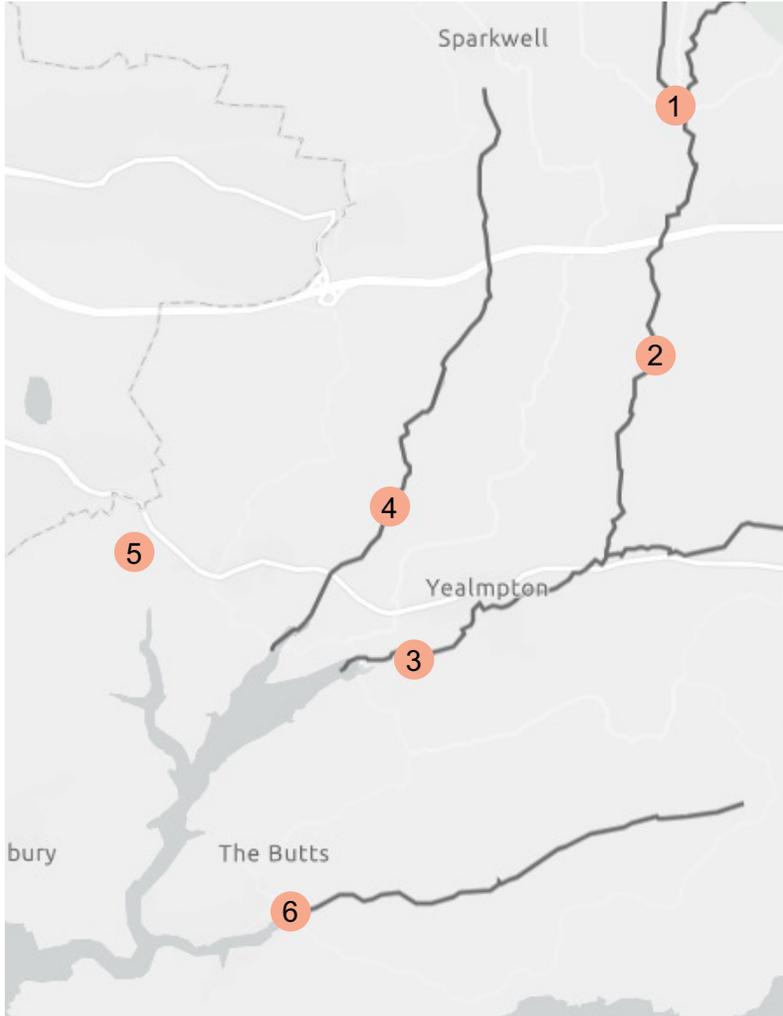


Yealm Estuary to Moor: River Yealm

Spring Survey 2024



Sites

- 1: Piall at Marks Bridge
- 2: Popples Bridge
- 3: Puslinch Bridge
- 4: Silverbridge Stream
- 5: Cofflete Stream
- 6: Newton Stream

Summary

Water Quality Scores:

- Chemical Pressure: Unimpacted scores at sites 1, 2, 3, and 5. Good condition at site 4. Moderate pressure at site 6.
- Organic Pressure: Mild loading detected at all sites.
- Sediment Pressure: Natural sediment levels at sites 2 and 3. Site 1, 4, 5, and 6 slightly impacted.
- Flow Pressure: No pressure detected at all sites.
- Phosphorus Pressure: Low impact detected at site 4. No impact detected at other sites.

Invertebrates:

- Site 1 has the highest overall invertebrate species richness, with sites 3 and 4 also having higher counts.
- Site 4 had the highest overall invertebrate abundance, with all sites other than 6 having relatively comparable abundances. The invasive* New Zealand mud snail (*Potamopyrgus antipodarum*) accounted for a large proportion of the sample at sites 1 to 4. At site 5 freshwater shrimp (*Gammarus pulex*) was the most abundant taxa.
- EPT riverfly species richness was highest on the Yealm sites (1 to 3).
- EPT riverfly abundance was highest at sites 1 and 2.
- Site 6 had consistently the lowest values across the invertebrate metrics. Mayfly numbers were highest at these sites across multiple families; Baetidae, Ephemeridae, and Heptageniidae. These sites also had the richest stonefly communities.

