

Supporting information for

Small patches of riparian woody vegetation enhance macroinvertebrates biodiversity in a Belgian catchment.

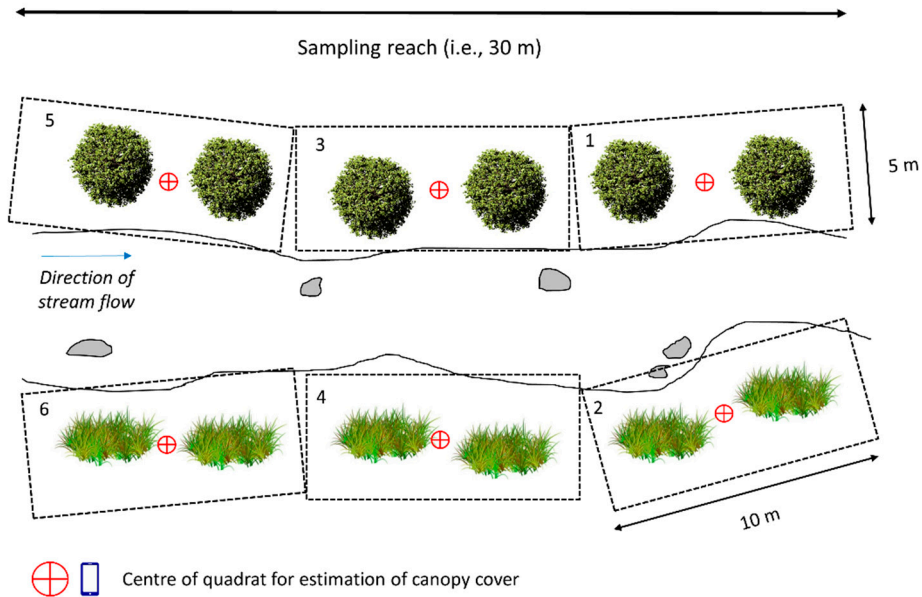
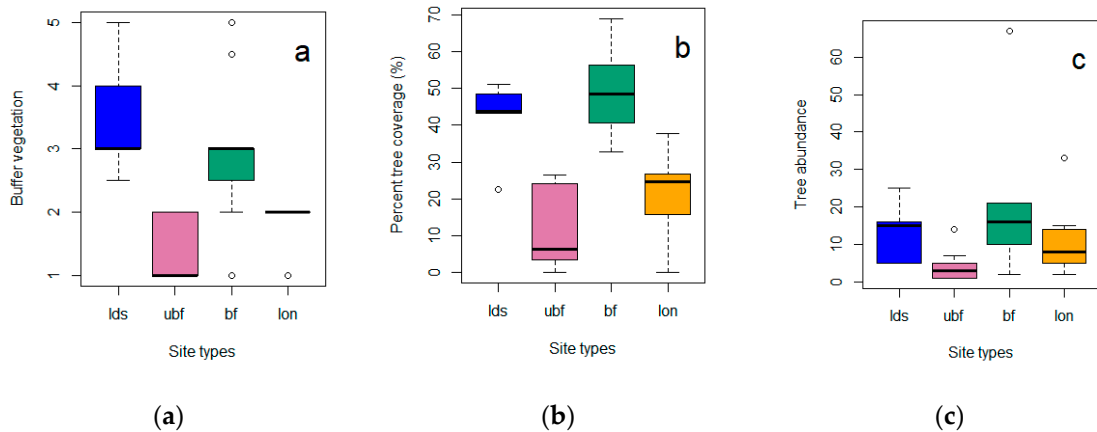


Figure S1. Sampling scheme for terrestrial vegetation and habitat assessment (after Burdon, et al. [1]).



