

Results of Radioactive Material Monitoring of Aquatic Organisms (Location C along the Uda River)

<Location C along the Uda River: Samples collected>

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

<Location C along the Uda River: Site measurement item>

Items 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)
C-1	37.7956°	140.7456°	2014/12/5	8:32	8:39	6.3	6.3	Sand	2.5Y4/3	Pebbles	0.80	>50.0
C-2	37.7708°	140.7273°		9:25	9:31	5.5	6.7	Sediment	2.5Y3/3	Plant	0.35	>50.0
C-3	37.7791°	140.8041°		10:15	—	6.1	—	—	—	—	0.38	>50.0
C-4	37.7693°	140.8442°		10:55	11:08	7.1	7.1	Sand	2.5Y4/2	None	0.21	>50.0
C-5	37.7645°	140.8603°		12:39	12:44	7.4	7.3	Sand	2.5Y5/2	None	0.34	>50.0
C-6	37.7764°	140.8875°		13:20	13:25	7.1	7.0	Sand	2.5Y4/3	Pebbles	0.35	>50.0

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

Items Locations	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electrical 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												
C-1	37.7956°	140.7456°	2014/12/5	8:32	7.3	0.5	2.9	12.1	8.5	0.05	0.8	8	1.8	0.021	0.056	—
C-2	37.7708°	140.7273°		9:25	7.2	<0.5	2.5	12.0	7.7	0.05	1.1	2	1.1	0.022	0.066	—
C-3	37.7791°	140.8041°		10:15	7.5	<0.5	1.6	12.5	8.5	0.05	0.8	2	0.7	0.0084	0.024	—
C-4	37.7693°	140.8442°		10:55	7.6	<0.5	1.9	12.7	8.0	0.05	0.8	2	1.2	0.0088	0.030	0.00075
C-5	37.7645°	140.8603°		12:39	7.7	<0.5	2.0	12.4	8.3	0.05	0.8	3	1.7	0.0056	0.017	—
C-6	37.7764°	140.8875°		13:20	7.7	<0.5	2.4	12.7	9.0	0.05	1.0	2	0.8	0.0036	0.012	—

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

Items Locations	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					Clay (Less than 0.005mm) (%)	Median grain diameter (mm)	Maximum grain diameter (mm)	Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
	Latitude	Longitude	Date	Time							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) (%)						
C-1	37.7956°	140.7456°	2014/12/5	8:39	7.1	332	29.4	3.9	3.3	2.727	10.8	55.0	28.8	4.0	1.0	0.4	1.1	9.5	230	770	—
C-2	37.7708°	140.7273°		9:31	7.0	120	56.2	9.3	15.0	2.670	0.0	9.3	37.5	12.2	12.7	28.3	0.21	2	310	940	—
C-4	37.7693°	140.8442°		11:08	7.2	267	19.5	1.3	1.3	2.728	36.4	30.8	29.2	2.5	0.8	0.3	1.4	19	200	620	0.70
C-5	37.7645°	140.8603°		12:44	7.0	311	19.5	1.2	1.1	2.709	53.6	28.3	15.2	1.9	0.6	0.4	2.1	19	120	390	—
C-6	37.7764°	140.8875°		13:25	7.1	312	19.9	1.1	1.1	2.741	32.3	30.3	31.6	4.2	1.0	0.6	1.2	19	100	340	—

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

< Location C along the Uda River: Analysis items Aquatic organisms >

Location		Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Note			Cs-134 (Bq/kg-wet)	Cs-137 (Bq/kg-wet)	Sr-90 (Bq/kg-wet)	
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site				
C-6	—	37.7764°	140.8875°	2014/12/7	Algae/plant	—	—	—	—	River bottom materials (incl. algae)	Considerable number	0.047	—	—	—	17	59	—	
					Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	179	0.021	Larva	—	—	—	23	68	—
					Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	58	0.012	Larva (dragonfly larva)	—	—	4.7	11	—	
					Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	Stylogomphus suzukii									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	<u>Onychogomphus viridicostus</u>									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Anotogaster sieboldii									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Davidius nanus									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius									
					Arthropod	Insecta	Odonata	Gomphidae	<i>Sinogomphus flavolimbatus</i>	Sinogomphus flavolimbatus									
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	571	0.078	Imago	—	—	5.2	17	—	
					Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	2	0.039	Imago	—	—	7.1	23	—	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	Pale chub	6	0.019	Immature fish/mature fish	—	—	6.7	19	—	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Nipponocypris temminckii</i>	Dark chub	186	0.067	Immature fish	—	—	5.2	19	—	
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	R. sp. CB	19	0.054	Mature fish	—	—	8.5	26	—	
									Coarse particulate organic matters	—	—	—	—	Fallen leaves	Considerable number	0.21	—	—	—

*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 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: A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith.

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

*7: 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.

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

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