*While invasive this species has been present in the UK since ~1904 and is widespread across the country.



Water Quality Scores

Chemical (SPEAR)



Organic (Saprobic)



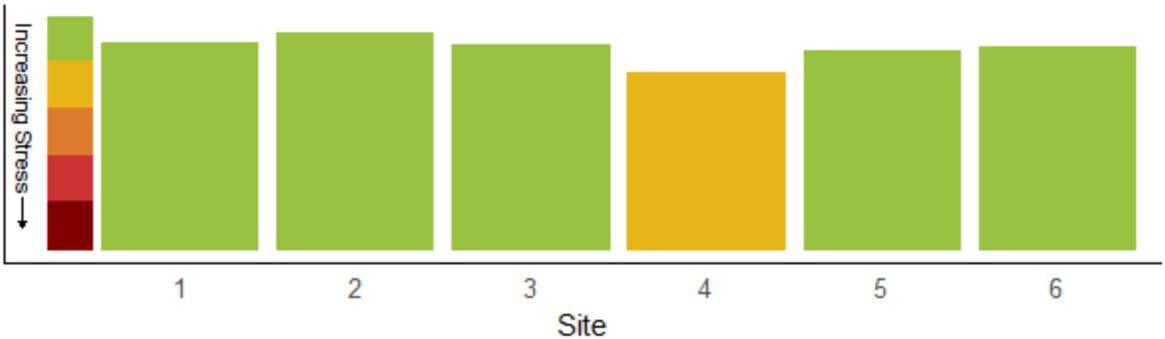
Siltation (PSI)



Flow (LIFE)

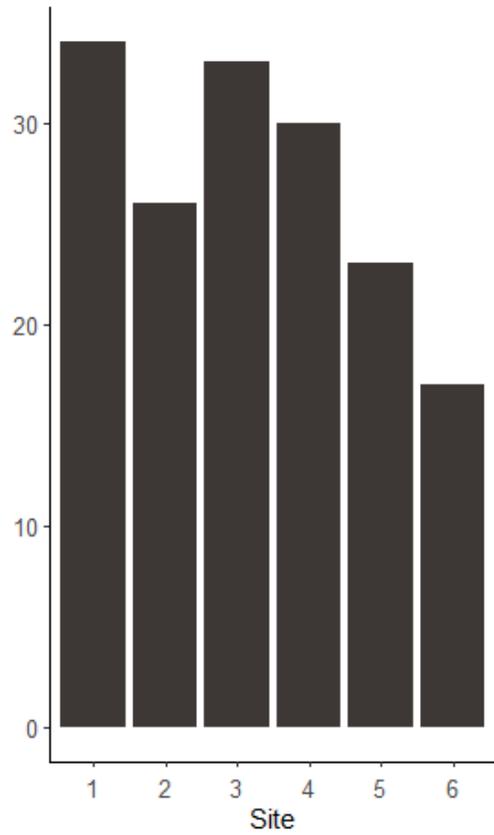


Phosphorus (TRPI)

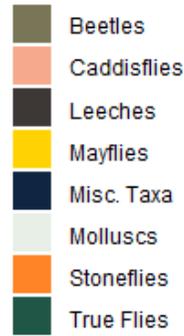


Scores	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
PSI	80.00	88.68	90.32	77.78	79.07	75.86
TRPI	88.89	92.86	88.24	76.19	85.71	87.50
SPEAR	57.93	63.43	61.74	39.17	48.98	32.58
Saprobic	1.88	1.91	1.96	2.06	1.84	2.06
LIFE	8.43	8.57	8.40	8.14	8.43	8.00
BMWP	176.00	124.00	140.00	150.00	126.00	92.00
CCI	14.88	11.32	10.80	9.32	8.00	3.86
NTAXA (BMWP)	26.00	18.00	21.00	24.00	18.00	16.00
WHPT	188.80	149.00	164.50	169.40	136.50	97.60
WHPT ASPT	6.99	7.45	7.15	6.78	7.18	6.10

