



Summary of doses and approach: Wetland scenario

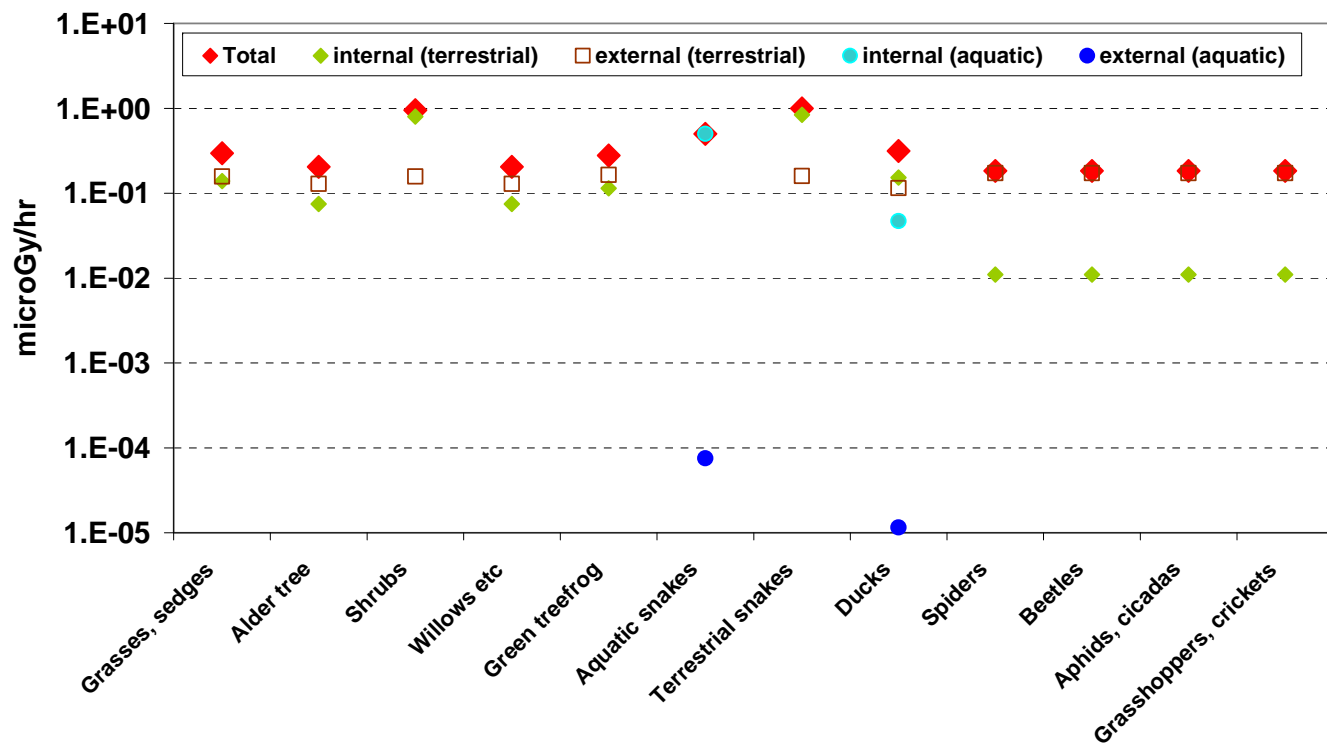
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Steel Creek

