

Site Description

| | |
|--|---|
| Study Name | Yukon Territory - UWO |
| Site | YPS-115 |
| 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) | 63.71756 N, 140.19610 W |
| Altitude | 1433 |
| Local Basin Name | Matson Creek at 60-Mile Rive |
| | Sixty Mile River |
| Stream Order | 4 |



Figure 1. Location Map



Down Stream

Cabin Assessment Results

| Reference Model Summary | |
|--------------------------------|----------------|
| Model | Yukon 2013 |
| Analysis Date | March 21, 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 | 23.9% | 10.1% | 23.2% | 38.6% | 4.2% |
| CABIN Assessment of YPS-115 on Jul 27, 2016 | Mildly Divergent | | | | |

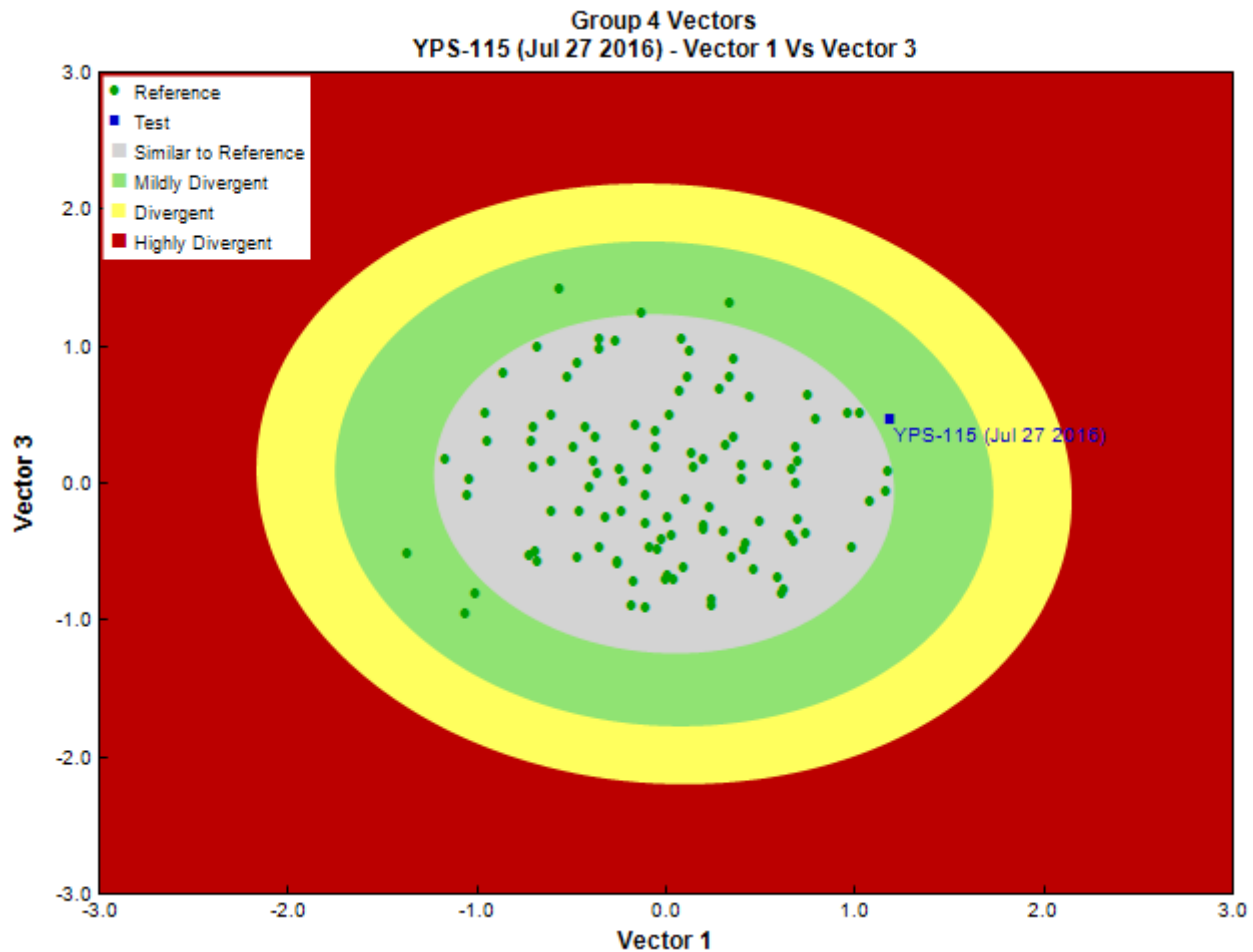


Figure 3. CABIN ordination assessment of the test site with the predicted group of reference sites. Each axis represents the relative abundance of the entire benthic invertebrate community with different organisms weighted differently on each axis.

