Site Description

Study Name	Yukon Territory - YTG
Site	YPS-165
Sampling Date	Jul 28 2016
Know Your Watershed Basin	Stewart
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera EcoZone Yukon Plateau -North EcoRegion
Coordinates (decimal degrees)	63.64691 N, 137.08881 W
Altitude	1610
Local Basin Name	Vancouver Creek
	McQuesten River
Stream Order	4

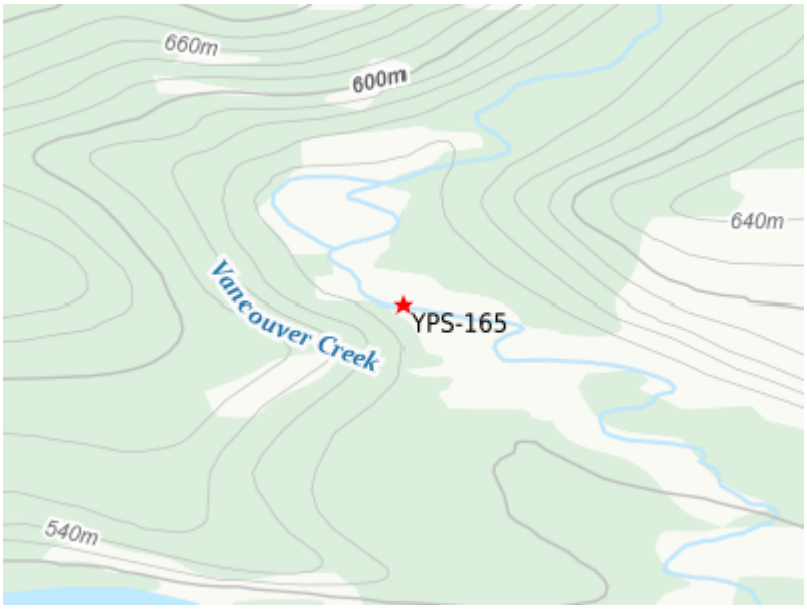

Figure 1. Location Map

Down Stream

Cabin Assessment Results

Reference Model Summary	
Model	Yukon 2013
Analysis Date	March 20, 2017
Taxonomic Level	Family

Cabin Assessment Results

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	9.6%	29.0%	22.4%	38.4%	0.6%
CABIN Assessment of YPS-165 on Jul 28, 2016	Divergent				

