Why this Report Matters Now

Carl-Magnus Larsson

(ICRP external invited reviewer, former ICRP MC member and former Chair of C5)

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INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

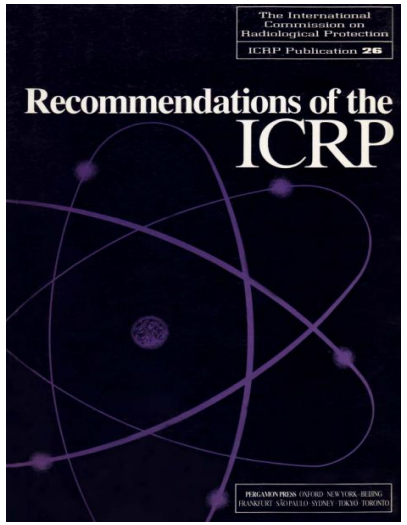
Registered with the Charity Commission for England and Wales (#1166304)

Evolution of the current approach to protecting the environment

Successive ICRP General Recommendations

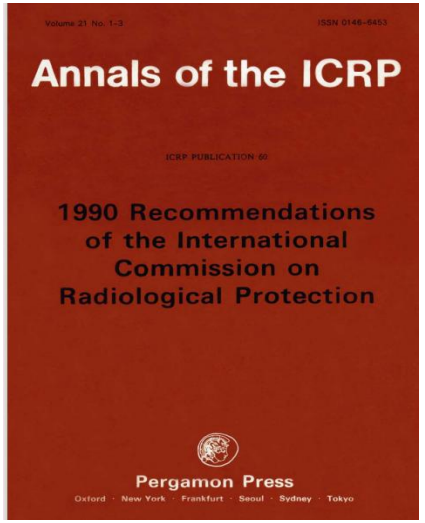
1977 ICRP 26

".....if man is adequately protected then other living things are also likely to be sufficiently protected. "



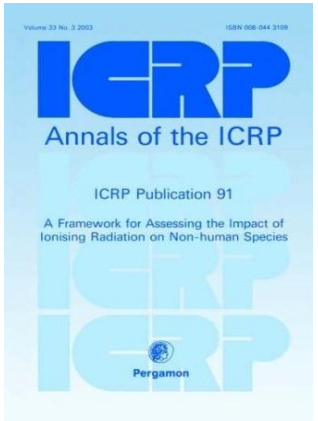
1990 ICRP 60

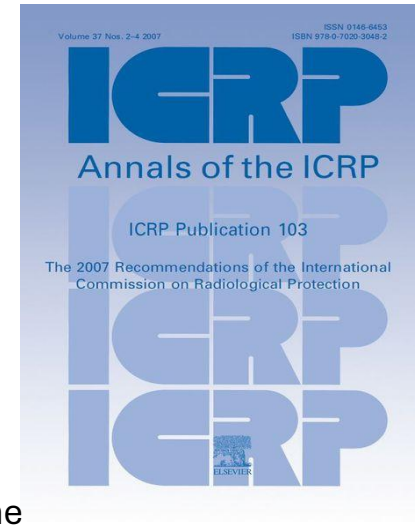
".... standards of environmental control needed to protect man to the degree currently thought desirable would ensure that other species are not put at risk."



2007 ICRP 103

"....preventing or reducing the frequency of deleterious radiation effects to a level where they would have a negligible impact on the ***maintenance of biological diversity****, the* ***conservation of species****, or the* ***health and status of natural habitats, communities and ecosystems****. "*



