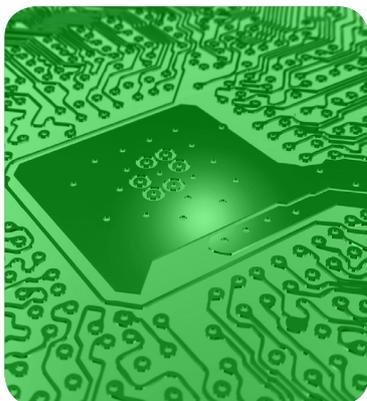


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in Pyrenean high
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Effects of introduced salmonids and minnows on the macroinvertebrate assemblages in Pyrenean high mountain streams

MASTER OF INLAND WATER QUALITY ASSESSMENT (2015-2016)

MASTER PROJECT

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Abstract

Although the vast majority of the high river reaches in the lacustrine area of the of the Catalan Pyrenees are originally fishless, throughout the second half of the twentieth century it have been introduced several invasive alien fish species (salmonids and “minnow”) that currently occupy the 50% of the Pyrenean high mountain lakes and streams.

Through this study, it is aimed to evaluate the impact of these allochthonous species on the macroinvertebrate communities in the high mountain stream within two protected areas of the Pyrenees (“Aigüestortes i Estany de Sant Maurici” National Park and “Alt Pirineu” National Park), and at the same it is analysed the descriptors that present the highest influence in the community structure. In order to reach the objectives, it has been sampled 9 stretches in seven different river channels for August 2015, where were studied 43 environmental variables. Among all streams were identified 76 taxa belonging to 47 macroinvertebrate families.

It was concluded that the fish presence affect to the abundance of the most common taxa, especially to one chironomid subfamily, Orthocladiinae. Nevertheless, it has been the temperature, with a long range that was from 7.9 to 21 °C, the most determinant descriptor in the composition and structure of macroinvertebrate communities, with characteristic taxa for each of the three considered categories (cold, moderate and warm). While for the biotic indices, which were estimated from macroinvertebrate communities, were the phosphates the responsible parameter in the observed changes.