

ANALYSIS OF HEAVY METAL ACCUMULATION IN FISHES FROM THE COAST OF LAUTOKA, FIJI

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Abstract. The concentrations of the accumulated heavy metals such as cadmium, lead, copper, mercury, zinc, and chromium have been determined in the muscles, gills and liver of the fish species of *Clupea pallasii*, *Macolor niger* and *Pristipomoides filamentosus* collected from the waters of the South Pacific Ocean around Lautoka in Fiji. Results of this study show the order of metal accumulation in tissues of all fishes as follows: Zn > Cu > Cr > Cd > Pb > Hg. Overall, the contents of heavy metals in all the samples were below the permissible limits, except for chromium that is slightly higher than the limits of 0.15 mg/kg and 0.05 mg/kg set by Food and Agriculture Organization of the United Nations and World Health Organization regulations respectively. As anticipated, the muscles contain the lowest concentration of all metals. Significant variations in heavy metal concentrations were found between different tissues within each species of fish.

Keywords: heavy metal, accumulation, fish, marine environment, Pacific Ocean.

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