○Results of Radioactive Material Monitoring of Aquatic Organisms (Location D along the Mano River)

<Location D along the Mano River: Samples collected>

Items / Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
D-4 a	○	○	○	○	○	○

<Location D along the Mano 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)
D-4 a	37.7308°	140.9081°	2017/8/28	10:18	10:35	19.4	19.5	Sand	2.5Y4/3	Plant pieces a little	0.65	>50

<Location D along the Mano 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)
D-4 a	37.7308°	140.9081°	2017/8/28	10:18	7.2	<0.5	3.0	9.9	8.5	0.05	1.3	<1	1.1	0.0017	0.016	0.0011

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

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

Items / Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential $E_{N.H.E}$	Water content	IL	TOC	Soil particle density	Grain size distribution								Cs-134	Cs-137	Sr-90
	Latitude	Longitude	Date	Time (sediment)		(mV)	(%)	(%)	(mg/g-dry)	(g/cm^3)	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)	(Bq/kg-dry)	(Bq/kg-dry)	(Bq/kg-dry)
D-4 a	37.7308°	140.9081°	2017/8/28	10:35	7.4	267	18.5	1.7	1.7	2.724	24.4	43.0	29.0	2.5	0.2	0.9	1.2	19	42	310	0.75

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

<Location D along the Mano 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
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137	(Bq/kg-wet)
D-3	The main stream of the Mano River	37.7051°	140.9623°	2017/8/22	Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus reinii*	Sculpin	3	0.013	Immature fish	-	-	6.1	N.D.(2.6)	6.1	-
				2017/8/20	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	14	0.21	Immature fish	-	-	8.2	1.0	7.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Zacco platypus*	Pale chub	3	0.085	Mature fish	-	-	5.43	0.93	4.5	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	122	1.7	Immature fish,Mature fish	-	-	26.8	2.8	24	0.11
D-4b	The main stream of the Mano River	37.7312°	140.9096°	2017/8/22	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0065	-	-	-	172	22	150	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	25	0.0072	Larva	-	-	37	N.D.(5.0)	37	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii	23	0.0024	Larva (Dragonfly larva)	-	-	16	N.D.(22)	16	-
					Arthropoda	Insecta	Odonata	Gomphidae	*Onychogomphus viridicostus*	Melligomphus viridicostus									
					Arthropoda	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	Sieboldius albardae									
					Arthropoda	Insecta	Odonata	Gomphidae	*Davidius sp.*	Davidius									
					Arthropoda	Insecta	Odonata	Libellulidae	*Sympetrum sp.*	Sympetrum									
					Arthropoda	Insecta	Odonata	Aeshnidae	*Boyeria maclachlani*	Boyeria maclachlani									
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	15	0.0060	Larva	-	-	15	N.D.(8.1)	15	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	*Palaemon paucidens*	Common prawn	11	0.0057	Juvenile,Imago	-	-	22	N.D.(6.9)	22	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	*Paratya improvisa*	Freshwater shrimp	251	0.061	Juvenile,Imago	-	-	20.5	2.5	18	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	*Eriocheir japonica*	Japanese mitten crab	2	0.047	Juvenile	-	-	29.2	3.2	26	-
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	*Anguilla japonica*	Japanese eel	3	0.83	Immature fish,Mature fish	Obscure digesta	Viscera removed	65.9	6.9	59	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Phoxinus lagowskii steindachneri*	Amur Minnow	8	0.028	Immature fish,Mature fish	-	-	10.3	3.1	7.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	1	0.036	Immature fish	Obscure digesta	Viscera removed	17.6	2.6	15	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Zacco platypus*	Pale chub	2	0.0068	Immature fish	-	-	18	N.D.(13)	18	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Gnathopogon elongatus elongatus*	Gnathopogon elongatus elongatus	3	0.0096	Immature fish	-	-	15	N.D.(3.9)	15	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Cobitis biwae*	Cobitis biwae	5	0.011	Mature fish	-	-	23.3	4.3	19	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	16	0.11	Immature fish	-	-	106	12	94	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	*Micropterus dolomieu*	Small mouth bass	2	0.040	Immature fish	Fish,Freshwater shrimp	Viscera removed	28.8	2.8	26	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Gymnogobius urotaenia*	Goby	5	0.0095	Immature fish	-	-	21	N.D.(5.0)	21	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius sp. CB*	Rhinogobius nagoyae	16	0.029	Immature fish,Mature fish	-	-	19.6	2.6	17	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius kurodai*	Rhinogobius kurodai									
					Vertebrata	Osteichthyes	Siluriformes	Bagridae	*Pseudobagrus tokiensis*	Cut-tailed bullhead	1	0.0076	Immature fish	-	-	9.9	N.D.(6.7)	9.9	-
					Vertebrata	Cephalaspidomorphi	Petromyzontiformes	Petromyzontidae	*Lampetra reissneri*	Far eastern brook lamprey	2	0.0037	Ammocoetes larva	-	-	N.D.	N.D.(9.1)	N.D.(10)	-
					Vertebrata	Amphibia	Anura	Ranidae	*Rana catesbeiana*	American Bullfrog	1	0.31	Imago	-	-	12.6	1.6	11	-
					Vertebrata	Amphibia	Anura	Hylidae	*Hyla japonica*	Japanese tree flog	6	0.0047	Imago	-	-	8.5	N.D.(7.9)	8.5	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.24	-	-	-	61.9	7.9	54	-
D-5	The main stream of the Mano River	37.7214°	140.8889°	2017/8/22	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	17	0.14	Immature fish	-	-	25.1	4.1	21	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou*	Yamame trout	1	0.0089	Immature fish	-	-	23	N.D.(6.3)	23	-

*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.