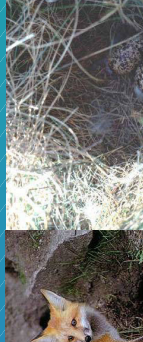
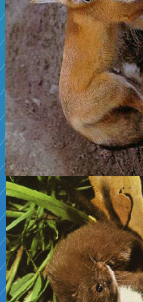


BWG –achievements 1st workshop

- Establish group – 16 participants (13 countries)
- Objectives agreed
- Models offered – RESRAD-BIOTA; England & Wales EA; ERICA-FASSET; ECOMOD; EPIC 3D; EDEN; OURSON; AECL; other Canadian approaches?
- Documentation for first two exercises agreed and provision of scenario data
- Responsibilities and timetables set for the next 6 months



What will we be doing?:

- Compare and validate radioecological component
- Compare dosimetric component
- Initial activities
 - Compare dose conversion factors
 - Compare estimated activity concentrations
 - Prepare scenarios Perch Lake (FW); Chernobyl (T)
 - Consider existing cooling pond scenario
 - Future requested – Sellafield (T)



Dose conversion factor comparisons

- Assume 1 Bq/kg in media or biota
- Cs-137, Am-241, Co-60, U-238, C-14, Sr-90, H-3
- Compare unweighted outputs

Organism	a (cm)	b (cm)	c (cm)	Mass (g)	S (cm ²)	S/V (cm ⁻¹)	Ecosystem
Duck	30	10	8	1.3E+03	6.3E+02	5.0E-01	Freshwater
Frog	8	3	2.5	3.1E+01	5.2E+01	1.7E+00	Freshwater
Salmonid egg	0.25	0.25	0.25	8.2E-03	2.0E-01	2.4E+01	Freshwater
Rat	20	6	5	3.1E+02	2.5E+02	7.9E-01	Terrestrial
Earthworm (elongated)	10	1	1	5.2E+00	2.5E+01	4.7E+00	Terrestrial



Predicted activity concentration comparison

- Assume media concentration of 1 Bq/kg

Am-241	H-3	Ra-226	U-234
C-14	I-129	Sr-90	U-235
Co-60	I-131	Tc-99	U-238
Cs-134	Po-210	Th-232	
Cs-137	Pu-239	Th-234	



Organisms

Table 2: Terrestrial Reference Organisms

Earthworm (elongated)

Shrub

Herb

Herbivorous Mammal

Carnivorous Mammal

Rodent

Bird egg

Table 3: Freshwater Reference Organisms

Duck

Frog/amphibian

Pelagic fish

Fish egg

Macrophyte (vascular plant)

Phytoplankton

Zooplankton

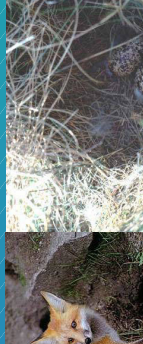
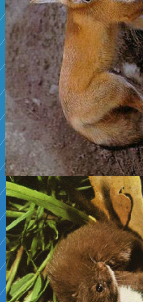
Benthic Mollusc

Small Benthic Crustacean

Large Benthic Crustacean

Benthic Fish

Aquatic mammal



Scenarios

- Not too prescriptive – expecting models to be used as they would normal be applied in assessments
 - Outputs by radionuclide: activity concentration; internal unweighted dose; external dose (sediment concs.)



Timetable

ASAP	Use of ICRP reference organisms as provided by Jan Pentreath to the Environment Agency in England and Wales has been confirmed but DC is to discuss with Jan the rationale behind their selection and to provide additional information to the BWG	Action: DC
15 Nov 2004	NAB to provide draft abstract for (Nice conference) review by BWG members. Note immediate turnaround required because this is the submission deadline	Action: NAB to issue abstract. ALL to review
20 Nov 2004	Any final comments on documents prepared during the 8-11 Nov meeting to be sent to NAB.	Action: ALL
Start Dec 2004	NAB to contact SKB to discuss use of their ecological model in the BWG.	Action: NAB
Mid Jan 2005	Each model participant to provide their selection criteria and choice of reference organisms as part of a review of the use ROs	Action: ALL with model to provide to DC
Mid April 2005	Each model participant to provide results for Exercise 1 (DCCs) and 2 (activity concentrations)	Action: ALL with model to provide to NAB
By late May 2005	Scenarios 1 (Chernobyl terrestrial data set) and 2 (Canadian Perch Lake data) for exercises 3 and 4 to be prepared for discussion at the next meeting.	Action: NAB/SG scenario 1 and TY (scenario 2)
Late May-early June 2005	Meeting in Vienna	



BWCG - objectives

Overall objective: “To compare and validate models being used and developed by MSs for biota dose assessment (that may be used) as part of regulatory process of licensing and compliance monitoring of authorised releases of radionuclides in order to improve MS’s capabilities for protection of the environment”

Not considering emergencies

