

OResults of Radioactive Material Monitoring of Aquatic Organisms (Location G in Lake Hayama)

<Location G in Lake Hayama: Samples collected>

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
G-1	○	○	○	○	○	○
G-4	○	○	○	-	○	-

<Location G in Lake Hayama: Site measurement item>

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)	Secchi disk depth (m)
G-1(Surface layer)	37.7321°	140.8127°	2017/8/21	12:20	13:00	23.4	19.7	Sand sediment	5GY 4/1	Plant pieces	4.0	>4.0
G-1(Bottom layer)						21.9						
G-4	37.7382°	140.8035°		13:30	13:40	18.2	18.2	Sand gravel	7.5Y 4/3	Plant pieces	0.5	>0.5

<Location G in Lake Hayama: General survey items/Analysis of radioactive materials Water>

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)		
G-1(Surface layer)	37.7321°	140.8127°	2017/8/21	12:20	8.1	3.0	7.7	11.1	6.8	0.04	2.4	7	1.6	0.0051	0.034	-
G-1(Bottom layer)					8.1	1.5	5.2	9.8	6.9	0.04	2.4	2	1.4	0.0026	0.020	0.0012
G-4	37.7382°	140.8035°		13:30	7.6	<0.5	3.5	9.4	7.4	0.04	1.3	1	1.5	0.0033	0.018	-

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

<Location G in Lake Hayama: General survey items/Analysis of radioactive materials Sediment>

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{SHE} (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)
G-1	37.7321°	140.8127°	2017/8/21	13:00	7.1	150	62.3	11.7	24.9	2.588	0.0	0.9	10.0	42.4	29.8	16.9	0.088	2.0	390	3000	3.3
G-4	37.7382°	140.8035°		13:40	7.3	242	23.9	2.4	2.4	2.705	13.6	23.8	45.5	12.7	2.1	2.3	0.62	19	36	260	-

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

<Location G in Lake Hayama: 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	
G-1 G-2 G-3	In the lake	37.7321° 37.7267° 37.7302°	140.8127° 140.8223° 140.8307°	2017/8/21	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.032	-	-	-	1.5	N.D.(1.4)	1.5	-
				2017/8/20	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorfi	1	1.2	Mature fish	Obscure digesta	Viscera removed	90.9	8.9	82	1.1
				2017/8/21	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	1	0.093	Immature fish	Empty stomach	Viscera removed	72	13	59	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	7	0.47	Immature fish,Mature fish	Caddis-fly,Midge,Nais sp., Polyzoan dormant bud, Common Pond Snail, Mont mayfly	Viscera removed	39.3	4.3	35	-
G-4	Inflowing rivers	37.7382°	140.8035°	2017/8/20	Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	3.6	Mature fish	Empty stomach	Viscera removed	465	55	410	0.61
				Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.026	-	-	-	840	100	740	-	
				Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	21	0.0060	Larva (Dragonfly larva)	-	-	-	22	N.D.(7.6)	22	-
				Arthropoda	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii										
				Arthropoda	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	Stylogomphus suzukii										
				Arthropoda	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae										
				Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>										
				Arthropoda	Malacostraca	Decapoda	Atyidae	<i>Paratya improvisa</i>	Freshwater shrimp	37	0.0029	Juvenile,Imago	-	-	21	N.D.(16)	21	-	
				Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	2	0.0051	Immature fish	-	-	8.2	N.D.(7.7)	8.2	-	
				Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	2	0.83	Immature fish,Mature fish	Rhinogobius flumineus	Viscera removed	113	13	100	-	
Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	Rhinogobius flumineus	10	0.0085	Immature fish	-	-	14	N.D.(5.3)	14	-					
Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.25	-	-	-	77.0	8.0	69	-					

*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.