

Site Description

Study Name	Yukon Territory - DFO
Site	YPS-481
Sampling Date	Jul 27 2016
Know Your Watershed Basin	Central Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera EcoZone Klondike Plateau EcoRegion
Coordinates (decimal degrees)	63.61597 N, 138.67836 W
Altitude	1759
Local Basin Name	Australia Creek
	Indian 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
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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	6.2%	25.0%	19.8%	43.5%	5.5%
CABIN Assessment of YPS-481 on Jul 27, 2016	Similar to Reference				

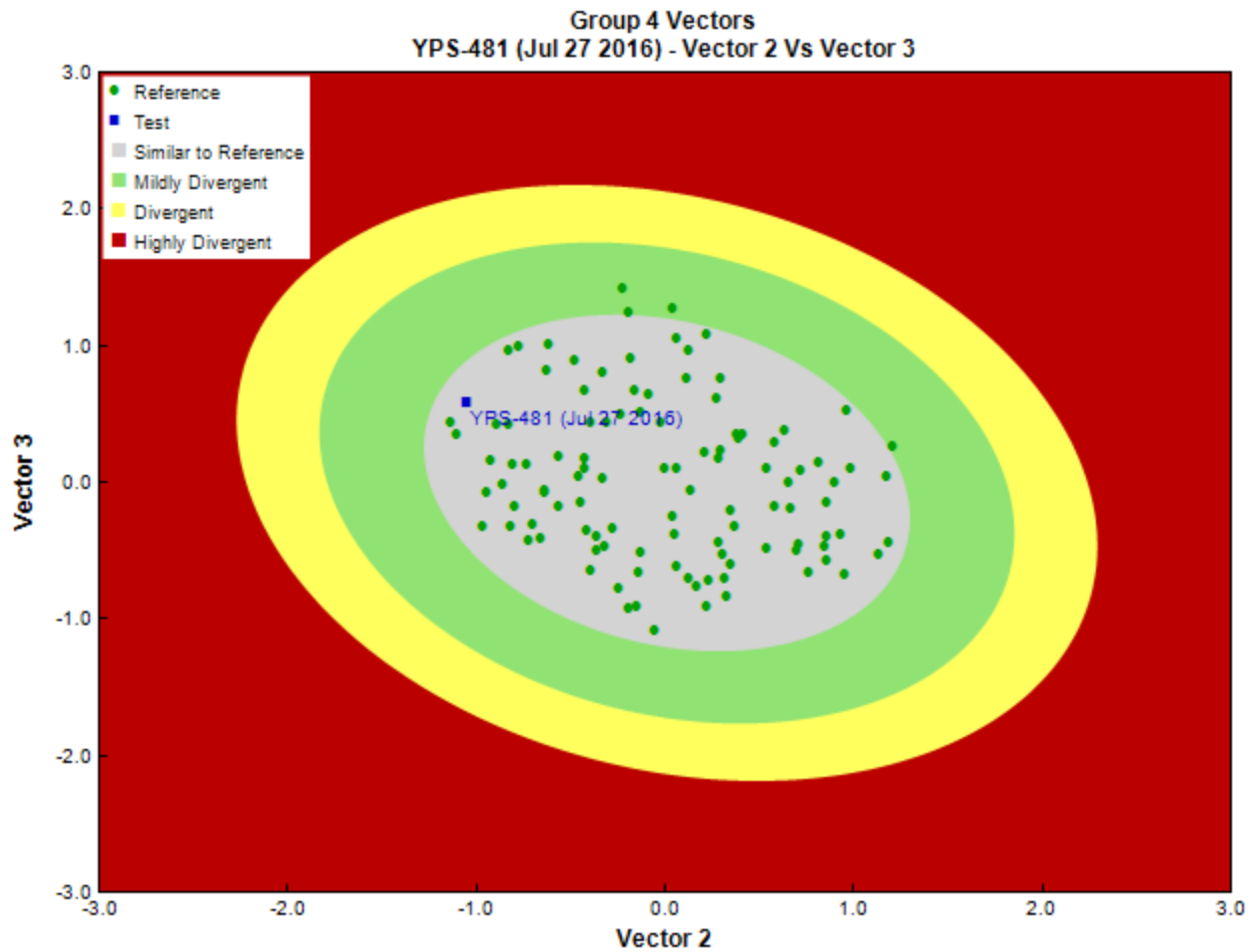


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

Sampling Device	Kick Net
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Sample Information

Mesh Size	500
Sampling Time	3
Taxonomist	-
Date Taxonomy Completed	-
	-
Sub-Sample Proportion	44/100

Community Structure

Phylum	Class	Order	Family	Raw Count	Total Count	
Arthropoda	Arachnida	Sarcoptiformes		2	4.5	
		Trombidiformes	Hygrobatidae	1	2.3	
			Lebertiidae	14	31.8	
			Sperchontidae	1	2.3	
	Insecta	Diptera		1	2.3	
			Ceratopogonidae	1	2.3	
			Chironomidae	78	177.2	
			Empididae	13	29.6	
			Psychodidae	2	4.5	
			Simuliidae	144	327.3	
			Tipulidae	3	6.8	
			Ephemeroptera	Baetidae	14	31.8
				Ephemerellidae	20	45.5
				Heptageniidae	6	13.6
			Plecoptera	Chloroperlidae	5	11.3
				Nemouridae	9	20.5
				Perlodidae	7	15.9
			Trichoptera	Brachycentridae	3	6.8
	Glossosomatidae	1		2.3		
	Rhyacophilidae	8		18.2		
	Total	333		756.8		

