

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

< Location E along the Niida River: Samples collected >

Items	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 >

Items	Latitude and longitude of the location		Survey date and time			Water temperature (degrees C)	Sediment			Other		
	Scheduled latitude	Scheduled longitude	Date	Time (water)	Time (sediment)		Sediment temperature (degrees C)	Property	Color	Contaminants	Water depth (m)	Transparency (cm)
E-1	37.6609°	140.9115°	2015/6/17	7:56	7:50	18.8	19.0	Sand	2.5Y4/3	Pebbles	0.22	23.5
E-2a	37.6640°	140.9447°		11:16	11:40	19.7	20.0	Sediment	7.5Y4/3	Plant	0.27	14
E-2b	37.6635°	140.9452°		10:42	—	19.4	—	—	—	—	0.18	14
E-3	37.6444°	141.0018°		13:57	13:53	20.4	20.9	Sand	2.5Y4/3	Pebbles	0.3	16
E-4	37.6485°	140.9630°		13:07	13:00	20.1	19.8	Sand	2.5Y5/2	Pebbles	0.55	10
E-5	37.6652°	140.9169°		9:42	9:38	18.8	18.8	Sand	2.5Y4/2	Pebbles	0.6	25

< Location E along the Niida 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)	Electrical conductivity	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
	Scheduled latitude	Scheduled longitude	Date	Time (water)												
E-1	37.6609°	140.9115°	2015/6/17	7:56	7.5	0.8	4.9	9.2	6.9	0.04	2	24	18.3	0.14	0.53	0.0021
E-2a	37.6640°	140.9447°		11:16	7.3	1.2	5.2	9.4	7.4	0.04	2.6	38	37.2	0.16	0.62	—
E-2b	37.6635°	140.9452°		10:42	7.3	0.8	5.2	9.7	7.5	0.04	2.5	35	36	0.18	0.67	—
E-3	37.6444°	141.0018°		13:57	7.2	1.4	5.3	8.9	9.6	0.05	2.2	37	36.6	0.17	0.64	—
E-4	37.6485°	140.9630°		13:07	7.4	0.6	4.6	9.5	7.9	0.04	2	26	25.1	0.11	0.39	—
E-5	37.6652°	140.9169°		9:42	7.4	0.6	4.4	9.5	7.2	0.04	1.9	22	15.7	0.076	0.31	—

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

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential EN.H.E (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm3)	Grain size distribution							Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)	
	Scheduled latitude	Scheduled 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 (0.005-0.0075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter				Maximum grain diameter
E-1	37.6609°	140.9115°	2015/6/17	7:50	6.9	380	11.3	0.9	1.3	2.663	44.4	45.1	10	0.3	0.2	1.8	19	190	690	N.D. (0.13)	
E-2a	37.6640°	140.9447°		11:40	6.8	377	73	8.8	36.7	2.451	1.5	6.2	16.9	19.6	30.9	24.9	0.043	4.75	2600	10000	—
E-3	37.6444°	141.0018°		13:53	7	402	14.5	1	1.4	2.666	20	35.3	42	1.8	0	0.9	0.95	19	71	280	—
E-4	37.6485°	140.9630°		13:00	6.8	446	18.8	1	2.2	2.658	12.8	39	45.5	1.7	0	1	0.88	9.5	80	280	—
E-5	37.6652°	140.9169°		9:38	6.8	447	15.2	1.5	3.4	2.681	28.6	26.1	38.4	5.2	0.5	1.2	0.98	9.5	350	1300	—

< Location E along the Niida River: Analysis items Aquatic organisms >

Location	Sampling point	Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species 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	Cs-134	Cs-137					
E-2b	—	37.6635°	140.9452°	2015/6/19	Phycophyta	—	—	—	—	Riverbed Deposits (include algae)	—	0.0048	—	—	—	150	530	—				
					Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	217	0.034	Larva	—	—	—	92	380	—			
					Arthropod	Insecta	Odonata	Gomphidae	<i>Mellicomphus viridicostus</i>	Gomphus viridicostus	146	0.023	Larva (dragonfly larva)	—	—	—	13	48	—			
					Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protoperla grandis</i>	Protoperla grandis	20	0.018	Larva	—	—	—	13	46	—			
					Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	Red swamp crayfish	17	0.097	—	—	—	—	42	160	—			
					Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	11	0.16	Imago	—	—	—	33	130	—			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius auratus langsdorffii	1	0.064	Mature fish (2-year-old)	Obscure digesta	—	—	22	77	—			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Zacco platypus	6	0.074	Mature fish (2-year-old)	Obscure digesta	—	—	15	59	—			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	16	0.12	Mature fish (1-year-old)	—	—	—	12	47	—			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	Tamoroko	6	0.031	Mature fish (2-year-old)	—	—	—	12	45	—			
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Sarcocheilichthys variegatus variegatus</i>	Kawahigai	2	0.0082	Mature fish (1-year-old)	—	—	—	15	55	—			
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Yamame trout	4	0.087	Mature fish (1-year-old)	Terrestrial insects	—	—	8.5	36	—			
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	2	0.012	Mature fish	—	—	—	43	150	—			
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	—	Rhinogobius	6	0.030	Mature fish	—	—	—	20	76	—			
					Particulate Organic Matter	—	—	—	—	—	—	—	—	Bottom fallen leaves	—	0.14	—	—	—	76	280	—

\*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.