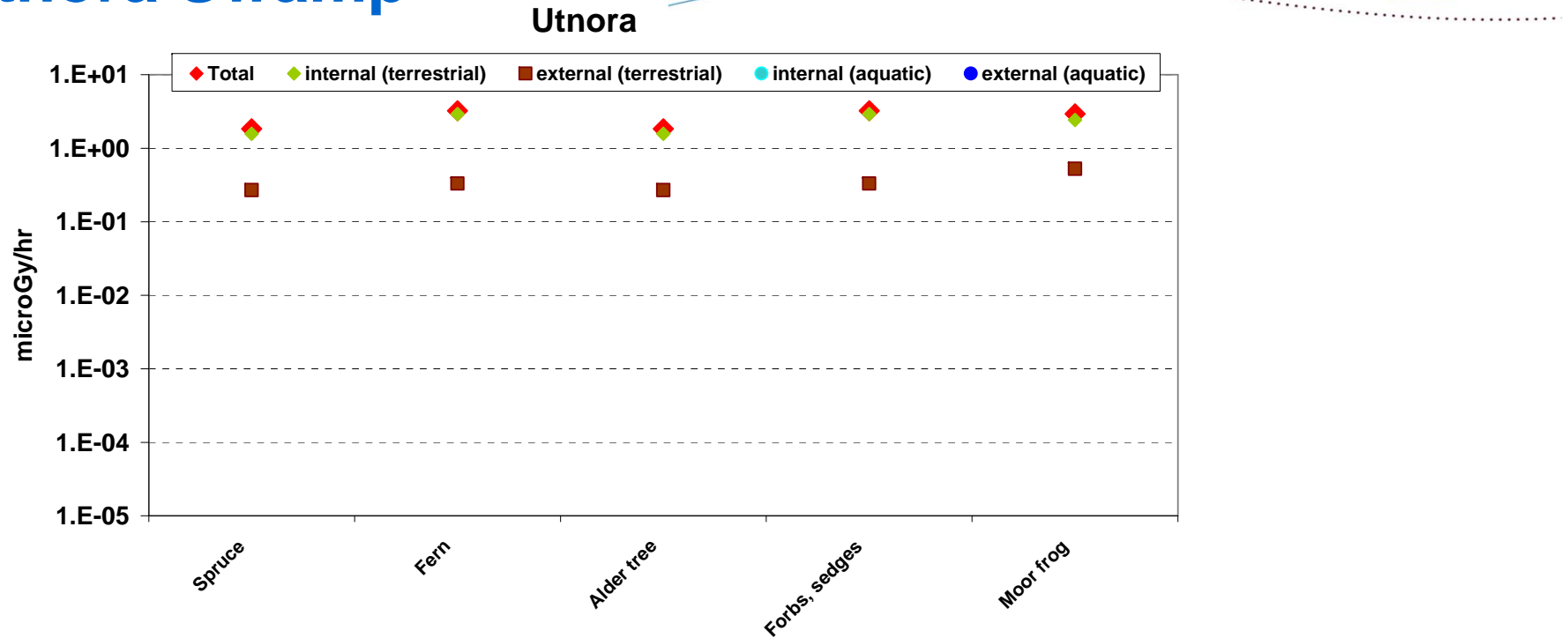
Steel Creek



Organism	Occupancy Factors	
	Terrestrial	Aquatic
Grasses, sedges	1	0
Alder tree	1	0
Shrubs	1	0
Willows etc	1	0
Green treefrog	1 in air	0
Aquatic snakes	0	0.5 in water, 0.5 at surface
Terrestrial snakes	1	0
Ducks	0.5 on soil, 0.25 in air	0.25 water surface
Spiders	0.5 on soil, 0.5 in air	0
Beetles	1 on soil	0
Aphids, cicadas	1 in air	0
Grasshoppers, crickets	0.5 on soil, 0.5 in air	0

- ERICA default values (CR & geometry)
 - Grass
 - Tree
 - terrestrial amphibian
 - terrestrial reptile
 - Bird
 - flying insect

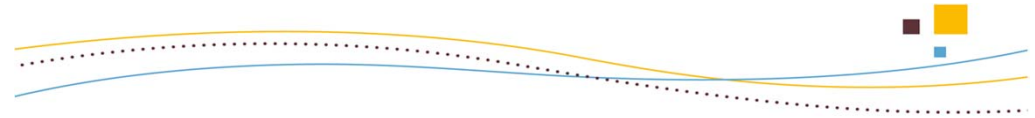
Utnora Swamp



Organism	Occupancy Factors	
	Terrestrial	Aquatic
Spruce	1	0
Fern	1	0
Alder tree	1	0
Forbs, sedges	1	0
Moor frog	0.66 on soil; 0.34 in soil (hibernation)	0

