Supplementary materials to the paper "Multi-compartment kinetic-allometric model of radionuclide bioaccumulation in marine fish"

Table S1. Parameters of MCKA model for fish of different mass

m, kg	K_f, kg/(kg d)	K_w, m^3/(kg d)	λ_3, d^{-1}	λ_4, d^{-1}	λ_5, d^{-1}
0.0002	0.1	0.67	0.058	0.0085	0.231
0.006	0.043	0.29	0.025	0.0036	0.099
0.2	0.018	0.12	0.011	0.0015	0.041
4	0.0085	0.057	0.005	0.0007	0.019

Table S2 Values of sensitivity index *SI*.

Element	AE_f	AE_w	α_f	α_w	α_3	α_4	α_5	CR_3	CR_4	CR_5
^{137}Cs	0.676	0.229	0.676	0.229	0.643	0.014	0.131	0.702	0.032	0.136
^{90}Sr	0.473	0.525	0.473	0.525	0.352	0.133	0.436	0.396	0.264	0.449
^{60}Co	0.729	0.079	0.729	0.079	0.234	0.016	0.632	0.267	0.034	0.647

Table S3. Main parameters of boxes around Forsmark NPP

Box number	Volume, km^3	Depth, m	Area, km^2	Exchange rate with outer box, km^3 y^{-1}
68	35.7	32.5	1100	3355*
"inner box"	3.0	12.5	240	140
"coastal box"	0.076	11.0	6.9	30

* total exchange rate with all neighbouring boxes
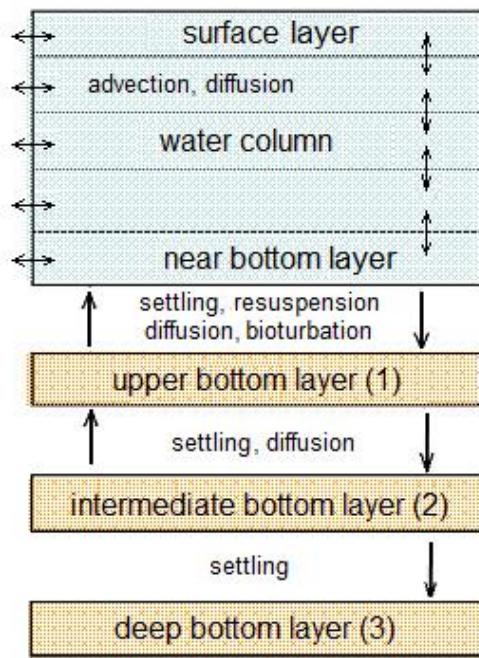
Fig.S1. Vertical structure and radionuclide transfer processes in the compartment model POSEIDON-R (Maderich et al., 2018b).
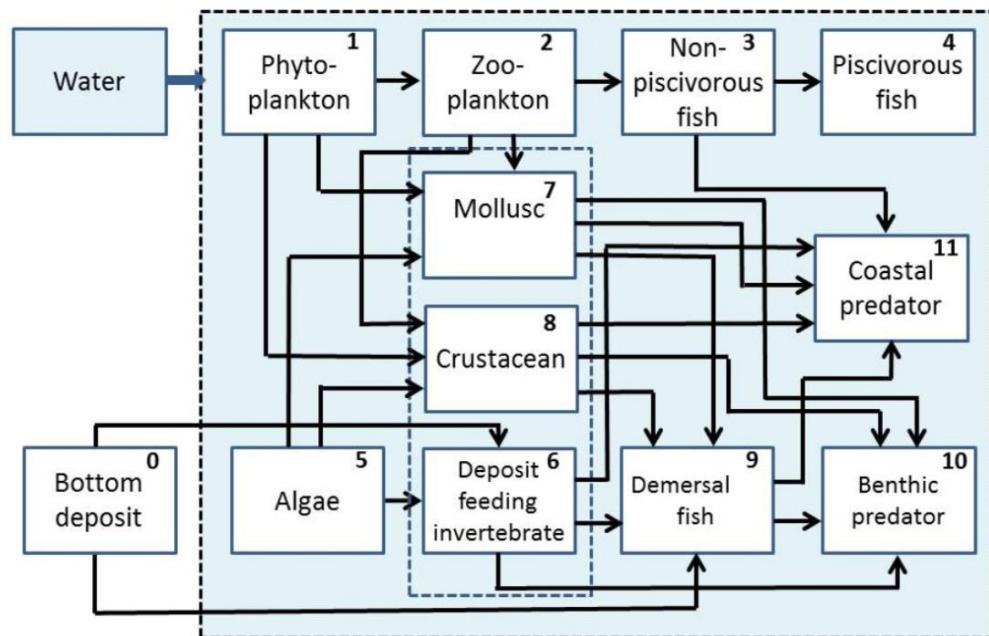
Fig. S2. Radionuclide transfer from the water and bottom sediment boxes to marine organisms (Bezhenar et al., 2016). The radionuclide transfers among marine food web compartments are given for 11 types of marine organisms.