

Site Description

Study Name	Yukon Territory - YTG
Site	YPS-164
Sampling Date	Jul 28 2016
Know Your Watershed Basin	Upper Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera EcoZone Klondike Plateau EcoRegion
Coordinates (decimal degrees)	63.07472 N, 139.31556 W
Altitude	1515
Local Basin Name	Thistle Creek
	Yukon River South
Stream Order	5

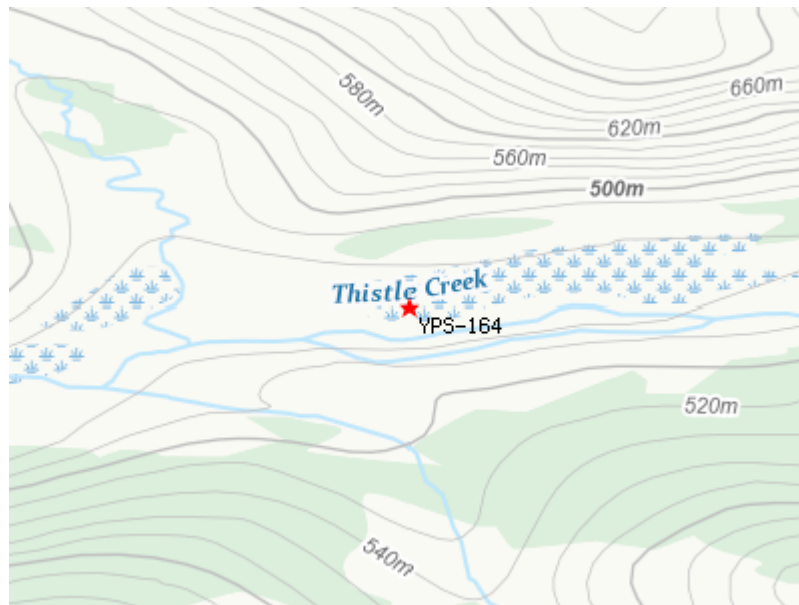


Figure 1. Location Map



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	29.8%	17.1%	9.9%	41.1%	2.0%
CABIN Assessment of YPS-164 on Jul 28, 2016	Mildly Divergent				

