

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location F along the Ota River)

<Location F along the Ota River: Samples collected>

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
F-1	○	○	○	-	○	-
F-2	○	○	○	○	○	○
F-3	○	○	○	○	○	-
F-4	○	○	○	-	○	-
F-5	○	○	○	-	○	-
F-6	○	-	○	-	-	-

<Location F along the Ota 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)		
F-1	37.5975°	140.9252°	2016/12/6	07:50	08:10	9.5	9.0	Sand	2.5Y4/2	None	0.40	>50		
F-2	37.6016°	140.9423°		09:01	09:15	10.0	10.2	Sand	2.5Y4/4	None	0.23	>50		
F-3	37.6045°	140.9636°		10:26	10:40	9.3	9.7	Sand	2.5Y4/3	None	0.63	>50		
F-4	37.6070°	140.9720°		11:25	11:40	12.3	12.3	Sand	2.5Y4/4	None	0.43	>50		
F-5	37.6022°	140.9868°		13:20	13:38	12.3	12.3	Sand	2.5Y4/3	None	0.30	>50		
F-6	37.5953°	141.0123°		14:23	-	10.8	-	-	-	-	0.40	>50		

<Location F along the Ota 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)												
F-1	37.5975°	140.9252°	2016/12/6	07:50	7.2	<0.5	1.8	11.5	5.3	0.03	0.7	1	0.8	0.025	0.15	-
F-2	37.6016°	140.9423°		09:01	7.1	<0.5	1.7	11.4	6.0	0.04	0.6	<1	0.6	0.022	0.12	0.0034
F-3	37.6045°	140.9636°		10:26	7.2	0.5	2.0	11.6	6.2	0.04	0.7	2	1.5	0.013	0.070	-
F-4	37.6070°	140.9720°		11:25	6.7	<0.5	1.3	9.8	7.0	0.04	0.4	1	0.6	0.0075	0.044	-
F-5	37.6022°	140.9868°		13:20	7.0	0.5	1.7	10.7	7.7	0.04	0.6	3	1.6	0.013	0.076	-
F-6	37.5953°	141.0123°		14:23	7.0	0.8	3.1	11.4	235.0	1.16	1.5	4	2.5	0.013	0.077	-

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

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{NHLE} (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)	
	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)
F-1	37.5975°	140.9252°	2016/12/6	08:10	7.3	277	18.9	0.9	2.2	2.635	21.6	26.3	44.9	4.8	1.5	0.9	0.82	9.5	360	2200	-
F-2	37.6016°	140.9423°		09:15	7.2	297	15.8	0.6	1.3	2.639	24.3	34.8	36.5	3.8	0.4	0.2	1.1	19	200	1300	0.28
F-3	37.6045°	140.9636°		10:40	7.3	296	20.4	0.6	1.2	2.633	5.6	46.8	45.6	1.5	0.4	0.1	0.88	9.5	190	1200	-
F-4	37.6070°	140.9720°		11:40	7.2	334	15.6	0.5	1.1	2.630	16.7	72.1	10.2	0.7	0.2	0.1	1.4	9.5	88	580	-
F-5	37.6022°	140.9868°		13:38	7.2	338	16.9	0.6	1.0	2.642	16.1	31.8	46.9	4.7	0.4	0.1	0.82	9.5	70	480	-

<Location F along the Ota 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			
F-1	-	37.5975°	140.9252°	2016/12/6	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.018	-	-	-	2950	450	2500	-		
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia sp.</i>	Oyamia	84	0.0067	Larva	-	-	-	65.0	9.0	56	-	
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimura tibialis</i>	<i>Kamimura tibialis</i>											
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	188	0.041	Larva	-	-	-	930	140	790	-	
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena											
					Arthropoda	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii											
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Nihogomphus viridis</i>	Nihogomphus viridis											
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	Melligomphus viridicostus	49	0.012	Larva (Dragonfly larva)	-	-	-	171	21	150	-	
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>											
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	Asiagomphus melaenops											
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>											
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes japonicus</i>	Parachauliodes japonicus	16	0.0050	Larva	-	-	-	94	15	79	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	23	0.053	Immature fish	-	-	-	412	62	350	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	0.058	Immature fish	Amorphous Residue	Viscera removed		223	33	190	-	
					Particulate Organic Matter	-	-	-	-	-	-	-	-	Bottom fallen leaves	-	0.25	-	-	-	160	20
F-5	-	37.6022°	140.9868°	2016/12/6	Algae/plant	Zygnematales	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	-	0.069	-	-	7.7	1.5	6.2	-			

*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.