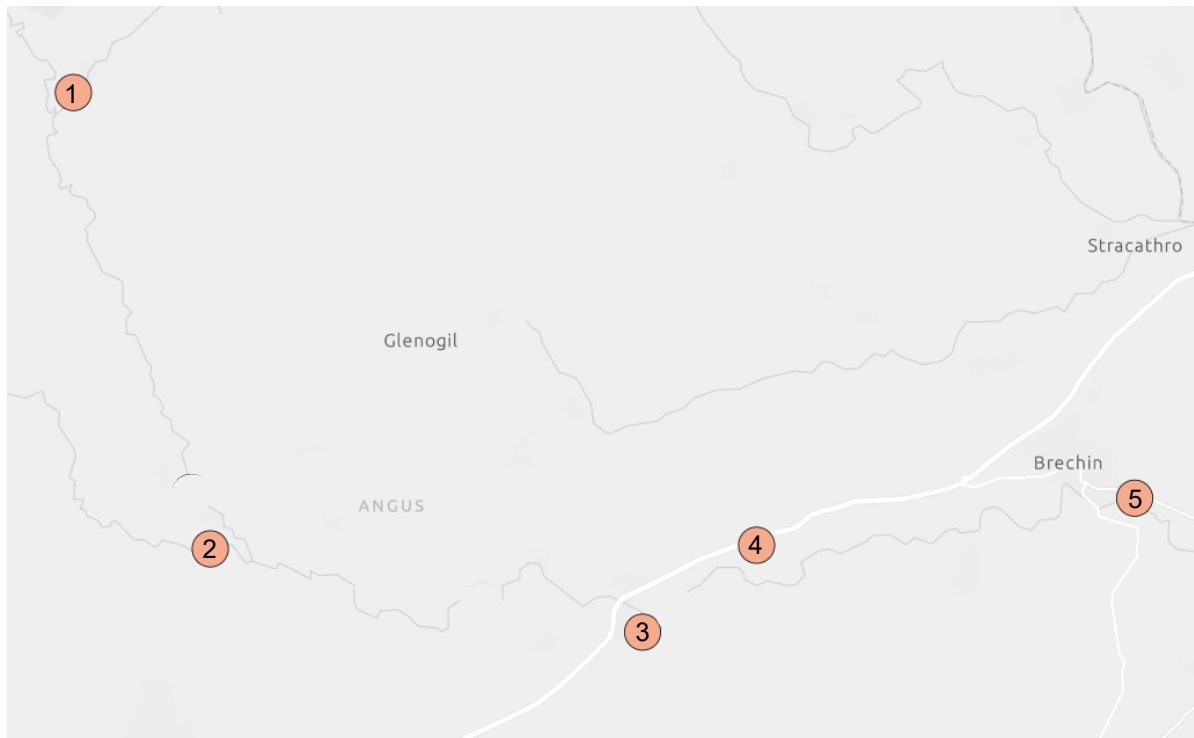


Esk Rivers & Fisheries Trust:

Angus Esk *Spring Survey 2025*



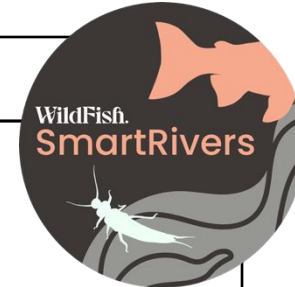
Ordnance Survey data © Crown copyright and database right 2024