- ERICA default values (CR & geometry)
 - Grass
 - Tree
 - terrestrial amphibian

Duke Swamp



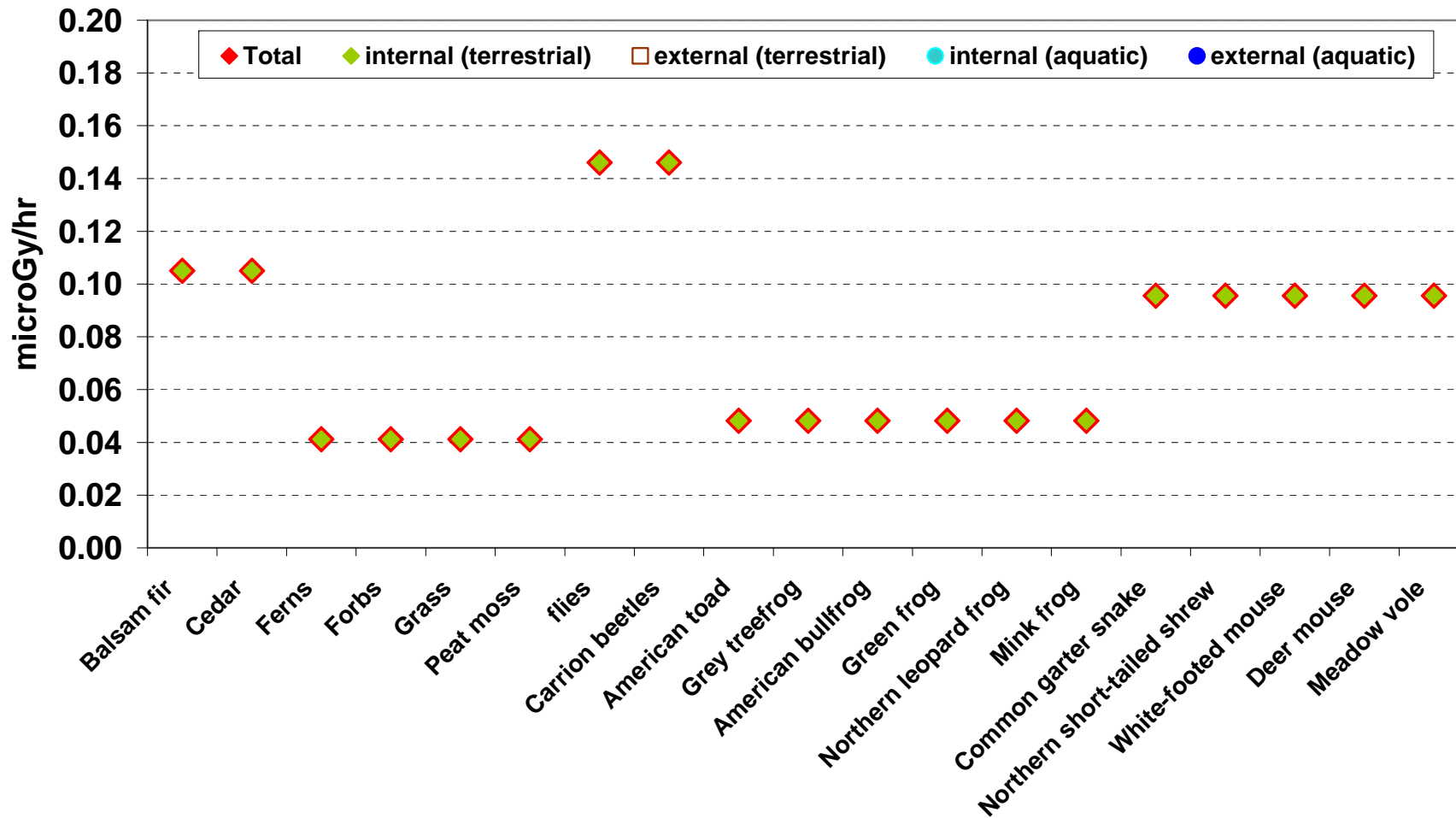
■ Approach

- Assumption: specific activity (Bq C-14 per gram carbon) in biota is the same as in air (or top soil, see input data)
- C-14 activity concentration in biota calculated from specific activity in air and carbon content in biota tissue
 - Carbon content from
 - **TRS472**: grass and fodder, fish (for frogs and toads), average of animal products (for snakes and rodents)
 - **For trees**: On the variation of water content in trees,” by James Barkley Pollock of the University of Wisconsin. *and* Canadian woods: Their properties and uses. 1981. Mullins, E.J.; McKnight, T.S., editors. Environment Canada.
 - **For insects**: Bertram et al 2008. Extensive natural intraspecific variation in stoichiometric (C:N:P) composition in two terrestrial insect species. *J Insect Sci.* 2008;8:1-7
- Biota activity concentrations were then put into ERICA to calculate doses

Duke Swamp



Duke Swamp



- Doses entirely due to exposure to internal radiation from C-14