

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

<Location E along the Niida River: Samples collected>

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>

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°	2023/8/31	12:56	13:04	30.2	29.0	Sand with silt	5Y4/2	None	0.67	23

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

Locations	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electric conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (water)		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
E-2 a	37.6640°	140.9447°	2023/8/31	12:56	7.2	0.7	5.2	8.2	7.9	0.04	2.5	14	14.9	0.0017	0.12	0.0015

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>

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								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)			
E-2 a	37.6640°	140.9447°	2023/8/31	13:04	7.4	450	22.3	2.0	3.7	2.650	9.6	39.2	39.5	2.4	3.4	5.9	0.83	4.8	8.4	440	0.19

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°	2023/8/26	Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.012	-	-	-	200	N.D.(16)	200	-	
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	Stenopsyche marmorata	Caddisfly	53	0.011	Larva	-	-	-	63	N.D.(13)	63	-
					Arthropoda	Insecta	Odonata	Corduliidae	Macromia amphigena amphigena	Dragonfly	34	0.012	Larva (Dragonfly larva)	-	-	20	N.D.(5.0)	20	-	
					Arthropoda	Insecta	Odonata	Gomphidae	Melligomphus viridicostus	Dragonfly										
					Arthropoda	Insecta	Odonata	Gomphidae	Sieboldius albardae	Dragonfly										
					Arthropoda	Insecta	Odonata	Gomphidae	Davidius sp.	Dragonfly										
					Arthropoda	Insecta	Odonata	Gomphidae	Shaogomphus postocularis	Dragonfly										
					Arthropoda	Insecta	Odonata	Gomphidae	Asiagomphus melaenops	Dragonfly										
					Arthropoda	Insecta	Megaloptera	Corydalidae	Protohermes grandis	Dobsonfly	60	0.035	Larva	-	-	-	21	N.D.(1.7)	21	-
					Arthropoda	Malacostraca	Decapoda	Cambaridae	Procambarus clarkii	Red swamp crawfish	2	0.039	Imago	-	-	-	22	N.D.(4.3)	22	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	Palaemon paucidens	Lake prawn	202	0.26	Imago	-	-	-	16	N.D.(1.5)	16	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	Paratya improvisa	Freshwater shrimp	118	0.030	Juvenile,Imago	-	-	-	15	N.D.(3.3)	15	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	Eriocheir japonica	Japanese mitten crab	23	0.39	Juvenile	-	-	-	25	N.D.(1.2)	25	-
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	Anguilla japonica	Japanese eel	1	0.39	Mature fish	Eriocheir japonica , Sieboldius albardae	Viscera removed	18	N.D.(1.2)	18	-	
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	Cottus reinii	Sculpin	5	0.067	Immature fish	-	-	-	14	N.D.(2.4)	14	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Pseudaspius hakonensis	Japanese dace	11	0.23	Immature fish, Mature fish	Obscure digesta	Viscera removed	16	N.D.(1.5)	16	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Opsariichthys platypus	Pale break	290	1.3	Immature fish, Mature fish	-	-	-	13	N.D.(1.3)	13	0.59
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Pseudogobio esocinus	Pseudogobio	3	0.049	Mature fish	-	-	-	9.0	N.D.(1.1)	9.0	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Candidia temminckii	Dark chub	90	0.43	Immature fish, Mature fish	-	-	-	9.7	N.D.(1.2)	9.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Cyprinus carpio	Common carp	3	0.46	Immature fish	Obscure digesta	Viscera removed	8.2	N.D.(1.3)	8.2	-	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Gnathopogon elongatus elongatus	Field gudgeon	44	0.14	Immature fish, Mature fish	-	-	-	9.9	N.D.(1.4)	9.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	Hemibarbus barbus	Barbel steed	10	0.096	Immature fish	-	-	-	9.4	N.D.(1.7)	9.4	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	Plecoglossus altivelis altivelis	Ayu sweetfish	33	0.56	Immature fish, Mature fish	-	-	-	47	N.D.(1.2)	47	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius fluviatilis	Rhinogobius	106	0.26	Immature fish, Mature fish	-	-	12	N.D.(1.1)	12	-	
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius nagoyae	Rhinogobius										
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	Rhinogobius sp.	Freshwater goby										
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	Silurus asotus	Amur catfish	1	0.070	Immature fish	Palaemon paucidens	Viscera removed	19	N.D.(3.4)	19	-	
					Vertebrata	Amphibia	Anura	Lithobates	Lithobates catesbeianus	American bullfrog	14	0.088	Larva(Tadpole)	-	-	-	223.8	3.8	220	-
					Coarse Particulate Organic Matter	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-

*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.