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

<Location E along the Niida River: Samples collected>

Items / 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>

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	Contaminants	Water depth (m)	Transparency (cm)
E-1	37.6609°	140.9115°	2016/5/27	08:05	08:00	18.1	18.4	Sand	2.5Y4/3	None	0.25	>50
E-2 a	37.6640°	140.9447°		10:46	10:57	18.8	18.8	Sediment with sand	2.5Y4/1	Plant pieces a little	0.43	>50
E-2 b	37.6635°	140.9452°		10:18	-	18.6	-	-	-	-	0.28	>50
E-3	37.6444°	141.0018°		13:45	13:50	19.0	19.1	Sand	2.5Y4/3	None	0.24	>50
E-4	37.6485°	140.9630°		12:46	12:51	19.0	19.2	Sand	2.5Y4/4	None	0.65	>50
E-5	37.6652°	140.9169°		09:09	09:15	18.2	18.4	Sand	2.5Y4/3	None	0.16	>50

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

Items / Locations	Latitude and longitude of the location		Survey date and time		pH	BOD	COD	DO	Electric conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (water)		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
E-1	37.6609°	140.9115°	2016/5/27	08:05	7.3	0.7	2.8	9.4	6.7	0.04	0.9	2	1.5	0.0092	0.045	0.0020
E-2 a	37.6640°	140.9447°		10:46	7.2	0.6	2.5	9.4	8.1	0.05	0.8	<1	1.4	0.0071	0.034	-
E-2 b	37.6635°	140.9452°		10:18	7.2	0.7	2.4	9.4	8.2	0.05	0.8	1	1.3	0.0070	0.036	-
E-3	37.6444°	141.0018°		13:45	7.3	2.0	4.2	9.4	10.6	0.06	1.4	4	2.9	0.012	0.055	-
E-4	37.6485°	140.9630°		12:46	7.2	0.8	3.2	9.7	8.9	0.05	1.1	2	2.5	0.0082	0.042	-
E-5	37.6652°	140.9169°		09:09	7.4	0.7	2.5	9.8	7.3	0.04	0.9	2	1.3	0.0097	0.047	-

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

Items / Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential $E_{N.H.E}$ (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 (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°	2016/5/27	08:00	7.2	366	17.2	0.7	1.4	2.671	27.7	61.0	10.1	0.7	0.2	0.3	1.5	9.5	120	610	0.19
E-2 a	37.6640°	140.9447°		10:57	7.0	277	18.5	1.5	2.5	2.706	20.4	34.6	26.7	14.0	1.9	2.4	0.98	4.8	160	840	-
E-3	37.6444°	141.0018°		13:50	7.0	310	17.7	0.9	1.7	2.702	15.8	34.7	42.4	5.5	0.7	0.9	0.86	9.5	53	280	-
E-4	37.6485°	140.9630°		12:51	7.2	327	20.5	0.8	1.4	2.665	1.3	51.9	45.5	0.4	0.3	0.6	0.88	4.8	54	310	-
E-5	37.6652°	140.9169°		09:15	7.3	345	17.8	0.9	1.4	2.679	0.0	65.4	32.3	1.4	0.3	0.6	1.1	2.0	120	590	-

<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°	2016/6/1	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.012	-	-	-	291	51	240	-
					Arthropoda	Insecta	Ephemeroptera	Ephemerellidae	*Drunella cryptomeria*	Ephemerella cryptomeria	92	0.0035	Larva	-	-	27	N.D.(12)	27	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	128	0.025	Larva	-	-	205	35	170	-
					Arthropoda	Insecta	Odonata	Corduliidae	*Macromia amphigena amphigena*	Macromia amphigena	27	0.0069	Larva (Dragonfly larva)	-	-	75	11	64	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii									
					Arthropoda	Insecta	Odonata	Gomphidae	*Stylogomphus suzukii*	Stylogomphus suzukii									
					Arthropoda	Insecta	Odonata	Gomphidae	*Onychogomphus viridicostus*	Melligomphus viridicostus									
					Arthropoda	Insecta	Odonata	Gomphidae	*Davidius sp.*	Davidius									
					Arthropoda	Insecta	Odonata	Gomphidae	*Asiagomphus melaenops*	Asiagomphus melaenops									
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	7	0.0046	Larva	-	-	72	12	60	-
					Arthropoda	Malacostraca	Decapoda	Cambaridae	*Procambarus clarkii*	Red swamp crawfish	6	0.052	Imago	-	-	83	18	65	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	*Palaemon paucidens*	Common prawn	17	0.029	Imago	-	-	32.1	5.1	27	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	*Paratya improvisa*	Freshwater shrimp	34	0.014	Imago	-	-	73	13	60	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	*Eriocheir japonica*	Japanese mitten crab	8	0.15	Imago	-	-	77	13	64	-
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	*Anguilla japonica*	Japanese eel	1	0.61	Mature fish	Fish	Viscera removed	178	28	150	-
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus reinii*	Sculpin	7	0.14	Immature fish	-	-	55.8	8.8	47	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	10	0.064	Immature fish	-	-	54.0	9.0	45	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Zacco platypus*	Pale chub	50	0.21	Immature fish,Mature fish	-	-	45.2	7.2	38	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Pseudogobio esocinus*	Pseudogobio esocinus	12	0.32	Immature fish,Mature fish	-	-	44.8	6.8	38	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Sarcocheilichthys variegatus variegatus*	Sarcocheilichthys variegatus variegatus	16	0.15	Immature fish,Mature fish	-	-	36.1	6.1	30	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Carassius auratus*	Carassius auratus langsdorfii	1	0.014	Immature fish	Obscure digesta	Viscera removed	43.8	7.8	36	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Cyprinus carpio*	Common carp	1	5.2	Mature fish	Amorphous Residue	Viscera removed	204	34	170	0.65
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Gnathopogon elongatus elongatus*	Gnathopogon elongatus elongatus	59	0.13	Immature fish	-	-	39.7	5.7	34	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Misgurnus anguillicaudatus*	Oriental weatherfish	3	0.016	Immature fish,Mature fish	-	-	32.8	4.8	28	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	2	0.049	Immature fish	-	-	121	23	98	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou*	Yamame trout	9	0.10	Immature fish	-	-	35.1	6.1	29	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius fluviatilis*	Rhinogobius fluviatilis	14	0.024	Immature fish,Mature fish	-	-	94	13	81	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius sp. CB*	Rhinogobius nagoyae									
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	*Silurus asotus*	Amur catfish	3	1.3	Immature fish,Mature fish	Fish	Viscera removed	177	27	150	1.2
					Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.14	-	-	-	1050	170	880	-
E-3	-	37.6444°	141.0018°	2016/7/9	Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	35	0.82	Immature fish,Mature fish	-	-	74	12	62	-

*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.