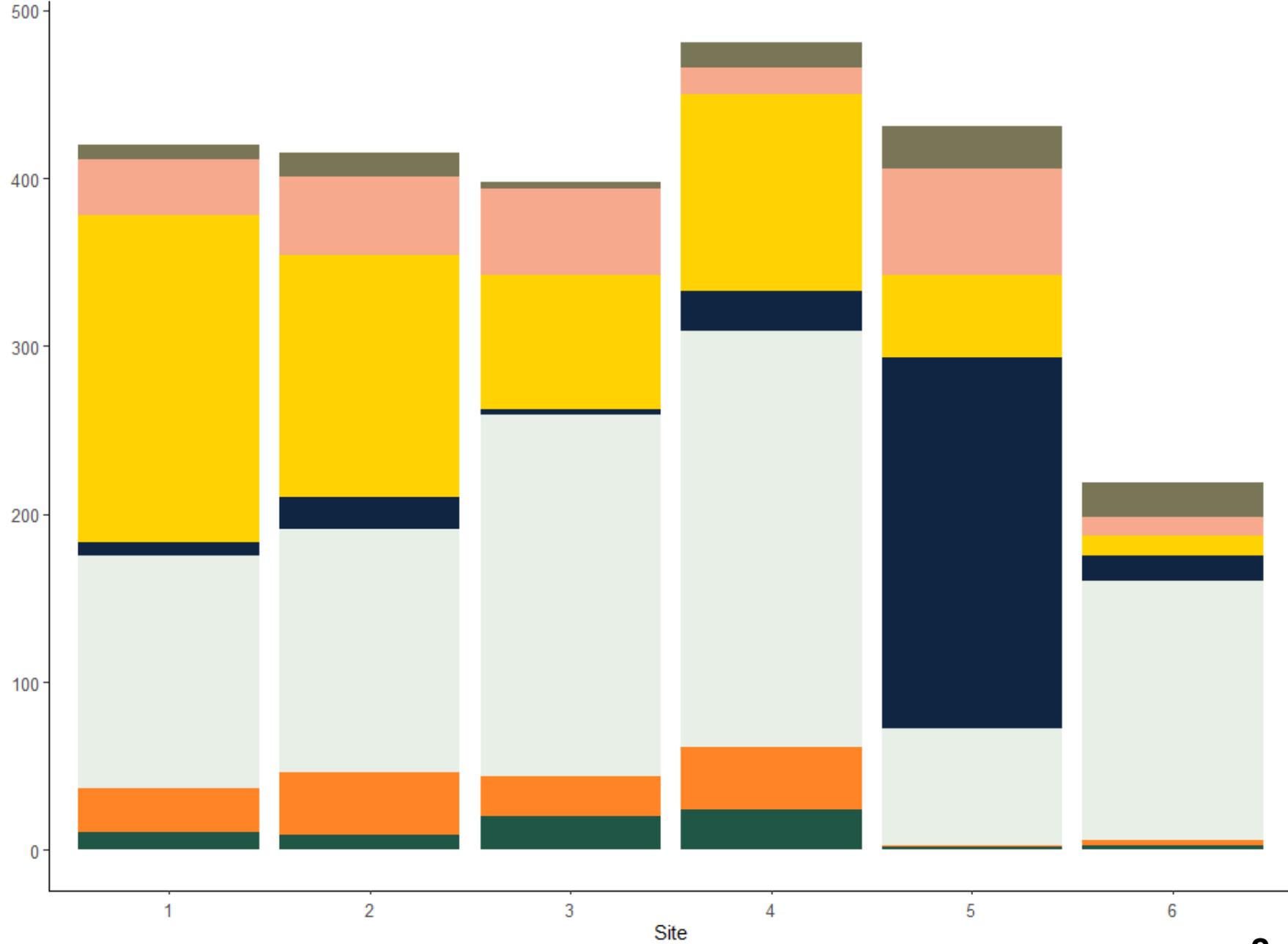
Total Species



SmartRivers Categories



Total Abundance

