

# Overview of work of ICRP and Task Group 97

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ICRP Workshop on  
Surface Disposal of Radioactive Waste  
| November 6, 2017 | Fukushima

T Pather  
Chair TG 97

# DISCLAIMER

This presentation has neither been approved nor endorsed by the Main Commission of ICRP.

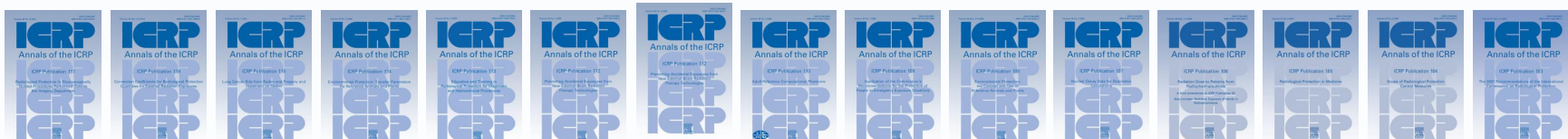
The views and thoughts in this presentation represent the author's personal opinions.

# ICRP

- **ICRP was founded in 1928, International X-ray and Radium Protection Committee**
- **Renamed International Commission on Radiological Protection ICRP in 1950**
- **Registered charity UK for last 30 years**

# ICRP Mission

Advance for the public benefit the science of radiological protection, in particular by providing recommendations and guidance on all aspects of protection against ionising radiation



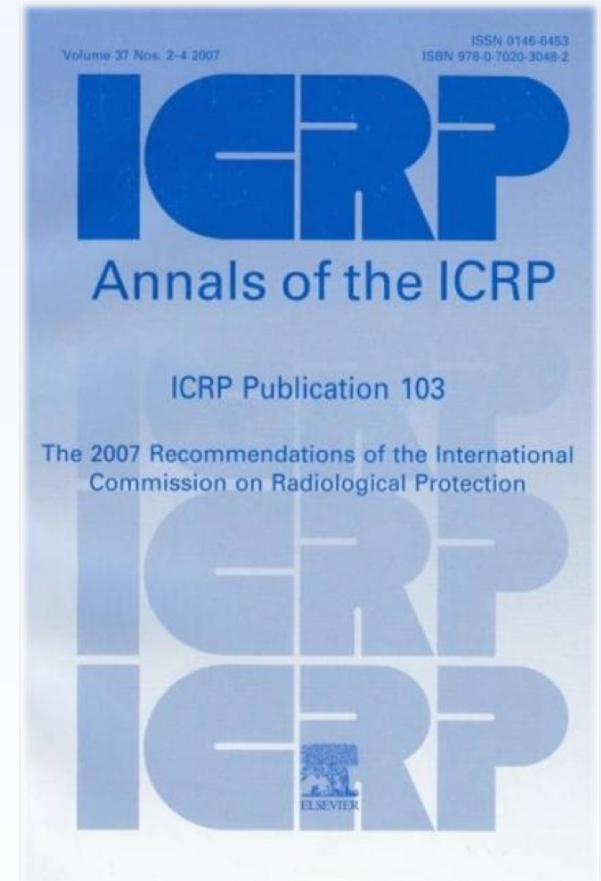
# Aim of the Recommendations

Contribute to an **appropriate level of protection for people and the environment** against the detrimental effects of radiation exposure without unduly limiting the desirable human actions that may be associated with such exposure



# System of Radiological Protection

- Most recently updated in *ICRP Publication 103 (2007)*
- Based on science, value judgments, and experience
- Forms the basis of radiation safety standards, legislation, guidance, programmes, and practice worldwide



# Protection of People

**Manage and control exposures so that:**

- **Deterministic effects (harmful tissue reactions) are prevented**
- **The risks of stochastic effects (cancer or heritable effects) are reduced to the extent reasonably achievable**



# Protection of the Environment

Prevent or reduce effects to have a negligible impact on:

