

Hosseini et al. Transfer of radionuclides in aquatic ecosystems JER 99

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The process of assessing risk to the environment following a given release of radioactivity requires the quantification of activity concentrations in environmental media and reference organisms. The methodology adopted by the ERICA Integrated Approach involves the application of concentration ratios (CR values) and distribution coefficients (Kd values) for aquatic systems. Within this paper the methodologies applied to derive default transfer parameters, collated within the ERICA Tool databases, are described to provide transparency and traceability in the documentation process. Detailed information is provided for the CR values used for marine and freshwater systems. Of the total 372 CR values derived for the marine ecosystem, 195 were identified by literature review. For the freshwater system, the number of values based on review was less, but still constituted 129 from a total of 372 values. In both types of aquatic systems, 70-80% of the data gaps have been filled by employing "preferable" approaches such as those based on substituting values from taxonomically similar organisms or biogeochemically similar elements.

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