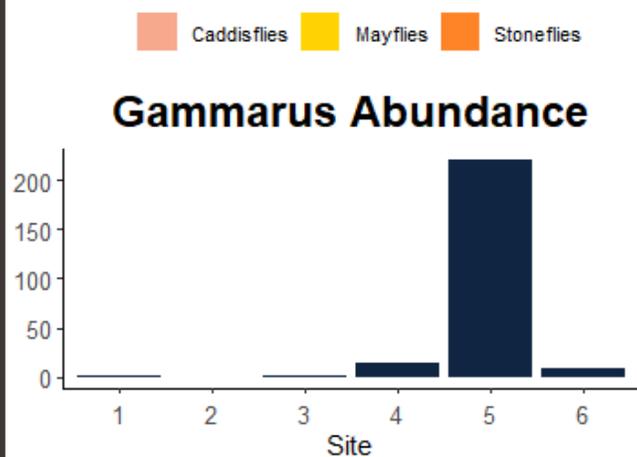
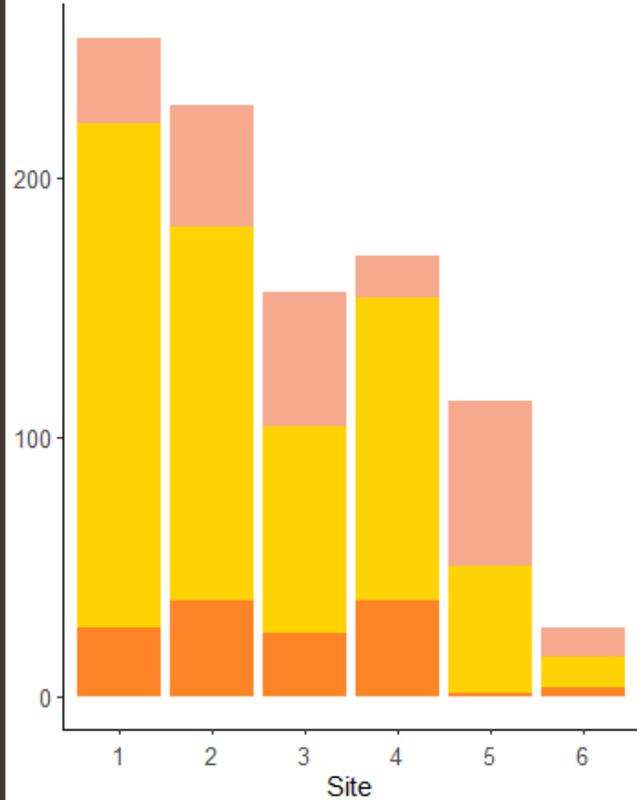
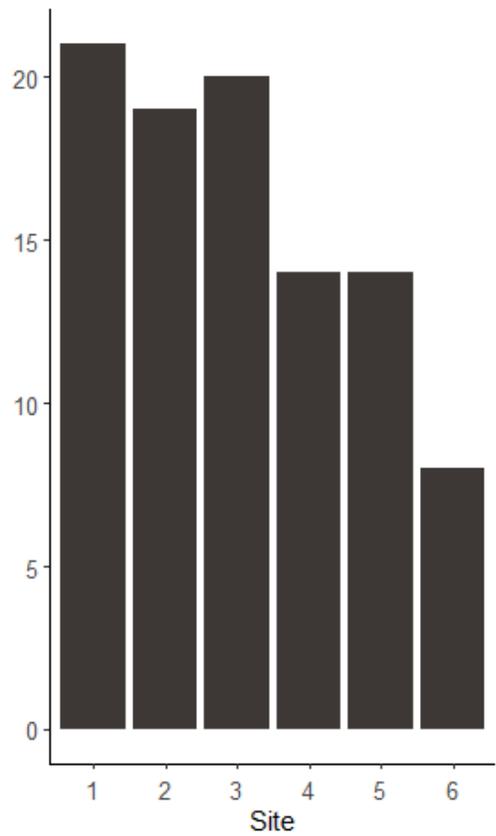