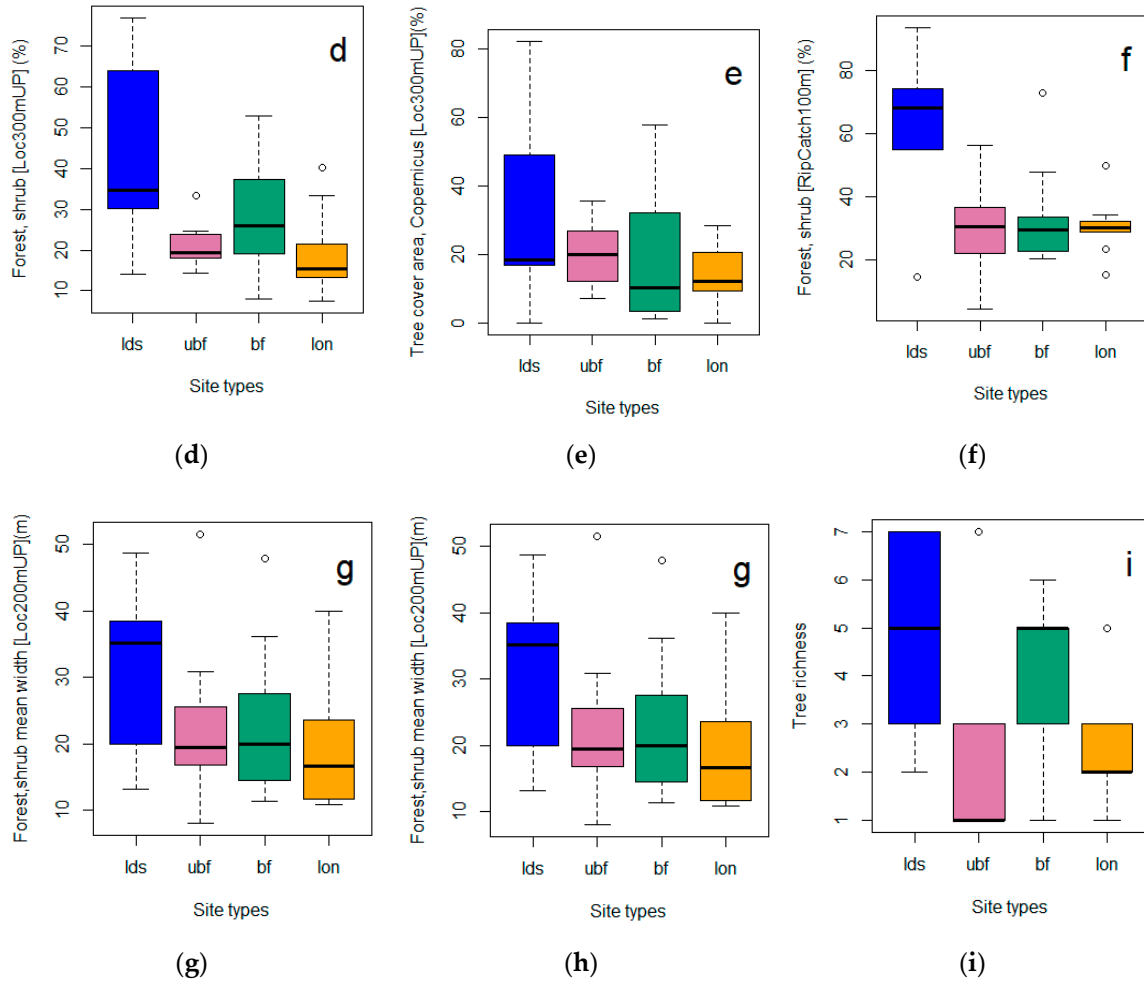
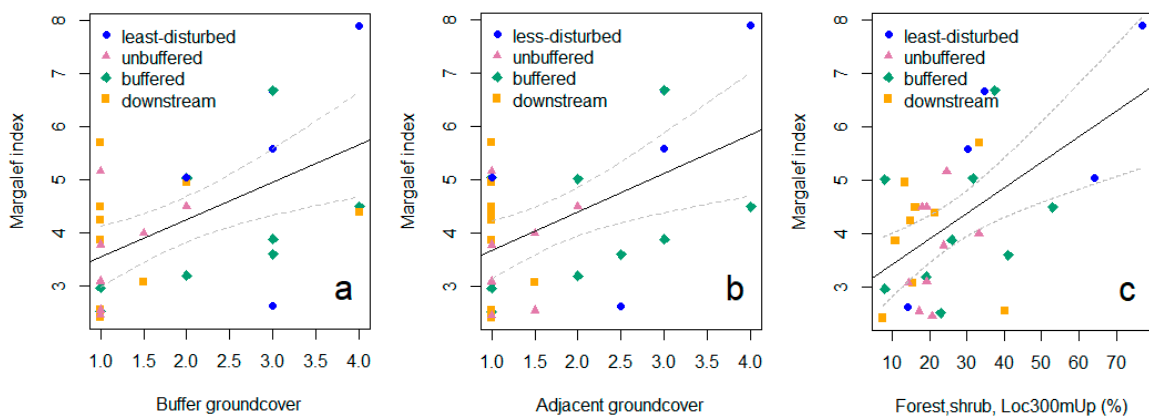


Figure S2. Boxplots of the quick assessment riparian attribute buffer vegetation (a), quantitative assessment riparian attributes percent tree coverage (b) and tree abundance (c), GIS-based quantification riparian attributes forest, tree shrub area in spatial units Loc300mUP obtained from 1 m resolution (d), tree cover area in spatial units Loc300mUP obtained from 30 m resolution (e), forest, tree shrub area in spatial units RipCatch100m (f), mean width of forest, shrub in spatial units Loc200mUP (g), mean width of forest, shrub in spatial units Loc300mUP (h) and tree richness obtained from quantitative sampling method (i) with respect to the site types lds (least-disturbed sites), ubf (unbuffered), bf (buffered), and lon (downstream).



