

**Results of Radioactive Material Monitoring of Aquatic Organisms (Location E along the Niida River)**

<Location E along the Niida River: Samples collected>

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
E-1	○	○	○	○	○	○
E-2 a	○	○	○	-	○	-
E-2 b	○	-	○	-	-	-
E-3	○	○	○	-	○	-
E-4	○	○	○	-	○	-
E-5	○	○	○	-	○	-

<Location E along the Niida River: Site measurement item>

Locations	Latitude and longitude of the location		Survey date and time			Water					Sediment		Other	
	Latitude	Longitude	Date	Time (water)	Time (sediment)	Water temperature (degrees C)	Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Transparency (cm)		
E-1	37.6609°	140.9115°	2016/12/7	07:42	08:03	5.5	5.7	Sand	2.5Y4/3	None	0.33	>50		
E-2 a	37.6640°	140.9447°		10:10	10:33	6.3	6.4	Sediment with sand	2.5Y4/3	None	0.32	>50		
E-2 b	37.6635°	140.9452°		11:13	-	6.7	-	-	-	-	0.20	>50		
E-3	37.6444°	141.0018°		13:40	13:52	8.6	8.7	Sand	2.5Y4/3	None	0.50	>50		
E-4	37.6485°	140.9630°		12:05	12:18	7.8	7.9	Sand	2.5Y5/4	None	0.25	>50		
E-5	37.6652°	140.9169°		09:05	09:20	5.8	5.9	Gravel with sand	2.5Y4/4	None	0.48	>50		

<Location E along the Niida River: General survey items/Analysis of radioactive materials Water>

Locations	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electric conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
	Latitude	Longitude	Date	Time (water)												
E-1	37.6609°	140.9115°	2016/12/7	07:42	7.7	0.5	2.1	12.9	5.9	0.04	0.7	1	0.9	0.0075	0.040	0.0019
E-2 a	37.6640°	140.9447°		10:10	7.6	<0.5	2.2	13.0	6.6	0.04	0.7	3	1.4	0.0045	0.027	-
E-2 b	37.6635°	140.9452°		11:13	7.5	<0.5	2.1	12.7	6.7	0.04	0.7	2	1.3	0.0070	0.038	-
E-3	37.6444°	141.0018°		13:40	7.4	0.8	2.1	12.0	9.0	0.05	0.7	1	1.0	0.0041	0.022	-
E-4	37.6485°	140.9630°		12:05	7.6	<0.5	2.1	12.5	7.2	0.04	0.7	1	1.1	0.0053	0.031	-
E-5	37.6652°	140.9169°		09:05	7.6	<0.5	2.0	13.0	6.6	0.04	0.7	1	1.0	0.013	0.073	-

<Location E along the Niida River: General survey items/Analysis of radioactive materials Sediment>

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E <sub>NHLE</sub> (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm <sup>3</sup> )	Grain size distribution								Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
	Latitude	Longitude	Date	Time (sediment)							Gravel (2-75mm) (%)	Coarse sand (0.85-2mm) (%)	Medium sand (0.25-0.85mm) (%)	Fine sand (0.075-0.25mm) (%)	Silt (0.005-0.075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter (mm)	Maximum grain diameter (mm)			
											Gravel (2-75mm) (%)	Coarse sand (0.85-2mm) (%)	Medium sand (0.25-0.85mm) (%)	Fine sand (0.075-0.25mm) (%)	Silt (0.005-0.075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter (mm)	Maximum grain diameter (mm)			
E-1	37.6609°	140.9115°	2016/12/7	08:03	7.2	352	16.6	0.8	1.1	2.664	19.8	33.5	43.4	2.8	0.3	0.2	0.91	9.5	150	900	0.22
E-2 a	37.6640°	140.9447°		10:33	7.2	360	39.7	6.8	18.2	2.624	32.8	14.4	14.6	17.0	12.5	8.7	0.66	19	850	5200	-
E-3	37.6444°	141.0018°		13:52	7.3	344	20.0	0.7	1.3	2.663	7.0	15.9	74.6	1.9	0.4	0.2	0.61	9.5	31	180	-
E-4	37.6485°	140.9630°		12:18	7.4	337	19.1	0.8	1.3	2.659	13.6	43.7	41.1	0.8	0.5	0.3	0.95	9.5	31	220	-
E-5	37.6652°	140.9169°		09:20	7.4	327	16.4	1.0	1.3	2.672	32.9	35.4	29.6	1.6	0.3	0.2	1.3	9.5	62	350	-

<Location E along the Niida River: Analysis items Aquatic organisms>

Locations	Sampling point	Latitude and longitude of the location		Sampling date	Division	Class	Order	Family	Scientific name	English name	Population	Sample weight (kg-wet)	Note			Radioactive cesium (Bq/kg-wet)			Sr-90 (Bq/kg-wet)	
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137		
E-2b	-	37.6635°	140.9452°	2016/12/8	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0061	-	-	-	72	12	60	-	
					Algae/plant	Zygnematophyceae	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	-	0.34	-	-	-	-	15.0	2.0	13	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria uenoi</i>	Kamimuria uenoi Kohno	239	0.023	Larva	-	-	-	5.8	N.D.(3.1)	5.8	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia sp.</i>	Oyamia										
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria tibialis</i>	Kamimuria tibialis										
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Paragnetina sp.</i>	Paragnetina										
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	171	0.026	Larva	-	-	-	185	25	160	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius	28	0.0058	Larva (Dragonfly larva)	-	-	-	52.7	8.7	44	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	Asiagomphus melaenops										
					Arthropoda	Insecta	Odonata	Epiophlebiidae	<i>Epiophlebia superstes</i>	Epiophlebia superstes										
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Anax parthenope</i>	Anax parthenope										
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	Protohermes grandis	11	0.0091	Larva	-	-	-	36.3	4.3	32	-
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes japonicus</i>	Parachauliodes japonicus										
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	18	0.051	Immature fish	-	-	-	40.9	6.9	34	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.030	Immature fish	Mayfly	Viscera removed	-	48.1	6.1	42	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	Rhinogobius fluviatilis	3	0.014	Mature fish	-	-	-	81	11	70	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp. CB</i>	Rhinogobius nagoyae										
					Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.20	-	-	-	-	-	85	12	73

\*1: Organisms were collected in or around the targeted water areas.

\*2: When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.

\*3: For a sample made of multiple types of aquatic organisms, the English name of the dominant one largest in number is underlined.

\*4: Basically, measurement was conducted for all organism samples. Viscera (stomach and bowels) were removed for the measurement when possible so that undigested food and sediments, etc. in the digestive system would be excluded.

\*5: Plankton (suspended algae) is the residue remaining after the filtration of lake water or seawater with a plankton net (40µm-mesh).

\*6: River bottom materials (incl. algae) are algae, etc. that were scratched off stones with a brush, etc. and may include very fine particles such as inorganic silt and clay.

\*7: N.D. means to be below the detection limit and figures in parentheses show the detection limit.

\*8: Activity concentrations include counting errors, but the details are omitted here.