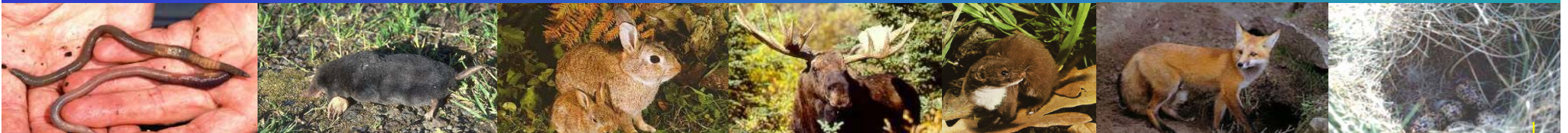


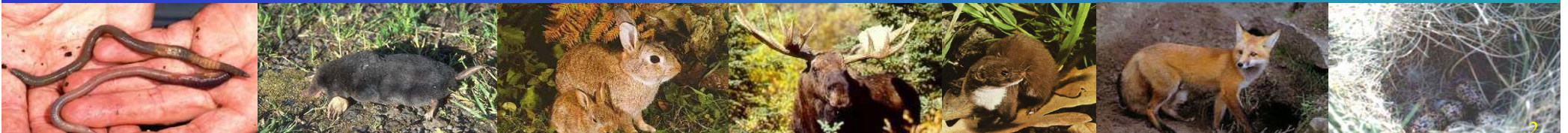
Biota Working Group objectives

‘to improve Member State’s capabilities for protection of the environment by comparing and validating models being used, or developed, for biota dose assessment (that may be used) as part of regulatory process of licensing and compliance monitoring of authorised releases of radionuclides’



Activities

- Two exercises to compare dosimetry and transfer components of models:
 - **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
 - **Exercise 2:** assume 1 Bq per unit media to estimate activity concentration of range of radionuclides in 19 terrestrial/freshwater organisms



Activities

- Two case study scenarios:
 - **Perch Lake:** H-3, Cs-137, Co-60, Sr-90 data for wide range of freshwater biota
 - **Chernobyl:** Cs-137, Sr-90 Am-241, Pu-isotopes data - bias towards mammals (birds, amphibians, invertebrate, plant, reptile). Also TLD measurements for small mammals at 4 sites.



Models and approaches participating

- *RESRAD-BIOTA* (USA) [all]
- *FASSET & ERICA* (European) [all]
- *Environment Agency 'R&D 128'* (UK) [all]
- *Atomic Energy Canada Limited approach* [all]
- *LIETDOS-BIO* (Lithuania) [all]
- *SCK-CEN approach* (Belgium) [1,2]
- *EDEN-CENTEAUR* (France) [1,2,PL]
- *LAKE(ECO)* (Netherlands) [PL]
- *ECOMOD* (Russia) [1,2,PL]
- *EPIC-DOSES3D* (European) [all]
- *SÚJB approach* (Czech Republic) [1,2]



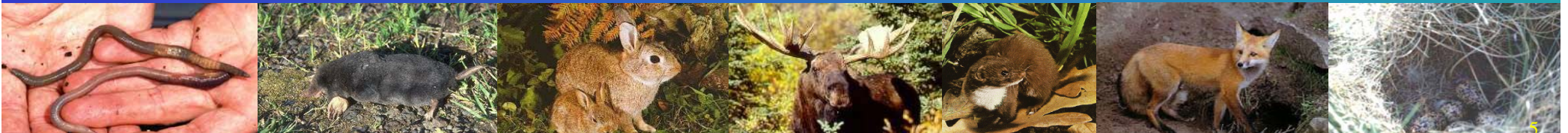
Exercise 1 (DCC comparison)

•FINISHED !

Paper submitted to *Radiation Research*:

Inter-comparison of models for the calculation of unweighted absorbed dose rates for non-human biota

Vives i Batlle, J., Balonov, M., Beaugelin-Seiller, K., Beresford, N.A., Brown, J., Cheng, J-J., Copplestone, D., Doi, M., Filistovic, V., Golikov, S., Horyna, J., Hosseini, A., Howard, B.J., Jones, S.R., Kamboj, S., Kryshev, A., Nedveckaite, T., Olyslaegers, G., Pröhl, G., Sazykina, T., Ulanovsky, A., Vives-Lynch, S., Yankovich, T. & Yu, C.



