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River ecosystems in Iceland in relation to catchment characteristics

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Catchment areas of Icelandic rivers are barren with little vegetation in the highlands and heathlands, shrubs and mire vegetation in the lowlands. Quarter geological formations (volcanic zone), with porous lava fields and hyaloclastite mountains are dominated by spring-fed streams and rivers, whereas the tertiary geological formations, with water tight basalt bedrock, are dominated by run-off rivers. Benthic invertebrate densities and diversities are mostly influenced by these catchment characteristics: vegetation cover, the cover of lakes, the cover of glaciers, water conductivity, altitude and age of the bedrock. Secondary producers in rivers, the invertebrates, are dependent on autochtonous production, and in lake-fed rivers on drifting fPOM. Benthic invertebrates are dominated by chironomid larvae, except lake outlets, which are dominated by blackfly larvae. Less productive rivers are either fishless or occupied by Arctic charr, but with increased river productivity, brown trout replaces the charr and the Atlantic salmon occupies the most productive rivers.