Metrics

Name	YPS-481	Predicted Group Reference Mean \pm SD
Bray-Curtis Distance	0.61	0.5 \pm 0.2
Number Of Individuals		
Total Abundance	756.8	2059.4 \pm 1572.9
Richness		
Total No. of Taxa	18.0	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-481
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.41
Apataniidae	0%	1%	0%	3%	8%	0.02
Arrenuridae	0%	0%	2%	0%	0%	0.00
Athericidae	0%	1%	0%	0%	0%	0.00
Aturidae	0%	0%	5%	2%	8%	0.02
Baetidae	30%	85%	82%	94%	100%	0.85
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%	0.41
Ceratopogonidae	22%	28%	30%	24%	0%	0.25
Chironomidae	91%	100%	100%	100%	100%	0.99
Chloroperlidae	22%	43%	77%	50%	38%	0.51
Corixidae	13%	8%	0%	0%	0%	0.03
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

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-481
	Group 1	Group 2	Group 3	Group 4	Group 5	
Dolichopodidae	0%	0%	2%	1%	0%	0.01
Dytiscidae	4%	14%	0%	13%	0%	0.09
Elmidae	4%	3%	0%	2%	0%	0.02
Empididae	9%	49%	77%	59%	54%	0.57
Enchytraeidae	0%	0%	9%	2%	0%	0.03
Ephemerellidae	26%	37%	61%	37%	31%	0.41
Ephydriidae	0%	0%	2%	0%	0%	0.00
Feltriidae	0%	0%	2%	6%	8%	0.03
Gammaridae	9%	2%	0%	13%	23%	0.08
Glossiphoniidae	0%	1%	0%	0%	0%	0.00
Glossosomatidae	0%	14%	23%	17%	0%	0.15
Helophoridae	0%	0%	2%	0%	0%	0.00
Heptageniidae	17%	63%	95%	76%	85%	0.73
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%	0.02
Hydropsychidae	4%	13%	36%	8%	0%	0.14
Hydroptilidae	4%	7%	0%	6%	0%	0.05
Hydrozetidae	4%	3%	20%	28%	31%	0.19
Hydryphantidae	4%	0%	9%	6%	0%	0.04
Hygrobatidae	0%	9%	25%	28%	0%	0.19
Isotomidae	9%	5%	2%	1%	0%	0.03
Lebertiidae	13%	20%	52%	54%	23%	0.41
Lepidostomatidae	0%	1%	5%	4%	8%	0.03
Leptoceridae	0%	1%	0%	2%	0%	0.01
Leptophlebiidae	4%	7%	0%	7%	8%	0.06
Leuctridae	4%	14%	32%	10%	0%	0.15
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%	0.33
Lymnaeidae	13%	9%	0%	3%	0%	0.04
Metretopodidae	0%	1%	0%	1%	0%	0.01
Mideopsidae	0%	0%	2%	0%	0%	0.00
Muscidae	0%	4%	7%	7%	0%	0.06
Naididae	35%	43%	9%	22%	31%	0.26
Nemouridae	39%	74%	100%	81%	100%	0.82
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%	0.47
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%	0.07
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%	0.34
Scathophagidae	0%	2%	0%	0%	0%	0.01
Simuliidae	39%	78%	86%	87%	77%	0.81
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%	0.03
Tipulidae	35%	47%	55%	62%	46%	0.54
Torrenticolidae	0%	0%	0%	5%	8%	0.02

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-481
	Group 1	Group 2	Group 3	Group 4	Group 5	
Tubificidae	4%	1%	9%	13%	0%	0.08
Uenoidae	0%	8%	30%	1%	0%	0.08
Valvatidae	4%	9%	5%	11%	8%	0.09

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	6.42
RIVPACS : Observed taxa P>0.50	9.00
RIVPACS : O:E (p > 0.5)	1.40
RIVPACS : Expected taxa P>0.70	4.21
RIVPACS : Observed taxa P>0.70	5.00
RIVPACS : O:E (p > 0.7)	1.19

Habitat Description

Variable	YPS-481	Predicted Group Reference Mean \pm SD
Bedrock Geology		
Channel		
Depth-Avg (cm)	46.4	29.8 \pm 14.6
Velocity-Avg (m/s)	0.70	0.52 \pm 0.32
Climate		
Precip02_FEB (mm)	33.19350	29.33781 \pm 11.78911
Precip03_MAR (mm)	32.08050	27.45595 \pm 11.91497
Precip06_JUN (mm)	57.79700	53.48783 \pm 18.48854
Precip07_JUL (mm)	71.08250	65.85484 \pm 22.37167
Rainfall06_JUN (mm)	54.39850	48.43760 \pm 16.05524
Temp04_APRmax (Degrees Celsius)	-3.18700	-0.98364 \pm 3.37510
Hydrology		
Landcover		
Natl-BroadleafOpen (%)	0.01437	0.37555 \pm 1.31381
Natl-Bryoids (%)	1.43359	0.53753 \pm 1.04480
Natl-MixedwoodOpen (%)	0.03646	0.77433 \pm 2.87383
Natl-WetlandHerb (%)	0.00000	0.14452 \pm 0.46324
Substrate Data		
Water Chemistry		