Sites

- 1: Rottal Burn
- 2: Prosen Water
- 3: Lemno Burn

- 4: Noran Water
- 5: Dalgety

Summary



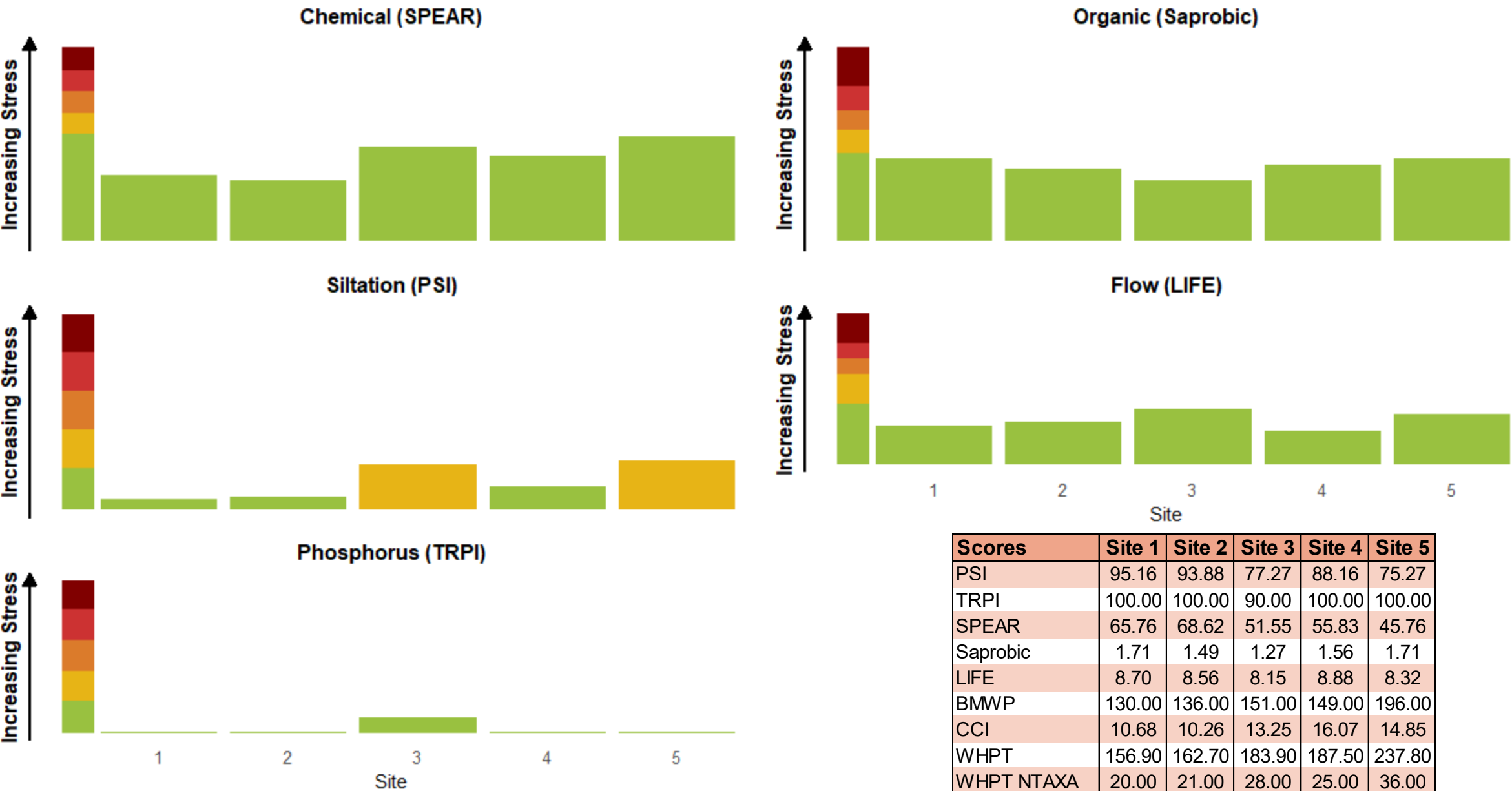
Water Quality Scores:

- Chemical Pressure: Unimpacted scores at all sites.
- Organic Pressure: Unimpacted scores at all sites.
- Sediment Pressure: Unimpacted scores at sites 1, 2, and 4. Low impact at sites 3 and 5.
- Flow Pressure: Unimpacted scores at all sites.
- Phosphorus Pressure: Unimpacted scores at all sites.

