Valvatidae	4%	9%	5%	11%	8%	0.09

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	7.31
RIVPACS : Observed taxa P>0.50	9.00
RIVPACS : O:E (p > 0.5)	1.23
RIVPACS : Expected taxa P>0.70	4.41
RIVPACS : Observed taxa P>0.70	5.00
RIVPACS : O:E (p > 0.7)	1.14

Habitat Description

Variable	YPS-576	Predicted Group Reference Mean ±SD
Bedrock Geology		
Channel		
Depth-Avg (cm)	26.2	29.8 ± 14.6
Depth-BankfullMinusWetted (cm)	90.00	0.00 ± 0.00
Depth-Max (cm)	35.5	36.8 ± 17.2
Macrophyte (PercentRange)	0	0 ± 1

Habitat Description

Variable	YPS-576	Predicted Group Reference Mean ±SD
Reach-%CanopyCoverage (PercentRange)	1.00	1.37 ± 0.92
Reach-Pools (Binary)	1	1 ± 0
Reach-Rapids (Binary)	1	0 ± 0
Reach-Riffles (Binary)	1	1 ± 0
Slope (m/m)	0.0200000	0.5004989 ± 0.7204958
Veg-Coniferous (Binary)	1	1 ± 0
Veg-Deciduous (Binary)	1	1 ± 0
Veg-Shrubs (Binary)	1	1 ± 0
Velocity-Avg (m/s)	0.68	0.52 ± 0.32
Velocity-Max (m/s)	0.90	0.70 ± 0.43
Width-Bankfull (m)	26.0	14.0 ± 18.2
Width-Wetted (m)	8.3	6.7 ± 6.7
Climate		
Precip02_FEB (mm)	41.63467	29.33781 ± 11.78911
Precip03_MAR (mm)	41.46867	27.45595 ± 11.91497
Precip06_JUN (mm)	75.90400	53.48783 ± 18.48854
Precip07_JUL (mm)	95.03400	65.85484 ± 22.37167
Rainfall06_JUN (mm)	67.89533	48.43760 ± 16.05524
Temp04_APRmax (Degrees Celsius)	-2.84467	-0.98364 ± 3.37510
Hydrology		
Landcover		
Natl-BroadleafOpen (%)	1.28703	0.37555 ± 1.31381
Natl-Bryoids (%)	0.00000	0.53753 ± 1.04480
Natl-MixedwoodOpen (%)	0.00203	0.77433 ± 2.87383
Natl-WetlandHerb (%)	0.00000	0.14452 ± 0.46324
Sediment Chemistry		
Substrate Data		
Dominant-1st (Category(0-9))	6	5 ± 2
Dominant-2nd (Category(0-9))	7	5 ± 2
Embeddedness (Category(1-5))	3	4 ± 1
PeriphytonCoverage (Category(1-5))	2	0 ± 0
SurroundingMaterial (Category(0-9))	3	2 ± 2
Water Chemistry		
General-Conductivity (µS/cm)	172.0000000	171.6423077 ± 110.8405401
General-DO (mg/L)	11.1700000	10.8405333 ± 1.2341710
General-pH (pH)	8.0	7.8 ± 0.6
General-SolidsTDS (mg/L)	142.0000000	162.5000000 ± 117.7553482
General-SolidsTSS (mg/L)	8.0000000	4.8187911 ± 8.8897627
General-SpCond (µS/cm)	266.0000000	238.8759259 ± 165.5853107
General-TempAir (Degrees Celsius)	22.0	18.4 ± 5.3
General-TempWater (Degrees Celsius)	6.4700000	9.0698507 ± 3.6420988
General-Turbidity (NTU)	3.9000000	3.9486301 ± 9.4764159