Exercise 1 (DCC comparison)

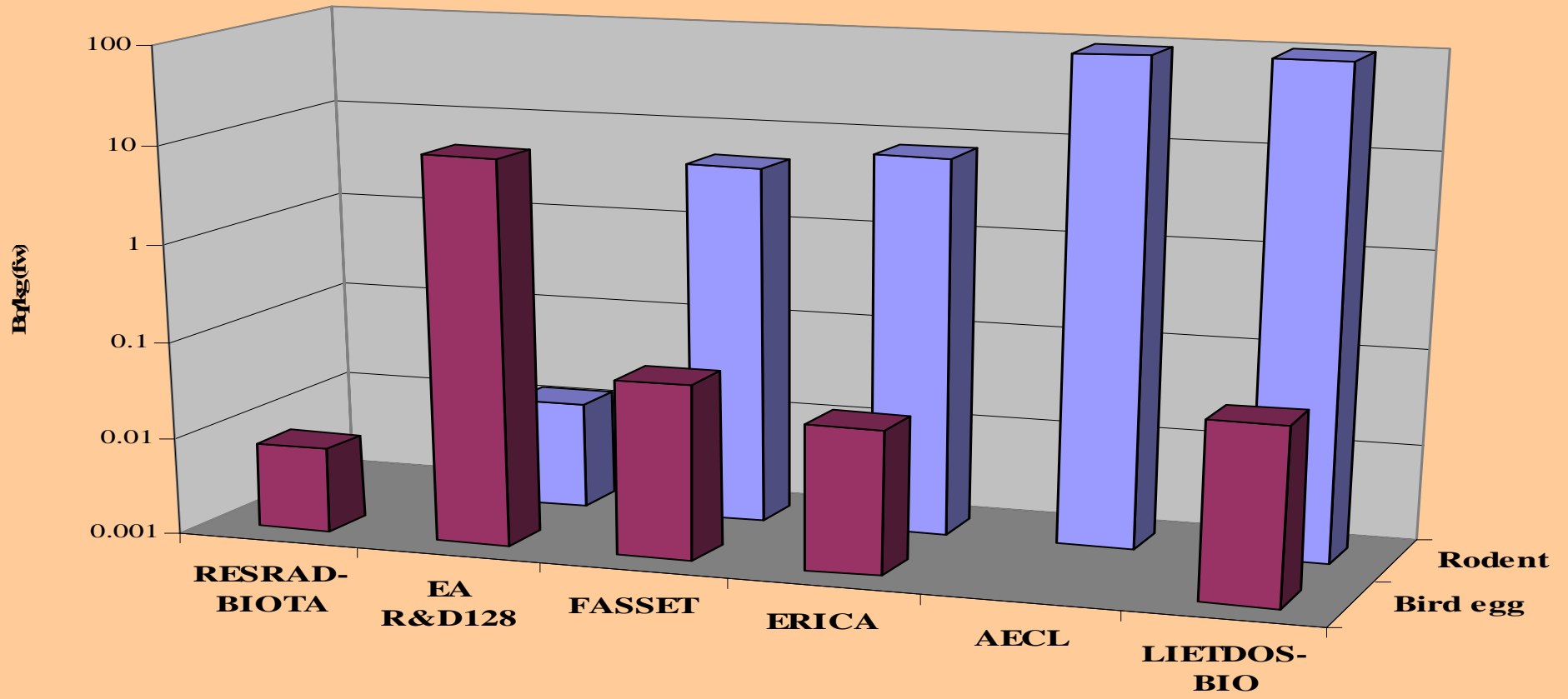
Outcome

Whilst considerable variation in assumptions & methods:

- Results generally comparable
 - Differences in external β -dose assumptions
 - Media density
 - Daughters included (^{238}U)



Cs Terrestrial



Scenarios - progress



Aim: June 2007 workshop – finalise draft papers on both these scenarios



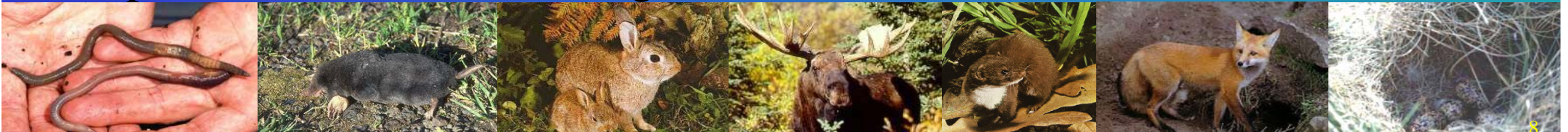
Perch Lake (Canada)

- Initial comparison June meeting – some revision required + additional submissions

- Comparison to data this meeting

Chernobyl exclusion zone

- First full discussion and *cf* to data at this meeting



Agenda

- Monday - Scenario leaders prepare
- Tuesday - Discuss Exercise 2 draft paper
- Perch Lake presentations &
discussion
- Wednesday – Chernobyl presentations &
discussion
- Thursday (pm) – Agree actions; reporting requirements;
2007 conference abstract; ‘updates’