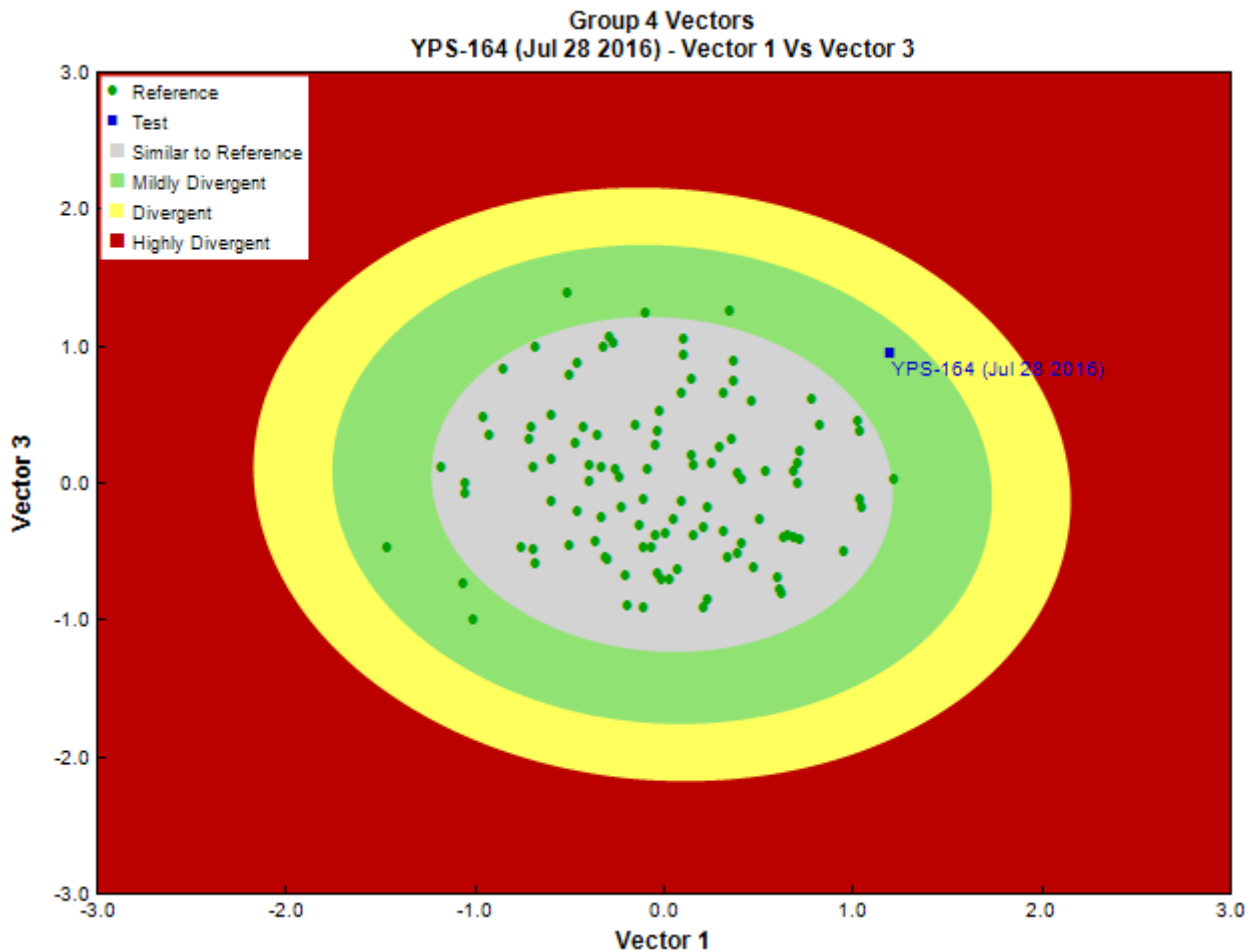


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
------------------------	----------

Sample Information

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

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count		
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	4	4.0		
		Tubificida	Naididae	1	1.0		
Arthropoda	Insecta	Diptera	Ceratopogonidae	1	1.0		
			Chironomidae	88	88.0		
			Empididae	6	6.0		
					Psychodidae	1	1.0
					Simuliidae	10	10.0
			Ephemeroptera	Baetidae	144	144.0	
				Ephemerellidae	1	1.0	
				Heptageniidae	5	5.0	
			Plecoptera	Chloroperlidae	4	4.0	
				Nemouridae	3	3.0	
			Trichoptera	Glossosomatidae	3	3.0	
				Limnephilidae	2	2.0	
		Total	273	273.0			

Metrics

Name	YPS-164	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.62	0.5 \pm 0.2
Number Of Individuals		
Total Abundance	273.0	2059.4 \pm 1572.9
Richness		
Total No. of Taxa	14.0	13.0 \pm 4.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-164
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.32
Apataniidae	0%	1%	0%	3%	8%	0.01
Arrenuridae	0%	0%	2%	0%	0%	0.00
Athericidae	0%	1%	0%	0%	0%	0.00
Aturidae	0%	0%	5%	2%	8%	0.01
Baetidae	30%	85%	82%	94%	100%	0.72
Blephariceridae	0%	0%	5%	0%	0%	0.00
Brachycentridae	0%	15%	7%	23%	8%	0.13
Caenidae	0%	1%	0%	1%	0%	0.01
Capniidae	9%	23%	43%	50%	77%	0.33
Ceratopogonidae	22%	28%	30%	24%	0%	0.24
Chironomidae	91%	100%	100%	100%	100%	0.97
Chloroperlidae	22%	43%	77%	50%	38%	0.43
Corixidae	13%	8%	0%	0%	0%	0.05
Culicidae	9%	0%	0%	0%	0%	0.03
Curculionidae	0%	1%	0%	1%	0%	0.01
Deuterophlebiidae	0%	3%	14%	1%	0%	0.02
Dixidae	0%	5%	2%	1%	0%	0.01
Dolichopodidae	0%	0%	2%	1%	0%	0.01
Dytiscidae	4%	14%	0%	13%	0%	0.09
Elmidae	4%	3%	0%	2%	0%	0.03
Empididae	9%	49%	77%	59%	54%	0.44
Enchytraeidae	0%	0%	9%	2%	0%	0.02
Ephemerellidae	26%	37%	61%	37%	31%	0.36