Spring 2024

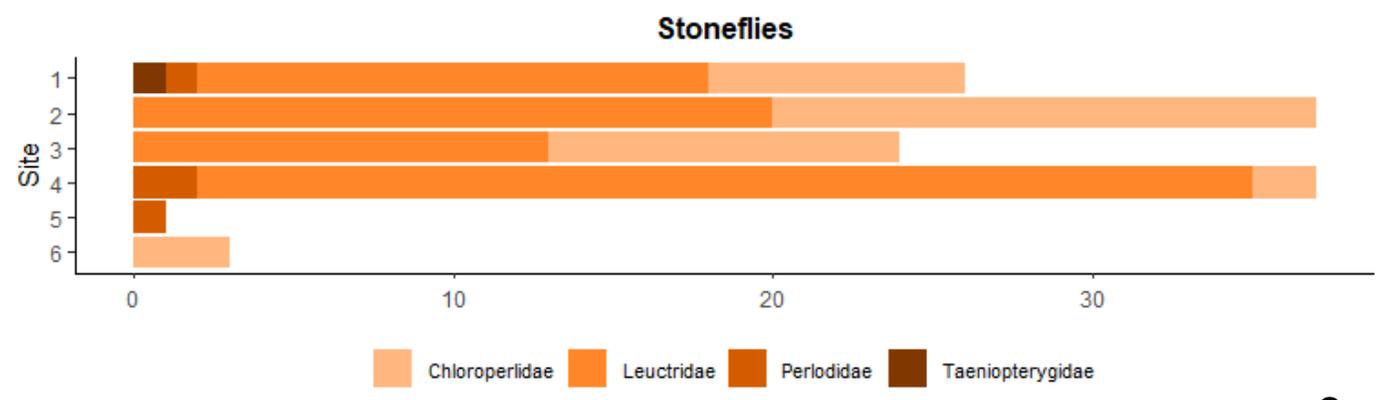
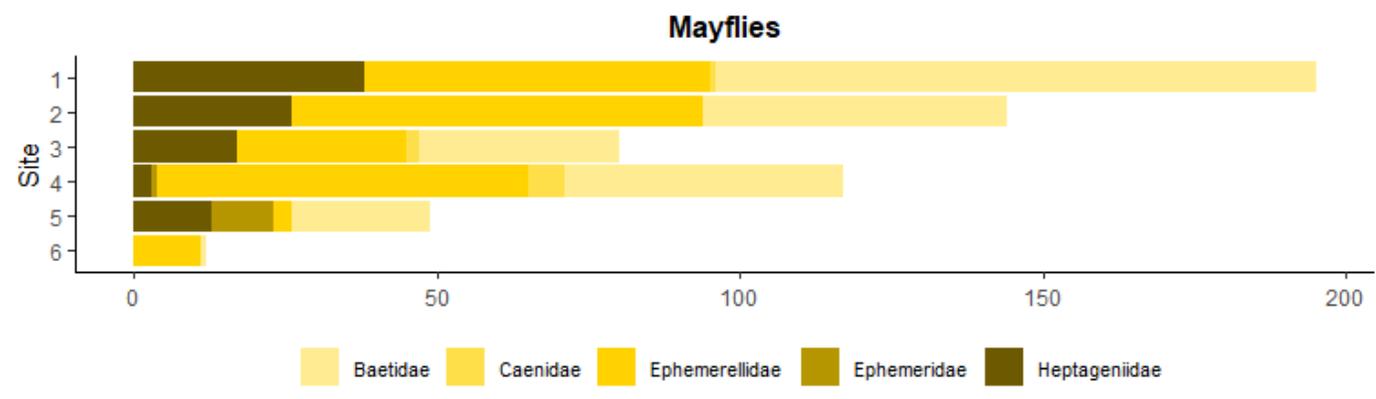
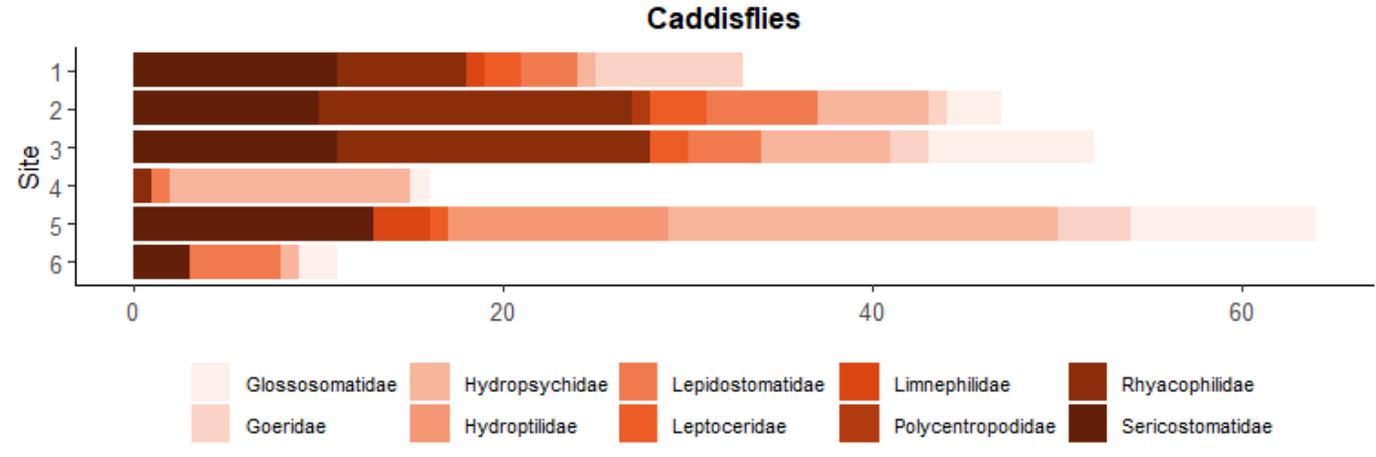
Site	Total Species	NA	Total Abundance	NA
1	34	NA	420	NA
2	26	NA	415	NA
3	33	NA	398	NA
4	30	NA	481	NA
5	23	NA	431	NA
6	17	NA	219	NA

