

**Site Description**

<b>Study Name</b>	Yukon Territory - YTG
<b>Site</b>	YPS-379
<b>Sampling Date</b>	Jul 26 2016
<b>Know Your Watershed Basin</b>	Fortymile
<b>Province / Territory</b>	Yukon Territories
<b>Terrestrial Ecological Classification</b>	Boreal Cordillera EcoZone Klondike Plateau EcoRegion
<b>Coordinates (decimal degrees)</b>	64.36131 N, 140.77577 W
<b>Altitude</b>	1118
<b>Local Basin Name</b>	Bruin Creek
	Fortymile
<b>Stream Order</b>	4

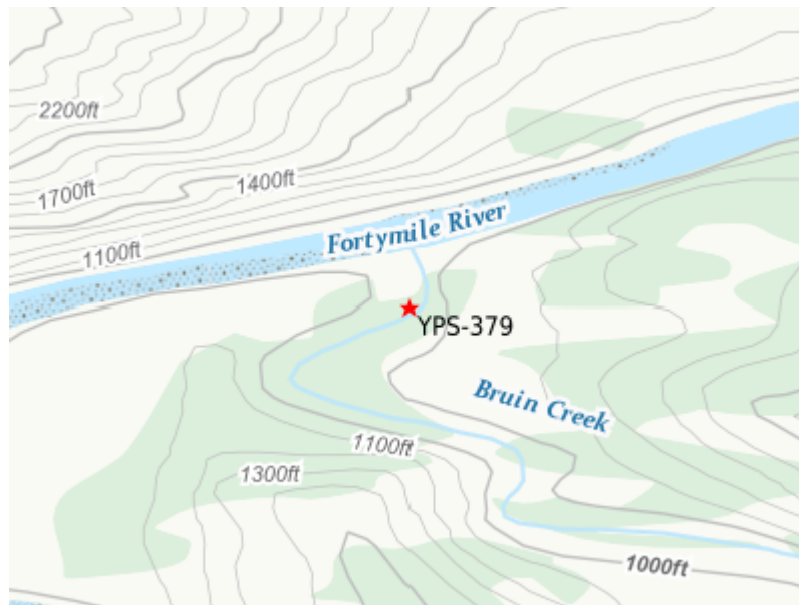


Figure 1. Location Map



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>	24.9%	26.5%	13.2%	34.5%	1.0%
<b>CABIN Assessment of YPS-379 on Jul 26, 2016</b>	Similar to Reference				

