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**A STUDY OF HARMFUL EFFECT OF HEAVY METALS ON
ORGANS OF FISH**

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ABSTRACT

Heavy metals, including lead, mercury, cadmium, and arsenic, pose significant threats to aquatic ecosystems, particularly affecting fish and their organs. These toxic elements, often originating from industrial discharges, agricultural runoff, and improper waste disposal, accumulate in the aquatic environment, leading to bioaccumulation in fish. The harmful effects of heavy metals on fish organs are profound and multifaceted. Mercury, for example, disrupts neurological functions, leading to impaired behavior, reduced swimming abilities, and altered feeding patterns. Cadmium interferes with calcium metabolism, causing damage to bone and kidney tissues, which can result in reduced growth rates and increased mortality. Lead and arsenic are also detrimental, causing anemia, liver damage, and impaired reproductive capabilities. The accumulation of these metals in fish tissues can lead to long-term health issues and decreased survival rates. Additionally, heavy metals in fish can pose risks to human health through the consumption of contaminated seafood, leading to concerns about food safety and public health. Overall, the presence of heavy metals in aquatic systems represents a severe environmental and health hazard, underscoring the need for stringent pollution control measures and regular monitoring of water quality.