

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location N along the Ukedo River)

<Location N along the Ukedo River: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
N-1	○	○	○	○	○	○
N-2	○	○	○	-	○	-
N-3	○	○	○	-	○	-

<Location N along the Ukedo River: Site measurement item>

Items	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)
N-1	37.4998°	140.9835°	2023/12/4	10:15	10:20	10.1	10.1	Sand	7.5Y5/3	None	0.51	>100
N-2	37.5070°	140.9456°		09:52	09:58	9.0	9.0	Sand	7.5Y6/3	None	0.35	>100
N-3	37.4754°	140.9598°		09:21	09:25	6.8	6.8	Sand	7.5Y6/3	None	0.29	>100

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

Items	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)
N-1	37.4998°	140.9835°	2023/12/4	10:15	7.2	0.5	1.5	11.3	9.0	0.05	0.8	<1	0.6	N.D.(0.0017)	0.069	0.0026
N-2	37.5070°	140.9456°		09:52	7.4	<0.5	2.0	11.4	7.9	0.04	0.9	1	0.6	N.D.(0.0018)	0.075	-
N-3	37.4754°	140.9598°		09:21	7.4	<0.5	1.1	12.5	7.7	0.04	0.6	1	0.6	N.D.(0.0017)	0.031	-

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

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

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{NHLE} (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)			
N-1	37.4998°	140.9835°	2023/12/4	10:20	6.9	490	21.6	0.7	0.6	2.650	4.6	25.8	62.1	4.5	0.4	2.6	0.63	9.5	26	1400	N.D.(0.12)
N-2	37.5070°	140.9456°		09:58	7.3	525	22.2	0.8	0.7	2.640	4.9	19.9	60.6	9.3	2.6	2.7	0.56	9.5	53	2900	-
N-3	37.4754°	140.9598°		09:25	7.3	470	23.2	0.9	0.7	2.650	0.9	20.8	63.2	9.9	1.7	3.5	0.55	9.5	22	1100	-

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

<Location N along the Ukedo 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	
N-1	The main stream of the Ukedo River	37.4998°	140.9835°	2023/12/4	Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.011	-	-	-	1230	30	1200	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Caddisfly	65	0.0096	Larva	-	-	470	N.D.(20)	470	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	30	2.1	Immature fish, Mature fish	Obscure digesta	Viscera removed	152.6	2.6	150	1.0
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	4.2	Mature fish	Obscure digesta	Viscera removed	101.5	1.5	100	2.0
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.4	Mature fish	Empty stomach	Viscera removed	344.8	4.8	340	1.3
					Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.22	-	-	-	100	N.D.(1.7)	100	-
N-2	The main stream of the Ukedo River	37.5070°	140.9456°	2023/12/3	Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.010	-	-	-	815	15	800	-
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Dragonfly	165	0.050	Larva (Dragonfly larva)	-	-	95	N.D.(4.7)	95	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Nihonogomphus viridis</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Melligomphus viridicostus</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius</i> sp.	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Shaogomphus postocularis</i>	Dragonfly									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	Dragonfly									
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	8	0.49	Mature fish	Obscure digesta	Viscera removed	283.9	3.9	280	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Candidia temminckii</i>	Dark chub	17	0.24	Immature fish, Mature fish	-	-	132.5	2.5	130	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	3	0.19	Immature fish, Mature fish	Obscure digesta	Viscera removed	151.8	1.8	150	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.18	Mature fish	Empty stomach	Viscera removed	375.7	5.7	370	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.88	Mature fish	Empty stomach	Viscera removed	508.2	8.2	500	-
					Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.21	-	-	-	428.2	8.2	420	-
N-3	The main stream of the Takase River	37.4754°	140.9598°	2023/12/3	Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.012	-	-	-	280	N.D.(15)	280	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	<i>Ephemera strigata</i>	Mont mayfly	145	0.0057	Larva	-	-	64	N.D.(17)	64	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria uenoi</i>	Stonefly	116	0.0051	Larva	-	-	N.D.	N.D.(4.4)	N.D.(4.0)	-
					Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria tibialis</i>	Stonefly									
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsariichthys platypus</i>	Pale break	53	0.29	Immature fish, Mature fish	-	-	49	N.D.(1.1)	49	-
					Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.23	-	-	-	274.3	4.3	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 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.