Invertebrates:

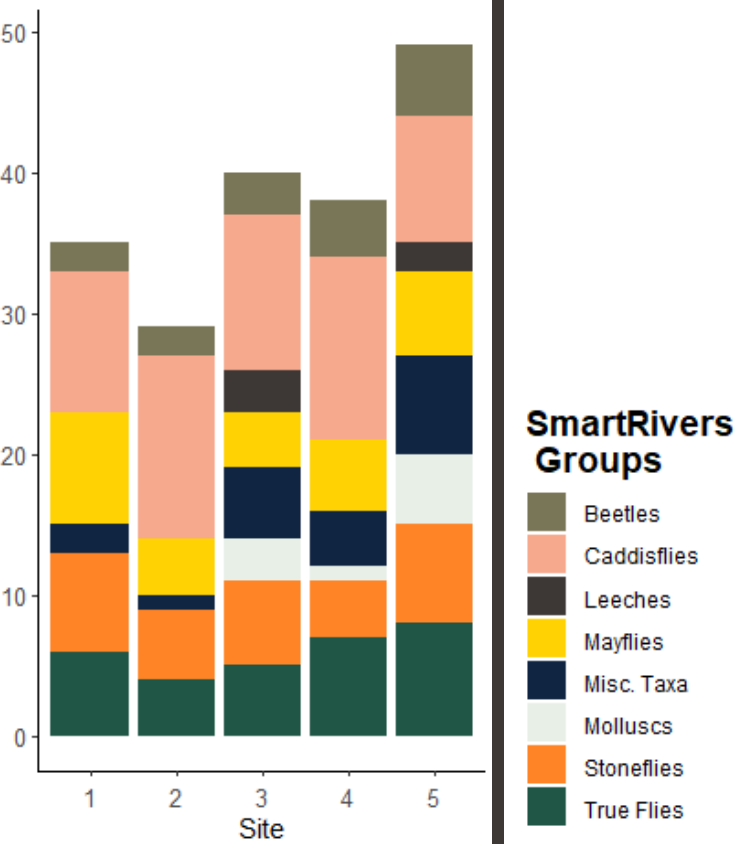
- Total species richness was highest at site 5 (49) and lowest at site 2 (29). Site 5 had higher diversity across the SmartRivers groups. Site 2 had no molluscs or leeches and lower diversity across the other groups, aside from caddisflies.
- Total abundance was highest at site 5 (2168) and lowest at site 2 (361). Greater abundance at site 5 associated with high numbers of true flies, particularly blackfly larvae (*Simulium sp.*) and non-biting midges (Chironomidae *sp.*).
- Riverfly species richness was highest at site 1 (25) and lowest at site 3 (21). Riverfly diversity relatively high across the sites (>20). Site 1 has the highest mayfly diversity with caddisflies and stoneflies also well represented.
- Riverfly abundance was highest at site 5 (1067) and lowest at site 2 (322). Greater abundance at site 5 linked to higher relative numbers of large dark olives (*Baetis rhodani*) and olive upright (*Rhitrogena semicolorata*) mayflies.

