

Results of ALPS Treated Water Marine Monitoring: Seawater Survey (tritium) (January-February 2024)

1 Outline of survey

(1) Date of sampling

January 21-February 12, 2025

(2) Sampling points

27 sampling points on coastal waters in the Fukushima Prefecture, 1 sampling point on coastal waters in the Miyagi Prefecture, and 1 sampling point on coastal waters in the Ibaraki Prefecture.

* Water samples were collected from surface and bottom layers at 9 sampling points within 3 km of ALPS treated water discharge outlet and from surface layer at 20 sampling points beyond 3 km .

(3) Detail of the survey

- The measurement of radioactive material concentrations in seawater. (tritium)

Analysis with target lower limit of detection of 0.1 Bq/L.

* 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) Seawater survey (29 sampling points (38 samples))

Concentrations of tritium in seawater range from below the lower limit of detection to 0.081 Bq/L.

(Details are attached)

(Maps attached)

Sampling points within 3 km of ALPS treated water discharge outlet analysis result for tritium in seawater

Sampling point	Sampling date	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1*2}			Unit
E-S1	2025/01/21	Surface layer	1.5	H-3	0.046	±	0.0075	Bq/L
E-S1	2025/01/21	Bottom layer	4.8	H-3	0.047	±	0.0075	Bq/L
E-S3	2025/01/21	Surface layer	1.5	H-3	0.081	±	0.014	Bq/L
E-S3	2025/01/21	Bottom layer	7.9	H-3	< 0.03			Bq/L
E-S4	2025/01/21	Surface layer	1.5	H-3	0.040	±	0.0073	Bq/L
E-S4	2025/01/21	Bottom layer	5.3	H-3	0.045	±	0.0074	Bq/L
E-S5	2025/01/21	Surface layer	1.5	H-3	0.050	±	0.014	Bq/L
E-S5	2025/01/21	Bottom layer	9.6	H-3	0.056	±	0.014	Bq/L
E-S10	2025/01/21	Surface layer	1.5	H-3	0.038	±	0.0095	Bq/L
E-S10	2025/01/21	Bottom layer	13.2	H-3	< 0.03			Bq/L
E-S13	2025/01/21	Surface layer	1.5	H-3	0.043	±	0.014	Bq/L
E-S13	2025/01/21	Bottom layer	10.8	H-3	0.060	±	0.014	Bq/L
E-S14	2025/01/21	Surface layer	1.5	H-3	0.059	±	0.015	Bq/L
E-S14	2025/01/21	Bottom layer	7.7	H-3	0.046	±	0.015	Bq/L
E-S15	2025/01/21	Surface layer	1.5	H-3	0.063	±	0.021	Bq/L
E-S15	2025/01/21	Bottom layer	6.9	H-3	0.050	±	0.015	Bq/L
E-S16	2025/01/21	Surface layer	1.5	H-3	0.072	±	0.015	Bq/L
E-S16	2025/01/21	Bottom layer	5.3	H-3	0.051	±	0.015	Bq/L

