

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

< Location E along the Nida River: Samples collected >

Items 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 Nida 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	Odor	Contaminants	Water depth (m)	Transparency (cm)
E-1	37.661533°	140.911450°	2013/8/23	9:48	9:58	22.1	22.0	Sand gravel	2.5Y4/3	None	Pebbles	0.24	>50
E-2a	37.664350°	140.945200°		12:13	12:25	23.6	22.4	Sediment with sand	2.5Y3/1	Faint hydrogen sulfide	Pebbles, roots, plant fragments	0.61	>50
E-2b	37.664033°	140.945700°		11:45	—	23.2	—	—	—	—	—	0.13	>50
E-3	37.644833°	141.001300°		15:16	15:24	22.7	22.8	Sand	2.5Y3/1	None	Pebbles	0.17	>50
E-4	37.646283°	140.965767°		14:03	14:13	22.8	23.0	Sand	2.5Y4/6	None	Pebbles, plant fragments	0.38	>50
E-5	37.665083°	140.917533°	10:50	10:58	22.0	21.9	Sand	2.5Y4/1	None	Pebbles	0.55	>50	

< Location E along the Nida 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)	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)
	Date	Time														
E-1	37.661533°	140.911450°	2013/8/23	9:48	7.8	0.5	3.7	9.7	7.9	0.04	1.6	2	1.1	0.10	0.22	0.0029
E-2a	37.664350°	140.945200°		12:13	7.4	0.6	4.5	10.5	8.3	0.05	1.8	6	3.3	0.14	0.28	—
E-2b	37.664033°	140.945700°		11:45	7.5	0.5	3.8	10.0	8.3	0.05	1.7	2	1.7	0.10	0.22	—
E-3	37.644833°	141.001300°		15:16	7.3	1.1	3.8	8.5	10.8	0.06	1.6	3	2.3	0.10	0.21	—
E-4	37.646283°	140.965767°		14:03	7.6	0.7	3.9	9.7	9.2	0.05	1.6	3	2.0	0.094	0.20	—
E-5	37.665083°	140.917533°	10:50	7.5	0.5	3.6	9.9	8.0	0.04	1.6	2	1.5	0.10	0.19	—	

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

Items Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _h (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)		
	Date	Time	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-1	37.661533°	140.911450°	2013/8/23	9:58	7.1	186	16.0	0.9	1	2.669	60.2	31.4	7.1	0.7	0.6	2.7	38	620	1,300	0.26	
E-2a	37.664350°	140.945200°		12:25	7.1	205	47.4	6.5	9	2.652	9.9	3.4	19.2	36.7	9.9	20.9	0.18	19	3,200	6,900	—
E-3	37.644833°	141.001300°		15:24	7.1	226	19.2	1.2	1	2.693	30.6	26.2	34.4	6.7	0.4	1.7	1.0	19	290	640	—
E-4	37.646283°	140.965767°		14:13	7.0	249	15.5	1.4	1	2.707	46.7	13.4	26.9	11.0	0.6	1.4	1.6	38	490	1,000	—
E-5	37.665083°	140.917533°		10:58	7.0	279	18.8	1.7	2	2.692	33.2	20.3	36.5	7.8	0.5	1.7	0.96	26.5	510	1,100	—

Note) N.D. means to be below 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					
E-1 E-2a E-2b	37.661533°	140.911450°	2013/8/26	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (large)	2	3.0	5-year-old fish	None	140	310	1.1		
				Algae/plant	—	—	—	—	Attached algae	—	0.048	—	—	1,000	2,200	—		
				Chlorophyta	Chlorophyceae	Oedogoniales	Oedogoniaceae	<i>Oedogonium sp.</i>	Oedogonium	—	0.019	—	—	—	89	180	—	
				Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<u>Stenopsyche marmorata</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<u>Stenopsyche sauteri</u>	147	0.028	Larva	—	—	—	410	880	—
				Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	<u>Macromia amphigena</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	<u>Asiagomphus melaenops</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Davidius nanus	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	<u>Onychogomphus viridicostus</u>	88	0.029	Larva	—	—	—	71	150	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<u>Sieboldius albardae</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<u>Stylogomphus suzukii</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	<u>Boyeria maclachlani</u>	—	—	—	—	—	—	—	—	—
				Arthropod	Arachnida	Araneae	Araneidae	Araneidae	Araneidae	69	0.017	Imago	—	—	—	72	150	—
				Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	22	0.19	Imago	—	—	—	99	220	—
				Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	2	0.089	Yearling fish	Some (details unknown)	—	—	110	230	—
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	<i>Carassius auratus langsdorfi</i>	5	0.045	1-year-old fish	None	—	—	71	150	—
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	11	0.30	1-year-old fish	None	—	—	51	120	—
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (small)	65	0.13	Yearling fish	None	—	—	36	80	—
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	9	0.12	1-year-old fish	—	—	—	100	220	—
				Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.090	2-year-old fish	Insect	—	—	90	190	—
				Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	Rhinogobius	9	0.031	More than 1 year old	Some (details unknown)	—	—	160	340	—
				Amphibia	Amphibia	Anura	Ranidae	<i>Rana catesbeiana</i>	American Bullfrog (tadpole)	22	0.13	Larva	—	—	—	1,300	2,800	—
				Coarse particulate organic matters (CPOMs)	—	—	—	—	—	—	0.29	—	—	160	340	—		
				2013/9/5	Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	Japanese eel	3	1.6	Mature fish	None	130	270	0.32	

Note 1) When multiple types of aquatic organisms were collected, a sample was prepared by mixing them.
 Note 2) For species with stomach contents as indicated in the note column, all stomach contents were removed for conducting the analysis.
 Note 3) Underlined names in the English name column indicate species largest in number in the respective samples.
 Note 4) A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith.
 Note 5) N.D. means to be below the detection limit.