

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location E along the Niida River)

<Location E along the Niida River: Samples collected>

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
E-2 a	○	○	○	○	○	○

<Location E along the Niida 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)
E-2 a	37.6640°	140.9447°	2022/8/19	12:56	13:02	26.0	25.4	Sand	10YR4/2	None	0.65	>50

<Location E along the Niida 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)	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)												
E-2 a	37.6640°	140.9447°	2022/8/19	12:56	7.4	<0.5	3.8	8.5	8.0	0.05	1.8	7	4.9	N.D.(0.0017)	0.053	0.0017

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

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

Items Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential ENHLE (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) (%)	Course 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)			
E-2 a	37.6640°	140.9447°	2022/8/19	13:02	7.6	501	19.2	1.1	2.3	2.660	7.1	20.9	62.2	4.2	1.2	4.4	0.63	19	6.6	290	N.D.(0.14)

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

<Location E along the Niida 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		
E-2 b	The main stream of the Niida River	37.6635°	140.9452°	2022/8/21	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0071	-	-	-	48	N.D.(11)	48	-	
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	Stenopsyche marmorata	Stenopsyche marmorata	133	0.030	Larva	-	-	-	110	N.D.(6.4)	110	-
					Arthropoda	Insecta	Odonata	Cordulidae	Macromia amphigena amphigena	Macromia amphigena amphigena	11	0.0064	Larva (Dragonfly larva)	-	-	36	N.D.(5.4)	36	-	
					Arthropoda	Insecta	Odonata	Gomphidae	Meligomphus viridicostus	Meligomphus viridicostus										
					Arthropoda	Insecta	Odonata	Gomphidae	Sieboldius albardae	Sieboldius albardae										
					Arthropoda	Insecta	Odonata	Gomphidae	Asiagomphus melaenops	Asiagomphus melaenops										
					Arthropoda	Insecta	Odonata	Aeshnidae	Anax parthenope julius	Anax parthenope julius										
					Arthropoda	Insecta	Megaloptera	Corydalidae	Protohermes grandis	Protohermes grandis	20	0.012	Larva	-	-	11	N.D.(2.8)	11	-	
					Arthropoda	Malacostraca	Decapoda	Cambaridae	Procambarus clarkii	Red swamp crawfish	11	0.042	Juvenile,Imago	-	-	21	N.D.(3.1)	21	-	
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	Palaemon paucidens	Common prawn	16	0.011	Juvenile,Imago	-	-	16	N.D.(4.0)	16	-	
					Arthropoda	Malacostraca	Decapoda	Varunidae	Eriocheir japonica	Japanese mitten crab	20	0.30	Juvenile	-	-	22	N.D.(1.4)	22	-	
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	Anguilla japonica	Japanese eel	5	1.7	Immature fish, Mature fish	Japanese mitten Crab,Fish	Viscera removed	51.9	1.9	50	0.18	
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	Cottus reinii	Sculpin	5	0.14	Immature fish	-	-	15	N.D.(1.6)	15	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Tribolodon hakonensis	Japanese dace	9	0.46	Immature fish, Mature fish	Empty stomach	Viscera removed	19	N.D.(1.3)	19	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Opsariichthys platypus	Pale chub	13	0.094	Immature fish, Mature fish	-	-	12	N.D.(1.7)	12	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Candidia temminckii	Dark chub	15	0.12	Immature fish, Mature fish	-	-	18	N.D.(2.2)	18	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Gnathopogon elongatus elongatus	Gnathopogon elongatus elongatus	7	0.065	Mature fish	-	-	13	N.D.(2.4)	13	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Hemibarbus barbus	Hemibarbus barbus	24	0.12	Immature fish	-	-	9.8	N.D.(2.2)	9.8	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	Misgurnus anguillicaudatus	Oriental weatherfish	24	0.064	Immature fish, Mature fish	-	-	11	N.D.(1.7)	11	-	
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	Plecoglossus altivelis altivelis	Sweetfish	23	0.53	Immature fish, Mature fish	-	-	58	N.D.(1.4)	58	-	
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius fluviatilis	Rhinogobius fluviatilis	46	0.14	Immature fish, Mature fish	-	-	20	N.D.(1.9)	20	-	
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius nagoyae	Rhinogobius nagoyae										
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius kurodai	Rhinogobius kurodai										
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius sp.	Rhinogobius										
										Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.26	-	-	86.0
E-3	The main stream of the Niida River	37.6444°	141.0018°	2022/8/21	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Tribolodon hakonensis	Japanese dace	1	0.035	Mature fish	-	-	8.2	N.D.(1.3)	8.2	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Opsariichthys platypus	Pale chub	7	0.092	Immature fish, Mature fish	-	-	7.9	N.D.(1.6)	7.9	-	
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	Plecoglossus altivelis altivelis	Sweetfish	18	0.74	Immature fish, Mature fish	-	-	30	N.D.(1.5)	30	-	

*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.