



**Local and regional variability in fish community structure, richness and diversity of 56
Danish lakes with contrasting depth and trophic state**

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Habitat distribution of fish might be influenced by food availability, competition, predation, composition of aquatic plants and water clarity. It has been found that a shift from a turbid to a clear water state in a lake lead to higher proportion of piscivorous fish and a habitat shift of prey fish determined by a higher risk of predation in the littoral and upper pelagic zones. In Danish lakes, key species such as roach, perch and ruffe have shown a shift towards a more pelagic/profundal distribution in response to reduced nutrient loading, whereas bream and pikeperch remain in the pelagic/profundal zones. Nevertheless, information about how the within-lake variability in fish abundance, richness and diversity changes in the littoral and pelagic areas along contrasting depth and trophic state is scarce. It is expected that eutrophic lakes present lower within lake habit heterogeneity than oligotrophic lakes due to high turbidity leading to loss of submerged macrophytes and thus habitat variability. Also the influence of piscivorous birds on the fish distribution in the littoral zone may differ between lake types leading to a more homogeneous distribution along the littoral area in eutrophic lakes because visually-oriented predation are reduced due to the low water transparency. In the presentation we will discuss the results obtained with special emphasis on the variability in numbers and biomass of the key fish species between the near shore and the pelagic zone of 56 lakes using electrofishing and gill net data from the Danish NOVANA monitoring program conducted between 1989 and 2003.

2- Apresentação oral (Oral presentation); 3-Limnologia biológica (Biological limnology); 1- Descritiva (Descriptive); 1-Lagos ou lagoas (lakes or lagoons); 3-Peixes (Fish)

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