○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-1	○	○	○	—	○	-
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	
	Scheduled latitude	Scheduled 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°	2015/10/20	9:03	9:15	17.6	17.7	Sediment with sand	2.5Y3/1	Fallen leaves/plant	6.90	>50 (1.8m)*
A-1(Deep layer)	37.6210°	140.5218°		8:38		17.5						
A-2	37.5673°	140.3946°		10:53	10:47	14.7	14.9	Sand	10YR4/3	None	0.78	>50
B-1	37.7843°	140.4924°		15:08	15:00	19.1	19.2	Sediment with sand	2.5Y4/2	Plant	0.20	>50
B-2	37.8121°	140.5058°		14:02	13:57	18.3	18.5	Fine sand	2.5Y4/4	None	0.31	>50
B-3	37.8182°	140.4679°		13:06	13:01	15.7	15.8	Sand	2.5Y3/2	None	0.28	>50

* The numbers in ( ) indicates the degree of transparency.

＜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 (mg/L)	COD (mg/L)	DO (mg/L)	Electrical conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
	Scheduled latitude	Scheduled longitude	Date	Time (water)												
A-1(Surface layer)	37.6210°	140.5218°	2015/10/20	9:03	7.5	1.3	3.8	9.6	19.4	0.10	1.5	2	2.3	0.0037	0.014	0.0010
A-1(Deep layer)	37.6210°	140.5218°		8:38	7.5	1.4	4.0	9.7	22.4	0.11	1.6	4	2.2	0.0039	0.017	-
A-2	37.5673°	140.3946°		10:53	7.7	0.6	2.4	10.6	10.8	0.06	0.8	1	1.5	0.0056	0.019	-
B-1	37.7843°	140.4924°		15:08	8.8	1.3	3.9	12.1	20.6	0.10	1.4	4	2.4	0.0028	0.010	-
B-2	37.8121°	140.5058°		14:02	8.6	1.3	3.7	12.0	18.4	0.10	1.4	4	2.5	0.0023	0.010	-
B-3	37.8182°	140.4679°		13:06	7.9	0.6	2.9	10.9	8.0	0.04	1.2	2	1.4	0.0018	0.0065	-

＜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 EN.H.E (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm3)	Grain size distribution								Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
	Scheduled latitude	Scheduled 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 (0.005-0.0075mm) (%)	Clay (Less than 0.005mm) (%)	Median grain diameter	Maximum grain diameter			
A-1	37.6210°	140.5218°	2015/10/20	9:15	7.0	197	34.0	4.5	16.7	2.686	4.9	24.6	28.5	16.3	12.5	13.2	0.37	9.5	33	130	0.26
A-2	37.5673°	140.3946°		10:47	7.0	359	14.8	1.5	1.5	2.721	40.2	44.2	14.4	0.6	0.0	0.6	1.7	9.5	28	120	-
B-1	37.7843°	140.4924°		15:00	7.1	235	33.0	3.5	7.1	2.712	20.0	12.9	15.3	27.6	14.4	9.8	0.24	9.5	170	680	-
B-2	37.8121°	140.5058°		13:57	7.1	303	27.5	1.9	1.6	2.762	0.0	0.8	56.5	40.5	0.3	1.9	0.27	4.8	35	160	-
B-3	37.8182°	140.4679°		13:01	7.0	351	20.8	1.9	1.5	2.686	19.0	28.1	40.1	10.3	0.5	2.0	0.79	9.5	28	140	-