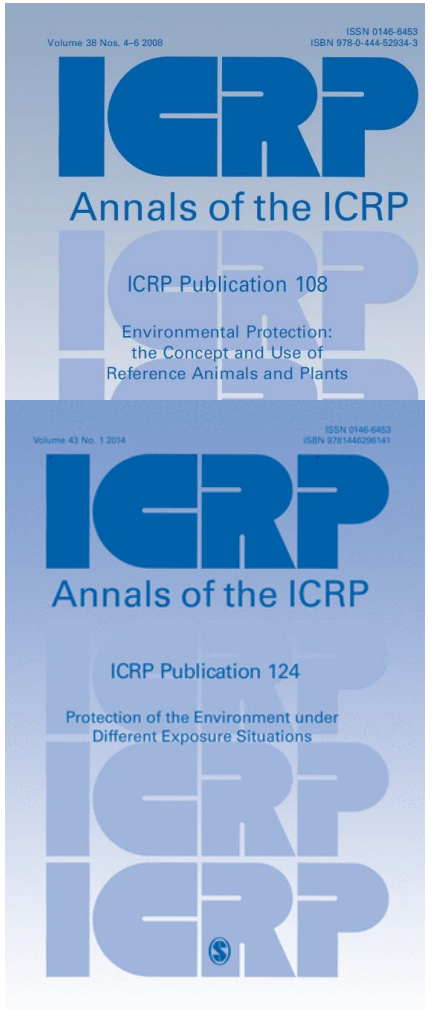


2003 Publication 91 to support the inclusion of Environmental Radiological Protection as a specific and distinct objective of protection in the 2007 General recommendations

Elements of the ICRP framework to ensure Environmental Radiological Protection (ERP)

- Based on the preliminary framework described in **Publication 91 (2003),** the current Reference Animals and Plants approach is described in **Publication 108 (2008)** and guidance for its applications are given in **Publication 124 (2014)**.

- Since then, the Commission has sought to further develop and update the ERP framework by **providing up-to-date methodological and scientific knowledge** :
  - **Publication 114 (2009):** models and parameter values for estimating the exposure of RAPs
  - **Publication 136 (2017):** extended methodology to provide dose coefficients (DCs) for RAPs, superseded DCs provided in P108
  - **Publication 148 (2021):** recommendations of radiation weighting for RAPs



TG99 mandate (Terms of Reference revised in 2022)

- **Objectives of this joint C1-C4 TG on radiological protection of the environment:**
  - review and update data and methods to improve the use and practicality of the RAPs when applying the system of radiological protection
  - focus on improving the representativeness of RAPs and the methods and underlying effects data for the derivation of Derived Consideration Reference Levels (DCRLs)
  - work closely with other ICRP task groups i.e. TG105 on "integration within the system, including practical use of DCRLs" (as Part 2 that will be published subsequently to the TG99 draft report), and to a lesser extent TG125 on exploring the relevance of ecosystem services in ERP

- **Deliverables:**
  - A report to describe meta-analysis and data sources (type and quality) for deriving DCRLs for the three exposure situations; discuss the comparison of the outcomes with current DCRLs; advice on simple guidance for application,
  - A series of electronic annexes (excel files), with all the data used

Structure of the TG99 report

Why This Publication Matters Now

- It contributes to address the rising public concern on ecosystem health and the effects of multiple co-occurring pollutants by providing an updated, transparent, and science-based approach to demonstration protection of non-human species from ionising radiation.

- It introduces improved methodologies that go beyond the original and current RAP approach, enhancing representativeness, reducing expert judgement dependence, and managing uncertainties in assessing environmental impacts.

- The broadened approach aligns radiological protection methods with those used in ecological risk assessments for other hazardous substances (e.g., chemicals), facilitating a unified and coherent environmental risk strategy.

- It provides practical tools and preliminary/simple guidance and helps risk assessors, regulators, and other stakeholders better implement protective actions and demonstrate accountability in environmental stewardship

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Key Contributions/Relevance

- TG99's work is a major step forward. It aligns with international efforts and offers a robust scientific complement to the current RAP approach.
- It strengthens the foundation for environmental radiological protection by enabling more refined, transparent assessments that better reflect ecological diversity and reduce reliance on expert judgement.
- Notably, the introduction of additional DCRLs at higher taxonomic levels—such as class, phylum, or broad non-human species groups— adds flexibility for handling complex or data-limited situations, offering a clearer understanding of uncertainties and levels of confidence in assessments.
- The report also contributes to better stakeholder communication and to support more informed decision-making in environmental impact assessments.