

Response to Reviewer #2

The authors are most grateful to the reviewer for his constructive criticism and suggestions. We have taken his remarks into account, and the paper has been revised accordingly.

The paper is substantially corrected which makes reader more being easier to understand the result of the paper. Following points are recommended to reconsider or revise before publishing.

1) *Citation of Matsumoto et al., 2015 should not be cited. The methodology in this paper (gross counts of Cs-137 energy band in whole body fish minus background counts without fish) contains bottom-up effect on net count by neglecting Compton effect from K-40 in fish flesh, which makes the turnover rate being overestimated.*

Answer: Text was changed accordingly. The reference on Matsumoto et al. (2015) was excluded from text.

Line 153 “The biological half-life data for fish flesh (Baptist and Price, 1962; Coughtrey and Thorne, 1983; Tateda, 1994,1997; Zhang et al., 2001) show variability in a large range (35-180 days) due to the differences between species and due to the differences in the experiment methodology.”

2) *Rational for radiocesium turnover in bone etc. other than flesh should be shown by citation or theoretical assumption. It will help following further research by similar approach.*

According to Yankovich et al. (2010) the concentration of radiocaesium in muscle is 1.65 times higher than in the bone for marine fish. In combination with ratio between weight fractions of muscle and bone (0.845 and 0.135, respectively) the total amount of caesium in fish bone can be estimated only as 9% compared with muscle (90%) and organs (1%). Therefore, in a first approximation radiocaesium turnover in bones and organs was not considered. Text was added accordingly.

Line 187 “According to data from Yankovich et al. (2010) amounts of radiocaesium in flesh, bone and organs are 90%, 9% and 1%, respectively.”

Line 16 “released”

Answer: Text was changed accordingly.

Line 23 “evaluated as caused”

Answer: Text was changed accordingly.

Line 26 *Is it sure to say? Better to refer only in main text as suggestion.*

Answer. “due to the biomagnification effect. “ was excluded from text

Line 33 “...suggest the substantial contribution...”

Answer: Text changed accordingly.

Table 3 *Is there citation for the BHL of radiocesium in fish bone? Or theoretical assumption?*

Answer: Text was added

Line 161 “The biological half-life for bone was estimated using data for ⁹⁰Sr, which is mainly accumulated in bone. This value was calculated for non-piscivorous and

piscivorous fish using equation (1) in equilibrium approximation to satisfy BCF values from IAEA (2004).”