Water Quality Scores

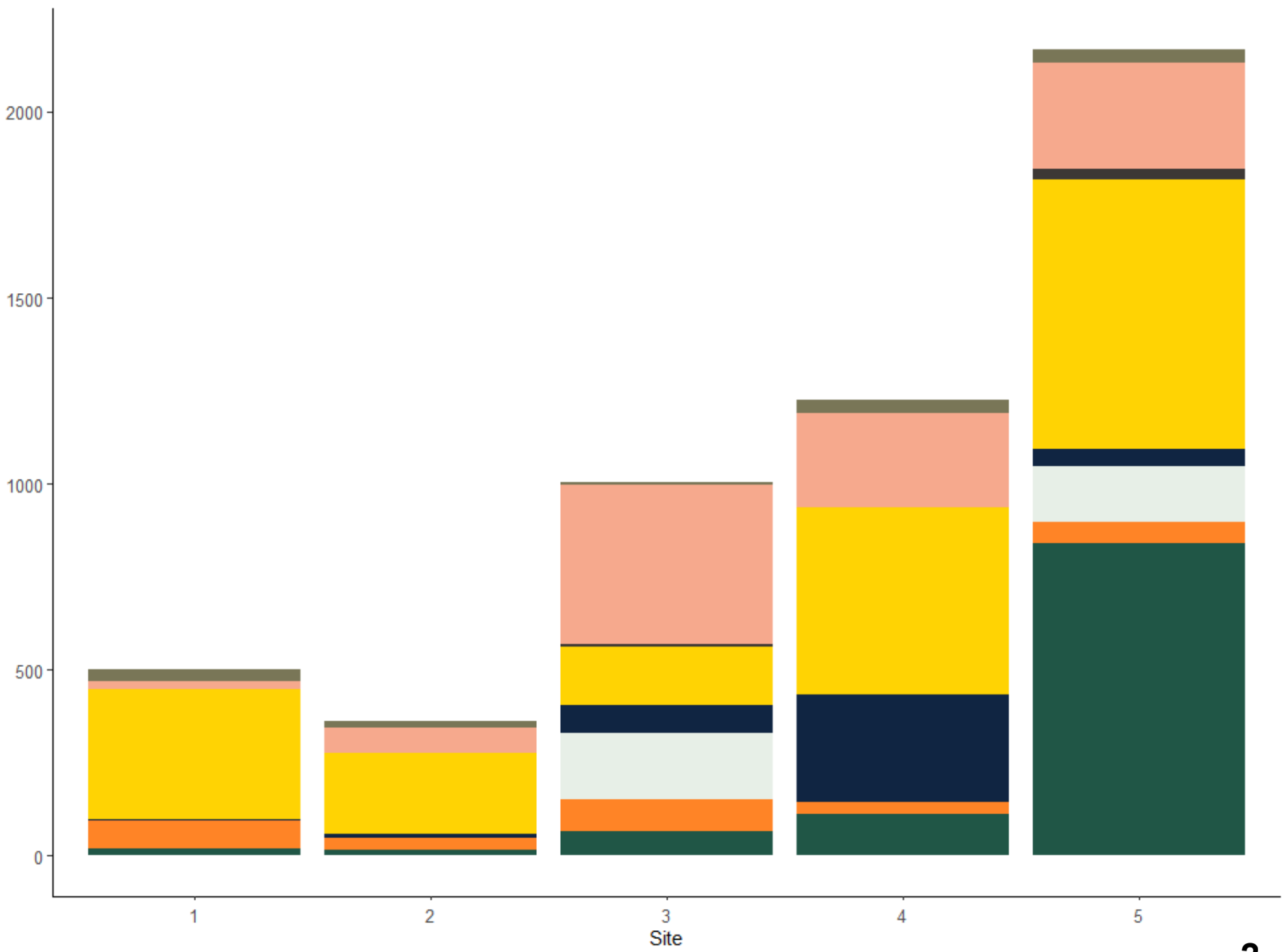


Scores	Site 1	Site 2	Site 3	Site 4	Site 5
PSI	95.16	93.88	77.27	88.16	75.27
TRPI	100.00	100.00	90.00	100.00	100.00
SPEAR	65.76	68.62	51.55	55.83	45.76
Saprobic	1.71	1.49	1.27	1.56	1.71
LIFE	8.70	8.56	8.15	8.88	8.32
BMWP	130.00	136.00	151.00	149.00	196.00
CCI	10.68	10.26	13.25	16.07	14.85
WHPT	156.90	162.70	183.90	187.50	237.80
WHPT NTAXA	20.00	21.00	28.00	25.00	36.00
WHPT ASPT	7.85	7.75	6.57	7.50	6.61

