

Radiocesium depuration mechanism in Sebastes fish: evaluation of food chain transfer of bioavailable fraction

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Anomaly of the temporal radiocesium concentration in rockfish after the nuclear power accident at 2011 was not fully clarified. Though, 1) Stable cesium content as higher than those in other species, 2) Excretion of radiocesium was demonstrated as slower than the reported value for other fish species, 3) High radiocesium concentration in sediment particle being suspended in the bottom layer at where the prey organism habituated, are exhibited, however, the integrated analysis was not sufficient. In this study, a contribution of bioavailable fraction transfer through food chain was evaluated. The ¹³⁷Cs concentration in seawater and labile fraction in stomach content were analyzed, and biological model was applied to evaluate to reconstruct the ¹³⁷Cs concentration in *Sebastes cheni* till 2018. The result demonstrated the ¹³⁷Cs concentration in the stomach content were within a range of 1-2 Bq kg-wet⁻¹, while the ratio of the bioavailable fraction was <1. Compared with the ¹³⁷Cs concentration in seawater, the substantial transfer to benthos was suggested as possible source from bottom environment.

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