

# Models and approaches participating

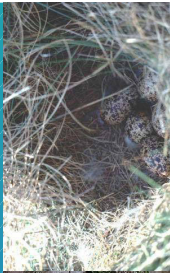
- *RESRAD-BIOTA (USA)*
- *FASSET & ERICA (European)*
- *Environment Agency 'R&D 128' (UK)*
- *Atomic Energy Canada Limited approach*
- *LIETDOS-BIO (Lithuania)*
- *SCK-CEN approach (Belgium)*
- *ECOMOD (Russia)*
- *EDEN (France)*
- *EPIC-DOSES3D (European)*
- *SÚJB approach (Czech Republic)*



# Ex1: Estimation of dose rates

Exercise 1: assume 1 Bq per unit media and organism for selection of ICRP Reference Animals & Plants to estimate unweighted dose rates for Cs-137, Am-241, Co-60, U-238, C-14, Sr-90, H-3 (= comparison of DCC)

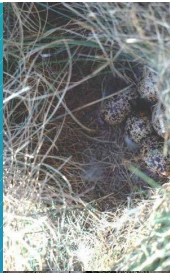
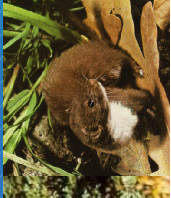
- Reviewed revised data & assumptions used



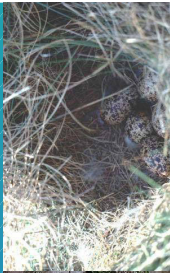
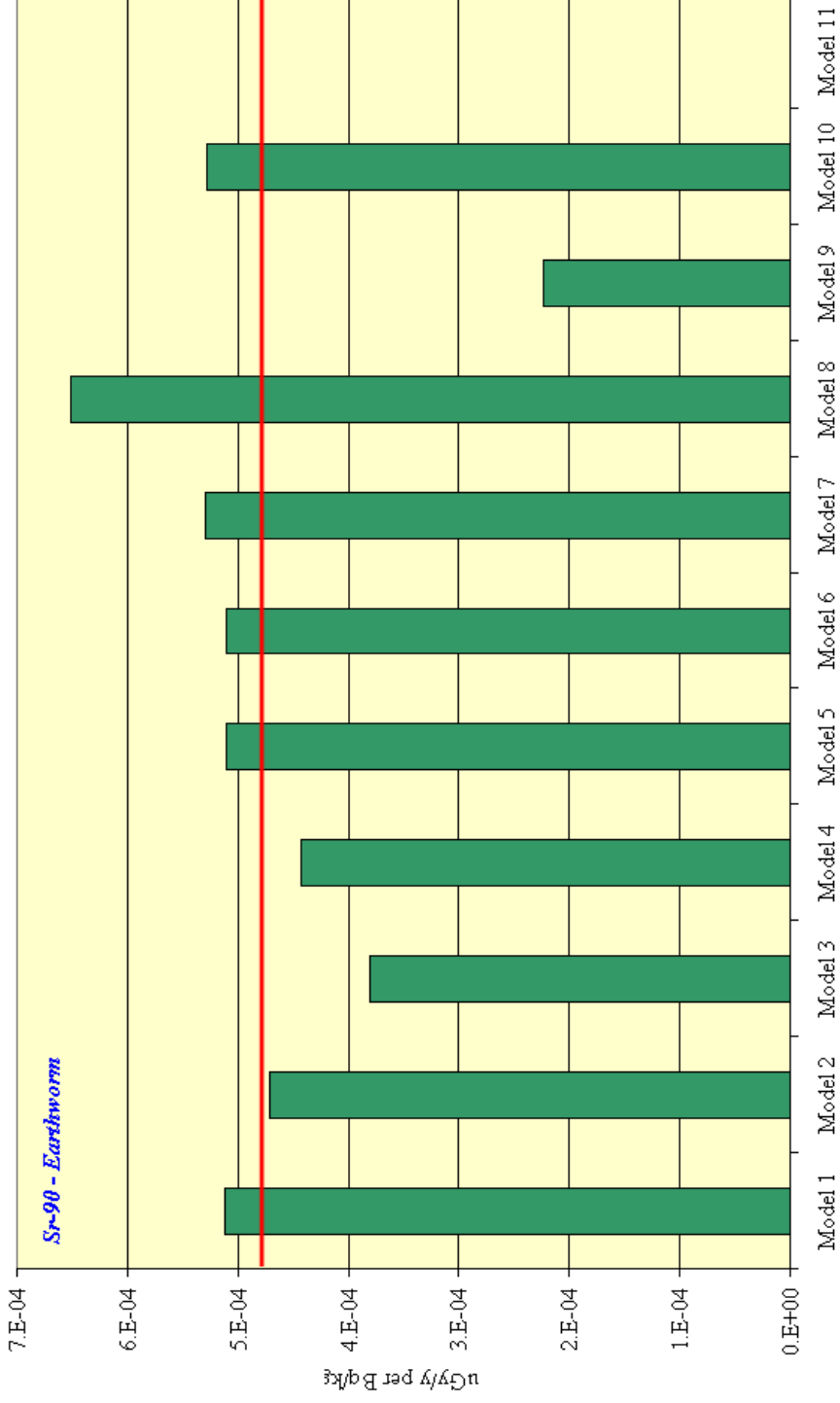


