

◦Results 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-1						
E-2a				-		-
E-2b		-		-	-	-
E-3				-		-
E-4				-		-
E-5				-		-

< 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-1	37.6615°	140.9114°	2014/10/24	7:51	8:05	11.2	11.1	Sand	2.5Y4/3	Pebbles	0.35	>50.0
E-2a	37.6643°	140.9454°		10:25	10:05	13.6	14.0	Sediment	2.5Y3/3	Plant	0.45	>50.0
E-2b	37.6640°	140.9458°		9:45	-	12.2	-	-	-	-	0.44	>50.0
E-3	37.6446°	141.0017°		13:28	13:30	15.0	15.7	Sand	2.5Y3/3	None	0.30	>50.0
E-4	37.6463°	140.9657°		11:31	11:27	14.4	15.4	Sand	2.5Y4/2	None	0.62	>50.0
E-5	37.6652°	140.9175°		8:53	8:48	11.8	12.6	Sand	2.5Y3/3	Pebbles	0.41	>50.0

< 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 (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												
E-1	37.6615°	140.9114°	2014/10/24	7:51	7.5	<0.5	2.9	10.8	6.4	0.04	1.2	3	1.9	0.037	0.10	0.0021
E-2a	37.6643°	140.9454°		10:25	7.4	<0.5	3.3	10.9	6.8	0.04	1.3	5	2.8	0.084	0.25	-
E-2b	37.6640°	140.9458°		9:45	7.4	<0.5	3.0	11.0	6.7	0.04	1.3	4	2.4	0.037	0.11	-
E-3	37.6446°	141.0017°		13:28	7.3	<0.5	2.7	10.1	8.7	0.05	1.1	2	1.6	0.030	0.091	-
E-4	37.6463°	140.9657°		11:31	7.4	<0.5	2.8	10.4	7.5	0.04	1.2	3	1.8	0.054	0.15	-
E-5	37.6652°	140.9175°		8:53	7.5	<0.5	2.8	11.1	6.7	0.04	1.1	3	1.8	0.036	0.11	-

< 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							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)			
											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-1	37.6615°	140.9114°	2014/10/24	8:05	7.0	379	15.7	0.7	1.6	2.674	33.5	48.9	16.2	0.7	0.7	1.5	19	260	780	0.21	
E-2a	37.6643°	140.9454°		10:05	7.1	214	48.5	13.6	46.4	2.572	35.1	15.7	12.0	8.8	10.4	18.0	0.90	19	3,700	12,000	-
E-3	37.6446°	141.0017°		13:30	7.1	272	18.7	1.1	2.0	2.676	13.8	31.3	44.9	7.8	0.3	1.9	0.76	9.5	150	470	-
E-4	37.6463°	140.9657°		11:27	7.0	296	22.2	0.9	1.8	2.674	3.9	21.2	69.2	4.5	1.2	0.61	4.75	130	400	-	
E-5	37.6652°	140.9175°		8:48	6.9	308	17.5	1.7	3.4	2.681	35.3	32.1	24.4	5.7	0.9	1.6	1.4	9.5	530	1,700	-

(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 >

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					
E-2a E-2b	37.6643° 37.6640°	140.9454° 140.9458°	2014/10/23 2014/10/24 2014/10/29	Algae/plant	-	-	-	-	River bottom materials (incl. algae)	Considerable number	0.025	-	-	-	42	130	-		
				Arthropoda	Insecta	Ephemeroptera	Heptageniidae	<i>Epeorus curvatus</i>	<u>Epeorus curvatus</u>	437	0.011	Larva	-	-	-	130	420	-	
				Arthropod	Insecta	Ephemeroptera	Schistonota	Heptageniidae	<u>Heptagenioidea</u>										
				Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia gibba</i>	<u>Oyamia lugubris</u>										
				Arthropoda	Insecta	Plecoptera	Ephemeroptera	<i>Kamimura tibialis</i>	<u>Kamimura tibialis</u>	1,410	0.049	Larva	-	-	-	6.0	19	-	
				Arthropod	Insecta	Plecoptera	Perlidae	<i>Neoperla</i> sp.	<u>Neoperla geniculata</u>										
				Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<u>Stenopsyche marmorata</u>	177	0.028	Larva	-	-	-	120	420	-	
				Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	<u>Onychogomphus viridicostus</u>	82	0.027	Larva (dragonfly larva)	-	-	-	25	78	-	
				Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<u>Protohermes grandis</u>	17	0.011	Larva	-	-	-	16	47	-	
				Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	<u>Red swamp crawfish</u>	23	0.16	Imago	-	-	-	42	120	-	
				Arthropod	Malacostraca	Decapoda	Atyidae	<i>Atyidae</i>	<u>Freshwater shrimp</u>	131	0.023	Imago	-	-	-	47	140	-	
				Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	<u>Japanese mitten crab</u>	14	0.20	Imago	-	-	-	39	130	-	
				Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	<u>Japanese eel</u>	3	1.1	Mature fish (6-year-old)	Some (details unknown)	Viscera removed	-	70	210	-	
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	<u>Pale chub</u>	10	0.041	Mature fish	-	-	-	58	170	-	
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	<u>Carassius auratus langsdorffii</u>	8	0.24	Mature fish	Detritus	Viscera removed	-	59	170	-	
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	<u>Common carp</u>	4	0.13	Immature fish	-	-	-	43	120	-	
				Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius</i> sp.	<u>R. sp. CB</u>	13	0.057	Mature fish	-	-	-	66	190	-	
				Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	<u>Amur catfish</u>	1	0.18	Mature fish (2-year-old)	Some (details unknown)	Viscera removed	-	29	90	-	
				Vertebrata	Amphibia	Anura	Ranidae	<i>Rana rugosa</i>	<u>Wrinkled Frog</u>	5	0.012	Imago	-	-	-	10	33	-	
								coarse particulate organic matters (CPOMs)	-	-	-	-	fallen leaves	Considerable number	0.24	-	-	-	290

*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.