



FISH ASSEMBLAGE DETECTABILITY AND SIZE STRUCTURE IN A SUBTROPICAL LOWLAND RIVER: COMPLEMENTARITY AMONG ELECTROFISHING, SEINING, AND NORDIC MULTIMESH GILLNETS

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Biological monitoring assessments are essential for biodiversity conservation, ecosystem functioning and the maintenance of ecosystem services, with fish serving as effective bioindicators due to their key role in trophic networks and their broad range of sensitivities to pollution. In this context, obtaining a representative sample of fish diversity and size structure across different environments is challenging and can be influenced by the sampling techniques employed. To improve the ecological characterization of fish assemblages under these conditions, complementary sampling approaches were evaluated in a subtropical river system of the lower Neotropical region. Nine sites distributed across the San Salvador River, Uruguay, were sampled using three fishing techniques, two active methods (electrofishing and seining) and one passive method (Nordic multi-mesh gillnets). We collected 73 species and 15237 individuals. Although species dominance patterns remained stable, significant differences were observed in species occurrence, assemblage composition and size selectivity between gears across most seasons. Active methods were more reliable in colder seasons, targeting mainly small-bodied species, whereas passive multi-mesh gillnets were more effective in warmer seasons, capturing a broader range of species and sizes due to their reliance on fish movement and great depth coverage. Each method individually underestimated species richness, but together they provided a more complete representation of assemblage diversity.

Palavras-chave: *Gear selectivity; Multi-gear approach, Sampling bias*