# Ex1: Estimation of dose rates

- Internal dose estimates comparable generally all being within 20 % of mean



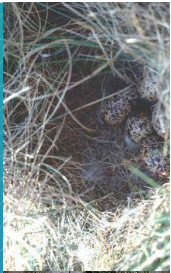
# Unweighted internal dose rates



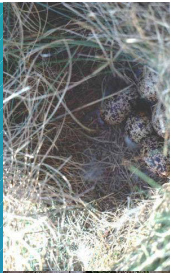
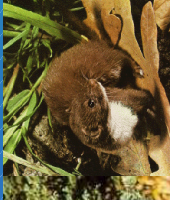
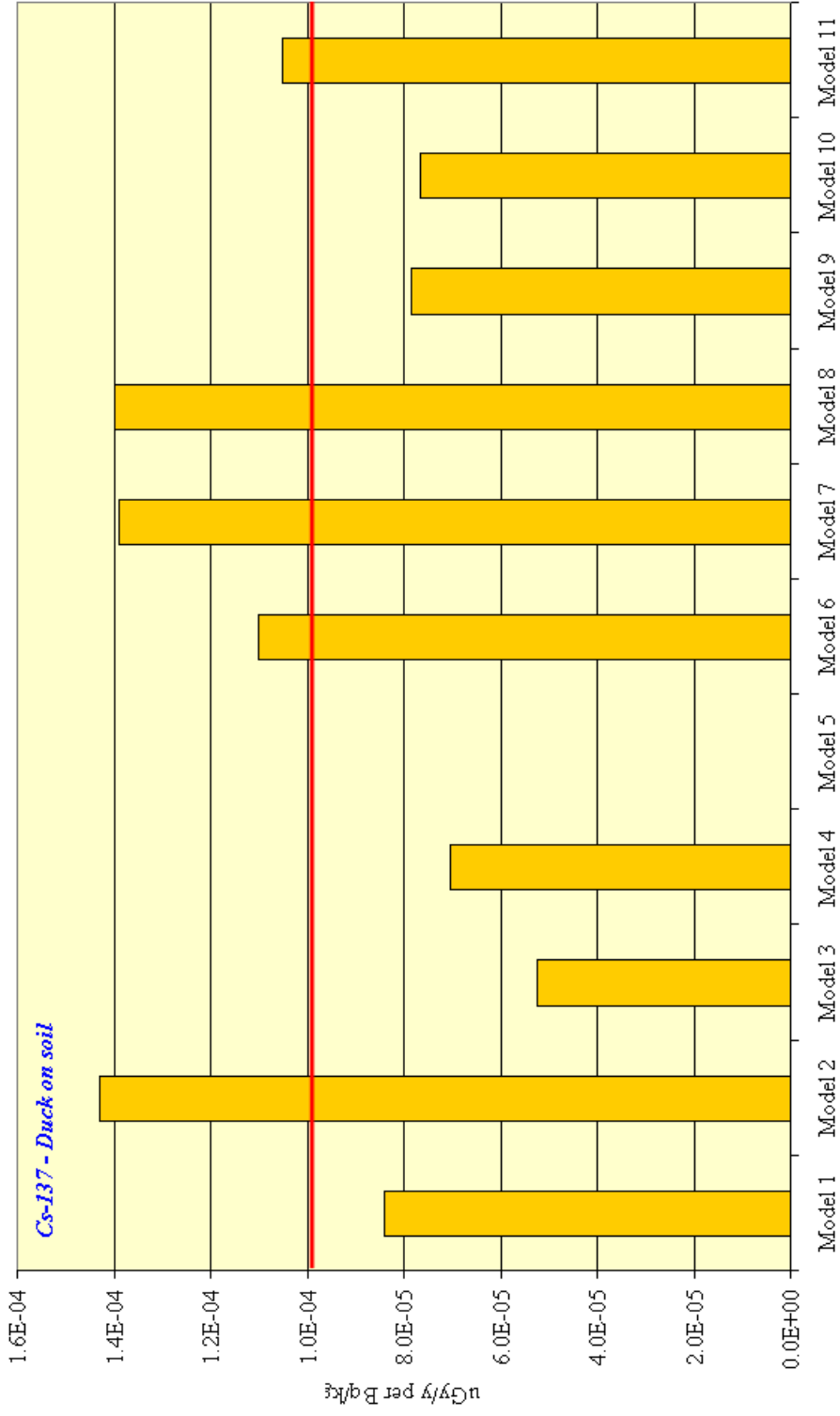


