# ABSTRACT

Methods for detecting patterns of angler selective fishing behaviour in the long term recreational fishery statistics are presented in this Ph.D. Thesis. The motivating idea is that mainly different anglers' fishing preferences or attitudes towards particular fish species obstruct applying anglers' catches data for ongoing use in ichthyology research. Better recognising angler selectivity is therefore judged to be the key point from the viewpoint of fish and fishery sciences. Methods affecting angler behaviour can be directly applied by other specialists, e.g. social scientists. The thesis consists of five papers two of which are published (paper 1, 2), other two of which are accepted for publishing (paper 3, 4) and the last of which (paper 5) is in the status of manuscript before submitting.

In the first two papers the role of common carp catches is focused. By using multivariate techniques it is studied if the increased exploitation of carp increases also the exploitation of other fish species. Time series of carp catches serve as an explanatory variable, other species catches through the same time are processed as independent variables. According to expectations the positive effect of carp catches on those of the other species was approved at the river section with the highest expected density of stocked carps (paper 1) or at a reservoir with best conditions for several days fishing trips (paper 2).

In paper 3, not only common carp, but all frequently caught species are focused. Twenty year time series of such species were processed to find either positive or negative correlations, which were hypothesised to be the signals of angler selective behaviour. Datasets from four very different reservoirs were analysed and most likely explanations of the observed correlations were found in various management restrictions, shoreline accessibility or stocking activities. Several of these potential explanations were further tested in the logbook analyses in papers 4 and 5.

In these two papers, individual angler (paper 4) or even individual catches (paper 5) data were analysed to approve, if the positive correlations have at least a theoretical background in angler selective fishing. This was confirmed in paper 4 where a good-sized group of anglers focusing during a year at each other fluctuating species was identified. Nevertheless, the hypothesis that this angler group consists of holiday takers being not so selective and specialized was disproved in paper 5.