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SUPPLEMENTARY MATERIAL

Table 1. List of the geographic, environmental and land-use predictor variables. Only those geographic and environmental predictor variables that were significantly correlated with at least one biological response variable are shown. A full set of all predictor variables analysed can be obtained from the corresponding author on request.

Predictor Variables	Symbol	Range	Description
Geographic variables			
Northing	Northing	520000 to 550000	
Easting	Easting	30000 to 61000	
Elevation (m)	Elevation	5-470	
Catchment area above sample site (km^2)	CatchArea	9.3-1817.8	
Bedslope (m/m)	Bedslope	0-0.04	
Stream Class (1-5)	StreamClass	3-6	From Strahler (1952)
Distance from Source (km)	DistSource	5.9-116.2	Distance between sample site and the top of the highest-elevation stream-drainage section in the catchment.
Catchment mean annual runoff per unit area ($ML/year/km^2$)	ACNMMAR/CA	3.35-2804.3	Mean Annual Runoff for entire river section catchment divided by catchment area.
Environmental variables			
Bedrock Score	Bedrock	1-5	Percentage of benthic substrata made up of bedrock: 0, 0%; 1, 1-10%; 2, 11-25%; 3, 26-50%; 4, 51-75%; 5, 76-100%
Boulder Score	Boulder	1-5	Percentage of benthic substrata made up of boulder: Categories as above.

Pebble Score	Pebble	1-5	Percentage of benthic substrata made up of pebble: Categories as above.
Algal cover (%)	AlgCover	0-100	Site scale percent cover at time of macroinvertebrate sampling.
Aquatic plant cover (%)	AqPlantCov	0-100	Site scale percent cover at time of macroinvertebrate sampling.
Mean Depth (cm)	Depth	3-80	Spot measurement at time of macroinvertebrate sampling.
Riparian Vegetation Score (for a sampling site)	RipVegLocal	0-3	Nil (0), Sparse (1), Moderate (2), Thick (3)
Temperature (^{o}C)	Temp	1.9-20.6	Spot measurement at time of macroinvertebrate sampling.
Conductivity ($\mu S/cm^{-1}$)	Conductivity	0.45-1233	Spot measurement at time of macroinvertebrate sampling.
Dissolved oxygen (mg/L)	DO	4.22-13.03	Spot measurement at time of macroinvertebrate sampling.
Accumulated regulation index (RS_REGI from CFEV)	REGI	0-0.37	Upstream accumulated regulation index for the river section. The sum of all upstream catchment storage volumes (farm dams, active hydroelectric storage etc.) divided by the long-term mean annual runoff (by volume). It is therefore an index of hydrological disturbance.
Reach scale riparian vegetation condition (RS_NRIPV from CFEV)	RipVegReach	0-1	Proportional area of native riparian vegetation within a 50-m buffer zone either side of the river section containing the sample site.
Catchment scale riparian vegetation condition (RS_ACNRIPV from CFEV)	RipVegCatch	0-1	Proportional area of native riparian vegetation within a 50-m buffer zone either side of all river sections upstream of the sample site.
Land-use variables based on ALUM categories (% area of upstream catchment)			
Conservation and Minimal Use	Protected	0-100	Protected areas e.g. Wilderness areas and National parks.
Production forestry	Production forestry	0-100	Wood production from native forests.

Plantation forestry	Plantation forestry	0-100	Wood production from plantations (hardwood and softwood).
All forestry categories combined	ForestryALL	0-100	Production and plantation forestry combined.
Grazing natural vegetation	Grazing natural vegetation	0-100	Grazing on land with limited evidence of pasture modification.
Grazing modified pastures	Grazing modified pastures	0-100	Pasture production based on significant active modification or replacement of the initial vegetation.
Irrigated modified pastures	Irrigated modified pastures	0-100	Irrigated pasture production.
All grazing categories combined	GrazingALL	0-100	All grazing categories combined.
Residual native cover	Residual	0-100	Land with no prime use under native cover. In Tasmania this land often has a current or recent history of grazing.
All grazing categories combined + residual native cover	GrazingALL+ Residual	0-100	All grazing categories combined with Residual native cover.
Cropping	Cropping	0-100	Cropping and irrigated crop plants that live for <2years
Horticulture	Horticulture	0-100	Crop plants that live for >2 years.