# Ex1: Estimation of dose rates

- Internal dose estimates comparable generally all being within 20 % of mean
- Differences in approach which do not make a difference:
  - Specific geometries v's nearest default
  - Number of emissions
  - External beta doses (C-14 & H-3)
- And those which do:
  - Daughter radionuclides
  - Media assumptions (depth of contaminated layer)



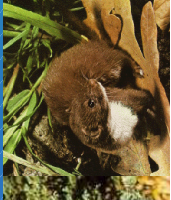
# Unweighted external dose rates





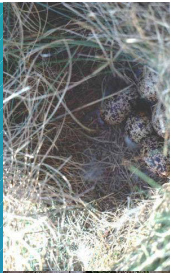
# Ex2: Estimation of activity concentrations

- Assume 1 Bq per unit media to estimate activity concentration of range of radionuclides in 19 terrestrial/freshwater organisms



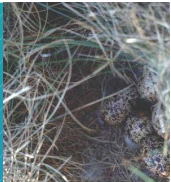
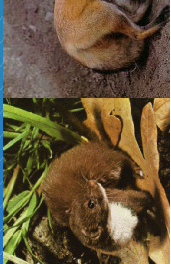
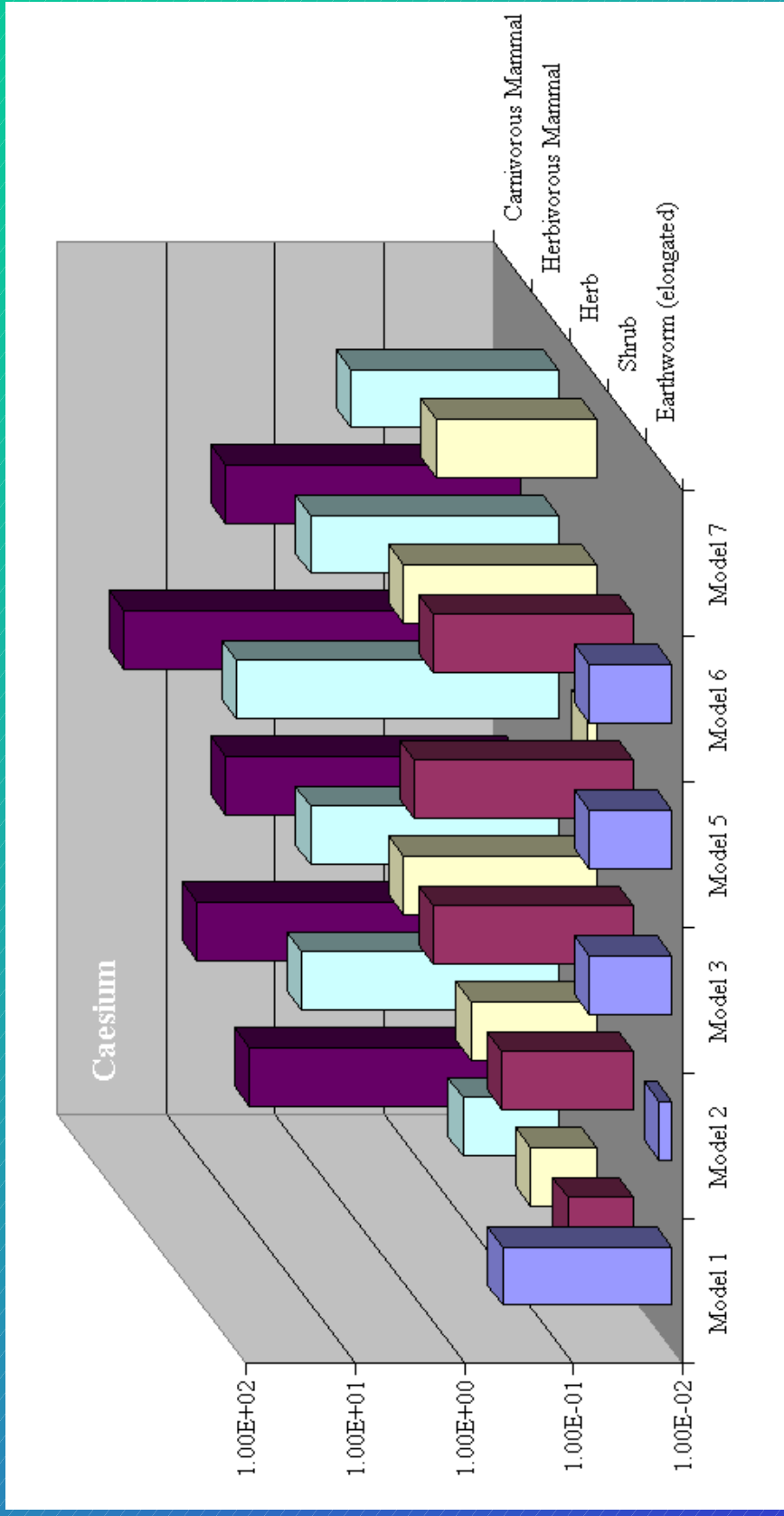
## Ex2: Estimation of activity concentrations

- Where have sufficient data variation between approaches tends to be within order of magnitude
- For many radionuclides few data
  - Collaboration with TRS freshwater review
  - Support IAEA suggestion of a transfer working group



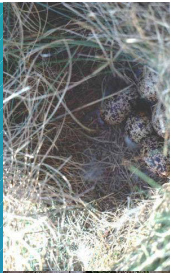


# Estimated activity concentrations



# Timetable for Exercises 1 & 2

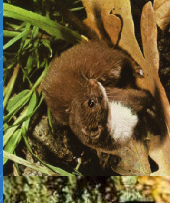
- Check and revise by Christmas
- Statistical evaluation & draft papers for discussion at June workshop
- Document on references organisms on BWG page of website for comment





