

# **Analysis of heavy metal accumulation of fish tissue in Endau Rompin National Park, Johor (Kampung Peta)**

## **ABSTRACT**

Bioaccumulation of toxic metals in fish poses a significant risk to human health when consumed. Therefore, it is crucial to assess the concentration levels of these toxic elements in aquatic organisms. The presence of heavy metals in freshwater fish is a global concern with potential public health implications. This study aims to investigate the concentration and toxicity of heavy metals in freshwater fish species collected from a river in Kampung Peta at Endau-Rompin National Park, Johor. The study specifically examined the accumulation of cadmium (Cd), copper (Cu), iron (Fe), manganese (Mn), lead (Pb), and zinc (Zn) in fish samples. Five species namely, *Channa micropeltes*, *Mastacembelus* sp, *Osteochilus hasseltii*, *Puntius schwanefeldii* and *Osphronemus goramy* were selected for analysis, collected from the Kampung Peta river. The concentration analysis was conducted using inductively coupled plasma-mass spectrometer (ICP-MS) technique. Overall, the concentration levels of heavy metals in the fish samples were found to be lower than those reported in previous studies conducted in various locations. Among the heavy metals, zinc exhibited the highest average concentration in fish, followed by iron, copper, manganese, lead, and cadmium. The metal concentrations observed in this study were generally below the national and international Recommended Dietary Allowance (RDA) for human consumption. It is recommended to establish a long-term monitoring system for metal bioaccumulation in fish to gather valuable information for assessing the potential health risks associated with metals in Malaysia, particularly in the Endau-Rompin National Park.