

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

<Location G in Lake Hayama: Samples collected>

Items Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
G-1	○	○	○	○	○	○
G-2	○	○	○	-	○	-

<Location G in Lake Hayama: 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)	Secchi disk depth (m)
G-1(Surface layer)	37.7348°	140.8102°	2019/8/30	11:50	12:45	25.7	14.1	Sand sediment	7.5Y 3/2	Plant pieces	2.9	2.3
G-1(Bottom layer)						25.2						
G-2	37.7267°	140.8223°	2019/8/30	09:10	10:35	25.8	19.3	Sediment	7.5Y 3/2	Plant pieces	9.0	3.5

<Location G in Lake Hayama: 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)	Electric conductivity (mS/m)	Salinity	TOC (mg/L)	SS (mg/L)	Turbidity (FNU)	Cs-134 (Bq/L)	Cs-137 (Bq/L)	Sr-90 (Bq/L)
	Latitude	Longitude	Date	Time (water)												
G-1(Surface layer)	37.7348°	140.8102°	2019/8/30	11:50	8.4	1.5	5.0	9.7	7.5	0.04	2.0	2	2.0	0.0015	0.025	-
G-1(Bottom layer)					7.8	1.3	4.9	8.4	7.8	0.04	1.9	2	2.1	N.D.(0.0014)	0.026	0.0012
G-2	37.7267°	140.8223°	2019/8/30	09:10	8.4	1.4	4.9	8.9	7.7	0.04	2.4	2	2.0	0.0013	0.015	-

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>

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)
	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	37.7348°	140.8102°	2019/8/30	12:45	7.3	370	23.8	2.8	3.7	2.691	15.9	27.1	37.4	14.8	1.9	2.9	0.67	19	27	420	1.6
G-2	37.7267°	140.8223°		10:35	7.5	117	58.3	12.0	35.8	2.543	0.0	0.0	0.1	4.6	66.9	28.4	0.017	4.8	200	2900	-

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	37.7348° 37.7267° 37.7302°	140.8102° 140.8223° 140.8307°	2019/8/30	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.010	-	-	-	N.D.	N.D.(2.8)	N.D.(2.7)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	1	0.21	Mature fish	Empty stomach	Viscera removed	138.2	8.2	130	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	3	0.0060	Immature fish	-	-	28	N.D.(7.2)	28	-
					Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	1	0.010	Mature fish	-	-	16	N.D.(3.2)	16	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	2	1.5	Mature fish	Bluegill,American bullfrog(Tadpole)	Viscera removed	151	11	140	0.80
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	8	0.28	Immature fish	Plant pieces	Viscera removed	25.5	1.5	24	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	4	0.23	Immature fish,Mature fish	Plant pieces	Viscera removed	30.9	1.9	29	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	2.6	Mature fish	Fish	Viscera removed	298	18	280	0.46
G-4	Inflowing rivers	37.7382°	140.8035°	2019/8/21	Vertebrata	Amphibia	Anura	Lithobates	<i>Lithobates catesbeianus</i>	American bullfrog	21	0.036	Larva(Tadpole)	-	-	431	31	400	-
					Algae/plant	-	-	-	-	Riverbed Deposits (Include algae)	-	0.0054	-	-	-	301	21	280	-
					Arthropoda	Insecta	Ephemeroptera	Isonychiidae	<i>Isonychia valida</i>	Isonychia valida	477	0.018	Larva	-	-	131	11	120	-
				2019/8/30	Arthropoda	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	Protohermes grandis	15	0.0088	Larva	-	-	27	N.D.(4.5)	27	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur minnow	6	0.031	Immature fish,Mature fish	-	-	17	N.D.(5.8)	17	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	2	0.021	Immature fish	-	-	20	N.D.(1.8)	20	-
				2019/8/21	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	152	1.5	Immature fish,Mature fish	-	-	19.6	1.6	18	0.30
				2019/8/30	Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	8	0.091	Immature fish	-	-	49.6	2.6	47	-
				2019/8/21	Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Plecoglossus altivelis altivelis</i>	Sweetfish	32	1.1	Immature fish,Mature fish	-	-	47.7	2.7	45	0.37
				2019/8/30	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	26	0.26	Immature fish	-	-	17.3	1.3	16	-
				2019/8/21	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	65	0.46	Immature fish	Sand,Plant pieces,Terrestrial insect,Ant,Rhyacophilidae(larva),Hydr opsychidae(larva),Isonychia japonica(larva),Ephemererellidae(larva),Metrocoris histrio	Viscera removed	19.96	0.96	19	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	Rhinogobius flumineus	22	0.053	Immature fish	-	-	20	N.D.(4.5)	20	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	2.5	Mature fish	Fish	Viscera removed	138.7	8.7	130	0.57
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.23	-	-	-	70.2	5.2	65	-

*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.