○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°	2022/12/9	08:50	09:25	6.1	8.0	Silt	5Y3/2	None	6.00	>50 (1.5m)*
A-1(Bottom layer)				09:05		6.0						
A-2	37.5673°	140.3946°		10:50	11:00	6.8	7.9	Sand with gravel	10YR3/4	None	0.26	>50
B-2	37.8121°	140.5058°		14:50	14:55	9.0	9.0	Sand	10YR4/2	None	0.66	>50
B-3	37.8182°	140.4679°		13:25	13:35	10.1	9.5	Sand with gravel	10YR4/4	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°	2022/12/9	08:50	7.4	1.9	3.6	11.9	21.7	0.11	1.6	5	2.5	N.D.(0.0014)	0.0052	0.00072
A-1(Bottom layer)				09:05	7.5	2.1	3.6	12.1	21.7	0.10	1.6	7	2.8	N.D.(0.0015)	0.021	-
A-2	37.5673°	140.3946°		10:50	7.6	0.6	2.1	12.7	11.6	0.06	0.9	<1	0.6	N.D.(0.0014)	0.0037	-
B-2	37.8121°	140.5058°		14:50	7.5	1.6	3.3	12.6	22.1	0.11	1.4	5	2.4	N.D.(0.0015)	0.0068	-
B-3	37.8182°	140.4679°		13:25	7.7	0.5	2.6	12.5	10.8	0.06	1.2	2	0.9	N.D.(0.0015)	0.0037	-

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_{NHE} (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)
											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)			
	Latitude	Longitude	Date	Time (sediment)																	
A-1	37.6210°	140.5218°	2022/12/9	09:25	7.3	54	58.5	12.4	40.3	2.450	0.0	0.0	0.5	2.9	32.0	64.6	0.0026	2.0	14	620	0.44
A-2	37.5673°	140.3946°		11:00	7.4	456	18.8	1.1	2.0	2.750	43.9	33.3	14.3	1.5	2.9	4.1	1.7	19	1.3	55	-
B-2	37.8121°	140.5058°		14:55	7.4	484	26.6	1.8	2.5	2.720	0.0	0.5	42.7	45.1	6.5	5.2	0.22	2.0	2.2	81	-
B-3	37.8182°	140.4679°		13:35	7.5	489	21.3	1.3	1.9	2.610	30.9	36.4	23.0	2.7	3.0	4.0	1.3	4.8	1.2	40	-

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
		Latitude	Longitude										Growth stage	Stomach contents	Measurement site	Total	Cs-134	Cs-137	(Bq/kg-wet)
A-1	The main stream of the Abukuma River	37.6210°	140.5218°	2022/12/3	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.013	-	-	-	53	N.D.(9.2)	53	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	9	0.045	Immature fish	-	-	2.8	N.D.(1.0)	2.8	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.21	-	-	-	11	N.D.(1.5)	11	-
A-2	Harase River	37.5673°	140.3946°	2022/12/3	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.017	-	-	-	220	N.D.(11)	220	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Mont mayfly	163	0.013	Larva	-	-	15	N.D.(3.3)	15	-
					Arthropoda	Insecta	Plecoptera	Perlidae	*Oyamia lugubris*	*Oyamia lugubris*	59	0.015	Larva	-	-	3.1	N.D.(2.6)	3.1	-
					Arthropoda	Insecta	Plecoptera	Perlidae	*Kamimuria tibialis*	*Kamimura tibialis*									
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	*Stenopsyche marmorata*	211	0.073	Larva	-	-	7.2	N.D.(0.63)	7.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Opsariichthys platypus*	Pale chub	9	0.030	Immature fish	-	-	4.4	N.D.(1.7)	4.4	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou masou*	Yamame trout	1	0.014	Immature fish	-	-	2.8	N.D.(2.6)	2.8	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.22	-	-	-	12	N.D.(1.3)	12	-
B-2	The main stream of the Abukuma River	37.8121°	140.5058°	2022/12/1	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Hemibarbus barbus*	*Hemibarbus barbus*	2	2.9	Mature fish	Obscure digesta	Viscera removed	5.5	N.D.(0.98)	5.5	0.49
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus keta*	Salmon	1	3.4	Mature fish	Empty stomach	Viscera removed	N.D.	N.D.(0.29)	N.D.(0.25)	-
B-3	Surikami River	37.8182°	140.4679°	2022/12/3	Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.013	-	-	-	23	N.D.(2.4)	23	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Mont mayfly	607	0.040	Larva	-	-	8.5	N.D.(1.1)	8.5	-
					Arthropoda	Insecta	Plecoptera	Perlidae	*Kamimuria tibialis*	*Kamimura tibialis*	370	0.025	Larva	-	-	N.D.	N.D.(1.7)	N.D.(1.4)	-
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus pollux*	Japanese fluvial sculpin	4	0.044	Immature fish	-	-	1.3	N.D.(1.2)	1.3	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.22	-	-	-	6.6	N.D.(1.2)	6.6	-

*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.