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

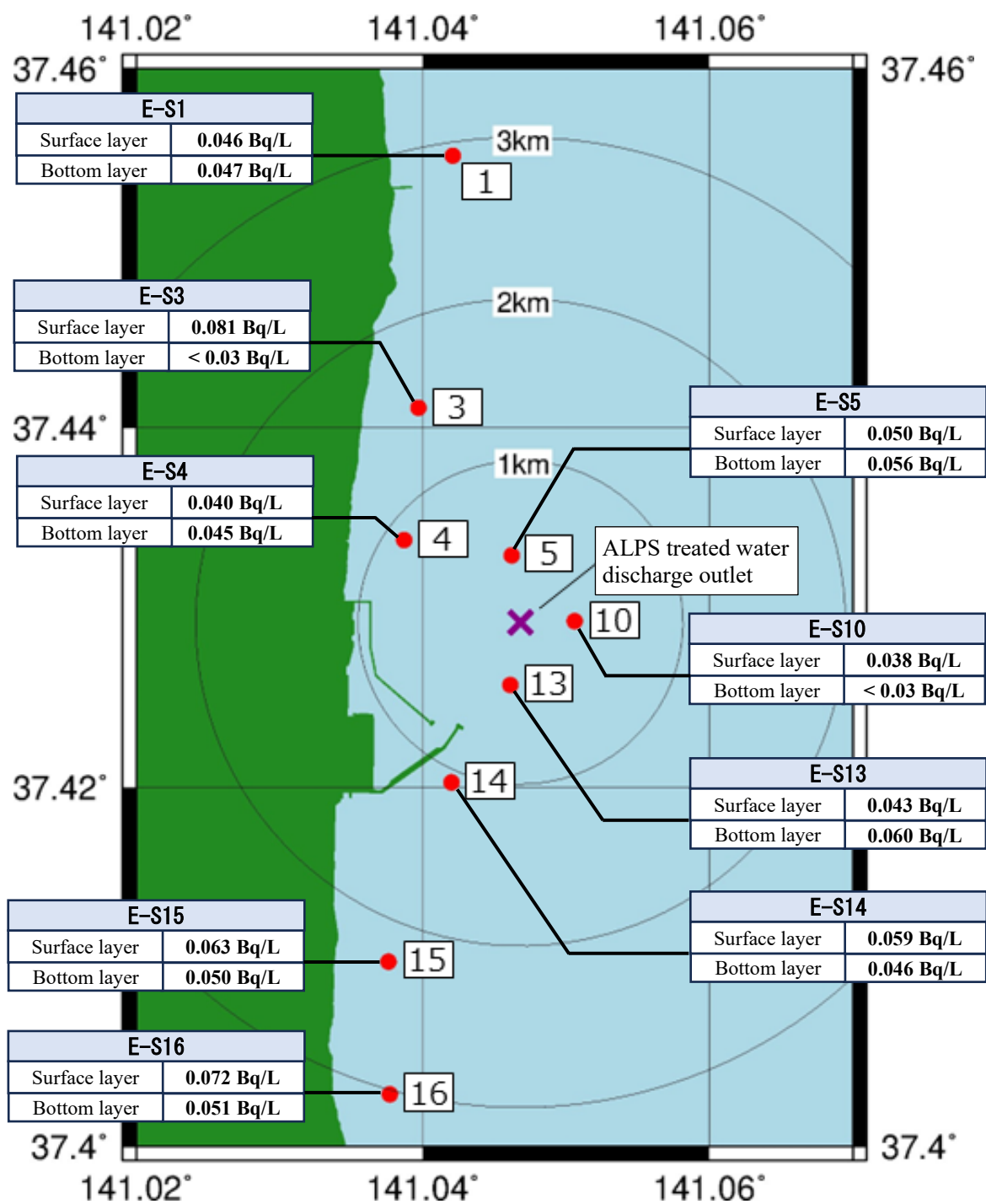
*2 Values below detection limit are shown by lower limit of detection (e.g., “<10 Bq/L” indicates a value below 10 Bq/L).

Sampling points beyond 3 km of ALPS treated water discharge outlet analysis result for tritium in seawater

Sampling point	Sampling date	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1*2}			Unit
E-S17	2025/01/21	Surface layer	1.5	H-3	0.041	±	0.0073	Bq/L
E-S18	2025/01/21	Surface layer	1.5	H-3	0.034	±	0.0072	Bq/L
E-S19	2025/01/23	Surface layer	1.5	H-3	0.048	±	0.0074	Bq/L
E-S20	2025/01/21	Surface layer	1.5	H-3	0.044	±	0.012	Bq/L
E-S21	2025/01/24	Surface layer	1.5	H-3	0.040	±	0.011	Bq/L
E-S22	2025/01/21	Surface layer	1.5	H-3	0.065	±	0.013	Bq/L
E-S23	2025/01/24	Surface layer	1.5	H-3	0.073	±	0.015	Bq/L
E-S24	2025/01/24	Surface layer	1.5	H-3	0.056	±	0.013	Bq/L
E-S25	2025/01/24	Surface layer	1.5	H-3	< 0.04			Bq/L
E-S26	2025/01/24	Surface layer	1.5	H-3	0.070	±	0.013	Bq/L
E-S27	2025/01/24	Surface layer	1.5	H-3	0.078	±	0.012	Bq/L
E-S28	2025/01/24	Surface layer	1.5	H-3	0.078	±	0.012	Bq/L
E-S29	2025/01/24	Surface layer	1.5	H-3	0.052	±	0.011	Bq/L
E-S30	2025/02/12	Surface layer	1.5	H-3	0.067	±	0.012	Bq/L
E-S31	2025/02/05	Surface layer	1.5	H-3	0.043	±	0.011	Bq/L
E-S32	2025/01/23	Surface layer	1.5	H-3	0.056	±	0.012	Bq/L
E-S33	2025/01/21	Surface layer	1.5	H-3	< 0.05			Bq/L
E-S34	2025/01/23	Surface layer	1.5	H-3	0.044	±	0.0074	Bq/L
E-S35	2025/02/12	Surface layer	1.5	H-3	0.039	±	0.0071	Bq/L
E-S36	2025/02/12	Surface layer	1.5	H-3	0.045	±	0.015	Bq/L