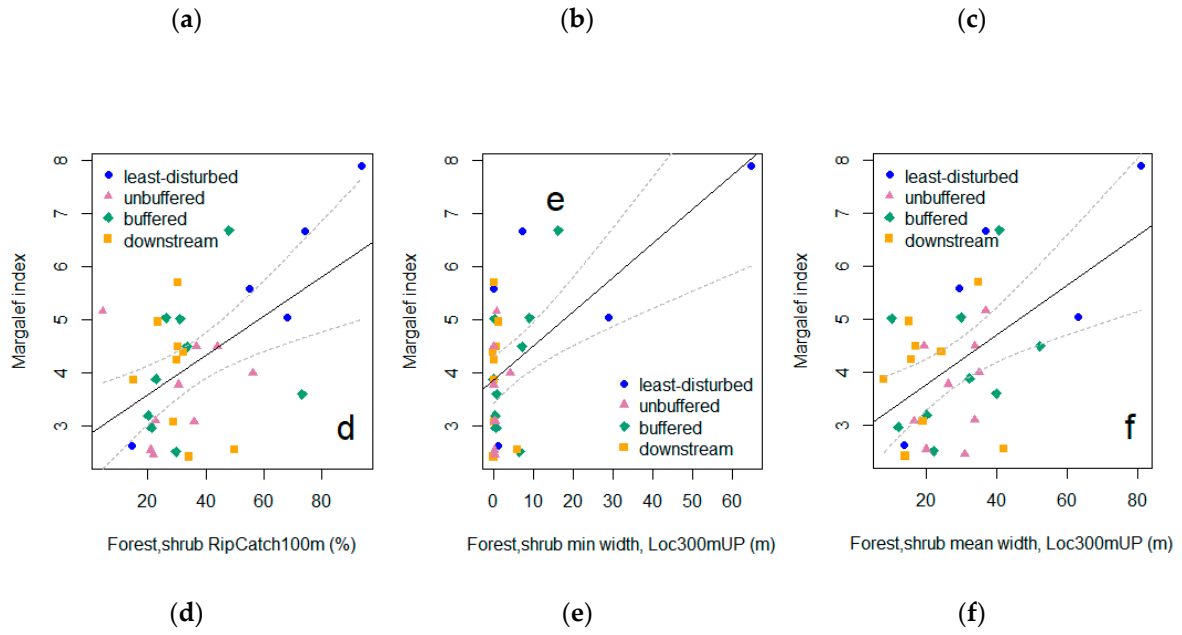


Figure S3. Mean Margalef index in relation to the quick assessment method, buffer ground cover (a) and adjacent ground cover (b), and GIS methods, forest, shrub in spatial units Loc300mUP (c) RipCatch100m (d), minimum and mean width of trees in spatial unit Loc300mUP (e & f, respectively) are represented by grey lines. Grey dash lines are the confidence interval and the dots represents the sampling points.

Table S1. Riparian attributes considered in the study.

Riparian attributes	Min	Max	Median	Mean
Quick assessment				
Adjacent groundcover	1	4	1	1.70
Adjacent vegetation	1	5	1	1.59
Bank stability	2	4.5	3	3.06
Buffer groundcover	1	4	1.75	1.91
Buffer intactness	1.5	5	4	3.52
Buffer vegetation	1	5	2	2.28
Buffer width	1	4	2	2.08
Land slope	1	5	4	3.81
Livestock access	2	5	4	4.02
Rills channel	3	5	5	4.73
Riparian soil	1	3	3	2.70
Shading	1	4.5	3	2.71
Soil drainage	2	4	3	2.98
Riparian Condition Index (RCI)	27	52.5	36	37.11
Quantitative assessment				
Tree richness	1	7	3	3.22
Tree abundance	1	67	8	11.84
Percent coverage area (%)	0	68.99	26.63	29.43
Bare ground (%)	0	33.15	1.33	5.52
Herb (%)	0	90.27	24.58	30.84
Impervious (%)	0	75	0	10.88
Managed grass (%)	0	85.22	34.69	33.60
Unmanaged grass (%)	0	55.97	11.92	15.11
Mosses, lichen (%)	0	8.33	0.11	0.77
Plant litter (%)	0	42.82	0.30	3.90

Riparian attributes	Min	Max	Median	Mean
Rock bedrock (%)	0	1	0	0.06
Shrub (%)	0	19.5	0.89	3.09
<i>Fraxinus excelsior</i> abundance	0	12	1	1.94
<i>Populus canadensis</i> abundance	0	10	0	1.84
Quantification based on GIS				
<i>Local riparian attributes</i>				
Agricultural (Loc100mUP) (m ²)	0	1667.3	0	171.7
Agricultural (Loc200mUP) (m ²)	0	3084.3	0	305.4
Agricultural (Loc300mUP) (%)	0.14	42.7	7.1	9.9
Forest, shrub (Loc100mUP) (m ²)	15.1	4914.3	987.8	1571
Forest, shrub (Loc200mUP) (m ²)	57.7	8928	2286.9	3105.2
Forest, shrub (Loc300mUP) (%)	7.18	77.1	21.1	25.9
Pasture, grassland (Loc100mUP) (m ²)	0	4721	2712	2699
Pasture, grassland (Loc200mUP) (m ²)	234.3	8973.5	4985.2	5275.5
Pasture, grassland (Loc300mUP) (%)	22.9	85.9	63.3	60.5
Urban, industrial (Loc100mUP) (m ²)	0	660	0	90.52
Urban, industrial (Loc200mUP) (m ²)	0	2029.6	6	200.5
Urban, industrial (Loc300mUP) (%)	0.13	69.3	4.0	9.4
Wetland, waterbodies (Loc300mUP) (%)	0.003	1.47	0.03	0.21
Tree cover area (Loc300mUP) (%)	0	82.3	17.7	20.8
Tree cover density (Loc300mUP) (%)	0	93.8	69.4	68.2
<i>Local riparian width attributes</i>				
Agricultural minimum width (Loc300mUP) (m)	0.014	34.7	0.32	3.23
Agricultural mean width (Loc300mUP) (m)	1.183	44.7	25.3	24.4
Forest, shrub minimum width (Loc100mUP) (m)	0	39.7	1.1	5.6
Forest, shrub minimum width (Loc200mUP) (m)	0.1	39	0.7	3.6
Forest, shrub minimum width (Loc300mUP) (m)	0.007	64.94	0.42	5.01
Forest, shrub mean width (Loc100mUP) (m)	2.3	49	17.4	20.9
Forest, shrub mean width (Loc200mUP) (m)	8	51.6	19.7	23.3
Forest, shrub mean width (Loc300mUP) (m)	8.13	81.1	28	29.08
Pasture, grassland minimum width (Loc300mUP) (m)	0.06	65.13	12.82	16.68
Pasture, grassland mean width (Loc300mUP) (m)	23.79	88.56	65.48	61.96
Urban, industrial minimum width (Loc300mUP) (m)	0.01	4.57	0.24	0.64
Urban, industrial mean width (Loc300mUP) (m)	0.9	66.4	9.7	15.1
<i>Full riparian corridor attributes</i>				
Agricultural (RipCatch100) (%)	1.0	38.8	10.4	10.3
Forest, shrub (RipCatch100) (%)	4.5	93.7	30.6	36.3
Pasture, grassland (RipCatch100) (%)	6.2	72.2	51.2	48.7
Urban, industrial (RipCatch100) (%)	0.002	23.3	3.09	5.58
Wetland, waterbodies (RipCatch100) (%)	0.0013	75.5	32.5	34.4
Tree cover area (RipCatch100) (%)	0	82.3	17.7	20.8
Tree cover density (RipCatch100) (%)	0	93.8	69.4	68.2
Distance to 100 m forest blocks (RipCatch100) (m)	0	389.8	139.1	150.8
Distance to 50 m forest blocks (RipCatch100) (m)	0	145.3	51.5	53.4
Distance to 25 m forest blocks (RipCatch100) (m)	1.6	76.8	15.9	18.9