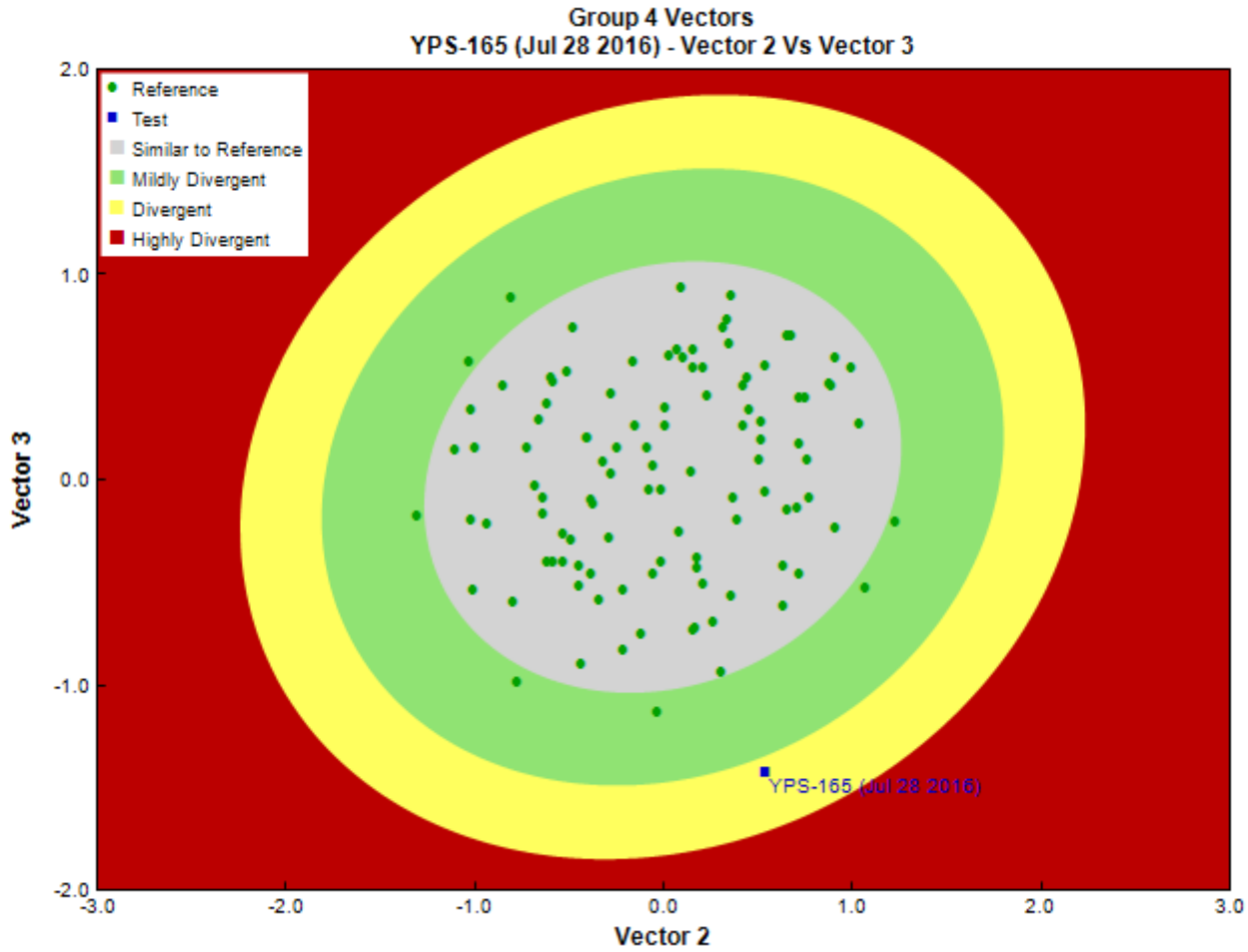

Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net

Sample Information

Mesh Size	500
Sampling Time	3
Taxonomist	-
Date Taxonomy Completed	-
	-
Sub-Sample Proportion	27/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	87	322.2
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	2	7.4
			Sperchontidae	7	25.9
	Insecta	Diptera	Ceratopogonidae	3	11.1
			Chironomidae	15	55.5
			Empididae	20	74.0
			Simuliidae	1	3.7
			Tipulidae	2	7.4
		Ephemeroptera	Ameletidae	2	7.4
			Baetidae	3	11.1
			Ephemerellidae	1	3.7
			Heptageniidae	98	362.9
		Plecoptera	Chloroperlidae	39	144.4
			Leuctridae	1	3.7
			Nemouridae	17	63.0
			Perlodidae	4	14.8
		Trichoptera	Limnephilidae	1	3.7
			Rhyacophilidae	7	25.9
			Uenoidae	2	7.4
			Total	312	1,155.2

Metrics

Name	YPS-165	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.81	0.5 ± 0.2
Number Of Individuals		
Total Abundance	1155.6	2059.4 ± 1572.9
Richness		
Total No. of Taxa	19.0	13.0 ± 4.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-165
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.42
Apataniidae	0%	1%	0%	3%	8%	0.01
Arrenuridae	0%	0%	2%	0%	0%	0.01
Athericidae	0%	1%	0%	0%	0%	0.00
Aturidae	0%	0%	5%	2%	8%	0.02
Baetidae	30%	85%	82%	94%	100%	0.82
Blephariceridae	0%	0%	5%	0%	0%	0.01
Brachycentridae	0%	15%	7%	23%	8%	0.15
Caenidae	0%	1%	0%	1%	0%	0.01
Capniidae	9%	23%	43%	50%	77%	0.37
Ceratopogonidae	22%	28%	30%	24%	0%	0.26
Chironomidae	91%	100%	100%	100%	100%	0.99
Chloroperlidae	22%	43%	77%	50%	38%	0.51
Corixidae	13%	8%	0%	0%	0%	0.04
Culicidae	9%	0%	0%	0%	0%	0.01
Curculionidae	0%	1%	0%	1%	0%	0.01
Deuterophlebiidae	0%	3%	14%	1%	0%	0.04
Dixidae	0%	5%	2%	1%	0%	0.02
Dolichopodidae	0%	0%	2%	1%	0%	0.01

