

The Ecological Risk Assessment of Mercury Contamination in a Mangrove Ecosystem of the Segara Anakan Cilacap, Indonesia

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Abstract	<p>Ecological risk assessment of mercury contaminant has a means to analyze the ecological risk aspect of ecosystem using the potential impact of mercury pollution in soil, water and organism. The ecological risk assessment in a coastal area can be shown by mangrove zonation, clustering and interpolation of mercury accumulation. This research aims to analyze ecological risk assessment of potential mercury (including bioaccumulation and translocation) using indicators of species distribution, clustering, zonation and interpolation of mercury accumulation. The results showed that the Segara Anakan had a high risk of mercury pollution, using indicators like as the potential of mercury contaminant in water body was 0137 & PLUSMN;0.0137 ppm, substrate and sediment were 0.0134 & PLUSMN;0.0212 ppm. To reduce the impact of mercury pollution could be conducted by mangrove planting, following the ability of mercury accumulation in stem and bark between 0.011 and 0.064 ppm, in mangrove roots between 0.0260 and 0.0690 ppm and in mangrove leaves between 0.0020 and 0.0120 ppm,. The second indicator of mangrove ability to reduce the impact of mercury contaminant used the indicator of bioaccumulation factors, which had a range between 0.0210 and 0.4751, and the translocation factors were between 0.0459 and 1.0547. The results also showed that: <i>Avicennia marina</i>, <i>Sonneratia alba</i>, <i>Rhizophora apiculata</i>, <i>Rhizophora mucronata</i> and <i>Nypa frutican</i> had a good ability to accumulate and reduce the impact of mercury contamination.</p>
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