

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location O along the Tomioka River)

<Location O along the Tomioka River: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
O-1	○	○	○	○	○	○
O-2	○	○	○	-	○	-

<Location O along the Tomioka River: Site measurement item>

Items	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)
O-1	37.3547°	140.9780°	2022/12/5	13:51	13:56	8.9	8.3	Sand sediment	7.5Y4/2	Plant pieces	0.50	>100
O-2	37.3624°	140.9612°		15:11	15:21	8.2	8.5	Sand gravel	7.5Y6/3	Plant pieces	0.30	>100

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

Items	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)												
O-1	37.3547°	140.9780°	2022/12/5	13:51	7.4	1.2	2.1	11.3	8.5	0.05	0.8	<1	1.0	N.D.(0.0012)	0.010	0.0010
O-2	37.3624°	140.9612°		15:11	7.6	0.7	1.7	11.2	8.0	0.04	0.7	<1	0.8	N.D.(0.0014)	0.012	-

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

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

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{NHE} (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm ³)	Grain size distribution								Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
Locations	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)			
O-1	37.3547°	140.9780°	2022/12/5	13:56	7.2	468	29.2	5.6	19.0	2.610	4.9	6.4	19.7	39.6	20.3	9.1	0.13	4.8	18	780	0.47
O-2	37.3624°	140.9612°		15:21	7.6	503	19.5	1.5	2.0	2.670	21.7	30.1	38.5	4.5	2.2	3.0	0.89	19	3.5	170	-

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<Location O along the Tomioka 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	
O-1	The main stream of the Tomioka River	37.3547°	140.9780°	2022/12/5	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.023	-	-	-	79	N.D.(7.4)	79	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria uenoi</i>	<i>Kamimuria uenoi</i>	74	0.0051	Larva	-	-	N.D.	N.D.(6.4)	N.D.(5.6)	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia lugubris</i>	<i>Oyamia lugubris</i>									
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria tibialis</i>	<i>Kamimura tibialis</i>									
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Neoperla</i> sp.	Neoperla									
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	48	0.0073	Larva	-	-	48	N.D.(12)	48	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	7	0.095	Immature fish, Mature fish	-	-	17	N.D.(2.7)	17	-
O-2	The main stream of the Tomioka River	37.3624°	140.9612°	2022/12/5	Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.21	-	-	-	23	N.D.(1.3)	23	-
					Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.015	-	-	-	81	N.D.(9.6)	81	-
					Arthropoda	Insecta	Ephemeroptera	Isonychiidae	<i>Isonychia valida</i>	<i>Isonychia valida</i>	283	0.015	Larva	-	-	31	N.D.(5.9)	31	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria uenoi</i>	<i>Kamimuria uenoi</i>	205	0.016	Larva	-	-	N.D.	N.D.(2.3)	N.D.(2.1)	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria tibialis</i>	<i>Kamimura tibialis</i>									
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	12	0.19	Immature fish, Mature fish	-	-	21	N.D.(2.3)	21	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius nagoyae</i>	<i>Rhinogobius nagoyae</i>	1	0.014	Mature fish	-	-	12	N.D.(2.9)	12	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	63	N.D.(1.7)	63	-

*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.