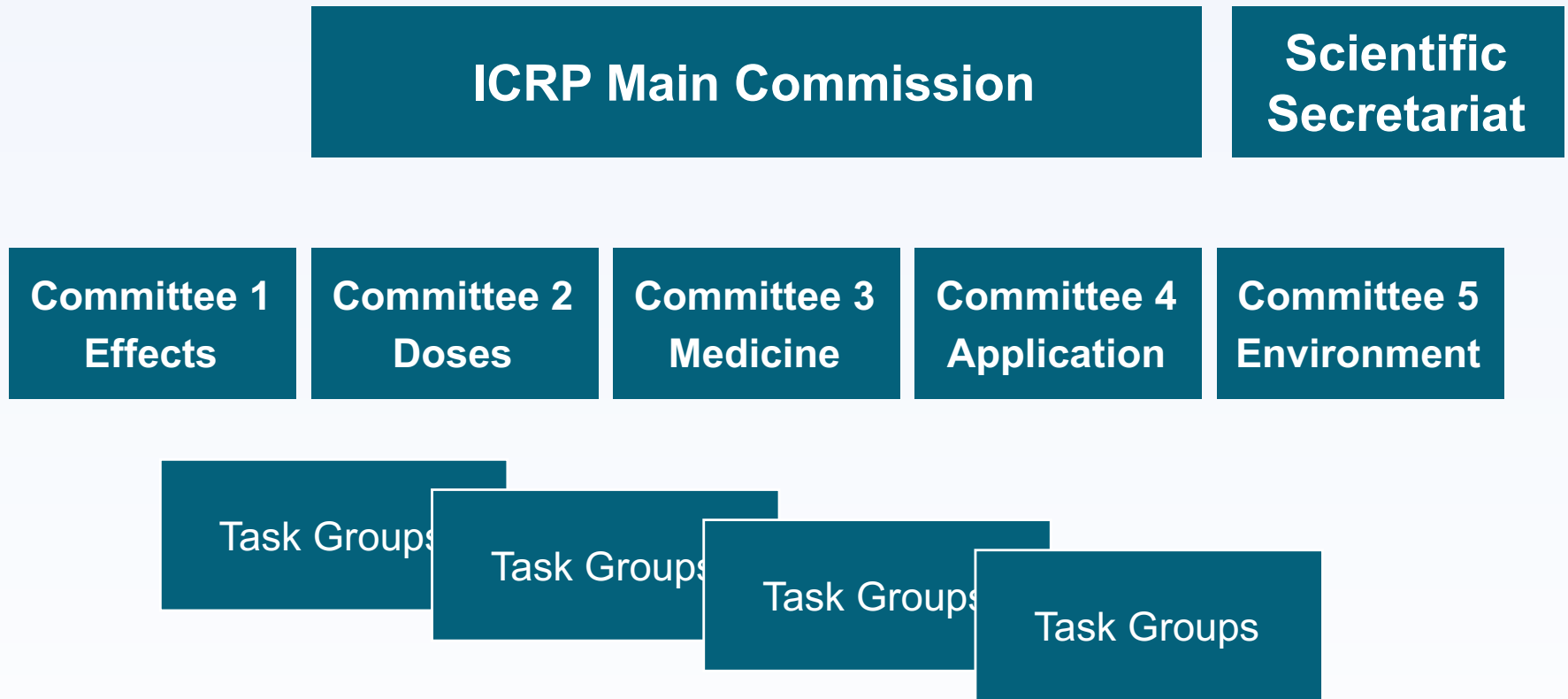
- the maintenance of biological diversity
- the conservation of species
- the health and status of natural habitats, communities and ecosystems