(+/- shows change from previous year)

EPT Species



EPT Abundance



Site	EPT Species	Change	EPT Abundance	Change
1	21	NA	254	NA
2	19	NA	228	NA
3	20	NA	156	NA
4	14	NA	170	NA
5	14	NA	114	NA
6	8	NA	26	NA

(+/- shows change from previous year)

Invertebrate Samples

Beetles	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Elmidae (Riffle beetles)						
<i>Elmis aenea</i>	0	0	1	3	22	0
<i>Limnius volckmari</i>	8	14	1	11	2	21
Family:Hydraenidae (Minute moss beetles)						
<i>Hydraena gracilis</i>	1	0	2	1	1	0
Total	9	14	4	15	25	21

Caddisflies	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Glossosomatidae (Cased)						
<i>Agapetus sp.</i>	0	0	3	1	0	0
<i>Agapetus delicatulus</i>	0	3	2	0	0	1
<i>Agapetus fuscipes</i>	0	0	3	0	10	1
<i>Glossosoma boltoni</i>	0	0	1	0	0	0
Family: Goeridae (Cased)						
<i>Silo pallipes</i>	8	1	2	0	4	0
Family: Hydropsychidae (Caseless)						
<i>Hydropsyche siltalai</i>	1	6	7	13	21	1
Family: Hydroptilidae (Cased)						
<i>Hydroptila sp.</i>	0	0	0	0	12	0
Family: Lepidostomatidae (Cased)						
<i>Crunoecia irrorata</i>	1	0	0	0	0	0
<i>Lepidostoma hirtum</i>	2	6	4	1	0	5
Family: Leptoceridae (Cased)						
<i>Athripsodes sp.</i>	2	1	0	0	0	0
<i>Athripsodes albifrons</i>	0	2	2	0	0	0
<i>Athripsodes bilineatus</i>	0	0	0	0	1	0
Family: Limnephilidae (Cased)						
<i>Halesus sp.</i>	1	0	0	0	0	0
<i>Halesus digitatus</i>	0	0	0	0	1	0
<i>Potamophylax cingulatus</i>	0	0	0	0	2	0
Family: Polycentropodidae (Caseless)						
<i>Polycentropus flavomaculatus</i>	0	1	0	0	0	0
Family: Rhyacophilidae (Caseless)						
<i>Rhyacophila dorsalis</i>	7	17	17	1	0	0
Family: Sericostomatidae (Cased)						
<i>Sericostoma personatum</i>	11	10	11	0	13	3
Total	33	47	52	16	64	11