＜Locations A and B along the Abukuma River: Survey items Aquatic organisms＞

Location	Sampling point	Latitude and longitude of the location		Sampling Date	Division	Class	Order	Family	Species 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	Cs-134	Cs-137	
A-2	Harase River	37.5673°	140.3946°	2015/10/21	Phycophyta	-	-	-	-	Riverbed Deposits (include algae)	-	0.061	-	-	-	25	120	-
					Arthropod	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	11	0.0088	Larva	-	-	5.5	20	-
					Arthropod	Insecta	Odonata	Gomphidae	*Melligomphus viridicostus*	Onychogomphus viridicostus	54	0.046	Larva (dragonfly larva)	-	-	4.3	17	-
					Arthropod	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii								
					Arthropod	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	Sieboldius albardae								
					Arthropod	Insecta	Odonata	Corduliidae	*Macromia amphigena amphigena*	Macromia amphigena								
					Arthropod	Insecta	Odonata	Gomphidae	-	Davidius								
					Arthropod	Insecta	Odonata	Gomphidae	*Asiagomphus melaenops*	Asiagomphus melaenops								
					Arthropod	Malacostraca	Decapoda	Atyidae	-	Neocaridina sp.	790	0.093	Imago	-	-	2.3	8.3	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	1	0.025	Mature fish (2-year-old)	-	-	6.7	28	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	*Misgurnus anguillicaudatus*	Oriental weatherfish	42	0.055	Immature fish/Mature fish	-	-	2.4	12	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	*Oncorhynchus masou masou*	Yamame trout	1	0.14	Mature fish (2-year-old)	-	-	3.0	11	-
					Vertebrata	Amphibia	Anura	Ranidae	*Glandirana rugosa*	Wrinkled Frog	4	0.015	Imago	-	-	N.D.(3.0)	11	-
					Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.14	-	-	-	5.0	21	-
B-2	Abukuma River	37.8121°	140.5058°	2015/10/7	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	3	0.99	Mature fish (5-year-old)	Aquatic insects	Viscera removed	7.5	31	0.23
				2015/10/15	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Cyprinus carpio*	Common carp	1	3.2	Mature fish (10-year-old)	Empty stomach	Viscera removed	5.1	22	0.19
				2015/10/7	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Hemibarbus barbus*	Hemibarbus barbus	4	5.4	Mature fish (6-year-old)	Empty stomach	Viscera removed	3.8	19	0.29
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	*Micropterus salmoides*	Largemouth bass	1	0.26	Mature fish (1-year-old)	Empty stomach	Viscera removed	7.0	26	-
				2015/10/6	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	*Micropterus dolomieu dolomieu*	Small mouth bass	2	1.1	Mature fish (2-year-old)	Hemibarbus barbus, Japanese dace	Viscera removed	3.8	15	0.18
B-3	Surikami River	37.8182°	140.4679°	2015/10/30	Phycophyta	-	-	-	-	Riverbed Deposits (include algae)	-	0.056	-	-	-	14	58	-
					Arthropoda	Insecta	Ephemeroptera	Ephemeridae	*Ephemera strigata*	Monkagerou	660	0.034	Larva	-	-	4.7	21	-
					Arthropod	Insecta	Trichoptera	Stenopsychidae	*Stenopsyche marmorata*	Stenopsyche marmorata	331	0.077	Larva	-	-	4.2	18	-
					Arthropod	Insecta	Odonata	Gomphidae	*Melligomphus viridicostus*	Onychogomphus viridicostus	92	0.022	Larva (dragonfly larva)	-	-	N.D.(1.7)	3.2	-
					Arthropod	Insecta	Odonata	Cordulegastridae	*Anotogaster sieboldii*	Anotogester sieboldii								
					Arthropod	Insecta	Odonata	Gomphidae	*Sieboldius albardae*	Sieboldius albardae								
					Arthropod	Insecta	Odonata	Corduliidae	*Macromia amphigena amphigena*	Macromia amphigena								
					Arthropod	Insecta	Odonata	Gomphidae	-	Davidius								
					Arthropod	Insecta	Megaloptera	Corydalidae	*Protohermes grandis*	Protohermes grandis	37	0.032	Larva	-	-	N.D.(2.0)	3.4	-
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	*Cottus pollux*	Japanese fluvial sculpin	9	0.076	Immature fish/Mature fish	-	-	1.2	6.5	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Tribolodon hakonensis*	Japanese dace	19	0.028	Immature fish (0-year-old)	-	-	N.D.(1.8)	9.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	*Opsariichthys platypus*	Zacco platypus	18	0.11	Immature fish/Mature fish (1-year-old)	-	-	2.0	8.3	-
					Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.25	-	-	-	4.1	18	-

*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.