

EFFECTS OF TREATED SEWAGE EFFLUENT ON THE MACROINVERTEBRATES  
OF A FINE SEDIMENT SUBSTRATE STREAM

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ABSTRACT

Observations were made of the effects of treated sewage effluent discharge on the macroinvertebrate fauna of a fine sediment substrate stream. At unpolluted sites, the most common macroinvertebrates were *Potamopyrgus antipodarum*, *Physa* sp., *Sphaerium novaezelandiae* and *Xanthocnemis zealandica*. Their abundance varied between sites according to the presence of aquatic weeds, organic matter and current. Pollution affected the relative abundance but not the species diversity. Chironomid larvae, oligochaete worms and the flatworm *Phaenocora* sp. were the most common macroinvertebrates at the polluted sites. Further downstream from the source of pollution, in the recovery zone where the level of dissolved oxygen had increased, the molluscs *P. antipodarum* and *S. novaezelandiae* were again more abundant as at the unpolluted sites. Pollution stimulated the growth and fecundity of the molluscs *Physa* sp. and *S. novaezelandiae* and the oligochaetes to produce the observed changes in abundance.

KEYWORDS: Pollutants, freshwater, ecology, molluscs, chironomids, oligochaetes.

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