Table S2. Subjective scores for riparian attributes used to calculate an index of riparian condition (from Harding, *et al.* [2], after Burdon *et al.* [1]).

Attributes		Scores 1	Scores 2	Scores 3	Scores 4	Scores 5
Shading of water		Little or no shading	10-25% shading	25-50%	50-80%	>80%
Buffer width		<1 m	1-5 m	5-15 m	15-30 m	>30 m
Buffer intactness		Buffer absent	50-99% gaps	20-50% gaps	1-20% gaps	Completely intact
Vegetation comp. of buffer and/or adjacent land to 30 m from streambank	Buffer	Short grazed pasture grasses to stream edge, or impervious surfaces	Invasive weedy shrubs gorse, blackberry, broom, or mainly high grasses or low shrubs 0.3-2 m	Deciduous tree dominated; small tree dom. (2-5 m); or forest plantation with <25% cover of >5 m trees; or natural grassy veg.	Regenerating forest or woodlot evergreens with >25% cover sub-canopy (>5 m) trees but <10% canopy trees (>12 m); or natural grassy veg.	Maturing forest including >10% cover canopy trees (>12 m); or natural wetland or natural grassy vegetation
	Adjacent land					
Bank stability		Very low: uncohesive sediments & few roots & >40% recently eroded	Low: uncohesive sediments & few roots/low veg. cover & >15-40% recently eroded	Moderate: stabilized by geology (e.g. cobbles), veg cover &/or roots & >5-15% recently eroded	High: stabilized by geology (e.g. bedrock), veg. cover &/or roots; & 1-5% recently eroded	Very high: stabilized by geology (e.g. bedrock), veg. cover &/or roots; <1% recently eroded
Livestock access		High: unfenced and unmanaged with active livestock use	Moderate: some livestock access	Limited: unfenced but low stocking, bridges, troughs, natural deterrents	Very limited: temporary fencing of all livestock or naturally very limited access	None: permanent fencing or no livestock
Riparian soil denitrification potential		Soils dry/firm underfoot or moist-wet but frequent tile drains bypass riparian soils (≥3 per 100 m)	1-30% streambank soils moist but firm or moist-wet with infrequent bypass drains (1-2 per 100 m)	≥30% streambank soils moist but firm underfoot. No drains.	1-30% streambank soils water-logged, soft underfoot with black soil. No drains.	≥30% of streambanks water-logged, surface moist/fluid underfoot. No drains.
Land slope 0-30 m from stream bank		>35°	>20-35°	>10-20°	>5-10°	0-5°
Groundcover of buffer and/or adjacent land to 30 m from streambank	Buffer	Bare	Short/regularly grazed pasture (<3 cm)	Pasture grass/tussock with bare flow paths or 2-3 cm tree litter layer	Moderate density grass or dense (>3 cm) tree litter layer	High density long grass
	Adjacent land					
Soil drainage		Impervious (e.g. sealed) or extensively pugged	Low permeability (e.g. high clay content) or moderately pugged/compacted soil	Low-moderate permeability (e.g. silt/loam) and not pugged/compacted	Mod-high permeability (e.g. sandy loam) & not pugged/compacted	Very high permeability (e.g. pumice/sand) & not pugged/compacted

	and/or compacted soil				
Rills/channels	Frequent rills (> 9 per 100 m) or larger channels carry most runoff	Common rills (4-9 per 100 m) or 1-2 larger channels carry some runoff	Infrequent rills (2-3 per 100 m) and no larger channels	Rare rills (1 per 100 m) and no larger channels	None

Table S3. Stream invertebrates found in the Zwalm River basin.

