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

<Location D along the Mano River: Samples collected>

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

<Location D along the Mano 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)
D-4 a	37.7308°	140.9081°	2018/8/28	09:38	10:08	20.4	20.5	Sand	2.5Y4/2	None	0.39	>50

<Location D along the Mano 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)
D-4 a	37.7308°	140.9081°	2018/8/28	09:38	7.2	0.8	3.0	9.2	9.5	0.06	1.3	1	1.1	0.0025	0.023	0.0013

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	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
Locations	Latitude	Longitude	Date	Time (sediment)		E_{NHE} (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°	2018/8/28	10:08	7.4	301	17.7	1.6	1.7	2.711	15.7	47.4	33.4	2.5	1.0		1.1	9.5	24	250	0.86

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°	2018/8/27	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	14	0.20	Immature fish	-	-	7.1	N.D.(2.0)	7.1	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Opsariichthys platypus*	Pale chub	19	0.27	Immature fish,Mature fish	-	-	4.5	N.D.(1.7)	4.5	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Gnathopogon elongatus elongatus*	Gnathopogon elongatus elongatus	62	0.23	Immature fish,Mature fish	-	-	11	N.D.(1.8)	11	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis altivelis*	Sweetfish	128	2.7	Immature fish,Mature fish	-	-	19.4	1.4	18	0.12
D-4 b	The main stream of the Mano River	37.7312°	140.9096°	2018/8/28	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0066	-	-	-	34	N.D.(24)	34	-
					Algae/plant	Monocotyledoneae	Najadales	Potamogetonaceae	*Potamogeton crispus*	Curly-leaf pondweed	-	0.12	-	-	-	17.8	2.8	15	-
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	27	0.012	Larva	-	-	16	N.D.(19)	16	-
					Arthropoda	Malacostraca	Decapoda	Cambaridae	*Procambarus clarkii*	Red swamp crawfish	3	0.024	Juvenile,Imago	-	-	19	N.D.(9.3)	19	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	*Paratya improvisa*	Freshwater shrimp	153	0.0099	Juvenile	-	-	15	N.D.(17)	15	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	*Semisulcospira libertina*	Semisulcospira libertina	30	0.024	Imago	-	Molluscous part	27	N.D.(7.4)	27	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Phoxinus lagowskii steindachneri*	Amur Minnow	7	0.0094	Immature fish,Mature fish	-	-	11	N.D.(4.2)	11	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Opsariichthys platypus*	Pale chub	49	0.12	Immature fish	-	-	21.2	3.2	18	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Misgurnus anguillicaudatus*	Oriental weatherfish	6	0.020	Immature fish,Mature fish	-	-	22	N.D.(8.3)	22	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis altivelis*	Sweetfish	20	0.12	Immature fish	-	-	36.1	4.1	32	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius fluviatilis*	Rhinogobius fluviatilis	9	0.036	Mature fish	-	-	22	N.D.(4.7)	22	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius nagoyae*	Rhinogobius nagoyae									
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.20	-	-	-	31.3	3.3	28	-
D-5	The main stream of the Mano River	37.7214°	140.8889°	2018/8/27	Vertebrata	Osteichthyes	Siluriformes	Siluridae	*Silurus asotus*	Amur catfish	1	0.13	Immature fish	Obscure digesta	Viscera removed	55.0	5.0	50	-

*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.