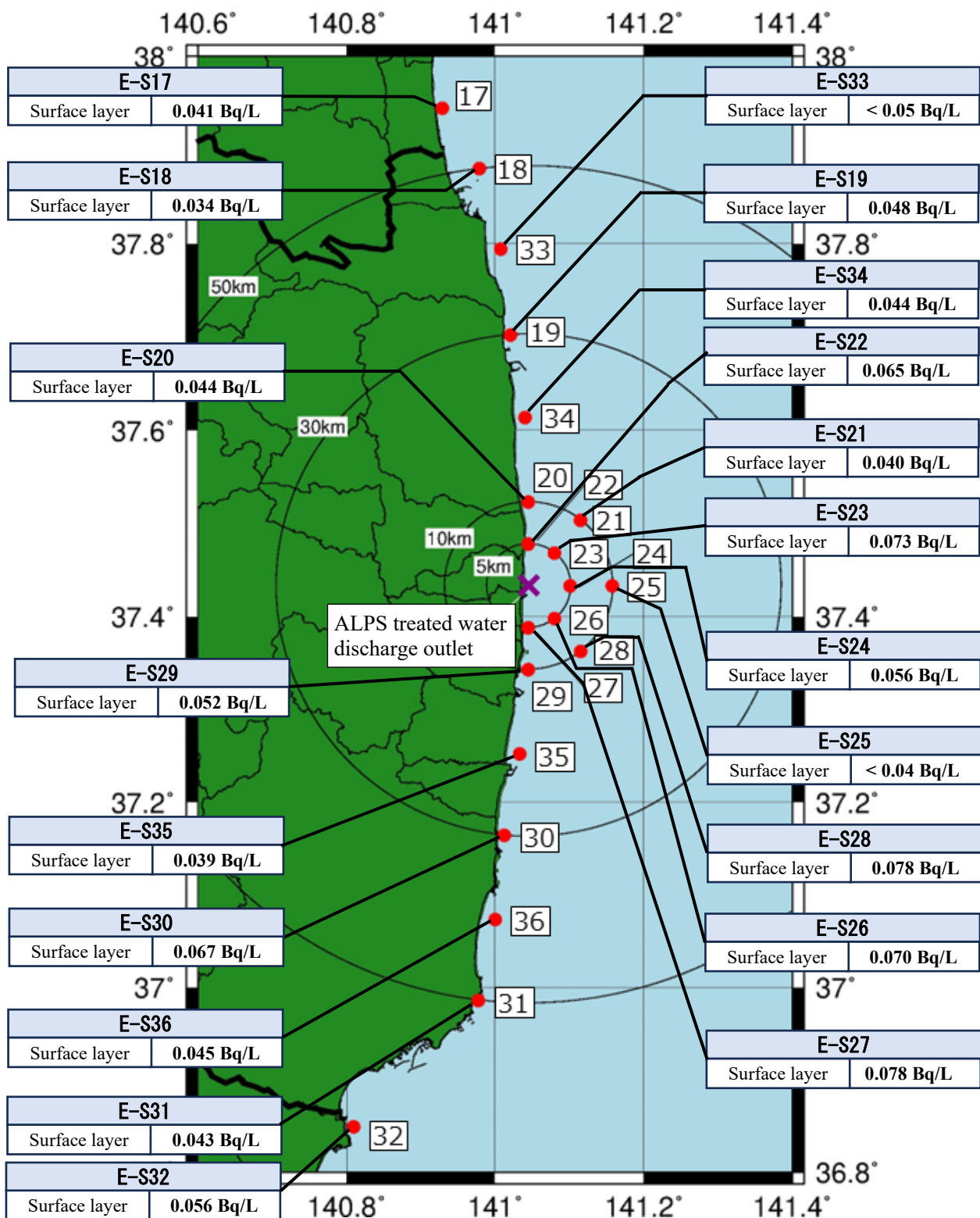
*1 Radioactivity concentrations are presented as radioactivity concentration ± combined standard uncertainty.

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



* Numbers in the map are shown with "E-S" omitted from labels in the map (e.g., E-S1 is marked as 1).

Fig. 1 Sampling points within 3 km of ALPS treated water discharge outlet



* Numbers in the map are shown with “E-S” omitted from labels in the map (e.g., E-S17 is marked as 17).

Fig. 2 Sampling points beyond 3 km of ALPS treated water discharge outlet