Total Species



Total Abundance

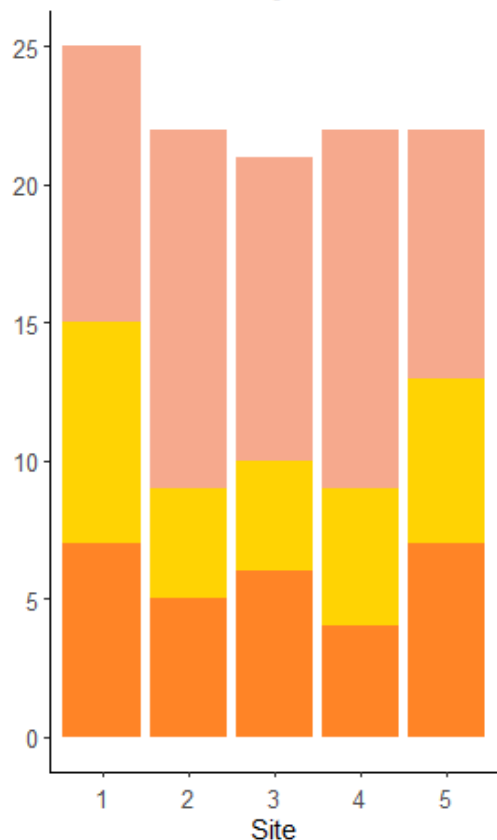


Spring 2025

Site	Total Species		Total Abundance
1	35	5	502
2	29	3	361
3	40	3	1003
4	38	4	1227
5	49	5	2168

x shows potential repeat observations.
These are highlighted grey on pg.4.

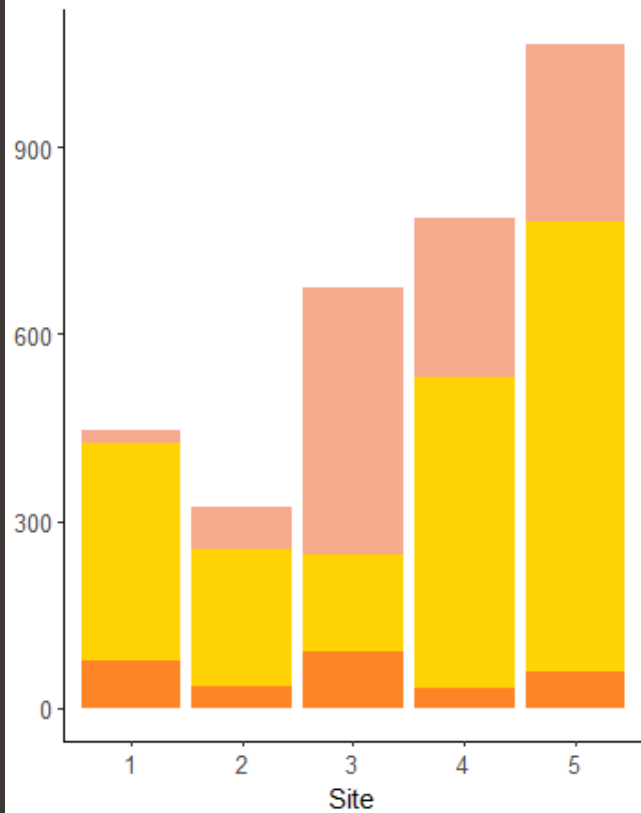
EPT Species



Site	EPT	EPT
1	25	4
2	22	3
3	21	3
4	22	3
5	22	3

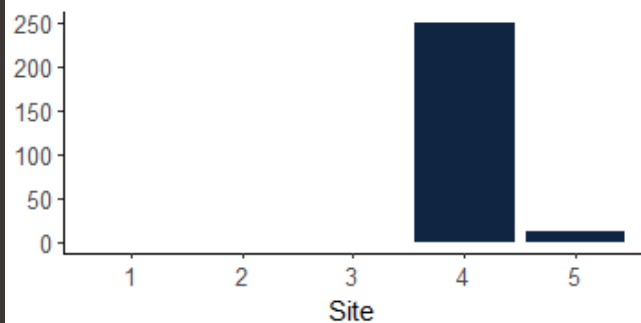
x shows potential repeat observations.
These are highlighted grey on pg.4.