# Perch Lake Scenario

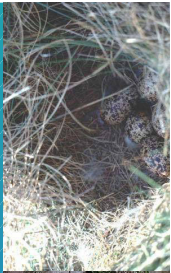
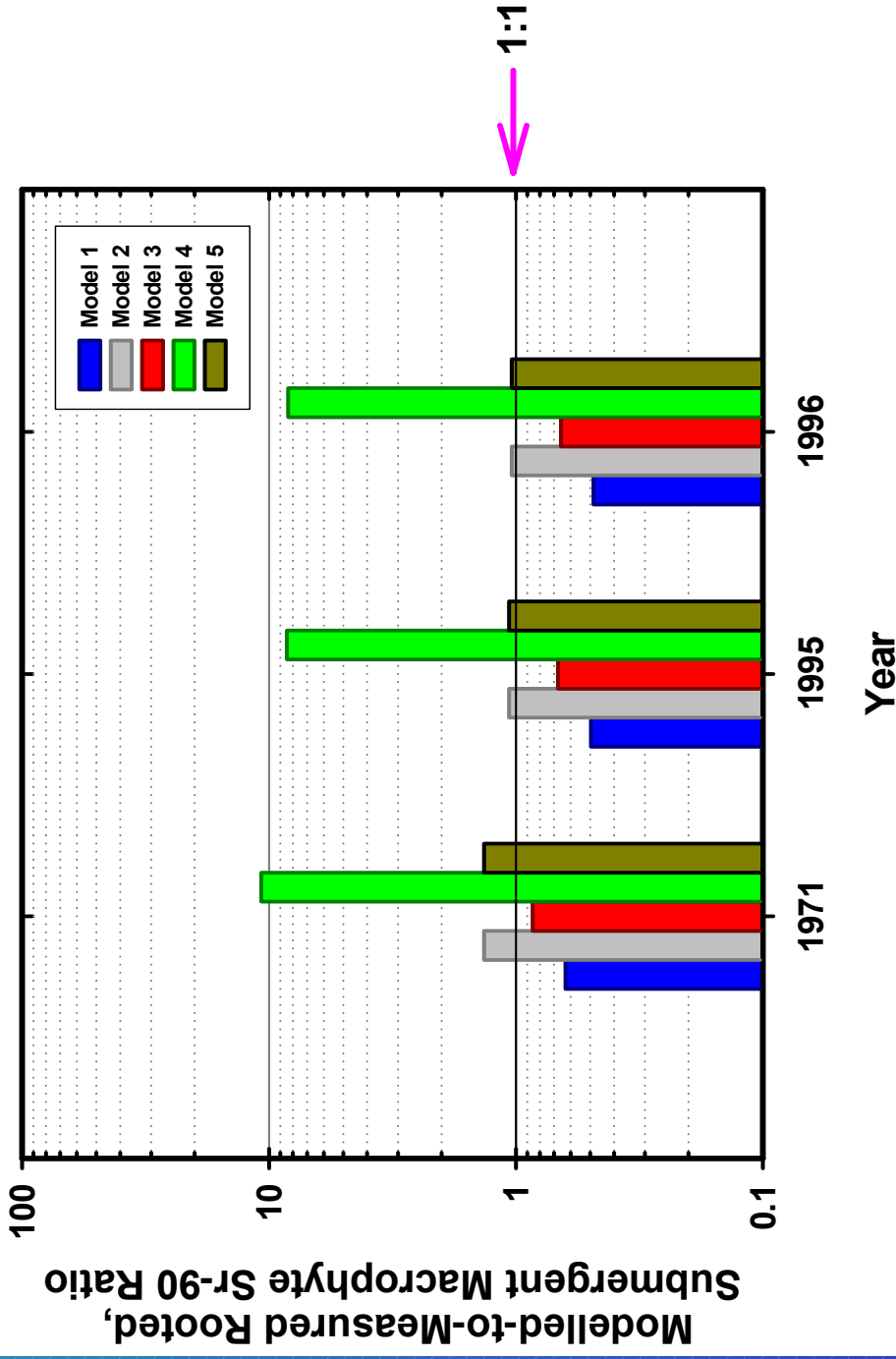
- Provisional results from 5 of the models presented
- Complete model runs [potentially by 7 models] by the end of April
  - Evaluation at June workshop



# EMRAS Biota Dosimetry WG

## Perch Lake Freshwater Scenario

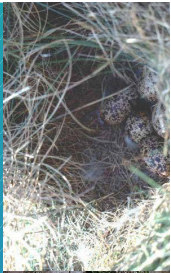
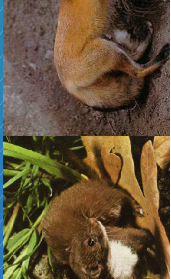
- Inter-model Comparison -





# Chernobyl - terrestrial

- Large datasets available of Sr & Cs in range of biota; some Pu and Am; TLDs attached to small mammals
- Scenario available @ latest March 05
- Results for June meeting (additional model participating)



# Additional scenarios

- Being considered for discussion in June:
  - TeNORM site in Komi Republic
  - Sites assessed in UK under Habitats Directive
  - Sites from USA

