

**Site Description**

<b>Study Name</b>	Yukon Territory - UWO
<b>Site</b>	YPS-090
<b>Sampling Date</b>	Jul 27 2016
<b>Know Your Watershed Basin</b>	Central Yukon
<b>Province / Territory</b>	Yukon Territories
<b>Terrestrial Ecological Classification</b>	Boreal Cordillera EcoZone Klondike Plateau EcoRegion
<b>Coordinates (decimal degrees)</b>	63.76944 N, 139.63000 W
<b>Altitude</b>	1200
<b>Local Basin Name</b>	Indian Rive at Water Resources Station
	Indian River
<b>Stream Order</b>	6



Figure 1. Location Map



Down Stream

**Cabin Assessment Results**

<b>Reference Model Summary</b>	
<b>Model</b>	Yukon 2013
<b>Analysis Date</b>	March 20, 2017
<b>Taxonomic Level</b>	Family

**Cabin Assessment Results**

<b>Predictive Model Variables</b>	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
<b>Number of Reference Sites</b>	23	98	44	108	13
<b>Group Error Rate</b>	34.8%	49.0%	59.1%	53.7%	30.8%
<b>Overall Model Error Rate</b>	50.3%				
<b>Probability of Group Membership</b>	16.4%	18.0%	27.0%	37.3%	1.3%
<b>CABIN Assessment of YPS-090 on Jul 27, 2016</b>	Similar to Reference				

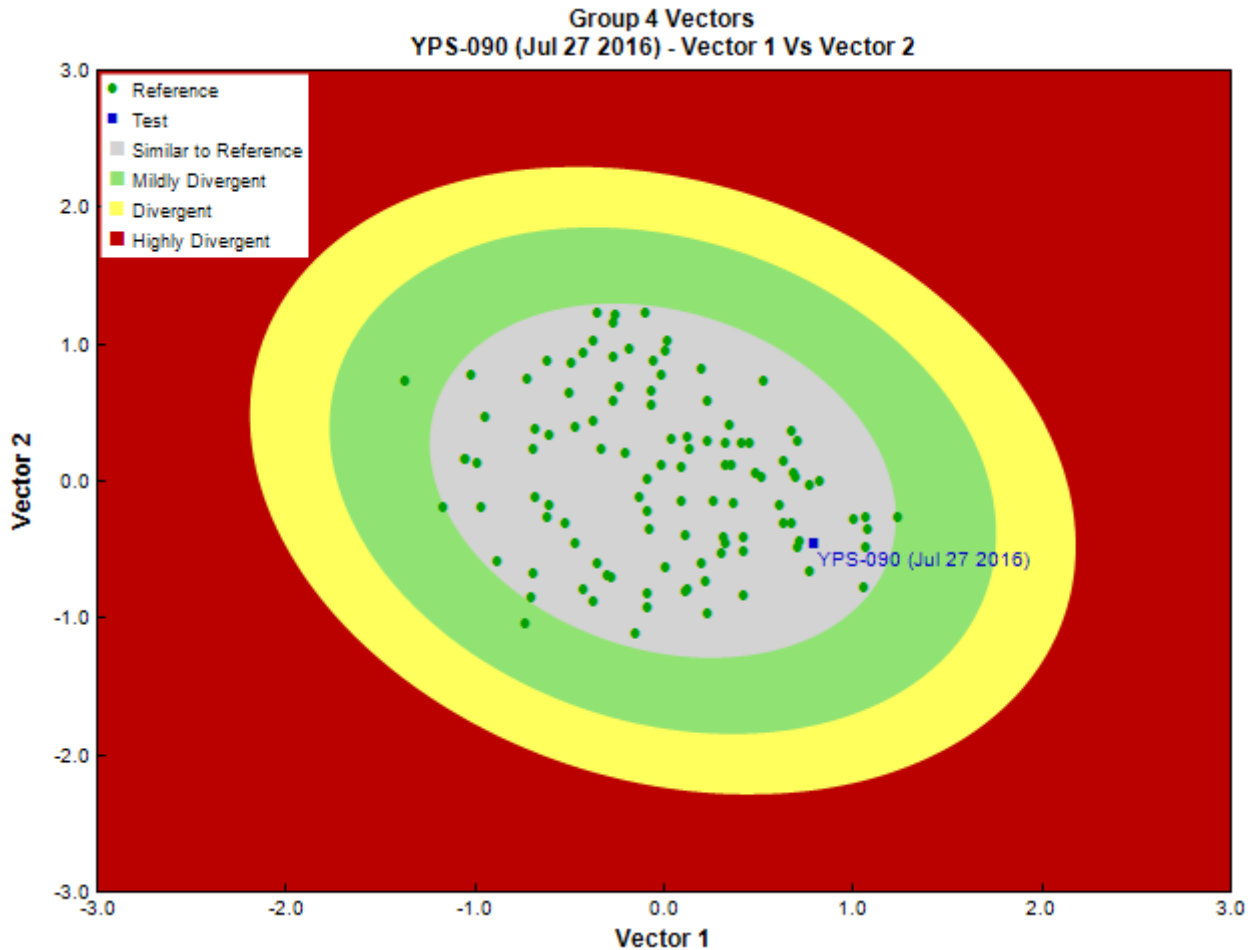


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**Sample Information**

<b>Sampling Device</b>	Kick Net
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**Sample Information**