Class	Order	Family	Aquatic invertebrate taxa	Number of individuals
Malacostraca	Amphipoda	Gammaridae	<i>Gammarus</i> sp.	18503
Hirudinea	Arhynchobedellida	Erpobdellidae	<i>Erpobdella octoculata</i>	93
Insecta	Coleoptera	Hydrophilidae	<i>Anacaena globulus</i>	5
Insecta	Coleoptera	Dytiscidae	Dytiscidae Gen. sp.	3
Insecta	Coleoptera	Elmidae	<i>Elmis aenea</i>	23
Insecta	Coleoptera	Hydrophilidae	<i>Helophorus</i> sp.	4
Insecta	Coleoptera	Scirtidae	Scirtidae Gen. sp.	38
Insecta	Diptera	Stratiomyidae	<i>Beris</i> sp.	1
Insecta	Diptera	Ceratopogonidae	Ceratopogonidae Gen. sp.	28
Insecta	Diptera	Chironomidae	Chironomidae Gen. sp.	3012
Insecta	Diptera	Chironomidae	Chironominae Gen. sp.	2862
Insecta	Diptera	Culicidae	<i>Culex pipiens</i>	139
Insecta	Diptera	Limoniidae	<i>Dicranota</i> sp.	179
Insecta	Diptera	Dolichopodidae	Dolichopodidae Gen. sp.	2
Insecta	Diptera	Limoniidae	<i>Eloeophila</i> sp.	16
Insecta	Diptera	Limoniidae	<i>Erioptera</i> sp.	3
Insecta	Diptera	Limoniidae	<i>Neolimnomyia</i> sp.	1
Insecta	Diptera	Stratiomyidae	<i>Oplodontha viridula</i>	1
Insecta	Diptera	Chironomidae	Orthocladinae Gen. sp.	294
Insecta	Diptera	Limoniidae	<i>Pedicia</i> sp.	1
Insecta	Diptera	Limoniidae	<i>Pilaria</i> sp.	4
Insecta	Diptera	Chironomidae	<i>Prodiamesa olivacea</i>	1221
Insecta	Diptera	Psychodidae	<i>Psychoda alternata</i>	1
Insecta	Diptera	Psychodidae	<i>Psychoda parthenogenetica</i>	1
Insecta	Diptera	Ptychopteridae	<i>Ptychoptera contaminata</i>	380
Insecta	Diptera	Ptychopteridae	<i>Ptychoptera scutellaris</i>	57
Insecta	Diptera	Simuliidae	<i>Simulium costatum</i>	1
Insecta	Diptera	Simuliidae	<i>Simulium ornatum</i>	639
Insecta	Diptera	Tabanidae	Tabanidae Gen. sp.	17
Insecta	Diptera	Chironomidae	Tanypodinae Gen. sp.	342
Insecta	Diptera	Psychodidae	Telmatoscopini Gen. sp.	1
Insecta	Diptera	Tipulidae	<i>Tipula</i> sp.	2
Insecta	Ephemeroptera	Baetidae	<i>Baetis muticus</i>	35
Insecta	Ephemeroptera	Baetidae	<i>Baetis rhodani</i>	399
Insecta	Ephemeroptera	Baetidae	<i>Baetis vernus</i>	174
Insecta	Ephemeroptera	Caenidae	<i>Caenis horaria</i>	1
Insecta	Ephemeroptera	Baetidae	<i>Centroptilum luteolum</i>	1
Insecta	Ephemeroptera	Baetidae	<i>Cloeon dipterum</i>	3
Insecta	Ephemeroptera	Heptageniidae	<i>Electrogena ujhelyii</i>	32
Insecta	Ephemeroptera	Ephemeridae	<i>Ephemera danica</i>	67
Insecta	Ephemeroptera	Leptophlebiidae	<i>Paraleptophlebia submarginata</i>	1
Insecta	Hemiptera	Nepidae	<i>Nepa cinerea</i>	2
Insecta	Hemiptera	Veliidae	<i>Velia caprai</i>	4

Class	Order	Family	Aquatic invertebrate taxa	Number of individuals
Gastropoda	Hygrophila	Planorbidae	<i>Ancylus fluviatilis</i>	1
Gastropoda	Hygrophila	Lymnaeidae	<i>Lymnaea peregra</i>	14
Gastropoda	Hygrophila	Physidae	<i>Physella acuta</i>	7
Malacostraca	Isopoda	Asellidae	Asellidae Gen. sp.	65
Malacostraca	Isopoda	Asellidae	<i>Asellus aquaticus</i>	2046
Gastropoda	Littorinimorpha	Hydrobiidae	<i>Potamopyrgus antipodarum</i>	1016
Insecta	Megaloptera	Sialidae	<i>Sialis fuliginosa</i>	1
Insecta	Odonata	Cordulegastriidae	<i>Cordulegaster boltonii</i>	10
Insecta	Odonata	Libellulidae	<i>Orthetrum cancellatum</i>	1
Oligochaeta	Opisthopora	Lumbricidae	Lumbricidae Gen. sp.	8
Hirudinea	Rhynchopdellida	Glossiphoniidae	<i>Glossiphonia complanata</i>	22
Hirudinea	Rhynchopdellida	Glossiphoniidae	<i>Glossiphonia concolor</i>	1
Hirudinea	Rhynchopdellida	Glossiphoniidae	<i>Glossiphonia nebulosa</i>	6
Hirudinea	Rhynchopdellida	Glossiphoniidae	<i>Helobdella stagnalis</i>	24
Hirudinea	Rhynchopdellida	Glossiphoniidae	<i>Theromyzon tessulatum</i>	1
Turbellaria	Seriata	Dendrocoelidae	<i>Dendrocoelum lacteum</i>	25
Turbellaria	Seriata	Dugesiidae	<i>Dugesia gonocephala</i>	69
Insecta	Trichoptera	Glossosomatidae	<i>Agapetus fuscipes</i>	21
Insecta	Trichoptera	Limnephilidae	<i>Chaetopteryx villosa</i>	296
Insecta	Trichoptera	Limnephilidae	<i>Enoicyla pusilla</i>	1
Insecta	Trichoptera	Hydropsychidae	<i>Hydropsyche angustipennis</i>	103
Insecta	Trichoptera	Hydropsychidae	<i>Hydropsyche fulvipes</i>	45
Insecta	Trichoptera	Psychomyiidae	<i>Lype reducta</i>	2
Insecta	Trichoptera	Polycentropodidae	<i>Plectrocnemia conspersa</i>	3
Insecta	Trichoptera	Limnephilidae	<i>Potamophylax cingulatus</i>	7
Insecta	Trichoptera	Sericostomatidae	<i>Sericostoma personatum</i>	43
Insecta	Trichoptera	Goeridae	<i>Silo pallipes</i>	1
Oligochaeta	Tubificida	Naididae	Naididae Gen. sp.	12960
Bivalvia	Venerida	Sphaeriidae	<i>Pisidium</i> sp.	5
Bivalvia	Venerida	Sphaeriidae	<i>Sphaerium</i> sp.	3

Table S4. Terrestrial invertebrates found in the Zwalm River basin.

