

Howard et al. Overview of PROTECT JRP

Howard, B. J., Beresford, N. A., Andersson, P., Brown, J. E., Copplestone, D., Beaugelin-Seiller, K., Garnier-Laplace, J., Howe, P. Oughton, D., Whitehouse, P. 2010

Protection of the environment from ionising radiation in a regulatory context - an overview of the PROTECT coordinated action project.
J. Radiological Prot., 30., 195-215.

The outcome of the PROTECT project (Protection of the Environment from Ionising Radiation in a Regulatory Context) is summarised, focusing on the protection goal and derivation of dose rates which may detrimentally affect wildlife populations. To carry out an impact assessment for radioactive substances, the estimated dose rates produced by assessment tools need to be compared with some form of criteria to judge the level of risk. To do this, appropriate protection goals need to be defined and associated predefined dose rate values, or benchmarks, derived and agreed upon. Previous approaches used to estimate dose rates at which there may be observable changes in populations or individuals are described and discussed, as are more recent derivations of screening benchmarks for use in regulatory frameworks. We have adopted guidance and procedures used for assessment and regulation of other chemical stressors to derive benchmarks. On the basis of consultation with many relevant experts, PROTECT has derived a benchmark screening dose rate, using data on largely reproductive effects to derive species sensitivity distributions, of $10 \mu\text{Gy h}^{-1}$ which can be used to identify situations which are below regulatory concern with a high degree of confidence.

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