



Abstract title ARE POPs A THREAT TO ALPINE AQUATIC ECOSYSTEMS?

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Abstract text

To investigate fate and effect of the release of persistent organic pollutants (POPs) accumulated, for the cold condenser effect, in Alpine glaciers, the Frodolfo glacial-fed stream (Italian Alps) was sampled during summer 2006, when ice melting produces a significant increase of stream water flow. The sampling was conducted monthly, from May to October, in four site on the stream, up to 2 km from the glacier lobe. Water, sediment and biological (macro-invertebrate) samples were collected. In the sampling station closest to the glacier, possible changes in POP water concentrations were investigated as a function of the daily temperature cycle. Macro-invertebrates were identified, grouped according to their trophic role and separately analysed. Comparable samples were also taken on a non glacial stream, to compare POP contribution from different water sources (glacier and spring). All samples were analysed for a selection of POPs (PCBs, DDX, HCHs, HCB). The potential for transfer in the trophic chain and the level of risk for alpine freshwater ecosystems exposed to POPs were evaluated and compared in the two streams.

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