Leeches	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Total	0	0	0	0	0	0

Mayflies	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Baetidae (Olives)						
<i>Baetis muticus</i>	17	0	0	0	8	0
<i>Baetis rhodani/atlanticus</i>	77	43	26	46	15	1
<i>Baetis scambus</i>	0	1	2	0	0	0
<i>Baetis scambus/fuscatus</i>	5	6	5	0	0	0
Family: Caenidae (Small square-gill mayflies)						
<i>Caenis rivulorum</i>	1	0	2	6	0	0
Family: Ephemerellidae (Spiny crawler mayflies)						
<i>Serratella ignita</i>	57	68	28	61	3	11
Family: Ephemeridae (Burrowing mayflies)						
<i>Ephemera sp.</i>	0	0	0	1	0	0
<i>Ephemera danica</i>	0	0	0	0	10	0
Family: Heptageniidae (Flat-bodied mayflies)						
<i>Ecdyonurus sp.</i>	1	2	2	1	0	0
<i>Ecdyonurus venosus</i>	0	0	1	0	0	0
<i>Rhithrogena sp.</i>	37	24	14	2	13	0
Total	195	144	80	117	49	12

Miscellaneous Taxa	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Subphylum: Crustacea (Crustaceans)						
<i>Asellus aquaticus</i>	0	0	0	1	0	1
<i>Gammarus pulex</i>	0	0	1	0	4	0
<i>Gammarus pulex/fossarum</i>	2	0	0	15	217	9
Order: Odonata (Damsel and Dragonflies)						
<i>Calopteryx virgo</i>	0	0	0	1	0	0
Subclass: Oligochaeta (Worms)						
<i>Oligochaeta sp.</i>	2	19	1	4	0	5
Order: Tricladida (Flatworms)						
<i>Phagocata vitta</i>	0	0	1	0	0	0
<i>Polycelis felina</i>	4	0	0	3	0	0
Total	8	19	3	24	221	15

Molluscs	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Ancylidae (Freshwater limpets)						
<i>Ancylus fluviatilis</i>	1	0	0	4	0	5
Family: Hydrobiidae (Mud snails)						
<i>Potamopyrgus antipodarum</i>	136	145	215	243	67	149
Family: Lymnaeidae (Pond snails)						
<i>Ampullaceana balthica</i>	1	0	0	0	0	0
Family: Sphaeriidae (Fingernail clams)						
<i>Euglesa casertana</i>	0	0	0	1	0	0
<i>Pisidium sp.</i>	0	0	0	0	2	0
Total	138	145	215	248	69	154

Stoneflies	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Chloroperlidae (Green stoneflies)						
<i>Chloroperla tripunctata</i>	1	1	0	0	0	0
<i>Siphonoperla torrentium</i>	7	16	11	2	0	3
Family: Leuctridae (Roll-winged stoneflies)						
<i>Leuctra sp.</i>	15	13	13	18	0	0
<i>Leuctra geniculata</i>	1	7	0	15	0	0
Family: Perlodidae (Perlodid stoneflies)						
<i>Isoperla grammica</i>	1	0	0	2	1	0
Family: Taeniopterygidae (Winter stoneflies)						
<i>Brachyptera risi</i>	1	0	0	0	0	0
Total	26	37	24	37	1	3

True Flies	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Family: Athericidae (Water snipe flies)						
<i>Ibisia marginata</i>	0	4	2	0	0	0
Family: Chironomidae (Non-biting midges)						
<i>Chironomidae sp.</i>	2	2	5	13	0	1
Family: Pediciidae (Hairy-eyed craneflies)						
<i>Dicranota sp.</i>	1	1	3	0	0	1
Family: Psychodidae (Drain flies)						
<i>Ptychoptera sp.</i>	0	0	0	0	1	0
Family: Simuliidae (Blackflies)						
<i>Simulium sp.</i>	4	0	7	8	0	0
<i>Simulium argyreatum/variegatum</i>	3	2	2	1	0	0
<i>Simulium cryophilum</i>	0	0	1	0	0	0
<i>Simulium ornatum group</i>	0	0	0	1	1	1
Family: Tabanidae (Horse flies)						
<i>Chrysops sp.</i>	1	0	0	0	0	0
Family: Tipulidae (Crane flies)						
<i>Tipula sp.</i>	0	0	0	1	0	0
Total	11	9	20	24	2	3