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-165
	Group 1	Group 2	Group 3	Group 4	Group 5	
Dytiscidae	4%	14%	0%	13%	0%	0.10
Elmidae	4%	3%	0%	2%	0%	0.02
Empididae	9%	49%	77%	59%	54%	0.55
Enchytraeidae	0%	0%	9%	2%	0%	0.03
Ephemerellidae	26%	37%	61%	37%	31%	0.41
Ephydridae	0%	0%	2%	0%	0%	0.01
Feltriidae	0%	0%	2%	6%	8%	0.03
Gammaridae	9%	2%	0%	13%	23%	0.07
Glossiphoniidae	0%	1%	0%	0%	0%	0.00
Glossosomatidae	0%	14%	23%	17%	0%	0.16
Helophoridae	0%	0%	2%	0%	0%	0.01
Heptageniidae	17%	63%	95%	76%	85%	0.71
Hirudinidae	0%	1%	0%	1%	0%	0.01
Hyalellidae	4%	5%	0%	6%	0%	0.04
Hydraenidae	0%	2%	0%	1%	0%	0.01
Hydrobiidae	9%	3%	2%	1%	0%	0.03
Hydropsychidae	4%	13%	36%	8%	0%	0.16
Hydroptilidae	4%	7%	0%	6%	0%	0.05
Hydrozetidae	4%	3%	20%	28%	31%	0.17
Hydryphantidae	4%	0%	9%	6%	0%	0.05
Hygrobatidae	0%	9%	25%	28%	0%	0.19
Isotomidae	9%	5%	2%	1%	0%	0.03
Lebertiidae	13%	20%	52%	54%	23%	0.40
Lepidostomatidae	0%	1%	5%	4%	8%	0.03
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%	0.03
Limnocharidae	0%	0%	0%	1%	0%	0.00
Lumbriculidae	26%	22%	34%	42%	23%	0.33
Lymnaeidae	13%	9%	0%	3%	0%	0.05
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%	0.27
Nemouridae	39%	74%	100%	81%	100%	0.80
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%	0.01
Perlidae	0%	2%	2%	1%	0%	0.01
Perlodidae	17%	31%	70%	49%	62%	0.46
Phryganeidae	0%	1%	0%	0%	0%	0.00
Physidae	4%	1%	2%	4%	0%	0.03
Pionidae	0%	0%	2%	2%	0%	0.01
Pisidiidae	17%	9%	2%	7%	8%	0.08
Planariidae	0%	2%	2%	3%	0%	0.02
Planorbidae	13%	4%	2%	2%	8%	0.04
Poduridae	0%	1%	0%	1%	0%	0.01
Psychodidae	22%	15%	11%	25%	8%	0.19
Rhyacophilidae	4%	34%	68%	25%	15%	0.35
Scathophagidae	0%	2%	0%	0%	0%	0.01
Simuliidae	39%	78%	86%	87%	77%	0.79
Sperchontidae	22%	49%	68%	68%	31%	0.58
Staphylinidae	4%	0%	0%	1%	0%	0.01
Stratiomyidae	0%	0%	0%	2%	0%	0.01
Tabanidae	4%	0%	0%	0%	0%	0.00
Taeniopterygidae	0%	1%	5%	2%	15%	0.02
Tipulidae	35%	47%	55%	62%	46%	0.53
Torrenticolidae	0%	0%	0%	5%	8%	0.02
Tubificidae	4%	1%	9%	13%	0%	0.08

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-165
	Group 1	Group 2	Group 3	Group 4	Group 5	
Uenoidae	0%	8%	30%	1%	0%	0.09
Valvatidae	4%	9%	5%	11%	8%	0.08

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	6.29
RIVPACS : Observed taxa P>0.50	9.00
RIVPACS : O:E (p > 0.5)	1.43
RIVPACS : Expected taxa P>0.70	4.12
RIVPACS : Observed taxa P>0.70	5.00
RIVPACS : O:E (p > 0.7)	1.21

Habitat Description

Variable	YPS-165	Predicted Group Reference Mean ±SD
Bedrock Geology		
Channel		
Depth-Avg (cm)	32.8	29.8 ± 14.6
Velocity-Avg (m/s)	0.72	0.52 ± 0.32
Climate		
Precip02_FEB (mm)	28.95824	29.33781 ± 11.78911
Precip03_MAR (mm)	27.86000	27.45595 ± 11.91497
Precip06_JUN (mm)	59.88176	53.48783 ± 18.48854
Precip07_JUL (mm)	69.63529	65.85484 ± 22.37167
Rainfall06_JUN (mm)	55.02882	48.43760 ± 16.05524
Temp04_APRmax (Degrees Celsius)	-2.67824	-0.98364 ± 3.37510
Hydrology		
Landcover		
Natl-BroadleafOpen (%)	0.04962	0.37555 ± 1.31381
Natl-Bryoids (%)	0.23445	0.53753 ± 1.04480
Natl-MixedwoodOpen (%)	0.33869	0.77433 ± 2.87383
Natl-WetlandHerb (%)	0.00000	0.14452 ± 0.46324
Substrate Data		
Water Chemistry		