

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

<Location C along the Uda River: Samples collected>

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
C-6	○	○	○	○	○	○

<Location C along the Uda 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)		
C-6	37.7764°	140.8877°	2021/6/16	10:15	10:20	20.7	20.9	Sand	10YR5/4	None	0.41	>50		

<Location C along the Uda 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)												
C-6	37.7764°	140.8877°	2021/6/16	10:15	7.7	<0.5	2.5	9.4	11.7	0.06	1.0	4	2.7	N.D.(0.0014)	0.0054	0.00062

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

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

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _H H ₂ (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)			
C-6	37.7764°	140.8877°	2021/6/16	10:20	7.6	341	17.0	1.0	0.9	2.687	26.6	42.9	23.5	1.6	0.8	4.6	1.2	9.5	1.7	48	0.26

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>

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		
C-6	The main stream of the Uda River	37.7764°	140.8877°	2021/6/18	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0062	-	-	-	23	N.D.(6.9)	23	-	
					Arthropoda	Insecta	Ephemeroptera	Siphonuridae	<i>Siphonuridae sp.</i>	Siphonuridae	389	0.020	Larva	-	-	-	3.3	N.D.(2.3)	3.3	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Paragnetina suzukii</i>	<u>Paragnetina suzukii Okamoto</u>	97	0.025	Larva	-	-	-	2.1	N.D.(1.6)	2.1	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Neoperla sp.</i>	Neoperla										
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	47	0.012	Larva(Dragonfly larva)	-	-	-	N.D.	N.D.(3.0)	N.D.(3.2)	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	Stylogomphus suzukii										
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius										
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Anisogomphus maacki</i>	Anisogomphus maacki										
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melacnops</i>	Asiagomphus melacnops	15	0.0068	Larva	-	-	-	N.D.	N.D.(5.1)	N.D.(4.3)	-
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani										
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	Protohermes grandis	5	0.053	Juvenile,Imago	-	-	-	2.5	N.D.(1.1)	2.5	-
					Arthropoda	Malacostraca	Decapoda	Cambaridae	<i>Procambarus clarkii</i>	Red swamp crawfish	16	0.026	Imago	-	-	-	2.6	N.D.(1.4)	2.6	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucidens</i>	Common prawn	91	0.045	Juvenile,Imago	-	-	-	3.8	N.D.(1.3)	3.8	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	17	0.12	Juvenile	-	-	-	4.0	N.D.(1.1)	4.0	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Eriocheir japonica</i>	Japanese mitten crab	5	0.63	Immature fish,Mature fish	Empty stomach	Viscera removed	18	N.D.(1.2)	18	-	
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	Japanese eel	2	0.0058	Immature fish	-	-	-	N.D.	N.D.(6.4)	N.D.(5.2)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur minnow	25	0.30	Immature fish	-	-	-	2.8	N.D.(0.93)	2.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	42	0.26	Immature fish	-	-	-	3.8	N.D.(0.73)	3.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsariichthys platypus</i>	Pale chub	5	0.032	Immature fish	-	-	-	2.7	N.D.(1.4)	2.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudogobio esocinus esocinus</i>	Pseudogobio esocinus esocinus	39	0.26	Immature fish,Mature fish	-	-	-	2.9	N.D.(0.73)	2.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Candidia temminckii</i>	Dark chub	1	0.0040	Immature fish	-	-	-	N.D.	N.D.(6.7)	N.D.(5.3)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	Gnathopogon elongatus elongatus	3	0.013	Immature fish	-	-	-	N.D.	N.D.(3.3)	N.D.(2.9)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	246	2.5	Immature fish,Mature fish	-	-	-	9.5	N.D.(0.88)	9.5	0.12
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	1	0.020	Immature fish	-	-	-	4.8	N.D.(1.9)	4.8	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	6	0.037	Immature fish	-	-	-	4.7	N.D.(1.2)	4.7	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius urotaenia</i>	Goby	13	0.057	Immature fish,Mature fish	-	-	-	5.2	N.D.(1.7)	5.2	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	Rhinogobius fluviatilis										
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius nagoyae</i>	Rhinogobius nagoyae	1	0.013	Mature fish	-	-	-	2.6	N.D.(2.5)	2.6	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Tridentiger brevispinis</i>	Dusky tripletooth goby	1	0.0048	Immature fish	-	-	-	N.D.	N.D.(5.1)	N.D.(4.7)	-
					Vertebrata	Osteichthyes	Siluriformes	Bagridae	<i>Tachysurus tokienis</i>	Cut-tailed bullhead	1	0.0047	Immature fish	-	-	-	N.D.	N.D.(4.9)	N.D.(4.8)	-
Vertebrata	Cephalaspidomorphi	Petromyzontiformes	Petromyzontidae	<i>Lethenteron reissneri</i>	Far eastern brook lamprey	11	0.0050	Larva(Tadpole)	-	-	-	13	N.D.(5.0)	13	-					
Vertebrata	Amphibia	Anura	-	-	Frog	-	-	-	-	-	-	-	-	-	-					
					Coarse Particulate Organic Matter	-	-	-	-	-	-	0.17	-	-	6.2	N.D.(0.86)	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.