

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

< Location E along the Nida 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 Nida River: Site measurement item >

Locations	Latitude and longitude of the location		Survey date and time			Water				Sediment			Other	
	Scheduled latitude	Scheduled 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°	2015/10/22	07:52	07:36	12.6	12.6	Sand	2.5Y4/3	None	0.28	>50		
E-2a	37.6640°	140.9447°		10:13	10:25	13.1	13.3	Sediment with sand	2.5Y4/4	Plant	0.55	>50		
E-2b	37.6635°	140.9452°		09:46	-	12.7	-	-	-	-	0.40	>50		
E-3	37.6444°	141.0018°		13:17	13:14	15.3	15.3	Sand	2.5Y3/3	None	0.25	>50		
E-4	37.6485°	140.9630°		11:27	11:21	14.1	14.2	Sand	2.5Y3/3	None	0.55	>50		
E-5	37.6652°	140.9169°		08:53	08:48	13.3	13.3	Sand	2.5Y4/2	None	0.28	>50		

< Location E along the Nida 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	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FSU)	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°	2015/10/22	7:52	7.7	-0.5	2.2	10.7	6.3	0.04	0.9	1	0.9	0.0076	0.034	0.0019
E-2a	37.6640°	140.9447°		10:13	7.5	-0.5	2.3	10.8	6.9	0.04	0.9	<1	0.6	0.0072	0.032	-
E-2b	37.6635°	140.9452°		9:46	7.5	-0.5	2.1	10.9	6.9	0.04	0.9	<1	0.6	0.0084	0.032	-
E-3	37.6444°	141.0018°		13:17	7.5	-0.5	2.4	10.4	9.1	0.05	0.9	2	0.8	0.0085	0.031	-
E-4	37.6485°	140.9630°		11:27	7.7	-0.5	2.0	10.6	7.1	0.04	0.9	<1	0.6	0.0059	0.024	-
E-5	37.6652°	140.9169°		8:53	7.7	1.3	1.8	11.0	6.5	0.04	0.9	1	0.6	0.0064	0.026	-

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

Locations	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°	2015/10/22	7:36	7.2	467	9.8	0.7	0.9	2.674	29.3	56.8	13.6	0.2	0.1	1.5	4.8	85	420	0.20	
E-2a	37.6640°	140.9447°		10:25	6.5	452	31.2	5.4	10.1	2.665	9.8	14.3	24.6	20.5	15.5	0.23	4.8	680	2900	-	
E-3	37.6444°	141.0018°		13:14	6.9	450	16.3	1.0	1.3	2.688	19.1	28.7	45.7	5.5	0.4	0.6	0.82	19	44	210	-
E-4	37.6485°	140.9630°		11:21	7.0	443	19.8	1.1	1.2	2.674	4.2	14.3	75.6	4.3	0.5	1.1	0.59	9.5	140	540	-
E-5	37.6652°	140.9169°		8:48	7.1	470	20.3	1.0	1.1	2.677	2.8	31.7	61.3	2.9	0.5	0.8	0.69	4.8	210	870	-

< Location E along the Nida 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)																
		Growth stage	Stomach contents										Measurement site	Cs-134	Cs-137																			
E-2b	-	37.6635°	140.9452°	2015/10/25	Phytoplankton	Insecta	Ephemeroptera	Isosiphidae	<i>Isonychia japonica</i>	Riverbed Deposits (include algae)	-	0.025	-	-	-	64	280	-																
																			Arthropod	Insecta	Ephemeroptera	Isosiphidae	<i>Isonychia japonica</i>	Trakagerou	135	0.0047	Larva	-	-	-	29	180	-	
																			Arthropod	Insecta	Plecoptera	Perlidae	-	Genus Kamimuria	166	0.0071	Larva	-	-	-	9.5	24	-	
																			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	85	0.0055	Larva	-	-	-	100	360	-	
																			Arthropod	Insecta	Odonata	Gomphidae	<i>Meligomphus viridicostus</i>	Onychogomphus viridicostus	-	-	-	-	-	-	-	-	-	-
																			Arthropod	Insecta	Odonata	Calopterygidae	-	Calopterygidae	-	-	-	-	-	-	-	-	-	-
																			Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	49	0.014	Larva (dragonfly larva)	-	-	-	14	61	-	
																			Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani	-	-	-	-	-	-	-	-	-	
																			Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	-	-	-	-	-	-	-	-	-	
																			Arthropod	Insecta	Odonata	Gomphidae	-	Dryinidae	-	-	-	-	-	-	-	-	-	
																			Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melanops</i>	Asiagomphus melanops	-	-	-	-	-	-	-	-	-	
																			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Prototermes grandis</i>	Prototermes grandis	5	0.0036	Larva	-	-	-	-	N.D.(14)	36	-
																			Arthropod	Malacostraca	Decapoda	Palaemonidae	<i>Palaeomonetes pavidus</i>	Common prawn	29	0.033	Imago	-	-	-	-	14	60	-
																			Arthropod	Malacostraca	Decapoda	Atyidae	<i>Paratya unprovisa</i>	Freshwater shrimp	117	0.018	Imago	-	-	-	-	22	82	-
																			Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	6	0.36	Imago	-	-	-	-	24	100	-
																			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	22	0.30	Mature fish (3-year-old)	Empty stomach	Viscera removed	22	92	-		
																			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Acheilognathus melanogaster</i>	Japanese surfin perch	15	0.049	Mature fish (2-year-old)	-	-	-	16	62	-	
																			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	Tamoroko	13	0.018	Immature fish/Mature fish (2-year-old)	-	-	-	15	63	-	
																			Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius nagovae</i>	R. sp. CB	10	0.029	Immature fish/Mature fish	-	-	-	18	97	-	
																			Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	0.75	Mature fish (7-year-old)	Red swamp crawfish	Viscera removed	21	91	-		
																			Vertebrata	Amphibia	Anura	-	-	Tadpole	5	0.011	Larva (tadpole)	-	-	-	42	160	-	
																			Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.18	-	-	-	-	59	270	-	

*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.