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

<Location N along the Ukedo River: Samples collected>

Items / Locations	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	
Locations	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°	2021/12/8	09:20	09:15	9.2	9.2	Sand sediment	7.5Y5/2	None	0.40	>50
N-2	37.5070°	140.9456°		10:00	10:00	9.2	9.2	Sand	7.5Y6/3	None	0.40	>50
N-3	37.4754°	140.9598°	2021/12/9	14:37	14:37	9.3	9.0	Sand	7.5Y6/3	None	0.20	>50

<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
Locations	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°	2021/12/8	09:20	7.1	0.7	3.2	11.1	7.6	0.04	1.3	5	4.5	0.0039	0.12	0.0025
N-2	37.5070°	140.9456°		10:00	7.3	0.6	2.8	11.5	6.6	0.04	1.2	4	3.8	0.0034	0.12	-
N-3	37.4754°	140.9598°	2021/12/9	14:37	7.3	<0.5	2.7	11.7	7.6	0.04	1.2	8	6.4	N.D.(0.0015)	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	Water content	IL	TOC	Soil particle density	Grain size distribution								Cs-134	Cs-137	Sr-90
											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	Maximum grain diameter			
Locations	Latitude	Longitude	Date	Time (sediment)		$E_{N.HE}$ (mV)	(%)	(%)	(mg/g-dry)	(g/cm^3)	(%)	(%)	(%)	(%)	(%)	(%)	(mm)	(mm)	(Bq/kg-dry)	(Bq/kg-dry)	(Bq/kg-dry)
N-1	37.4998°	140.9835°	2021/12/8	09:15	7.3	121	31.1	3.9	9.9	2.600	0.8	6.4	39.5	34.2	12.6	6.5	0.23	4.8	200	6100	0.45
N-2	37.5070°	140.9456°		10:00	7.3	447	9.9	0.7	1.2	2.640	9.1	39.2	37.2	9.0	0.9	4.6	0.81	9.5	80	2300	-
N-3	37.4754°	140.9598°	2021/12/9	14:37	7.3	455	5.8	0.9	1.4	2.640	4.0	26.7	53.9	10.0	2.1	3.3	0.59	9.5	36	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°	2021/12/8	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0053	-	-	-	1125	25	1100	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	23	0.0057	Larva	-	-	400	N.D.(17)	400	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	*Eriocheir japonica*	Japanese mitten crab	12	0.011	Juvenile	-	-	120	N.D.(11)	120	-
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	*Anguilla japonica*	Japanese eel	1	0.24	Mature fish	Empty stomach	Viscera removed	237.6	7.6	230	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	23	0.16	Immature fish,Mature fish	-	-	135.4	5.4	130	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Cyprinus carpio*	Common carp	1	5.2	Mature fish	Obscure digesta	Viscera removed	443	13	430	2.4
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou*	Yamame trout	1	0.035	Immature fish	-	-	40	N.D.(5.5)	40	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius nagoyae*	Rhinogobius nagoyae	20	0.017	Immature fish,Mature fish	-	-	110	N.D.(6.2)	110	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	*Silurus asotus*	Amur catfish	1	0.0070	Immature fish	-	-	99	N.D.(15)	99	-
					Vertebrata	Amphibia	Anura	Lithobates	*Lithobates catesbeianus*	American bullfrog	8	0.045	Larva(Tadpole)	-	-	265.7	5.7	260	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.25	-	-	-	144.0	4.0	140	-
N-2	The main stream of the Ukedo River	37.5070°	140.9456°	2021/12/8	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.011	-	-	-	1463	63	1400	-
					Arthropoda	Insecta	Ephemeroptera	Isonychiidae	*Isonychia valida*	Isonychia valida	207	0.0077	Larva	-	-	165.8	5.8	160	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Mont mayfly	152	0.0050	Larva	-	-	502	22	480	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	145	0.018	Larva	-	-	348.6	8.6	340	-
					Arthropoda	Insecta	Odonata	Gomphidae	*Melligomphus viridicostus*	Melligomphus viridicostus	72	0.018	Larva(Dragonfly larva)	-	-	78	N.D.(6.2)	78	-
					Arthropoda	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	Sieboldius albardae									
					Arthropoda	Insecta	Odonata	Gomphidae	*Davidius sp.*	Davidius									
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	64	0.054	Larva	-	-	49	N.D.(4.2)	49	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	*Palaemon paucidens*	Common prawn	37	0.033	Imago	-	-	135.6	5.6	130	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	16	0.14	Immature fish,Mature fish	-	-	187.1	7.1	180	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou*	Yamame trout	1	0.025	Immature fish	-	-	154.5	4.5	150	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius nagoyae*	Rhinogobius nagoyae	6	0.012	Immature fish,Mature fish	-	-	190	N.D.(8.8)	190	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius kurodai*	Rhinogobius kurodai									
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	185.5	5.5	180	-
N-3	The main stream of the Takase River	37.4754°	140.9598°	2021/12/8	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0047	-	-	-	440	N.D.(20)	440	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Mont mayfly	343	0.026	Larva	-	-	73	N.D.(5.3)	73	-
					Arthropoda	Insecta	Plecoptera	Perlidae	*Kamimuria tibialis*	Kamimura tibialis	63	0.0059	Larva	-	-	5.5	N.D.(5.1)	5.5	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	146	0.037	Larva	-	-	48	N.D.(3.3)	48	-
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	15	0.015	Larva	-	-	11	N.D.(3.3)	11	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	*Palaemon paucidens*	Common prawn	20	0.015	Juvenile,Imago	-	-	23	N.D.(8.5)	23	-
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus reinii*	Sculpin	7	0.056	Immature fish	-	-	13	N.D.(3.6)	13	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	3	0.026	Immature fish	-	-	86	N.D.(6.4)	86	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Nemacheilus toni*	Stone loach	62	0.26	Immature fish	-	-	15	N.D.(1.2)	15	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius nagoyae*	Rhinogobius nagoyae	18	0.020	Immature fish,Mature fish	-	-	29	N.D.(5.3)	29	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	165.4	5.4	160	-

*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.