*Noting that exposure to radiation is but one factor, often a minor one*



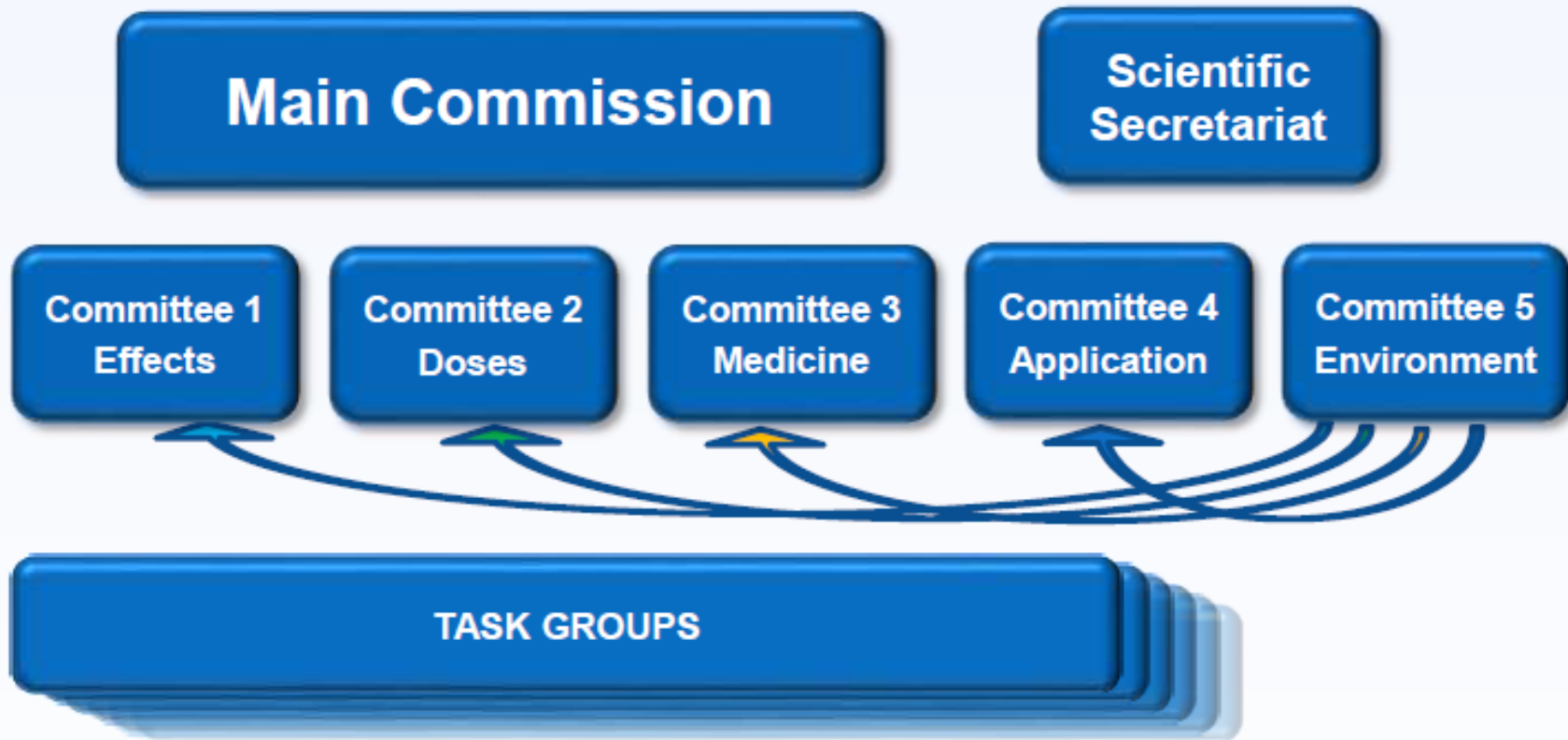
# ICRP Structure in previous term



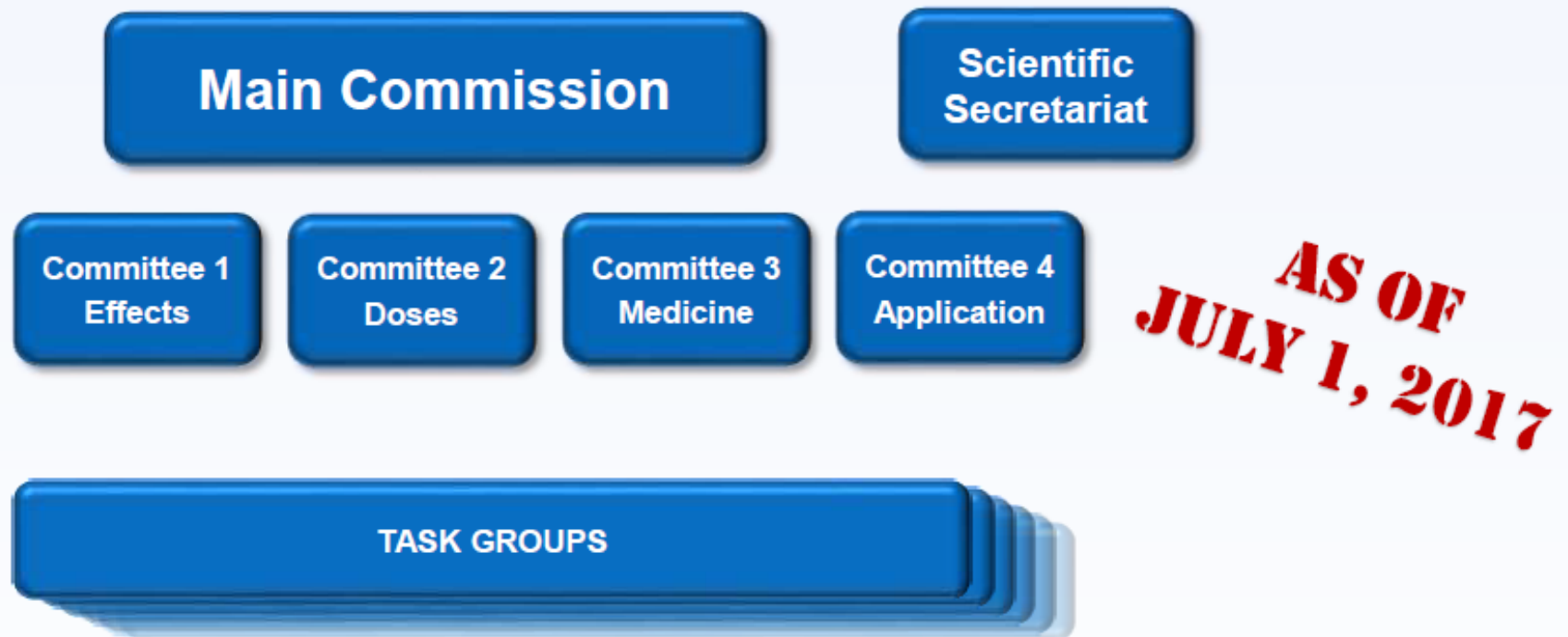
**An independent, international community of experts in radiological protection**

More than 240 experts in radiological protection science and policy  
from 33 countries and six continents

# Integration of Environment in each area during 2013-2017 Term



# Structure for 2017 - 2021 Term



**Committee 4: Development of principles and recommendations on radiological protection of people and the environment in all exposure situations**

# ICRP Membership

## 2013-2017

82 Total Members

65 Male

17 Female (21%)

## 2017-2021

75 Total Members

56 Male

19 Female (25%)

**38% new members for the coming term**

# New Committee Mandates

- Committee 1: considers the effects of radiation action from the subcellular to population and ecosystem levels, including the induction of cancer, heritable and other diseases, impairment of tissue/organ function and developmental defects, and assesses implications for protection of people and the environment
- Committee 2: develops dosimetric methodology for the assessment of internal and external radiation exposures, including reference biokinetic and dosimetric models, reference data, and dose coefficients, for use in the protection of people and the environment

# New Committee Mandates

- **Committee 3: addresses protection of persons and unborn children when ionising radiation is used in medical diagnosis, therapy, and biomedical research, as well as protection in veterinary medicine**
- **Committee 4: provides advice on the application of the Commission's recommendations for the protection of people and the environment in an integrated manner for all exposure situations**

