February 7, 2023

Results of ALPS Treated Water Marine Monitoring:
Marine biota survey (tritium in fish) (October, 2022)

1. Outline of survey

(1) Date of sampling
October 22, 2022

(2) Sampling points
3 sampling points on coastal waters in the Fukushima Prefecture (within 3 km of the proposed location of the ALPS treated water discharge outlet)

(3) Detail of the survey
Measurements of radioactive material concentration (tritium) in marine biota (fish)

2. Outline of results

(1) Marine biota survey (3 sampling points [9 samples] in coastal waters in the Fukushima Prefecture)
Concentrations of TFWT in the marine biota (fish) (with a target lower limit of detection of 0.1 Bq/L) range from 0.087 Bq/L to 0.18 Bq/L (0.066 Bq/kg-fresh to 0.14 Bq/kg-fresh).
Concentrations of OBT in the marine biota (fish) (with a target lower limit of detection of 0.5 Bq/L) correspond to below the lower limit of detection in all samples.

*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.

(Detailed are attached)
(Maps attached)

Attachment

Analysis results for tritium in marine biota (fish)

Sampling point	Sampling date (yyyy/mm/dd)	Species	Sampling depth (m)	Nuclide	Radioactivity Concentration[*1,*2]	Unit
E-SF1	2022/10/22	*Paralichthys olivaceus*	-	H-3(TFWT)	0.11 ± 0.021	Bq/L
					0.081 ± 0.016	Bq/kg-fresh
				H-3(OBT)	< 0.4	Bq/L
					< 0.05	Bq/kg-fresh
E-SF1	2022/10/22	*Squatina japonica*	-	H-3(TFWT)	0.087 ± 0.0095	Bq/L
					0.066 ± 0.0075	Bq/kg-fresh
				H-3(OBT)	< 0.3	Bq/L
					< 0.05	Bq/kg-fresh
E-SF1	2022/10/22	*Okamejei schmidti*	-	H-3(TFWT)	0.11 ± 0.010	Bq/L
					0.082 ± 0.0080	Bq/kg-fresh
				H-3(OBT)	< 0.3	Bq/L
					< 0.04	Bq/kg-fresh
E-SF2	2022/10/22	*Pagrus major*	-	H-3(TFWT)	0.13 ± 0.021	Bq/L
					0.099 ± 0.016	Bq/kg-fresh
				H-3(OBT)	< 0.4	Bq/L
					< 0.05	Bq/kg-fresh
E-SF2	2022/10/22	*Paralichthys olivaceus*	-	H-3(TFWT)	0.13 ± 0.011	Bq/L
					0.10 ± 0.009	Bq/kg-fresh
				H-3(OBT)	< 0.3	Bq/L
					< 0.04	Bq/kg-fresh
E-SF2	2022/10/22	*Myliobatis tobijei*	-	H-3(TFWT)	0.18 ± 0.013	Bq/L
					0.14 ± 0.010	Bq/kg-fresh
				H-3(OBT)	< 0.3	Bq/L
					< 0.05	Bq/kg-fresh
E-SF3	2022/10/22	*Paralichthys olivaceus*	-	H-3(TFWT)	0.18 ± 0.029	Bq/L
					0.13 ± 0.022	Bq/kg-fresh
				H-3(OBT)	< 0.4	Bq/L
					< 0.05	Bq/kg-fresh
E-SF3	2022/10/22	*Nibea mitsukurii*	-	H-3(TFWT)	0.17 ± 0.030	Bq/L
					0.14 ± 0.024	Bq/kg-fresh
				H-3(OBT)	< 0.4	Bq/L
					< 0.05	Bq/kg-fresh
E-SF3	2022/10/22	*Okamejei schmidti*	-	H-3(TFWT)	0.15 ± 0.029	Bq/L
					0.12 ± 0.023	Bq/kg-fresh
				H-3(OBT)	< 0.4	Bq/L
					< 0.04	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/L" indicates a value lower than 10 Bq/L).

(Attachment)

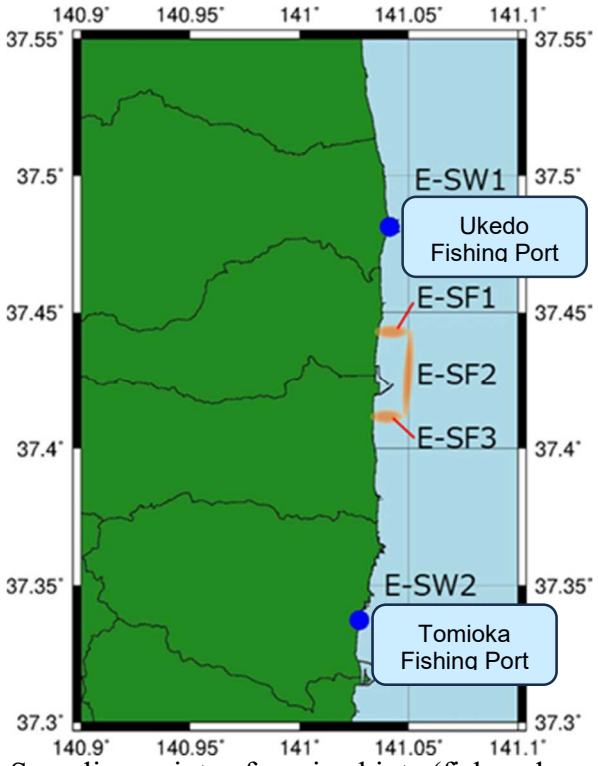

Fig. 1 Sampling points of marine biota (fish and seaweed)