Sample Information

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

Sample Information

| | |
|--------------------------------|--------|
| Mesh Size | 500 |
| Sampling Time | 3 |
| Taxonomist | - |
| Date Taxonomy Completed | - |
| | - |
| Sub-Sample Proportion | 32/100 |

Community Structure

| Phylum | Class | Order | Family | Raw Count | Total Count |
|------------|-------------|----------------|-----------------|------------|----------------|
| Annelida | Oligochaeta | Lumbriculida | Lumbriculidae | 32 | 100.0 |
| Arthropoda | Arachnida | Trombidiformes | Hygrobatidae | 7 | 21.9 |
| | | | Lebertiidae | 6 | 18.8 |
| | | | Sperchontidae | 3 | 9.4 |
| | Insecta | Diptera | | 1 | 3.1 |
| | | | Ceratopogonidae | 1 | 3.1 |
| | | | Chironomidae | 64 | 200.1 |
| | | | Empididae | 12 | 37.5 |
| | | | Muscidae | 1 | 3.1 |
| | | | Simuliidae | 4 | 12.5 |
| | | | Tipulidae | 5 | 15.6 |
| | | Ephemeroptera | Baetidae | 46 | 143.7 |
| | | | Ephemerellidae | 78 | 243.8 |
| | | | Heptageniidae | 3 | 9.4 |
| | | Plecoptera | Chloroperlidae | 15 | 46.9 |
| | | | Perlodidae | 4 | 12.5 |
| | | Trichoptera | Apataniidae | 56 | 175.0 |
| | | | Brachycentridae | 6 | 18.7 |
| | | | Glossosomatidae | 2 | 6.3 |
| | | | Limnephilidae | 1 | 3.1 |
| | | | Total | 347 | 1,084.5 |

Metrics

| Name | YPS-115 | Predicted Group Reference Mean \pm SD |
|------------------------------|---------|---|
| Bray-Curtis Distance | 0.64 | 0.5 \pm 0.2 |
| Number Of Individuals | | |
| Total Abundance | 1084.4 | 2059.4 \pm 1572.9 |
| Richness | | |
| Total No. of Taxa | 19.0 | 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-115 |
|----------------------|--|---------|---------|---------|---------|--------------------------------------|
| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | |
| Ameletidae | 9% | 37% | 70% | 39% | 15% | 0.38 |
| 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% | 0.75 |
| Blephariceridae | 0% | 0% | 5% | 0% | 0% | 0.01 |
| Brachycentridae | 0% | 15% | 7% | 23% | 8% | 0.12 |
| Caenidae | 0% | 1% | 0% | 1% | 0% | 0.00 |
| Capniidae | 9% | 23% | 43% | 50% | 77% | 0.37 |
| Ceratopogonidae | 22% | 28% | 30% | 24% | 0% | 0.24 |
| Chironomidae | 91% | 100% | 100% | 100% | 100% | 0.98 |
| Chloroperlidae | 22% | 43% | 77% | 50% | 38% | 0.48 |
| Corixidae | 13% | 8% | 0% | 0% | 0% | 0.04 |
| Culicidae | 9% | 0% | 0% | 0% | 0% | 0.02 |
| Curculionidae | 0% | 1% | 0% | 1% | 0% | 0.00 |
| Deuterophlebiidae | 0% | 3% | 14% | 1% | 0% | 0.04 |
| Dixidae | 0% | 5% | 2% | 1% | 0% | 0.01 |

