○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-1	○	○	○	○	○	○
D-2	○	○	○	—	○	—
D-3	○	○	○	—	○	—
D-4a	○	○	○	—	○	—
D-4b	○	—	○	—	—	—
D-5	○	○	○	—	○	—

＜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-1	37.733100°	140.925400°	2014/7/4	11:19	11:40	18.3	18.5	Sediment with sand	2.5Y3/3	Pebbles, plant	0.69	>50.0
D-2	37.709450°	140.956583°		14:02	14:18	18.9	18.4	Sand	2.5Y3/2	Pebbles, plant	0.90	>50.0
D-3	37.705100°	140.962250°		15:02	15:08	18.4	18.3	Sand	2.5Y4/4	Pebbles	1.20	>50.0
D-4a	37.730833°	140.908050°		9:26	9:41	18.1	17.9	Sand	2.5Y4/3	Pebbles, plant	0.85	>50.0
D-4b	37.731217°	140.909633°		10:25	—	18.3	—	—	—	—	0.62	>50.0
D-5	37.721383°	140.888883°		7:54	8:18	17.9	15.5	Sand	2.5Y3/1	Pebbles	0.90	>50.0

＜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	Electrical conductivity	Salinity	TOC	SS	Turbidity	Cs-134	Cs-137	Sr-90
Locations	Latitude	Longitude	Date	Time		(mg/L)	(mg/L)	(mg/L)	(mS/m)		(mg/L)	(mg/L)	(FNU)	(Bq/L)	(Bq/L)	(Bq/L)
D-1	37.733100°	140.925400°	2014/7/4	11:19	7.2	<0.5	3.1	9.9	7.0	0.04	1.6	2	2.2	0.032	0.083	0.0014
D-2	37.709450°	140.956583°		14:02	7.2	<0.5	3.1	9.3	7.9	0.04	1.5	3	2.5	0.027	0.068	—
D-3	37.705100°	140.962250°		15:02	7.2	<0.5	2.7	9.1	8.5	0.05	1.4	2	2.1	0.023	0.059	—
D-4a	37.730833°	140.908050°		9:26	7.3	<0.5	3.1	9.1	9.2	0.04	1.6	2	1.6	0.047	0.13	—
D-4b	37.731217°	140.909633°		10:25	7.4	<0.5	3.2	9.0	7.2	0.04	1.6	3	1.7	0.044	0.11	—
D-5	37.721383°	140.888883°		7:54	7.4	<0.5	3.2	9.5	7.2	0.16	1.8	3	2.3	0.038	0.097	—

＜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 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			
Locations	Latitude	Longitude	Date	Time		(mV)	(%)	(%)	(mg/g-dry)	(g/cm3)	(%)	(%)	(%)	(%)	(%)	(%)	(mm)	(mm)	(Bq/kg-dry)	(Bq/kg-dry)	(Bq/kg-dry)
D-1	37.733100°	140.925400°	2014/7/4	11:40	6.7	205	19.2	2.2	2.4	2.698	49.1	15.6	20.3	10.4	1.2	3.4	1.9	19	360	1,100	1.4
D-2	37.709450°	140.956583°		14:18	6.8	231	14.8	1.1	1.6	2.710	51.6	31.5	15.2	0.8	0.2	0.7	2.1	19	130	380	—
D-3	37.705100°	140.962250°		15:08	6.7	235	19.5	1.6	2.2	2.697	22.3	16.1	52.8	6.9	0.5	1.4	0.66	26.5	32	85	—
D-4a	37.730833°	140.908050°		9:41	7.1	249	19.0	1.6	1.5	2.713	36.4	44.1	16.9	2.0	0.2	0.4	1.5	19	270	890	—
D-5	37.721383°	140.888883°		8:18	7.4	223	22.2	2.2	1.7	2.710	25.7	33.7	35.5	3.5	0.3	1.3	1.0	26.5	70	190	—

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＞

Location		Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species name	English name	Population	Sample weight (kg-wet)	Note			Cs-134	Cs-137	Sr-90
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	(Bq/kg-wet)	(Bq/kg-wet)	(Bq/kg-wet)
D-4a D-4b	—	37.730833° 37.731217°	140.908050° 140.909633°	2014/6/29 2014/7/2 2014/7/4 2014/7/16 2014/7/17	Algae/plant	—	—	—	—	River bottom materials (incl. algae)	Considerable number	0.063	—	—	—	51	170	—
					Angiospermae	Monocotyledoneae	Najadales	Potamogetonacea	*Potamogeton berchtoldii*	Small pondweed	Considerable number	0.38	—	—	—	6.3	19	—
					Arthropod	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	957	0.16	Larva	—	—	62	180	—
					Arthropod	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	145	0.050	Larva	—	—	11	28	—
					Arthropod	Malacostraca	Decapoda	Procambarus	*Procambarus clarkii*	Red swamp crawfish	14	0.34	Imago	—	—	72	200	—
					Arthropod	Malacostraca	Decapoda	Atyidae	*Atyidae*	Freshwater shrimp	557	0.11	Imago	—	—	40	110	—
					Arthropod	Malacostraca	Decapoda	Grapsidae	*Eriocheir japonica*	Japanese mitten crab	6	0.040	Imago	—	—	42	110	—
					Mollusca	Bivalvia	Unionoida	Unionidae Rafinesque	*Inversiunio yokohamensis*	Inversiunio yokohamensis	54	0.23	Imago	—	Molluscan body	52	150	—
					Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	*Semisulcospira libertina*	Semisulcospira libertina	21	0.052	Imago	—	Molluscan body	31	83	—
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	*Plecoglossus altivelis*	Sweetfish	14	0.37	Mature fish	Some (details unknown)	Viscera removed	20	53	—
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Carassius auratus*	Carassius auratus langsdorfii	1	0.017	Immature fish(1-year-old)	Some (details unknown)	Viscera removed	73	220	—
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Phoxinus lagowskii steindachneri*	Amur Minnow	4	0.018	Mature fish (1-year-old)	—	—	12	32	—
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Zacco platypus*	Pale chub	3	0.029	Mature fish (1-year-old)	Algae	Viscera removed	39	120	—
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Misgurnus anguillicaudatus*	Oriental weatherfish	2	0.016	Mature fish	—	—	41	120	—
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	*Rhinogobius sp.*	R. sp. CB	6	0.015	Mature fish	—	—	46	130	—
					Vertebrata	Amphibia	Anura	Ranidae	*Rana rugosa*	Wrinkled Frog	1	0.017	Imago	—	—	13	37	—
					Vertebrata	Amphibia	Anura	—	—	Frogs	2	0.028	Larva (tadpoles)	—	—	250	700	—
					Coarse particulate organic matters	—	—	—	—	Fallen leaves	Considerable number	0.42	—	—	—	100	290	—

*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 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: A statement in red in the "Growth stage" column shows the age assessed based on squama or otolith
*6: Plankton (suspended algae) is the residue remaining after the filtration of lake water or seawater with a plankton net (40μm-mesh).
*7: 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.
*8: N.D. means to be below the detection limit and figures in parentheses show the detection limit.
*9: Activity concentrations include counting errors, but the details are omitted here.