

OResults 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-2 a	○	○	○	○	○	○

<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-2 a	37.6640°	140.9447°	2018/10/24	11:40	12:05	14.9	16.3	Sediment with sand	2.5Y3/2	None	0.40	>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-2 a	37.6640°	140.9447°	2018/10/24	11:40	7.1	0.6	2.1	11.3	7.4	0.04	0.8	2	1.9	0.0027	0.036	0.0016

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<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 <sub>SHE</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-2 a	37.6640°	140.9447°	2018/10/24	12:05	7.2	259	39.5	4.7	23.3	2.627	18.9	22.5	16.0	14.4	12.7	15.5	0.39	4.8	340	3700	0.83

Note) N.D. means to be below the detection limit and figures in parentheses show the detection limit.

<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-2 b	The main stream of the Niida River	37.6635°	140.9452°	2018/10/21	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.019	-	-	-	286	26	260	-
					Algae/plant	-	-	-	<i>Bryophyta</i>	Bryophyte	-	0.17	-	-	-	86.2	7.2	79	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia lugubris</i>	<u>Oyamia lugubris</u>	355	0.019	Larva	-	-	10	N.D.(2.6)	10	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kaminuria tibialis</i>	<u>Kaminuria tibialis</u>									
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Neoperla sp.</i>	<u>Neoperla</u>									
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	<i>Cottus pollux</i>	Japanese fluvial sculpin	1	0.015	Immature fish	-	-	32	N.D.(6.0)	32	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	48	0.39	Immature fish,Mature fish	-	-	42.8	2.8	40	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	9	1.6	Immature fish,Mature fish	Obscure digesta	Viscera removed	29.5	2.5	27	0.97
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	4	0.019	Immature fish	-	-	29	N.D.(5.6)	29	-
					Vertebrata	Cephalaspidomorphi	Petromyzontiformes	Petromyzontidae	<i>Lethenteron reissneri</i>	Far eastern brook lamprey	9	0.025	Mature fish	-	-	12	N.D.(4.8)	12	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	93.7	7.7	86	-

\*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.