○Results of Radioactive Material Monitoring of Aquatic Organisms (Locations A and B along the Abukuma River)

<Locations A and B along the Abukuma River: Samples collected>

Items / Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
A-1	○	○	○	○	○	○
A-2	○	○	○	-	○	-
B-2	○	○	○	-	○	-
B-3	○	○	○	-	○	-

<Locations A and B along the Abukuma 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)
A-1(Surface layer)	37.6210°	140.5218°	2021/10/20	09:18	09:35	14.3	15.2	Silt	5Y3/2	None	5.40	>50 (1.3m)*
A-1(Bottom layer)				09:03								
A-2	37.5673°	140.3946°		11:16	11:27	14.0	14.0	Sand	2.5YR4/3	None	0.55	>50
B-2	37.8121°	140.5058°		14:45	14:50	15.8	14.0	Sand	10YR3/1	None	0.55	>50
B-3	37.8182°	140.4679°		13:25	13:40	14.5	13.9	Sand	10YR3/4	None	0.50	>50

* The number in parentheses indicates Secchi disk depth.

<Locations A and B along the Abukuma 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)
A-1(Surface layer)	37.6210°	140.5218°	2021/10/20	09:18	7.6	1.1	4.0	9.7	18.7	0.09	1.7	6	3.6	N.D.(0.0014)	0.0069	0.0012
A-1(Bottom layer)				09:03	7.6	1.0	4.4	10.0	18.9	0.09	1.8	7	3.9	N.D.(0.0015)	0.0059	-
A-2	37.5673°	140.3946°		11:16	7.6	<0.5	2.8	10.4	12.2	0.06	1.0	4	2.6	N.D.(0.0015)	0.0077	-
B-2	37.8121°	140.5058°		14:45	7.6	0.6	4.2	10.3	17.2	0.09	1.8	9	5.0	N.D.(0.0016)	0.026	-
B-3	37.8182°	140.4679°		13:25	7.8	<0.5	3.3	11.0	9.9	0.05	1.4	4	2.2	N.D.(0.0015)	0.0067	-

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

<Locations A and B along the Abukuma River: General survey items/Analysis of radioactive materials Sediment>

Items / Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential $E_{N.H.E}$ (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm^3)	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)			
A-1	37.6210°	140.5218°	2021/10/20	09:35	7.1	2	47.6	10.6	31.0	2.544	0.0	0.0	0.7	6.9	58.2	34.2	0.012	2.0	26	660	0.47
A-2	37.5673°	140.3946°		11:27	7.2	128	19.6	3.0	5.7	2.716	21.8	32.0	26.0	8.2	4.2	7.8	0.94	9.5	7.2	200	-
B-2	37.8121°	140.5058°		14:50	7.4	425	21.7	1.5	2.7	2.766	0.0	1.0	72.0	23.0	0.7	3.3	0.33	2.0	2.3	69	-
B-3	37.8182°	140.4679°		13:40	7.5	399	13.8	1.1	1.2	2.631	43.1	29.9	11.8	6.6	5.4	3.2	1.7	9.5	0.97	39	-

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

<Locations A and B along the Abukuma 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	
A-1	The main stream of the Abukuma River	37.6210°	140.5218°	2021/10/17	Arthropoda	Malacostraca	Decapoda	Atyidae	*Neocaridina sp.*	Neocaridina	228	0.049	Juvenile,Imago	-	-	2.8	N.D.(0.88)	2.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	19	0.30	Immature fish,Mature fish	-	-	5.8	N.D.(0.60)	5.8	-
					Vertebrata	Amphibia	Anura	Ranidae	*Rana japonica*	Japanese brown frog	7	0.043	Imago	-	-	34	N.D.(2.7)	34	-
					Vertebrata	Amphibia	Anura	Lithobates	*Lithobates catesbeianus*	American bullfrog									
					Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0096	-	-	-	69	N.D.(8.4)	69	-
A-2	Harase River	37.5673°	140.3946°	2021/10/17	Arthropoda	Insecta	Odonata	Corduliidae	*Macromia amphigena amphigena*	Macromia amphigena	65	0.052	Larva(Dragonfly larva)	-	-	9.3	N.D.(1.2)	9.3	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii									
					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	*Asiagomphus melaenops*	Asiagomphus melaenops									
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	2	0.019	Immature fish	-	-	8.0	N.D.(2.5)	8.0	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou*	Yamame trout	6	0.11	Immature fish	-	-	6.5	N.D.(1.4)	6.5	-
B-2	The main stream of the Abukuma River	37.8121°	140.5058°	2021/10/16	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	5	0.95	Mature fish	Obscure digesta	Viscera removed	3.6	N.D.(0.60)	3.6	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Hemibarbus barbus*	Hemibarbus barbus	3	3.9	Mature fish	Obscure digesta	Viscera removed	6.5	N.D.(0.82)	6.5	-
B-3	Surikami River	37.8182°	140.4679°	2021/10/27	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.027	-	-	-	42	N.D.(3.4)	42	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Mont mayfly	1070	0.054	Larva	-	-	7.5	N.D.(0.67)	7.5	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	473	0.086	Larva	-	-	7.8	N.D.(0.80)	7.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	12	0.040	Immature fish	-	-	2.9	N.D.(1.3)	2.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Hemibarbus barbus*	Hemibarbus barbus	3	0.020	Immature fish	-	-	2.1	N.D.(2.0)	2.1	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou masou*	Seema	1	0.58	Mature fish	Obscure digesta	Viscera removed	0.80	N.D.(0.61)	0.80	-

*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.