EPT Abundance



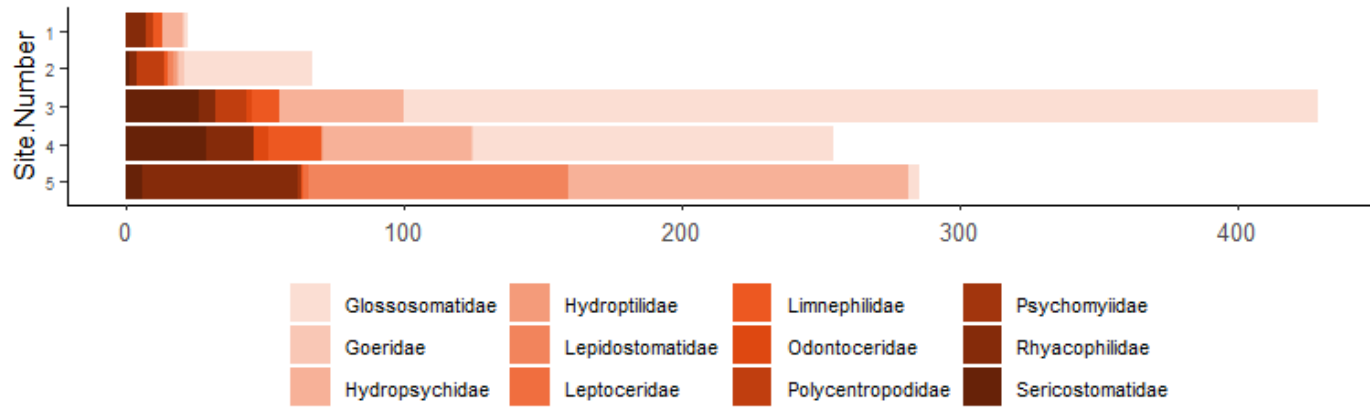
Caddisflies Mayflies Stoneflies

Gammarus Abundance

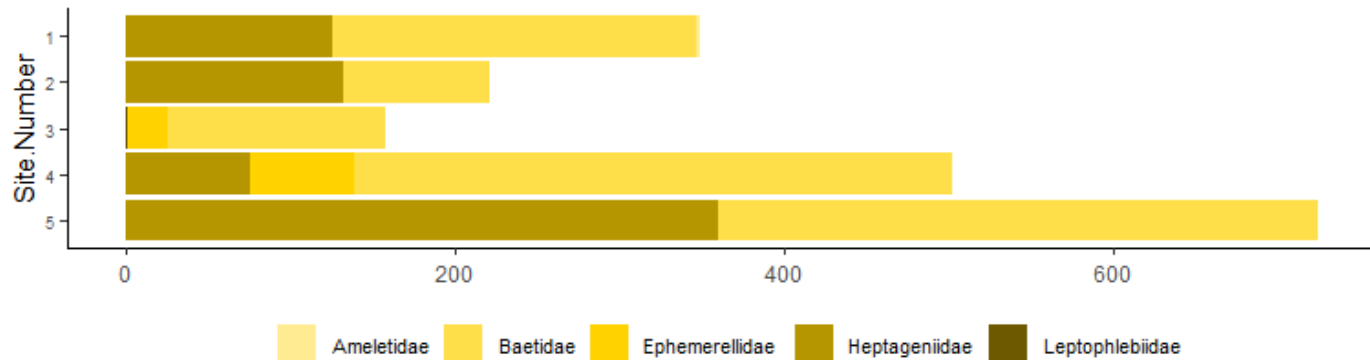


Spring 2025

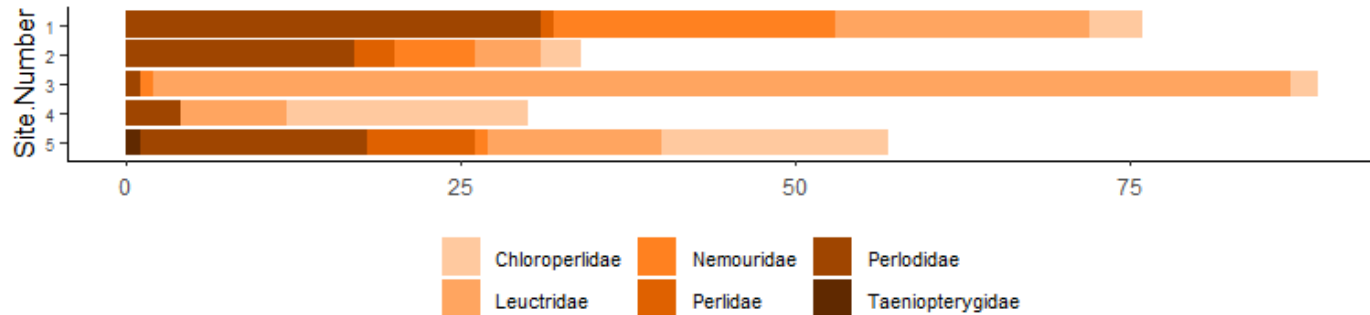
Caddisflies



Mayflies



Stoneflies



Invertebrate Samples

Spring 2025

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Beetles	Coleoptera	Dytiscidae	Oreodytes sanmarkii	29	0	1	0	0
		Elmidae	Elmis aenea	0	0	1	1	6
			Esolus parallelepipedus	0	0	0	10	5
			Limnius volckmari	5	14	3	24	19
			Oulimnius	0	2	0	0	0
		Gyrinidae	Orectochilus villosus	0	0	0	0	2
		Hydraenidae	Hydraena gracilis	0	0	0	1	3
		Total			34	16	5	36

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Caddisflies	Trichoptera	Glossosomatidae	Agapetus ochripes	0	32	0	0	4
			Agapetus	1	11	79	100	0
			Agapetus fuscipes	0	0	250	0	0
			Glossosoma boltoni	0	3	0	0	0
			Agapetus delicatulus	0	0	0	30	0