Taxa	Number of individuals
Araneae	
<i>Agelena labyrinthica</i>	72
Agelenidae	26
<i>Anelosimus vittatus</i>	1
<i>Antistea elegans</i>	1
<i>Anyphaena accentuata</i>	5
Araneidae	97
<i>Araniella cucurbitina</i>	4
<i>Araniella opisthographa</i>	4
<i>Cheiracanthium erraticum</i>	1
<i>Clubiona corticalis</i>	1
<i>Clubiona lutescens</i>	1
<i>Clubiona terrestris</i>	1
Clubionidae	31
<i>Coelotes terrestris</i>	3
<i>Cyclosa conica</i>	1
<i>Diaea dorsata</i>	1
<i>Drassodes lapidosus</i>	1
<i>Enoplognatha ovata</i>	91
<i>Episinus angulatus</i>	1
<i>Eratigena picta</i>	6
Gnaphosidae	5
<i>Harpactea hombergi</i>	1
<i>Larinioides cornutus</i>	2
Linyphiidae	120
Lycosidae	41
<i>Mangora acalypha</i>	16
<i>Metellina mendei</i>	8
<i>Metellina merianae</i>	1
<i>Neriere emphana</i>	1
<i>Neriere montana</i>	1
<i>Nigma flavescens</i>	1
<i>Nuctenea umbratica</i>	1
<i>Pachygnatha degeeri</i>	1
Philodromidae	55
<i>Philodromus albidus</i>	2
<i>Philodromus cespitum</i>	2
<i>Piratula hygrophila</i>	2
<i>Pisaura mirabilis</i>	17
Salticidae	11
<i>Segestria senoculata</i>	1
<i>Tetragnatha extensa</i>	5
<i>Tetragnatha montana</i>	42
Tetragnathidae	5
<i>Textrix denticulata</i>	1
Theridiidae	3
<i>Theridion pictum</i>	2
<i>Theridion varians</i>	3
Thomisidae	14
<i>Trachyzelotes pedestris</i>	3

Taxa	Number of individuals
<i>Xysticus ulmi</i>	1
Carabidae	
<i>Agonum afrum</i>	1
<i>Agonum emarginatum</i>	1
<i>Agonum sexpunctatum</i>	2
<i>Amara plebeja</i>	1
<i>Amara similata</i>	8
<i>Anchomenus dorsalis</i>	1
<i>Anisodactylus binotatus</i>	2
<i>Asaphidion flavipes</i>	3
<i>Bembidion biguttatum</i>	4
<i>Bembidion deletum</i>	51
<i>Bembidion lampros</i>	10
<i>Bembidion lunulatum</i>	1
<i>Bembidion stomoides</i>	1
<i>Bembidion tetracolum</i>	4
<i>Calodromius spilotus</i>	1
<i>Demetrias atricapillus</i>	1
<i>Diachromus germanus</i>	6
<i>Harpalus latus</i>	3
<i>Harpalus rufipes</i>	1
<i>Leistus rufomarginatus</i>	2
<i>Nebria brevicollis</i>	9
<i>Notiophilus biguttatus</i>	3
<i>Notiophilus rufipes</i>	1
<i>Notiophilus substriatus</i>	6
<i>Ophonus rufibarbis</i>	1
<i>Paranchus albipes</i>	2
<i>Poecilus cupreus</i>	2
<i>Pterostichus strenuus</i>	1
<i>Stenolophus skrimshiraus</i>	1
<i>Stenolophus teutonius</i>	4
<i>Trechus quadristriatus</i>	6

	Abundance invert ¹	Richness invert ¹	Abundance EPT ²	Richness EPT ²	Richness insects	% insects	Shannon Weiner	Margalef	Pielous Evenness index	CPUE (richness)
<i>Riparian attributes (spatial units)</i>										
Lds				↑ (0.000478)						
Tree cover area (Loc300mUP)								↑ (0.0305)		
<i>Local riparian width attributes</i>										
Forest, shrub mean width (Loc100mUP)			↑ (0.00745)	↑ (0.00269) ↑ (0.00109)						
Lds										
Forest, shrub mean width (Loc200mUP)			↑ (0.0215)	↑ (0.00779) ↑ (0.00083)						
Lds										
Forest, shrub mean width (Loc300mUP)				↑ (0.02445) ↑ (0.00369)	↑ (0.02171)			↑ (0.0138)		
Lds										
Forest, shrub min width (Loc100mUP)				↑ (0.020172) ↑ (0.003216)						
Lds										
Forest, shrub min width (Loc200mUP)			↑ (0.0346)	↑ (0.00533) ↑ (0.00369)						
Lds										
Forest, shrub min width (Loc300mUP)				↑ (0.000735) ↑ (0.013719)	↑ (0.0137)			↑ (0.014)		
Lds										
<i>Full riparian corridor attributes</i>										
Forest, shrub (RipCatch100m)	↑ (0.0258)			↑ (0.00178) ↑ (0.01917)	↑ (0.01765)			↑ (0.0382)		
Lds										
Tree cover area (RipCatch100m)				↑ (0.00167)				↑ (0.0146)		

Table S6. S of riparian attributes and other environmental variables.

