Site Description

Study Name	Yukon Territory - YTG
Site	YPS-540
Sampling Date	Jul 26 2016
Know Your Watershed Basin	Central Yukon
Province / Territory	Yukon Territories
Terrestrial Ecological Classification	Boreal Cordillera EcoZone Klondike Plateau EcoRegion
Coordinates (decimal degrees)	64.26137 N, 140.82480 W
Altitude	1414
Local Basin Name	Browns Creek
	Forty Mile River
Stream Order	4

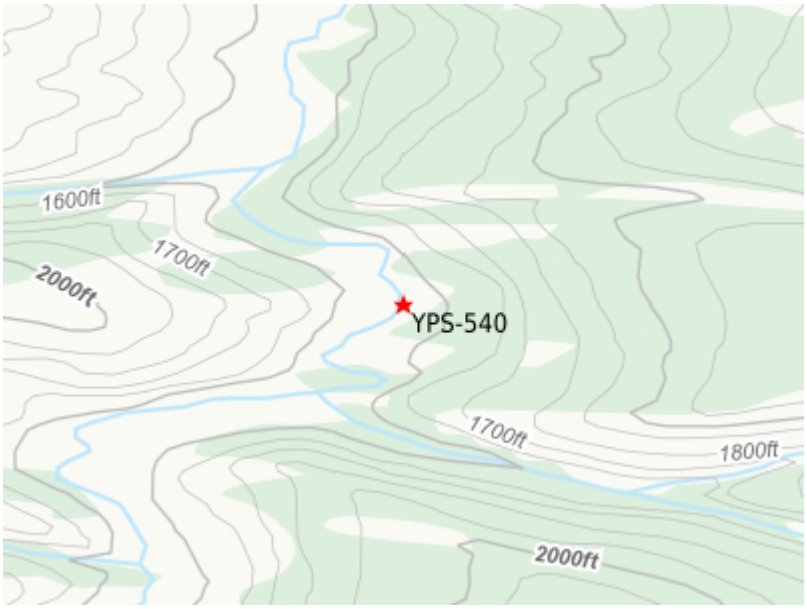

Figure 1. Location Map

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	18.4%	15.1%	21.0%	42.1%	3.4%
CABIN Assessment of YPS-540 on Jul 26, 2016	Mildly Divergent				

