

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

<Location D along the Mano River: Samples collected>

Locations	Items	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>

Locations	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)
D-4 a		37.7308°	140.9081°	2024/8/27	08:35	08:58	20.9	21.2	Sand	2.5Y3/3	None	0.30	>50

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

Locations	Items	Latitude and longitude of the location		Survey date and time		pH	BOD (mg/L)	COD (mg/L)	DO (mg/L)	Electric conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
		Latitude	Longitude	Date	Time (water)												
D-4 a		37.7308°	140.9081°	2024/8/27	08:35	7.4	1.2	3.2	9.2	11.9	0.06	1.4	5	2.7	N.D.(0.0012)	0.0065	0.0012

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>

Locations	Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E <sub>NHLE</sub> (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm <sup>3</sup> )	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)
D-4 a		37.7308°	140.9081°	2024/8/27	08:58	7.3	483	22.0	2.7	2.5	2.620	23.3	31.4	24.2	17.9	3.2	0.98	4.8	2.7	150	1.2	

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 (Bq/kg-wet)
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137	
D-3	The main stream of the Mano River	37.7051°	140.9623°	2024/8/22	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	69	1.2	Immature fish, Mature fish	-	-	4.7	N.D.(0.34)	4.7	0.12
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Pale chub	107	1.6	Immature fish, Mature fish	-	-	3.0	N.D.(0.28)	3.0	0.22
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudogobio esocinus esocinus</i>	<i>Pseudogobio esocinus esocinus</i>	7	0.11	Immature fish, Mature fish	-	-	2.6	N.D.(0.53)	2.6	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	102	2.0	Immature fish, Mature fish	-	-	9.2	N.D.(1.1)	9.2	0.095
D-4 b	The main stream of the Mano River	37.7312°	140.9096°	2024/8/21	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0071	-	-	56	N.D.(5.4)	56	-	
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	86	0.025	Larva	-	-	20	N.D.(4.2)	20	-
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	130	0.035	Larva (Dragonfly larva)	-	-	2.8	N.D.(1.3)	2.8	-
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Nihogomphus viridis</i>	<i>Nihogomphus viridis</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Melligomphus viridicostus</i>	<i>Melligomphus viridicostus</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius</i> sp.	<i>Davidius</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Shaogomphus postocularis</i>	<i>Shaogomphus postocularis</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	<i>Asiagomphus melaenops</i>									
					Arthropoda	Insecta	Odonata	Libellulidae	<i>Orthetrum albistylum speciosum</i>	Common skimmer									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Anax parthenope julius</i>	<i>Anax parthenope julius</i>									
					Arthropoda	Insecta	Odonata	Aeshnidae	<i>Anax nigrofasciatus nigrofasciatus</i>	<i>Anax nigrofasciatus nigrofasciatus</i>									
					Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>									
					Arthropoda	Malacostraca	Decapoda	Cambaridae	<i>Procambarus clarkii</i>	Red swamp crawfish	6	0.030	Juvenile, Imago	-	-	3.1	N.D.(1.4)	3.1	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucidens</i>	Common prawn	17	0.026	Imago	-	-	3.6	N.D.(1.4)	3.6	-
					Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	304	0.061	Juvenile	-	-	4.0	N.D.(0.71)	4.0	-
					Arthropoda	Malacostraca	Decapoda	Varunidae	<i>Eriocheir japonica</i>	Japanese mitten crab	6	0.024	Juvenile	-	-	6.1	N.D.(1.7)	6.1	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	<i>Semisulcospira libertina</i>	<i>Semisulcospira libertina</i>	29	0.016	Juvenile, Imago	-	Molluscos part	4.7	N.D.(2.7)	4.7	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsarichthys platypus</i>	Pale chub	135	0.67	Immature fish	-	-	3.0	N.D.(0.73)	3.0	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	<i>Gnathopogon elongatus elongatus</i>	30	0.13	Immature fish, Mature fish	-	-	4.3	N.D.(0.73)	4.3	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Cobitis biwae</i>	<i>Cobitis biwae</i>	11	0.029	Immature fish, Mature fish	-	-	3.4	N.D.(1.1)	3.4	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	10	0.23	Immature fish, Mature fish	-	-	23	N.D.(1.3)	23	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	1	0.017	Immature fish	-	-	5.3	N.D.(2.3)	5.3	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	<i>Rhinogobius fluviatilis</i>	28	0.094	Immature fish, Mature fish	-	-	3.7	N.D.(0.60)	3.7	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius nagoyae</i>	<i>Rhinogobius nagoyae</i>									
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius castaneus</i>	Chestnut goby	12	0.016	Immature fish, Mature fish	-	-	2.9	N.D.(2.7)	2.9	-
Vertebrata	Osteichthyes	Siluriformes	Bagridae	<i>Tachysurus tokiensis</i>	Cut-tailed bullhead	3	0.036	Immature fish, Mature fish	-	-	2.1	N.D.(1.2)	2.1	-					
Vertebrata	Amphibia	Anura	-	-	Frog	5	0.0086	Larva (Tadpole)	-	-	6.0	N.D.(5.0)	6.0	-					
Vertebrata	Amphibia	Anura	Lithobates	<i>Lithobates catesbeianus</i>	American bullfrog	1	0.18	Imago	-	-	2.1	N.D.(0.40)	2.1	-					
Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	28	N.D.(1.1)	28	-					

\*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.