	Temperature	Mean TIN	Mean TP	Conductivity	pH	DO saturation	BOD	Mean stream width	% fine sediments	Catchment size
Adjacent_groundcover	-0.42	-0.03	-0.24	-0.22	-0.09	0.08	-0.31	0.11	0.34	-0.22
Adjacent_vegetation	-0.15	0.13	-0.17	-0.31	-0.10	0.21	-0.21	-0.11	0.08	-0.52
Bank_stability	-0.28	-0.13	-0.44	-0.20	-0.34	0.39	-0.31	0.22	0.25	-0.02
Buffer_groundcover	-0.12	-0.10	-0.30	-0.29	0.17	0.29	-0.51	-0.01	0.20	-0.19
Buffer_intactness	-0.05	-0.12	-0.07	0.11	-0.06	0.19	-0.12	0.09	0.04	-0.02
Buffer_vegetation	0.08	-0.10	-0.26	-0.17	-0.03	0.17	-0.29	0.00	0.18	-0.30
Buffer_width	0.17	-0.08	-0.22	-0.09	0.19	0.26	-0.26	0.14	0.05	-0.09
Land_slope	0.16	-0.16	0.12	-0.11	0.19	-0.07	0.08	0.29	-0.46	0.55
Livestock_access	0.30	0.11	0.07	-0.18	-0.14	0.11	0.13	0.14	-0.22	0.03
Rills_channels	0.15	0.26	-0.02	0.26	0.27	0.34	-0.24	-0.12	0.04	-0.14
Riparian_soil	0.20	0.15	-0.23	0.17	0.20	0.35	-0.38	-0.22	0.03	-0.19
Shading	0.06	0.19	-0.12	-0.09	0.10	0.21	-0.05	0.00	0.04	-0.27
Soil_drainage	-0.21	0.02	-0.04	-0.10	0.04	0.04	-0.08	0.19	-0.25	0.07
RCI	0.03	0.03	-0.23	-0.17	0.14	0.31	-0.31	0.08	-0.02	-0.16
Tree_richness	0.07	-0.02	-0.29	-0.09	0.12	0.16	-0.19	0.26	0.25	-0.05
Total_trees_count	0.05	-0.11	-0.21	-0.07	-0.09	-0.02	-0.03	0.31	0.20	0.05
Percent_cov_average	0.11	0.10	-0.09	-0.07	-0.03	-0.02	0.01	-0.01	0.09	-0.23
Bare_gro	0.09	-0.26	-0.29	-0.05	-0.17	-0.04	-0.22	0.28	0.19	0.02
Herb	-0.04	-0.16	-0.03	0.13	-0.27	-0.11	-0.08	0.31	-0.06	-0.05
Impervious	0.13	0.06	-0.01	0.09	0.07	0.01	0.17	0.03	-0.23	0.21
Man_grs	0.13	0.20	0.17	0.02	0.22	0.10	0.21	-0.37	0.01	0.01
Unm_grs	-0.21	-0.42	-0.15	-0.22	-0.34	-0.15	-0.07	0.29	-0.05	0.48
Moss_lich	0.28	-0.26	-0.14	-0.02	0.13	0.13	-0.41	0.33	-0.14	0.13
Pla_litt	0.11	0.00	-0.22	0.02	0.06	0.10	-0.16	0.37	-0.03	0.00
Rock_bed	-0.26	0.27	0.08	0.16	-0.10	0.21	-0.09	-0.31	-0.06	-0.46
Tree_shr	-0.11	0.11	-0.29	-0.30	0.07	0.32	-0.09	-0.07	-0.05	-0.25
Fraxinus_excelsior_count	0.18	0.18	-0.22	-0.10	0.15	0.31	-0.13	0.16	0.14	-0.03
Populus_canadensis_count	0.40	0.19	0.25	0.44	0.03	-0.22	0.29	0.00	-0.19	0.08
Total_Akker_100m	-0.20	0.08	-0.26	0.08	-0.39	0.04	-0.12	-0.27	0.32	-0.39
Total_Akker_200m	-0.14	0.05	-0.30	0.08	-0.37	0.00	-0.19	-0.19	0.35	-0.33
Agricultural_Loc300mUP	0.03	-0.05	-0.15	0.26	-0.35	0.20	-0.38	-0.04	0.21	0.05
Total_Bomen_100m	-0.10	0.10	-0.14	-0.15	0.14	0.14	-0.12	0.22	-0.02	-0.22
Total_Bomen_200m	-0.10	0.21	-0.18	-0.06	0.19	0.20	-0.22	0.12	0.05	-0.29
ForestShrub_Loc300mUP	0.06	0.18	-0.16	-0.02	0.35	0.30	-0.40	-0.05	-0.04	-0.28