		Goeridae	Silo pallipes	1	2	0	1	0
		Hydropsychidae	Hydropsyche siltalai	6	0	45	0	123
			Hydropsyche angustipennis	1	0	0	0	0
			Hydropsyche instabilis	0	1	0	53	0
		Hydroptilidae	Hydroptila	0	1	0	1	0
		Lepidostomatidae	Lepidostoma hirtum	0	2	0	0	93
		Leptoceridae	Athripsodes	0	0	0	0	2
		Limnephilidae	Potamophylax latipennis	0	0	7	2	1
			Anabolia nervosa	1	0	0	0	0
			Chaetopteryx villosa	1	1	1	0	0
			Ecclisopteryx dalecarlica	1	0	0	0	0
			Drusus annulatus	0	0	2	12	0
			Halesus radiatus	0	0	0	1	0
			Potamophylax	0	0	0	4	0
		Odontoceridae	Odontocerum albicorne	0	0	2	5	0
		Polycentropodidae	Polycentropus	1	3	2	0	0
			Polycentropus flavomaculatus	2	7	9	0	0
		Psychomyiidae	Psychomyia pusilla	0	0	0	0	1
		Rhyacophilidae	Rhyacophila	0	2	0	0	10
			Rhyacophila dorsalis	7	1	6	14	46
			Rhyacophila oblitterata	0	0	0	3	0
		Sericostomatidae	Sericostoma personatum	0	1	26	29	6
Total				22	67	429	255	286

