

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

<Location C along the Uda River: Samples collected>

Items	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>

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)		
C-6	37.7764°	140.8877°	2018/8/28	11:32	11:55	22.1	23.0	Sand	2.5Y4/4	None	0.45	>50		

<Location C along the Uda 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)												
C-6	37.7764°	140.8877°	2018/8/28	11:32	7.5	0.8	3.4	8.7	9.7	0.06	1.3	2	2.0	N.D.(0.0013)	0.010	0.00084

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>

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _h (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)			
C-6	37.7764°	140.8877°	2018/8/28	11:55	7.4	299	20.0	1.6	1.4	2.685	16.6	47.4	34.2	1.0	0.8	1.1	4.8	15	140	0.66

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°	2018/8/25	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0090	-	-	-	67.6	5.6	62	-						
					Algae/plant	Zygnemataphyceae	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	-	0.15	-	-	-	-	3.6	N.D.(2.1)	3.6	-					
					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>Meligomphus viridicostus</i>	Meligomphus viridicostus	-	-	-	-	-	-	-	-	-	-	-	-			
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	120	0.016	Larva(Dragonfly larva)	-	-	-	-	-	4.0	N.D.(2.4)	4.0	-			
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius	-	-	-	-	-	-	-	-	-	-	-	-			
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaeonops</i>	Asiagomphus melaeonops	-	-	-	-	-	-	-	-	-	-	-	-			
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani	-	-	-	-	-	-	-	-	-	-	-	-			
					Arthropoda	Malacostraca	Decapoda	Cambaridae	<i>Procambarus clarkii</i>	Red swamp crawfish	1	0.014	Imago	-	-	-	-	-	5.5	N.D.(2.9)	5.5	-			
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucidens</i>	Common prawn	103	0.061	Imago	-	-	-	-	-	6.5	N.D.(3.6)	6.5	-			
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	891	0.17	Juvenile	-	-	-	-	-	6.7	N.D.(1.7)	6.7	-			
					Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Eriocheir japonica</i>	Japanese mitten crab	3	0.029	Juvenile	-	-	-	-	-	10	N.D.(1.6)	10	-			
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	Japanese eel	1	1.4	Mature fish	Empty stomach	Viscera removed	51.5	5.5	46	0.076	-	-				
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	3	0.011	Immature fish	-	-	-	-	-	11	N.D.(3.3)	11	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Pale chub	27	0.16	Immature fish	-	-	-	-	-	12	N.D.(2.1)	12	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudogobio esocinus esocinus</i>	Pseudogobio esocinus esocinus	4	0.038	Immature fish	-	-	-	-	-	5.2	N.D.(1.3)	5.2	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Candidia temminckii</i>	Dark chub	20	0.12	Immature fish	-	-	-	-	-	6.4	N.D.(2.2)	6.4	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	2	0.012	Immature fish	-	-	-	-	-	4.1	N.D.(3.9)	4.1	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Cobitis bivaie</i>	Cobitis bivaie	25	0.049	Immature fish,Mature fish	-	-	-	-	-	6.3	N.D.(1.4)	6.3	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	6	0.0086	Immature fish	-	-	-	-	-	N.D.	N.D.(3.5)	N.D.(3.3)	-			
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	39	0.32	Immature fish	-	-	-	-	-	19.4	1.4	18	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	Rhinogobius fluviatilis	-	-	Immature fish,Mature fish	-	-	-	-	-	8.4	N.D.(1.3)	8.4	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius nagoayae</i>	Rhinogobius nagoayae	42	0.040	Immature fish,Mature fish	-	-	-	-	-	8.4	N.D.(1.3)	8.4	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Tridentiger brevispinis</i>	Dusky tripletooth goby	2	0.022	Mature fish	-	-	-	-	-	13	N.D.(1.9)	13	-			
					Vertebrata	Cephalaspidomorphi	Petromyzontiformes	Petromyzontidae	<i>Lethenteron reissneri</i>	Far eastern brook lamprey	9	0.031	Ammocoetes(larva)	-	-	-	-	-	4.3	N.D.(1.3)	4.3	-			
						Coarse Particulate Organic Matter	-	-	-	-	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	-	12	N.D.(1.7)	12	-

*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.