	Temperature	Mean TIN	Mean TP	Conductivity	pH	DO saturation	BOD	Mean stream width	% fine sediments	Catchment size
Total_Grass_100m	0.10	-0.25	0.11	0.05	0.03	-0.19	0.08	-0.21	0.05	0.27
Total_Grass_200m	0.06	-0.28	0.09	-0.03	-0.05	-0.26	0.14	-0.11	0.07	0.31
PastureGrassland_Loc300mUP	-0.06	0.02	0.23	0.24	0.11	-0.18	0.37	-0.23	0.08	0.14
Total_Gebouwen_100m	-0.07	0.03	0.27	0.05	-0.17	-0.16	0.45	0.23	-0.24	0.18
Total_Gebouwen_200m	-0.06	-0.07	0.20	0.12	-0.15	-0.13	0.37	0.23	-0.18	0.23
UrbanIndustrial_Loc300mUP	-0.06	-0.16	0.09	-0.06	-0.41	-0.24	0.15	0.61	-0.26	0.49
WetlandWaterbodies_Loc300mUP	-0.05	-0.30	0.35	0.01	-0.18	-0.39	0.46	0.41	-0.37	0.54
TreeCoverArea_Copernicus_Loc300mUP	0.25	0.14	0.10	-0.10	0.42	0.03	-0.25	0.11	-0.27	-0.06
TreeCoverDensity_Copernicus_Loc300mUP	0.15	0.43	0.19	0.39	0.40	0.19	-0.07	-0.39	-0.14	-0.41
Agricultural_Mean_width_Loc300mUP	0.25	-0.32	-0.24	0.00	-0.15	0.34	-0.62	-0.01	-0.06	0.12
Width_Mean_Total100	-0.07	0.27	-0.09	-0.05	0.27	0.21	-0.14	0.20	-0.07	-0.18
Width_Mean_Total200	0.03	0.25	-0.12	0.21	0.32	0.26	-0.24	0.11	-0.05	-0.17
ForestShrub_Mean_width_Loc300mUP	0.11	0.25	-0.16	0.01	0.35	0.33	-0.39	0.00	0.00	-0.23
PastureGrassland_Mean_width_Loc300mUP	-0.07	0.05	0.39	0.32	0.12	-0.35	0.46	-0.32	0.05	0.04
UrbanIndustrial_Mean_width_Loc300mUP	0.03	-0.02	0.27	0.02	-0.40	-0.28	0.31	0.39	-0.26	0.32
WetlandWaterbodies_Mean_width_Loc300mUP	0.01	-0.15	0.21	0.44	0.27	-0.05	-0.04	0.42	-0.20	0.58
Agricultural_Min_width_Loc300mUP	-0.11	0.24	-0.16	-0.23	0.09	0.12	-0.30	-0.68	-0.38	-0.62
Width_Min_Total100	-0.06	0.39	-0.03	-0.15	0.21	0.06	-0.11	-0.08	0.06	-0.33
Width_Min_Total200	0.00	0.37	-0.03	0.24	0.34	0.12	-0.16	0.01	0.08	-0.22

	Temperature	Mean TIN	Mean TP	Conductivity	pH	DO saturation	BOD	Mean stream width	% fine sediments	Catchment size
ForestShrub_Min_width_Loc300mUP	0.11	0.20	-0.34	-0.27	0.23	0.32	-0.30	-0.11	0.11	-0.29
PastureGrassland_Min_width_Loc300mUP	-0.26	0.05	0.02	-0.13	-0.02	-0.15	0.17	-0.21	0.21	-0.10
UrbanIndustrial_Min_width_Loc300mUP	-0.02	0.13	0.39	-0.03	-0.05	-0.16	0.20	-0.17	-0.20	-0.18
WetlandWaterbodies_Min_width_Loc300mUP	0.34	-0.22	0.18	0.00	0.20	-0.30	0.08	-0.01	-0.06	0.16
Agricultural_Max_width_Loc300mUP	0.21	-0.23	-0.13	-0.01	-0.18	0.33	-0.54	-0.03	0.08	0.15
TreeCoverArea_Copernicus_RipCatch100m	-0.21	0.08	-0.10	-0.15	0.19	0.19	-0.19	0.27	-0.10	-0.09
TreeCoverDensity_Copernicus_RipCatch100m	-0.16	0.06	-0.14	-0.01	0.24	0.26	-0.28	0.18	-0.06	-0.12
Agricultural_RipCatch100m	0.32	0.10	-0.20	0.01	0.37	0.46	-0.49	-0.02	-0.08	-0.20
ForestShrub_RipCatch100m	-0.15	-0.10	0.41	0.36	0.02	-0.40	0.45	-0.16	0.22	0.07
PastureGrassland_RipCatch100m	0.22	-0.07	0.23	0.18	-0.24	-0.19	0.14	0.39	-0.43	0.45
UrbanIndustrial_RipCatch100m	0.08	0.02	0.18	0.35	0.20	0.07	-0.03	0.32	-0.33	0.48
WetlandWaterbodies_RipCatch100m	-0.09	-0.22	-0.24	-0.29	0.25	0.06	-0.36	0.37	0.01	0.09
NEAR_DIST_to100mForestBlocks_RipCatch100m	0.14	0.02	-0.03	0.33	0.31	0.02	0.04	-0.28	0.12	-0.23
NEAR_DIST_to50mForestBlocks_RipCatch100m	-0.16	-0.23	0.10	-0.06	-0.27	-0.01	0.04	-0.10	-0.19	-0.08
NEAR_DIST_to25mForestBlocks_RipCatch100m	0.00	-0.26	-0.22	-0.18	0.31	0.06	-0.35	0.33	0.05	0.08

References

1. Burdon, J.F.; Ramberg, E.; Sargac, J.; Forio, A.M.; de Saeyer, N.; Mutinova, T.P.; Moe, F.T.; Pavelescu, O.M.; Dinu, V.; Cazacu, C., *et al.* Assessing the benefits of forested riparian zones: A qualitative index of riparian integrity is positively associated with ecological status in european streams. *Water* **2020**, *12*.

2. Harding, J.S.; Clapcott, J.; Quinn, J.; Hayes, J.; Joy, M.; Storey, R.; Greig, H.; Hay, J.; James, T.; Beech, M., *et al.* *Stream habitat assessment protocols for wadeable rivers and streams of new zealand*. School of Biological Sciences, University of Canterbury: Christchurch, New Zealand, 2009.