

Australian inputs into the IAEA EMRAS program: Terrestrial animal concentration factors and the LFBG environmental dose assessment scenario

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Abstract

There has been a recent international emphasis placed on assessing radiological dose and its impacts on ecosystems in addition to those directly affecting humans. This is reflected in the development of the IAEA Environmental Modelling for Radiation Safety (EMRAS) Program. As part of Australia's contribution to EMRAS, we have been looking at ecosystems previously affected by nuclear activities within the country and acquiring data pertinent to Australian animals and plants, many of which are unique. Within Australia, one area of concern has been identified as the yet-to-be-developed national nuclear waste repository and we are acquiring data to help in modelling any potential effects. The Little Forest Burial Ground (LFBG) is a near surface nuclear waste site dating from the 1960s. As well as providing data on the behaviour of radioactivity within an Australian ecosystem, it is also a case study site for EMRAS dose assessment modelling where a range of methods for estimating bio-uptake in plants and animals are being applied by IAEA participants. Further, there are a number of uranium mines or deposits and a weapons test site, Maralinga, that give us additional radioecological information as input to those models. A summary of the Australian terrestrial fauna concentration factors will be presented.