<b>Mesh Size</b>	500
<b>Sampling Time</b>	3
<b>Taxonomist</b>	-
<b>Date Taxonomy Completed</b>	-
	-
<b>Sub-Sample Proportion</b>	42/100

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Lumbriculida	Lumbriculidae	14	33.3
		Tubificida	Naididae	3	7.1
Arthropoda	Arachnida	Trombidiformes	Hygrobatidae	1	2.4
			Lebertiidae	7	16.7
	Insecta	Coleoptera	Staphylinidae	1	2.4
		Diptera	Athericidae	1	2.4
			Ceratopogonidae	8	19.0
			Chironomidae	119	283.6
			Empididae	1	2.4
			Tabanidae	1	2.4
			Tipulidae	2	4.8
		Ephemeroptera	Ameletidae	4	9.5
			Baetidae	72	171.4
			Heptageniidae	49	116.6
			Leptophlebiidae	1	2.4
		Plecoptera	Capniidae	2	4.8
			Perlodidae	4	9.5
			Pteronarcyidae	4	9.5
		Trichoptera	Apataniidae	1	2.4
			Brachycentridae	2	4.8
			Glossosomatidae	1	2.4
			Hydropsychidae	11	26.2
			Hydroptilidae	3	7.2
			Limnephilidae	1	2.4
Mollusca	Gastropoda	Basommatophora	Lymnaeidae	3	7.1
		Heterostropha	Valvatidae	3	7.1
		Total		319	759.8

**Metrics**

Name	YPS-090	Predicted Group Reference Mean $\pm$ SD
<b>Bray-Curtis Distance</b>	0.45	0.5 $\pm$ 0.2
<b>Number Of Individuals</b>		
<b>Total Abundance</b>	759.5	2059.4 $\pm$ 1572.9
<b>Richness</b>		
<b>Total No. of Taxa</b>	26.0	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-090
	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%	0.79
Blephariceridae	0%	0%	5%	0%	0%	0.01
Brachycentridae	0%	15%	7%	23%	8%	0.13
Caenidae	0%	1%	0%	1%	0%	0.01
Capniidae	9%	23%	43%	50%	77%	0.37
Ceratopogonidae	22%	28%	30%	24%	0%	0.25
Chironomidae	91%	100%	100%	100%	100%	0.99

**Frequency and Probability of Taxa Occurrence**

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-090
	Group 1	Group 2	Group 3	Group 4	Group 5	
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%	0.05
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%	0.02
Empididae	9%	49%	77%	59%	54%	0.54
Enchytraeidae	0%	0%	9%	2%	0%	0.03
Ephemerellidae	26%	37%	61%	37%	31%	0.42
Ephydriidae	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%	0.15
Helophoridae	0%	0%	2%	0%	0%	0.01
Heptageniidae	17%	63%	95%	76%	85%	0.69
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%	0.04
Hydrozetidae	4%	3%	20%	28%	31%	0.18
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%	0.40
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%	0.05
Naididae	35%	43%	9%	22%	31%	0.25
Nemouridae	39%	74%	100%	81%	100%	0.79
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%	0.46
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%	0.00
Simuliidae	39%	78%	86%	87%	77%	0.77
Sperchontidae	22%	49%	68%	68%	31%	0.56

### Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-090
	Group 1	Group 2	Group 3	Group 4	Group 5	
Staphylinidae	4%	0%	0%	1%	0%	0.01
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%	0.53
Torrenticolidae	0%	0%	0%	5%	8%	0.02
Tubificidae	4%	1%	9%	13%	0%	0.08
Uenoidae	0%	8%	30%	1%	0%	0.10
Valvatidae	4%	9%	5%	11%	8%	0.08

### RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	6.16
RIVPACS : Observed taxa P>0.50	5.00
RIVPACS : O:E (p > 0.5)	0.81
RIVPACS : Expected taxa P>0.70	3.33
RIVPACS : Observed taxa P>0.70	2.00
RIVPACS : O:E (p > 0.7)	0.60

### Habitat Description

Variable	YPS-090	Predicted Group Reference Mean $\pm$ SD
<b>Bedrock Geology</b>		
<b>Channel</b>		
Depth-Avg (cm)	63.5	29.8 $\pm$ 14.6
Velocity-Avg (ms)	1.35	0.52 $\pm$ 0.32
<b>Climate</b>		
Precip02_FEB (mm)	34.17494	29.33781 $\pm$ 11.78911
Precip03_MAR (mm)	32.98776	27.45595 $\pm$ 11.91497
Precip06_JUN (mm)	56.70424	53.48783 $\pm$ 18.48854
Precip07_JUL (mm)	70.71882	65.85484 $\pm$ 22.37167
Rainfall06_JUN (mm)	53.88859	48.43760 $\pm$ 16.05524
Temp04_APRmax (Degrees Celsius)	-3.68141	-0.98364 $\pm$ 3.37510
<b>Hydrology</b>		
<b>Landcover</b>		
Natl-BroadleafOpen (%)	0.01062	0.37555 $\pm$ 1.31381
Natl-Bryoids (%)	0.87513	0.53753 $\pm$ 1.04480
Natl-MixedwoodOpen (%)	0.06701	0.77433 $\pm$ 2.87383
Natl-WetlandHerb (%)	0.12191	0.14452 $\pm$ 0.46324
<b>Substrate Data</b>		
<b>Water Chemistry</b>		