

**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-2 a	○	○	○	-	○	-
E-2 b	○	-	○	-	-	-
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	37.6609°	140.9115°	2016/10/19	07:40	08:03	15.1	15.1	Sand	2.5Y4/3	None	0.32	>50		
E-2 a	37.6640°	140.9447°		10:11	10:18	16.5	17.2	Sediment with sand	2.5Y4/3	None	0.35	>50		
E-2 b	37.6635°	140.9452°		10:47	-	16.8	-	-	-	-	0.20	>50		
E-3	37.6444°	141.0018°		13:30	13:38	18.7	18.5	Sand	2.5Y4/2	None	0.58	>50		
E-4	37.6485°	140.9630°		11:40	11:49	17.6	17.6	Sand	2.5Y5/4	None	0.28	>50		
E-5	37.6652°	140.9169°		09:11	09:20	16.4	16.3	Gravel with sand	2.5Y4/4	None	0.55	>50		

<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)	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-1	37.6609°	140.9115°	2016/10/19	07:40	7.4	<0.5	2.4	10.8	6.5	0.04	0.9	2	1.3	0.0053	0.031	0.0017
E-2 a	37.6640°	140.9447°		10:11	7.5	<0.5	2.0	11.1	6.7	0.04	0.8	2	1.2	0.0059	0.031	-
E-2 b	37.6635°	140.9452°		10:47	7.7	<0.5	2.1	10.6	6.7	0.04	0.9	1	1.2	0.0035	0.021	-
E-3	37.6444°	141.0018°		13:30	7.7	0.6	2.2	10.7	8.8	0.05	0.9	2	1.4	0.0065	0.032	-
E-4	37.6485°	140.9630°		11:40	7.7	0.6	2.2	10.5	7.0	0.04	0.9	1	1.2	0.0061	0.034	-
E-5	37.6652°	140.9169°		09:11	7.9	0.5	2.1	10.8	6.4	0.04	0.9	1	1.3	0.0047	0.027	-

<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 <sub>NHLE</sub> (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm <sup>3</sup> )	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-1	37.6609°	140.9115°	2016/10/19	08:03	7.0	370	14.8	0.9	3.8	2.661	25.3	36.8	34.5	2.9	0.0	0.5	1.1	9.5	180	1100	0.28
E-2 a	37.6640°	140.9447°		10:18	7.0	347	40.9	4.0	10.0	2.618	19.1	12.4	28.8	29.3	5.2	5.2	0.32	19	400	2400	-
E-3	37.6444°	141.0018°		13:38	7.0	323	16.4	0.8	2.6	2.648	21.7	51.8	26.1	0.3	0.0	0.1	1.2	19	23	110	-
E-4	37.6485°	140.9630°		11:49	7.2	336	17.8	0.6	1.6	2.644	3.7	49.5	46.3	0.3	0.0	0.2	0.89	9.5	27	160	-
E-5	37.6652°	140.9169°		09:20	7.1	330	15.3	1.0	1.6	2.655	30.0	45.1	22.8	1.6	0.1	0.4	1.4	9.5	81	440	-

<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-2b	-	37.6635°	140.9452°	2016/10/21	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.014	-	-	-	192	32	160	-				
					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>Sieboldius albardae</i>	Sieboldius albardae													
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius													
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Gomphus postocularis</i>	<u>Gomphus postocularis</u>													
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	Asiagomphus melaenops													
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Anax parthenope</i>	Anax parthenope													
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani													
					Arthropoda	Malacostraca	Decapoda	Cambaridae	<i>Procambarus clarkii</i>	Red swamp crawfish	17	0.092	Imago	-	-	-	80	11	69	-			
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	40	0.0079	Imago	-	-	-	40.2	6.2	34	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	15	0.13	Immature fish,Mature fish	Amorphous Residue	Viscera removed		47.5	7.5	40	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	9	0.031	Immature fish	-	-	-	20.2	3.2	17	-			
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	18	0.052	Immature fish,Mature fish	-	-	-	19.2	3.2	16	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	Rhinogobius fluviatilis	7	0.019	Mature fish	-	-	-	59.0	9.0	50	-			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp. CB</i>	Rhinogobius nagoyae													
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.11	Immature fish	Fish	Viscera removed		42.6	5.6	37	-			
					Vertebrata	Amphibia	Anura	-	-	Frog	12	0.0096	Larva (Tadpole)	-	-	-	359	59	300	-			
					Vertebrata	Amphibia	Anura	-	-	Frog	6	0.045	Imago	-	-	-	48.1	8.1	40	-			
										Particulate Organic Matter	-	-	-	-	-	-	0.29	-	-	-	186	26	160

\*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.