

**Results of ALPS Treated Water Marine Monitoring:  
Marine biota survey (carbon-14 in fish) (September 2024)**

**1. Outline of survey**

(1) Date of sampling

September 10, 2024

(2) Sampling points

3 sampling points on coastal waters in the Fukushima Prefecture

(3) Detail of the survey

- The measurements of radioactive material concentration (carbon-14) in marine biota (fish)

Analysis with target lower limit of detection of 2 Bq/kg-fresh.

\*A target lower limit of detection means a value that is set for quality control to assure at least the detection up to the value when analysis is conducted. Each actual lower limit of detection differs according to samples, and is equal to or lower than a target lower limit of detection.

**2. Outline of results**

(1) Marine biota survey (3 sampling points (7 samples))

Concentrations of carbon-14 in the marine biota (fish) range from 21 Bq/kg-fresh to 26 Bq/kg-fresh.

\* In this survey, only one sample (usually three) were collected at some of the stations with small quantities, and some of the samples collected in small quantities were mixed with multiple fish species (usually one fish species per sample).

These results were approximately equal to results of carbon-14 analysis in marine biota (fish) conducted in past surveys.

The range of carbon-14 specific radioactivity of marine biota in this survey:

230 Bq/kg-carbon to 240 Bq/kg-carbon (21 Bq/kg-fresh to 26 Bq/kg-fresh)

The range of carbon-14 specific radioactivity of marine biota (fish) in past surveys:

230 Bq/kg-carbon to 250 Bq/kg-carbon (16 Bq/kg-fresh to 30 Bq/kg-fresh)

\* A specific radioactivity means the radioactivity per unit mass of a substance containing radioactive isotopes. In the case of Bq/kg-carbon above, it represents the radioactivity per 1 kg of carbon in the sample. It is difficult to compare radioactivity concentrations due to differences in the carbon content rate in samples of marine biota, specific radioactivity is also shown as reference information.

(Detailed are attached)

(Maps attached)

## Attachment

### Analysis results for carbon-14 in marine biota (fish)

Sampling point	Sampling date (yyyy/mm/dd)	Species	Sampling depth (m)	Nuclide	Radioactivity concentration <sup>*1,*2</sup>	Unit
E-SF1	2024/09/10	<i>Squatina japonica</i>	-	C-14	24 ± 0.4	Bq/kg-fresh
E-SF1	2024/09/10	<i>Platycephalus sp.2</i>	-	C-14	22 ± 0.4	Bq/kg-fresh
E-SF1	2024/09/10	Mixed fishes	-	C-14	21 ± 0.4	Bq/kg-fresh
E-SF2	2024/09/10	Mixed fishes	-	C-14	24 ± 0.4	Bq/kg-fresh
E-SF3	2024/09/10	<i>Paralichthys olivaceus</i>	-	C-14	26 ± 0.4	Bq/kg-fresh
E-SF3	2024/09/10	<i>Hemitrygon akajei</i>	-	C-14	22 ± 0.4	Bq/kg-fresh
E-SF3	2024/09/10	Mixed fishes	-	C-14	22 ± 0.4	Bq/kg-fresh

\*1 Radioactivity concentrations are presented as radioactivity concentration ± combined standard uncertainty.

\*2 Values below detection limit are shown by lower limit of detection (e.g., “<10 Bq/ kg-fresh” indicates a value lower than 10 Bq/ kg-fresh).

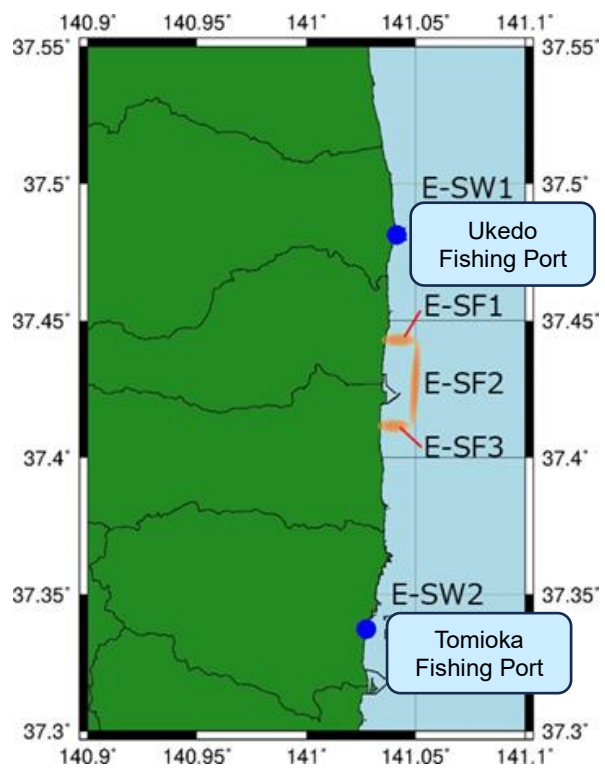


Fig. 1 Sampling points of marine biota (fish and seaweed)