# Brown et al. Method for assessing impact in Northern Marine environments MPB 52

**Brown, J.E., Hosseini, A., Børretzen, P & Thørring, H. 2006.**
Development of a methodology for assessing the environmental impact of radioactivity in Northern Marine environments.
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The requirement to assess the impacts of radioactivity in the environment explicitly and transparently is now generally accepted by the scientific community. A recently developed methodology for achieving this end for marine ecosystems is presented within this paper. With its clear relationship to an overarching system, the marine impact assessment is built around components of environmental transfer, ecodosimetry and radiobiological effects appraisal relying on the use of "reference organisms". Concentration factors (CFs), dynamic models and, in cases where parameters are missing, allometry have been employed in the consideration of radionuclide transfer. Dose conversion coefficients (DCCs) have been derived for selected flora and fauna using, inter alia, dose attenuation and chord distribution functions. The calculated dose-rates can be contextualised through comparison with dose-rates arising from natural background and chronic dose-rates at which biological effects have been observed in selected "umbrella" endpoints.

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