# Active ICRP Task Groups

**TG36** Radiopharmaceuticals

**TG64** Cancer Risk from Alpha Emitters

**TG72** RBE and Reference Animals and Plants

**TG74** Dosimetry for Non-human Species

**TG76** NORM

**TG79** Effective Dose as a Risk Related RP  
Quantity

**TG89** Occupational RP in Brachytherapy

**TG90** Age-dependent Dose Coefficients for  
External Exposures to Environmental Sources

**TG91** Radiation Risk Inference at Low-dose and  
Low-dose Rate Exposure for Radiological  
Protection Purposes

**TG93** Update of Publications 109 and 111

**TG94** Ethics of RP

**TG95** Internal Dose Coefficients

**TG96** Computational Phantoms and Radiation  
Transport

**TG97** Surface and Near Surface Disposal

**TG98** Contaminated Sites

**TG99** Reference Animals and Plants  
Monographs

**TG100** ICRP Reflection Group on NCRP CC1

**TG101** RP in Radiopharmaceutical Therapy

**TG102** Detriment Calculation Methodology

**TG103** Mesh-type Reference Phantoms

**TG104** Integration of Protection of People and of  
the Environment

**TG105** Considering the Environment when  
Applying the System of RP

**TG106** Mobile High Activity Sources

# Enhance Integration and Application

**Development of principles and recommendations on radiological protection of people and the environment in all exposure situations**

- **A holistic and integrated view of all the benefits and impacts should include appropriate consideration of protection of both people and the environment**
- **There remains work to be done to bring to fruition a consistent and coherent approach to the justification and optimisation in any particular exposure situation**
- **Committee 4:**
  - Produce application reports
  - Assist other Committees with application viewpoint





# New Committee 4

- **New Terms of Reference for Protection of People and the Environment**
- **Goals**
  - Continue and complete works from 2013-2017
  - Integrate Environment in System of Protection, and move forward with key topics for implementation
  - Begin Foundations development – Explore topics from MC Strategic Discussion
  - Support consistent consideration of application in interactions with other Committees.

# 2017-2021 Program Themes

- Existing Exposure Situations
- Response to Fukushima
- Environmental Protection
- Foundations and Fundamentals
- Topical Application Reports



# 2017-2021 Program Themes

- Existing Exposure Situations
- Response to Fukushima
- Environmental Protection
- Foundations and Fundamentals
- **Topical Application Reports**
  - TG97 Surface and Near Surface Waste Disposal



# TG 97 Terms of Reference

- **Scope: surface and near surface disposal of radioactive waste**
- **Prepare a publication, in conjunction with the waste management community complement to *Publication 122*.**
- **Clarifies the application of the Commission's recommendations protection of the public, workers and environment**
- **Plain language**
- **Drafted as a standalone document in coherence with *Publication 122* without unnecessary repetition.**

# TG 97 Terms of Reference

- **The publication will discuss:**
  - **Application of the fundamental radiation protection principles over the life cycle of surface and near surface disposal**
    - **transitioning from planned exposure to existing exposure situation in the case of a loss of institutional control.**
    - **graded approach in implementing the protection principles and**
    - **advice in all facets of a facility's life cycle, based on the hazard posed,**
    - **the degree of isolation of the waste.**
    - **Dialogue amongst regulators, implementers and relevant stakeholder's**
  - **Update recommendations in *Publications 46, 77, and 81*, taking into account recent international experience**

# TG 97 Members

## Full Members:

- **Thiagan Pather, South Africa (Chair)**
- **Francois Besnus, France**
- **Christopher McKenney, USA**
- **Jean-Paul Minon, Belgium**
- **Behnam Taebi, Netherlands**
- **John Takala, Canada**

## Corresponding Members:

- **Takeshi Imoto, Japan**
- **Gloria Kwong, NEA**
- **Carl-Magnus Larsson, Australia**
- **Philip Metcalf, South Africa**
- **Andrew Orrell, IAEA**

# ICRP



[www.ICRP.org](http://www.ICRP.org)