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The FASSET project was launched in November 2000 under the EC 5th Framework Programme to develop a framework for the assessment of environmental impact of ionising radiation in European ecosystems. It involved 15 organisations in seven European countries and delivered its final report in spring 2004. The project set out to organise radioecological and radiobiological data into a logical structure that would facilitate the assessment of likely effects on non-human biota resulting from known or postulated depositions of radionuclides in the environment. The project included an overview of 20 pathway-based environmental assessment systems targeted at radioactive substances, or at hazardous substances in general. The resulting framework includes the following fundamental elements: source characterisation; description of seven major European ecosystems; selection of a number of reference organisms on the basis of prior ecosystem and exposure analysis; environmental transfer analysis; dosimetric considerations; effects analysis; and general guidance on interpretation including consideration of uncertainties. The project has used existing information supplemented with development in some areas, e.g. Monte Carlo calculations to derive dose conversion coefficients, model development, and the building of an effects database (FRED, the FASSET Radiation Effects Database). On the basis of experience from FASSET and other recent programmes, it can be concluded that i) there is substantial agreement in terms of conceptual approaches between different frameworks currently in use or proposed, (ii) differences in technical approaches can be largely attributed to differences in ecosystems of concern or in national regulatory requirements, (iii) sufficient knowledge is available to scientifically justify assessments following the Framework structure, but (iv) significant data gaps exist for environmental transfer of key nuclides as well as for effects data for key wildlife groups at environmentally relevant dose rates. This paper briefly describes the overall content of the FASSET Framework, as well as highlighting a few important future challenges.

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