○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°	2022/8/18	08:42	08:47	19.7	20.1	Sand	10YR4/3	None	0.21	>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°	2022/8/18	08:42	7.0	<0.5	2.5	8.8	9.7	0.08	1.1	2	1.3	N.D.(0.0014)	0.014	0.00081

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_{NHE}	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			
	Latitude	Longitude	Date	Time (sediment)		(mV)	(%)	(%)	(mg/g-dry)	(g/cm^3)	(%)	(%)	(%)	(%)	(%)	(%)	(mm)	(mm)	(Bq/kg-dry)	(Bq/kg-dry)	(Bq/kg-dry)
D-4 a	37.7308°	140.9081°	2022/8/18	08:47	7.8	441	19.3	1.8	2.4	2.690	29.4	41.5	14.1	4.6	4.9	5.5	1.3	9.5	2.8	110	0.55

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
													Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137	(Bq/kg-wet)
D-4 b	The main stream of the Mano River	37.7312°	140.9096°	2022/8/18	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0060	-	-	-	54	N.D.(8.9)	54	-
					Algae/plant	Zygnematophyceae	Zygnematales	Zygnemataceae	*Spirogyra* sp.	Spirogyra	-	0.31	-	-	-	4.1	N.D.(0.33)	4.1	-
					Arthropoda	Insecta	Odonata	Corduliidae	*Macromia amphigena amphigena*	*Macromia amphigena amphigena*	80	0.025	Larva (Dragonfly larva)	-	-	5.1	N.D.(1.5)	5.1	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	*Anotogester sieboldii*									
					Arthropoda	Insecta	Odonata	Gomphidae	*Stylogomphus suzukii*	*Stylogomphus suzukii*									
					Arthropoda	Insecta	Odonata	Gomphidae	*Melligomphus viridicostus*	*Melligomphus viridicostus*									
					Arthropoda	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	*Sieboldius albardae*									
					Arthropoda	Insecta	Odonata	Gomphidae	*Davidius* sp.	Davidius									
					Arthropoda	Insecta	Odonata	Gomphidae	*Shaogomphus postocularis*	*Shaogomphus postocularis*									
					Arthropoda	Insecta	Odonata	Gomphidae	*Asiagomphus melaenops*	*Asiagomphus melaenops*									
					Arthropoda	Insecta	Odonata	Aeshnidae	*Boyeria maclachlani*	*Boyeria maclachlani*									
					Arthropoda	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	*Protohermes grandis*	35	0.017	Larva	-	-	2.7	N.D.(1.9)	2.7	-
					Arthropoda	Malacostraca	Decapoda	Cambaridae	*Procambarus clarkii*	Red swamp crawfish	3	0.073	Imago	-	-	7.2	N.D.(1.2)	7.2	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	*Palaemon paucidens*	Common prawn	55	0.066	Imago	-	-	3.4	N.D.(0.74)	3.4	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	*Paratya improvisa*	Freshwater shrimp	320	0.069	Juvenile,Imago	-	-	3.7	N.D.(0.84)	3.7	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	*Eriocheir japonica*	Japanese mitten crab	17	0.48	Juvenile	-	-	4.8	N.D.(0.90)	4.8	-
					Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	*Anguilla japonica*	Japanese eel	3	1.2	Mature fish	Fish	Viscera removed	17	N.D.(1.2)	17	0.097
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus reinii*	Sculpin	3	0.10	Immature fish	-	-	5.0	N.D.(0.64)	5.0	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	8	0.17	Immature fish, Mature fish	-	-	7.2	N.D.(0.93)	7.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Opsariichthys platypus*	Pale chub	150	0.42	Immature fish	-	-	6.2	N.D.(0.66)	6.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Pseudogobio esocinus esocinus*	*Pseudogobio esocinus esocinus*	9	0.13	Immature fish, Mature fish	-	-	6.9	N.D.(1.1)	6.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Gnathopogon elongatus elongatus*	*Gnathopogon elongatus elongatus*	4	0.022	Immature fish, Mature fish	-	-	5.5	N.D.(1.8)	5.5	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Cobitis biwae*	*Cobitis biwae*	35	0.084	Immature fish, Mature fish	-	-	4.8	N.D.(0.77)	4.8	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	*Plecoglossus altivelis altivelis*	Sweetfish	123	1.7	Immature fish, Mature fish	-	-	15	N.D.(1.1)	15	0.25
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Gymnogobius urotaenia*	Goby	2	0.034	Immature fish	-	-	12	N.D.(1.3)	12	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius fluviatilis*	*Rhinogobius fluviatilis*	119	0.32	Mature fish	-	-	5.7	N.D.(0.69)	5.7	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius nagoyae*	*Rhinogobius nagoyae*									
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius* sp.	Rhinogobius									
					Vertebrata	Osteichthyes	Siluriformes	Bagridae	*Tachysurus tokiensis*	Cut-tailed bullhead	1	0.025	Mature fish	-	-	4.3	N.D.(1.4)	4.3	-
					Vertebrata	Amphibia	Anura	Ranidae	*Rana japonica*	Japanese brown frog	3	0.0099	Imago	-	-	4.2	N.D.(2.7)	4.2	-
					Vertebrata	Amphibia	Anura	Hylidae	*Hyla japonica*	Japanese tree flog									
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.26	-	-	-	16	N.D.(1.1)	16	-

*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.