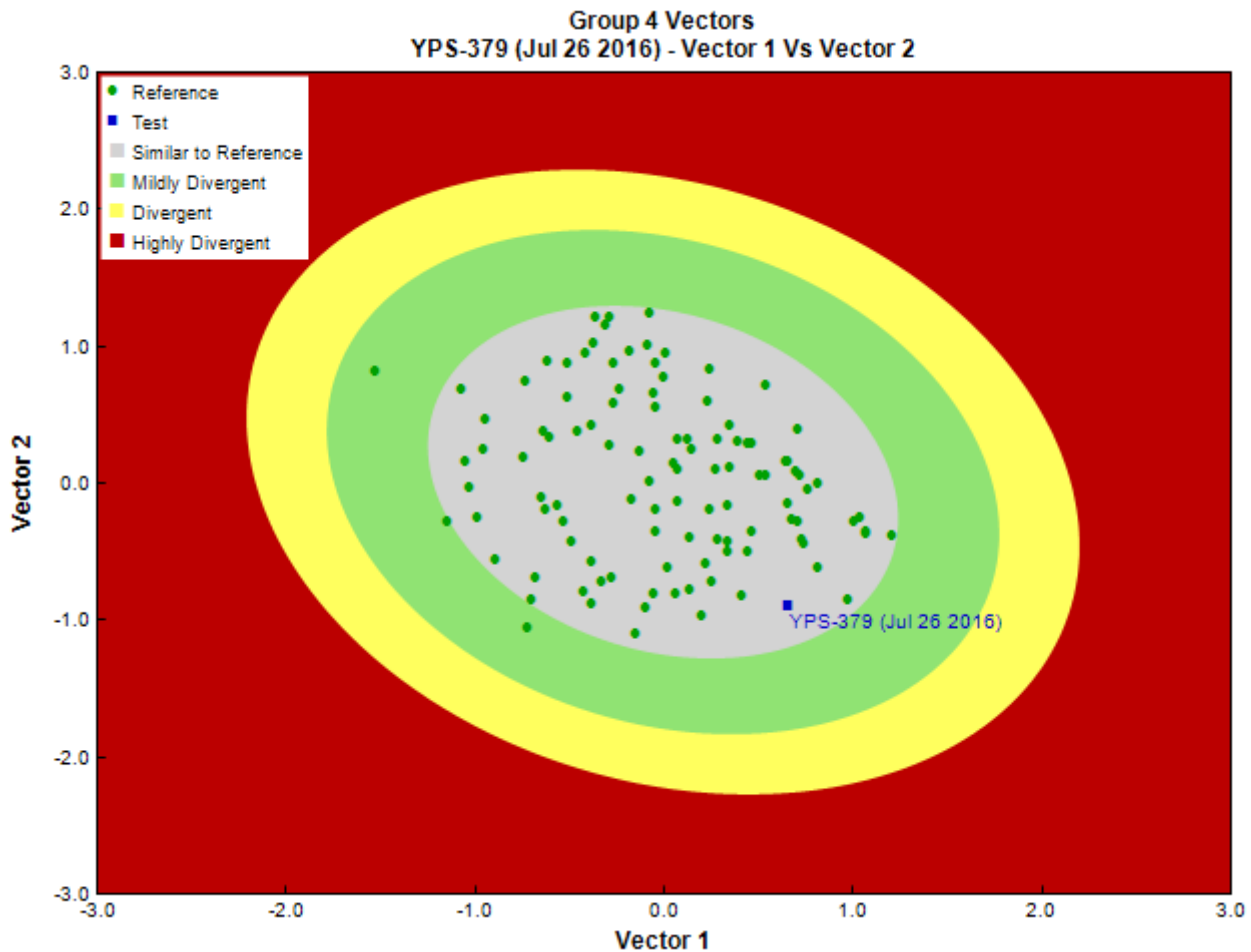


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

**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>	35/100

**Community Structure**

Phylum	Class	Order	Family	Raw Count	Total Count
Annelida	Oligochaeta	Enchytraeida	Enchytraeidae	1	2.9
		Lumbriculida	Lumbriculidae	18	51.4
Arthropoda	Arachnida	Trombidiformes	Lebertiidae	1	2.9
			Sperchontidae	1	2.9
	Insecta	Diptera	Ceratopogonidae	1	2.9
			Chironomidae	111	317.4
			Empididae	4	11.4
			Psychodidae	1	2.9
			Simuliidae	2	5.8
			Tipulidae	4	11.5
		Ephemeroptera	Baetidae	4	11.4
			Ephemerellidae	34	97.1
			Heptageniidae	49	140.0
		Plecoptera	Capniidae	3	8.6
			Chloroperlidae	24	68.6
			Nemouridae	6	17.2
			Perlodidae	15	42.9
		Trichoptera	Apataniidae	47	134.3
			Glossosomatidae	2	5.7
			Limnephilidae	15	42.9
	Malacostraca	Amphipoda	Crangonyctidae	22	62.9
				Hyalellidae	3
			Total	368	1,052.2

**Metrics**

Name	YPS-379	Predicted Group Reference Mean $\pm$ SD
<b>Bray-Curtis Distance</b>	0.56	0.5 $\pm$ 0.2
<b>Number Of Individuals</b>		
<b>Total Abundance</b>	1051.4	2059.4 $\pm$ 1572.9
<b>Richness</b>		
<b>Total No. of Taxa</b>	22.0	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-379
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.35
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%	0.74
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%	0.32
Ceratopogonidae	22%	28%	30%	24%	0%	0.25
Chironomidae	91%	100%	100%	100%	100%	0.98
Chloroperlidae	22%	43%	77%	50%	38%	0.45
Corixidae	13%	8%	0%	0%	0%	0.05
Culicidae	9%	0%	0%	0%	0%	0.02
Curculionidae	0%	1%	0%	1%	0%	0.01

### Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-379
	Group 1	Group 2	Group 3	Group 4	Group 5	
Deuterophlebiidae	0%	3%	14%	1%	0%	0.03
Dixidae	0%	5%	2%	1%	0%	0.02
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%	0.46
Enchytraeidae	0%	0%	9%	2%	0%	0.02
Ephemerellidae	26%	37%	61%	37%	31%	0.37
Ephydriidae	0%	0%	2%	0%	0%	0.00
Feltriidae	0%	0%	2%	6%	8%	0.02
Gammaridae	9%	2%	0%	13%	23%	0.07
Glossiphoniidae	0%	1%	0%	0%	0%	0.00
Glossosomatidae	0%	14%	23%	17%	0%	0.13
Helophoridae	0%	0%	2%	0%	0%	0.00
Heptageniidae	17%	63%	95%	76%	85%	0.61
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%	0.12
Hydroptilidae	4%	7%	0%	6%	0%	0.05
Hydrozetidae	4%	3%	20%	28%	31%	0.14
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%	0.34
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%	0.13
Limnephilidae	13%	48%	43%	46%	23%	0.38
Limnesiidae	0%	1%	2%	6%	8%	0.03
Limnocharidae	0%	0%	0%	1%	0%	0.00
Lumbriculidae	26%	22%	34%	42%	23%	0.32
Lymnaeidae	13%	9%	0%	3%	0%	0.07
Metretopodidae	0%	1%	0%	1%	0%	0.01
Mideopsidae	0%	0%	2%	0%	0%	0.00
Muscidae	0%	4%	7%	7%	0%	0.05
Naididae	35%	43%	9%	22%	31%	0.29
Nemouridae	39%	74%	100%	81%	100%	0.72
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%	0.39
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%	0.05
Poduridae	0%	1%	0%	1%	0%	0.01
Psychodidae	22%	15%	11%	25%	8%	0.20
Rhyacophilidae	4%	34%	68%	25%	15%	0.28
Scathophagidae	0%	2%	0%	0%	0%	0.01
Simuliidae	39%	78%	86%	87%	77%	0.72
Sperchontidae	22%	49%	68%	68%	31%	0.51
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

### Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-379
	Group 1	Group 2	Group 3	Group 4	Group 5	
Tipulidae	35%	47%	55%	62%	46%	0.50
Torrenticolidae	0%	0%	0%	5%	8%	0.02
Tubificidae	4%	1%	9%	13%	0%	0.07
Uenoidae	0%	8%	30%	1%	0%	0.06
Valvatidae	4%	9%	5%	11%	8%	0.08

### RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	4.78
RIVPACS : Observed taxa P>0.50	7.00
RIVPACS : O:E (p > 0.5)	1.46
RIVPACS : Expected taxa P>0.70	3.16
RIVPACS : Observed taxa P>0.70	4.00
RIVPACS : O:E (p > 0.7)	1.27

### Habitat Description

Variable	YPS-379	Predicted Group Reference Mean $\pm$ SD
<b>Bedrock Geology</b>		
<b>Channel</b>		
Depth-Avg (cm)	30.0	29.8 $\pm$ 14.6
Velocity-Avg (m/s)	0.90	0.52 $\pm$ 0.32
<b>Climate</b>		
Precip02_FEB (mm)	33.70765	29.33781 $\pm$ 11.78911
Precip03_MAR (mm)	32.53824	27.45595 $\pm$ 11.91497
Precip06_JUN (mm)	53.46588	53.48783 $\pm$ 18.48854
Precip07_JUL (mm)	68.93882	65.85484 $\pm$ 22.37167
Rainfall06_JUN (mm)	51.88647	48.43760 $\pm$ 16.05524
Temp04_APRmax (Degrees Celsius)	-4.02176	-0.98364 $\pm$ 3.37510
<b>Hydrology</b>		
<b>Landcover</b>		
Natl-BroadleafOpen (%)	0.08076	0.37555 $\pm$ 1.31381
Natl-Bryoids (%)	0.00000	0.53753 $\pm$ 1.04480
Natl-MixedwoodOpen (%)	0.01378	0.77433 $\pm$ 2.87383
Natl-WetlandHerb (%)	0.00000	0.14452 $\pm$ 0.46324
<b>Substrate Data</b>		
<b>Water Chemistry</b>		