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Leeches	Arhynchobdellida	Erpobdellidae	Erpobdella	0	0	0	0	14
			Erpobdella octoculata	0	0	6	0	15
	Rhynchobdellida	Glossiphoniidae	Glossiphonia complanata	0	0	1	0	0
			Helobdella stagnalis	0	0	1	0	0
			Total	0	0	8	0	29

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Mayflies	Ephemeroptera	Ameletidae	Ameletus inopinatus	2	0	0	0	0
		Baetidae	Baetis	89	0	0	0	14
			Baetis muticus	1	1	38	118	65
			Baetis rhodani/atlanticus	132	88	95	135	285
			Baetis scambus	0	0	0	110	0
		Ephemerellidae	Serratella ignita	0	0	24	64	0
		Heptageniidae	Ecdyonurus	5	0	0	0	4
			Ecdyonurus torrentis	12	1	0	0	1
			Rhithrogena semicolorata	107	131	0	75	355
			Ecdyonurus venosus	1	0	0	0	0
		Leptophlebiidae	Leptophlebiidae	0	0	1	0	0
Total			349	221	158	502	724	

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Misc. Taxa	Acari	Hydracariidae	Hydracarina	0	0	1	0	0
	Amphipoda	Crangonyctidae	Crangonyx pseudogracilis/floridanus	0	0	0	0	1
		Gammaridae	Gammarus pulex	0	0	0	250	12
	Isopoda	Asellidae	Asellus aquaticus	0	0	2	0	1
	Oligochaeta	Oligochaeta	Eiseniella tetraeda	1	0	3	11	2
			Oligochaeta	1	8	67	20	27
	Tricladida	Dendrocoelidae	Dendrocoelum lacteum	0	0	0	0	1
		Planariidae	Polycelis felina	0	0	1	7	2
	Total			2	8	74	288	46

Invertebrate Samples

Spring 2025

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Molluscs	Ph. Mollusca	Ancylidae	Ancylus fluviatilis	0	0	93	3	3
		Hydrobiidae	Potamopyrgus antipodarum	0	0	80	0	144
		Lymnaeidae	Ampullaceaana balthica	0	0	0	0	1
		Physidae	Physella	0	0	0	0	1
		Planorbidae	Bathyomphalus contortus	0	0	0	0	2
	Veneroida	Sphaeriidae	Pisidium	0	0	3	0	0
Total				0	0	176	3	151

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
Stoneflies	Plecoptera	Chloroperlidae	Chloroperla tripunctata	3	0	1	0	4
			Siphonoperla torrentium	1	3	1	18	13
		Leuctridae	Leuctra	4	0	45	7	13
			Leuctra inermis	15	5	0	0	0
			Leuctra geniculata	0	0	40	0	0
			Leuctra hippopus	0	0	0	1	0
		Nemouridae	Amphinemura sulcicollis	21	6	1	0	1
		Perlidae	Perla bipunctata	1	3	0	0	8
		Perlodidae	Isoperla grammatica	31	17	1	4	17
		Taeniopterygidae	Brachyptera risi	0	0	0	0	1
Total				76	34	89	30	57

SmartRivers Group	Order	Family	Taxon	Site 1	Site 2	Site 3	Site 4	Site 5
True Flies	Diptera	Ceratopogonidae	Ceratopogonidae	0	5	0	0	1
		Chironomidae	Chironomidae	9	8	56	95	150
			Tanytarsini	4	0	0	0	5
			Tanypodinae	0	0	1	0	0
		Empididae	Hemerodromia	0	0	2	1	1
		Limoniidae	Hexatoma	1	1	0	0	1
			Eloeophila	1	0	0	4	0
		Pediciidae	Dicranota	2	1	0	10	2
		Psychodidae	Pericoma	0	0	1	0	0
		Rhagionidae	Rhagionidae	0	0	0	1	0
		Simuliidae	Simulium	0	0	4	1	80
			Simulium argyreatum/variegatum	0	0	0	1	600
			Prosimulium	2	0	0	0	0
Total				19	15	64	113	840