

## **EFFECTIVE ECOLOGICAL HALF-LIVES OF CS-137 FOR FISHES CONTROLLED BY THEIR SURROUNDING SEA-WATERS**

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National Research Institute of Fisheries Science (NRIFS) has carried out the long term monitoring program for radioactive pollution in marine organisms caught around Japan in order to confirm the safety of marine organisms as food source. Main radionuclide in our monitoring program is Cs-137 because it has the relatively high radiotoxicity and the long term physical half-life (about 30.1 y), and tends to accumulate in the muscle. Recently, the effective ecological half-lives have been introduced to estimate the recovery time from radioactive pollution, and been applicable to various ecosystems. In this study, effective ecological half-lives of Cs-137 for some fishes were calculated from our long term monitoring data. It is known that fish species have each effective ecological half-lives. However, it has been unclear what change the effective ecological half-lives of Cs-137 for fishes. Fishes intake Cs-137 through food chain and directly from their surrounding sea-waters. Accordingly, the effective ecological half-lives of Cs-137 for some fishes would be controlled by the effective environment half-lives of Cs-137 for their surrounding sea-waters. There is difference in effective environment half-lives of Cs-137 between the open ocean and the coastal sea-waters because they have the different input sources of Cs-137. Some fishes move between the open ocean and the coastal areas, and therefore their effective ecological half-lives of Cs-137 are influenced by the effective environment half-lives of Cs-137 for sea-waters of both areas. Consequently, the differences in effective ecological half-lives of Cs-137 among fish species would depend the rate of coastal area in their lives.