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Ecological characteristics of the cyanobacterial mat community in a thermal wastewater stream

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A cyanobacterial mat along a small stream containing thermal wastewater from an artificial hot spring in the mid-upper part of the Mankyeong River system, Korea, were studied during winter seasons. In the study stream, cyanobacterium *Oscillatoria terebriformis* comprised >95% of total biomass. Ash-free dry mass (AFDM) and chlorophyll-a in the cyanobacterial mats decreased significantly with distance downstream from the thermal water outlet (r^2 = 0.78 and 0.83, respectively), while primary productivity increased slightly. The concentrations of the majority of ions present sharply decreased with distance downstream, particularly those of 4 heavy metals, Pb, Cd, Mn and Cu; in contrast, there was only a weak relationship between AFDM, Chl-a and primary productivity, and distance downstream.