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|----------------------|--|---------|---------|---------|---------|--------------------------------------|
| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | |
| Dolichopodidae | 0% | 0% | 2% | 1% | 0% | 0.01 |
| Dytiscidae | 4% | 14% | 0% | 13% | 0% | 0.07 |
| Elmidae | 4% | 3% | 0% | 2% | 0% | 0.02 |
| Empididae | 9% | 49% | 77% | 59% | 54% | 0.50 |
| Enchytraeidae | 0% | 0% | 9% | 2% | 0% | 0.03 |
| Ephemerellidae | 26% | 37% | 61% | 37% | 31% | 0.40 |
| Ephydriidae | 0% | 0% | 2% | 0% | 0% | 0.01 |
| 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% | 0.13 |
| Helophoridae | 0% | 0% | 2% | 0% | 0% | 0.01 |
| Heptageniidae | 17% | 63% | 95% | 76% | 85% | 0.66 |
| Hirudinidae | 0% | 1% | 0% | 1% | 0% | 0.00 |
| 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% | 0.04 |
| Hydrozetidae | 4% | 3% | 20% | 28% | 31% | 0.18 |
| Hydryphantidae | 4% | 0% | 9% | 6% | 0% | 0.05 |
| Hygrobatidae | 0% | 9% | 25% | 28% | 0% | 0.17 |
| Isotomidae | 9% | 5% | 2% | 1% | 0% | 0.03 |
| Lebertiidae | 13% | 20% | 52% | 54% | 23% | 0.39 |
| 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% | 0.37 |
| 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% | 0.00 |
| 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% | 0.76 |
| 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% | 0.09 |
| Planariidae | 0% | 2% | 2% | 3% | 0% | 0.02 |
| Planorbidae | 13% | 4% | 2% | 2% | 8% | 0.05 |
| Poduridae | 0% | 1% | 0% | 1% | 0% | 0.00 |
| 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% | 0.74 |
| Sperchontidae | 22% | 49% | 68% | 68% | 31% | 0.53 |
| 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% | 0.03 |
| Tipulidae | 35% | 47% | 55% | 62% | 46% | 0.52 |
| Torrenticolidae | 0% | 0% | 0% | 5% | 8% | 0.02 |

Frequency and Probability of Taxa Occurrence

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|----------------------|--|---------|---------|---------|---------|--------------------------------------|
| | 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% | 0.08 |

RIVPACS Ratios

| | |
|--------------------------------|------|
| RIVPACS : Expected taxa P>0.50 | 5.43 |
| RIVPACS : Observed taxa P>0.50 | 7.00 |
| RIVPACS : O:E (p > 0.5) | 1.29 |
| RIVPACS : Expected taxa P>0.70 | 3.23 |
| RIVPACS : Observed taxa P>0.70 | 3.00 |
| RIVPACS : O:E (p > 0.7) | 0.93 |

Habitat Description

| Variable | YPS-115 | Predicted Group Reference Mean \pm SD |
|---------------------------------|----------|---|
| Bedrock Geology | | |
| Channel | | |
| Depth-Avg (cm) | 70.0 | 29.8 \pm 14.6 |
| Velocity-Avg (m/s) | 1.50 | 0.52 \pm 0.32 |
| Climate | | |
| Precip02_FEB (mm) | 32.73816 | 29.33781 \pm 11.78911 |
| Precip03_MAR (mm) | 31.74579 | 27.45595 \pm 11.91497 |
| Precip06_JUN (mm) | 50.55947 | 53.48783 \pm 18.48854 |
| Precip07_JUL (mm) | 66.91895 | 65.85484 \pm 22.37167 |
| Rainfall06_JUN (mm) | 48.26132 | 48.43760 \pm 16.05524 |
| Temp04_APRmax (Degrees Celsius) | -2.12500 | -0.98364 \pm 3.37510 |
| Hydrology | | |
| Landcover | | |
| Natl-BroadleafOpen (%) | 0.41688 | 0.37555 \pm 1.31381 |
| Natl-Bryoids (%) | 0.32198 | 0.53753 \pm 1.04480 |
| Natl-MixedwoodOpen (%) | 0.12708 | 0.77433 \pm 2.87383 |
| Natl-WetlandHerb (%) | 0.01287 | 0.14452 \pm 0.46324 |
| Substrate Data | | |
| Water Chemistry | | |