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-164
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ephyridae	0%	0%	2%	0%	0%	0.00
Feltriidae	0%	0%	2%	6%	8%	0.03
Gammaridae	9%	2%	0%	13%	23%	0.09
Glossiphoniidae	0%	1%	0%	0%	0%	0.00
Glossosomatidae	0%	14%	23%	17%	0%	0.12
Helophoridae	0%	0%	2%	0%	0%	0.00
Heptageniidae	17%	63%	95%	76%	85%	0.58
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%	0.04
Hydropsychidae	4%	13%	36%	8%	0%	0.11
Hydroptilidae	4%	7%	0%	6%	0%	0.05
Hydrozetidae	4%	3%	20%	28%	31%	0.16
Hydryphantidae	4%	0%	9%	6%	0%	0.04
Hygrobatidae	0%	9%	25%	28%	0%	0.15
Isotomidae	9%	5%	2%	1%	0%	0.04
Lebertiidae	13%	20%	52%	54%	23%	0.35
Lepidostomatidae	0%	1%	5%	4%	8%	0.02
Leptoceridae	0%	1%	0%	2%	0%	0.01
Leptophlebiidae	4%	7%	0%	7%	8%	0.06
Leuctridae	4%	14%	32%	10%	0%	0.11
Limnephilidae	13%	48%	43%	46%	23%	0.36
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%	0.07
Metreopodidae	0%	1%	0%	1%	0%	0.01
Mideopsidae	0%	0%	2%	0%	0%	0.00
Muscidae	0%	4%	7%	7%	0%	0.04
Naididae	35%	43%	9%	22%	31%	0.28
Nemouridae	39%	74%	100%	81%	100%	0.70
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%	0.39
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%	0.10
Planariidae	0%	2%	2%	3%	0%	0.02
Planorbidae	13%	4%	2%	2%	8%	0.06
Poduridae	0%	1%	0%	1%	0%	0.01
Psychodidae	22%	15%	11%	25%	8%	0.21
Rhyacophilidae	4%	34%	68%	25%	15%	0.24
Scathophagidae	0%	2%	0%	0%	0%	0.00
Simuliidae	39%	78%	86%	87%	77%	0.71
Sperchontidae	22%	49%	68%	68%	31%	0.50
Staphylinidae	4%	0%	0%	1%	0%	0.02
Stratiomyidae	0%	0%	0%	2%	0%	0.01
Tabanidae	4%	0%	0%	0%	0%	0.01
Taeniopterygidae	0%	1%	5%	2%	15%	0.02
Tipulidae	35%	47%	55%	62%	46%	0.50
Torrenticolidae	0%	0%	0%	5%	8%	0.02
Tubificidae	4%	1%	9%	13%	0%	0.08
Uenoidae	0%	8%	30%	1%	0%	0.05
Valvatidae	4%	9%	5%	11%	8%	0.08

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	4.69
RIVPACS : Observed taxa P>0.50	5.00
RIVPACS : O:E (p > 0.5)	1.07
RIVPACS : Expected taxa P>0.70	2.40
RIVPACS : Observed taxa P>0.70	3.00
RIVPACS : O:E (p > 0.7)	1.25

Habitat Description

Variable	YPS-164	Predicted Group Reference Mean \pmSD
Bedrock Geology		
Channel		
Depth-Avg (cm)	18.0	29.8 \pm 14.6
Velocity-Avg (m/s)	0.60	0.52 \pm 0.32
Climate		
Precip02_FEB (mm)	35.29625	29.33781 \pm 11.78911
Precip03_MAR (mm)	34.36125	27.45595 \pm 11.91497
Precip06_JUN (mm)	55.59125	53.48783 \pm 18.48854
Precip07_JUL (mm)	71.90375	65.85484 \pm 22.37167
Rainfall06_JUN (mm)	52.60375	48.43760 \pm 16.05524
Temp04_APRmax (Degrees Celsius)	-2.03875	-0.98364 \pm 3.37510
Hydrology		
Landcover		
Natl-BroadleafOpen (%)	0.52746	0.37555 \pm 1.31381
Natl-Bryoids (%)	0.29763	0.53753 \pm 1.04480
Natl-MixedwoodOpen (%)	2.84119	0.77433 \pm 2.87383
Natl-WetlandHerb (%)	0.00418	0.14452 \pm 0.46324
Substrate Data		
Water Chemistry		