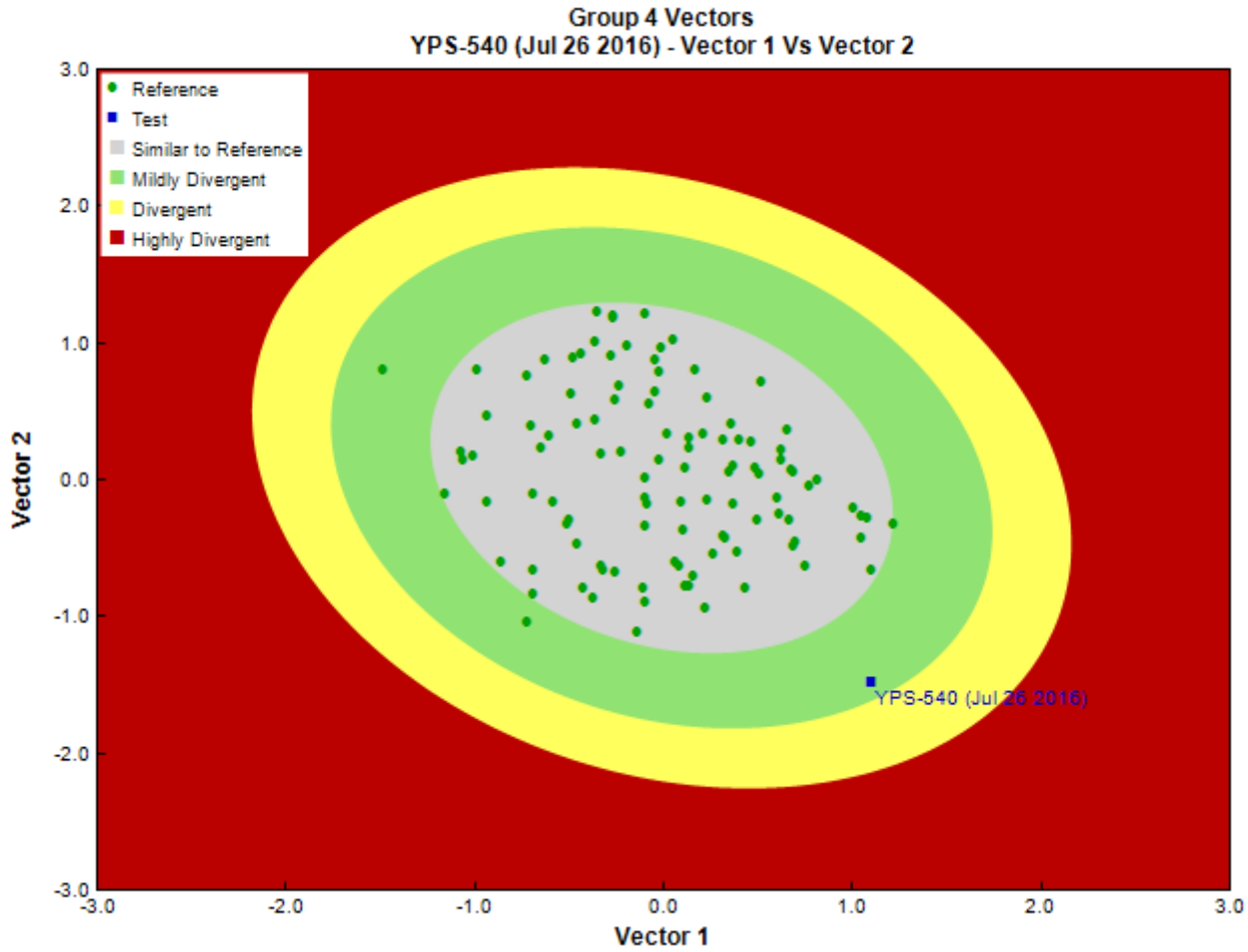

Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

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	Tubificida	Naididae	1	1.0
Arthropoda	Insecta	Diptera		1	1.0
			Chironomidae	29	29.0
			Simuliidae	27	27.0
			Tipulidae	4	4.0
		Ephemeroptera	Baetidae	70	70.0
			Ephemerellidae	2	2.0
			Heptageniidae	53	53.0
		Plecoptera	Capniidae	5	5.0
			Chloroperlidae	24	24.0
			Nemouridae	4	4.0
			Perlodidae	1	1.0
		Trichoptera	Apataniidae	1	1.0
			Limnephilidae	3	3.0
	Malacostraca	Amphipoda	Crangonyctidae	1	1.0
			Total	226	226.0

Metrics

Name	YPS-540	Predicted Group Reference Mean ±SD
Bray-Curtis Distance	0.66	0.5 ± 0.2
Number Of Individuals		
Total Abundance	226.0	2059.4 ± 1572.9
Richness		
Total No. of Taxa	14.0	13.0 ± 4.4

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-540
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ameletidae	9%	37%	70%	39%	15%	0.39
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%	0.78
Blephariceridae	0%	0%	5%	0%	0%	0.01
Brachycentridae	0%	15%	7%	23%	8%	0.14
Caenidae	0%	1%	0%	1%	0%	0.01
Capniidae	9%	23%	43%	50%	77%	0.38
Ceratopogonidae	22%	28%	30%	24%	0%	0.25
Chironomidae	91%	100%	100%	100%	100%	0.98
Chloroperlidae	22%	43%	77%	50%	38%	0.49
Corixidae	13%	8%	0%	0%	0%	0.04
Culicidae	9%	0%	0%	0%	0%	0.02
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
Dytiscidae	4%	14%	0%	13%	0%	0.08
Elmidae	4%	3%	0%	2%	0%	0.02
Empididae	9%	49%	77%	59%	54%	0.52
Enchytraeidae	0%	0%	9%	2%	0%	0.03

Frequency and Probability of Taxa Occurrence

Reference Model Taxa	Frequency of Occurrence in Reference Sites					Probability Of Occurrence at YPS-540
	Group 1	Group 2	Group 3	Group 4	Group 5	
Ephemerellidae	26%	37%	61%	37%	31%	0.40
Ephydridae	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%	0.14
Helophoridae	0%	0%	2%	0%	0%	0.00
Heptageniidae	17%	63%	95%	76%	85%	0.68
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%	0.14
Hydroptilidae	4%	7%	0%	6%	0%	0.05
Hydrozetidae	4%	3%	20%	28%	31%	0.18
Hydryphantidae	4%	0%	9%	6%	0%	0.05
Hygrobatidae	0%	9%	25%	28%	0%	0.18
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%	0.14
Limnephilidae	13%	48%	43%	46%	23%	0.39
Limnesiidae	0%	1%	2%	6%	8%	0.03
Limnocharidae	0%	0%	0%	1%	0%	0.00
Lumbriculidae	26%	22%	34%	42%	23%	0.34
Lymnaeidae	13%	9%	0%	3%	0%	0.05
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%	0.25
Nemouridae	39%	74%	100%	81%	100%	0.77
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%	0.45
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%	0.05
Poduridae	0%	1%	0%	1%	0%	0.01
Psychodidae	22%	15%	11%	25%	8%	0.19
Rhyacophilidae	4%	34%	68%	25%	15%	0.31
Scathophagidae	0%	2%	0%	0%	0%	0.00
Simuliidae	39%	78%	86%	87%	77%	0.76
Sperchontidae	22%	49%	68%	68%	31%	0.55
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%	0.08
Valvatidae	4%	9%	5%	11%	8%	0.08

RIVPACS Ratios

RIVPACS : Expected taxa P>0.50	5.58
RIVPACS : Observed taxa P>0.50	6.00
RIVPACS : O:E (p > 0.5)	1.08
RIVPACS : Expected taxa P>0.70	3.30
RIVPACS : Observed taxa P>0.70	4.00
RIVPACS : O:E (p > 0.7)	1.21

Habitat Description

Variable	YPS-540	Predicted Group Reference Mean ±SD
Bedrock Geology		
Channel		
Depth-Avg (cm)	30.4	29.8 ± 14.6
Velocity-Avg (m/s)	1.32	0.52 ± 0.32
Climate		
Precip02_FEB (mm)	33.30545	29.33781 ± 11.78911
Precip03_MAR (mm)	32.21545	27.45595 ± 11.91497
Precip06_JUN (mm)	52.86727	53.48783 ± 18.48854
Precip07_JUL (mm)	68.61273	65.85484 ± 22.37167
Rainfall06_JUN (mm)	51.25636	48.43760 ± 16.05524
Temp04_APRmax (Degrees Celsius)	-3.63545	-0.98364 ± 3.37510
Hydrology		
Landcover		
Natl-BroadleafOpen (%)	0.01437	0.37555 ± 1.31381
Natl-Bryoids (%)	0.00000	0.53753 ± 1.04480
Natl-MixedwoodOpen (%)	0.00000	0.77433 ± 2.87383
Natl-WetlandHerb (%)	0.00000	0.14452 ± 0.46324
Substrate Data		
Water Chemistry		