

Results of Radioactive Material Monitoring of Aquatic Organisms (Location H in Lake Akimoto)

<Location H in Lake Akimoto: Samples collected>

Locations	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
H-1	○	○	○	-	○	-
H-2	-	○	-	-	○	-
H-3	○	○	○	○	○	○
H-4	-	○	-	-	○	-
H-5	○	○	○	-	○	-

<Location H in Lake Akimoto: 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)
H-1(Surface layer)	37.6575°	140.1264°	2016/12/1	10:20	10:29	7.1	7.3	Ooze	7.5Y 2/2	Plant pieces	15.0	3.0
H-1(Bottom layer)												
H-2	37.6616°	140.1226°		-	09:10	-	7.3	Ooze	7.5Y 3/2	Plant pieces	-	-
H-3(Surface layer)	37.6653°	140.1329°		09:51	10:02	7.1	7.3	Ooze	7.5Y 3/2	Plant pieces	11.8	3.2
H-3(Bottom layer)						7.0						
H-4	37.6551°	140.1181°		-	10:58	-	7.3	Ooze with gravel	7.5Y 3/2	Plant pieces	-	-
H-5(Surface layer)	37.6523°	140.1568°		09:13	09:28	7.0	7.4	Ooze	7.5Y 2/2	Plant pieces	8.0	2.5
H-5(Bottom layer)												

<Location H in Lake Akimoto: General survey items/Analysis of radioactive materials Water>

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)												
H-1(Surface layer)	37.6575°	140.1264°	2016/12/1	10:20	7.1	0.6	3.3	10.2	5.1	0.03	1.3	2	1.8	0.0034	0.017	-
H-1(Bottom layer)					7.2	0.8	3.3	10.4	5.2	0.03	1.3	2	2.0	N.D.(0.0016)	0.0093	-
H-3(Surface layer)	37.6653°	140.1329°		09:51	7.2	0.8	3.3	9.8	5.3	0.03	1.3	2	1.9	0.0018	0.0092	-
H-3(Bottom layer)					7.1	0.8	3.1	10.0	5.3	0.03	1.3	2	2.2	0.0015	0.0069	0.0011
H-5(Surface layer)	37.6523°	140.1568°		09:13	7.2	2.2	3.4	10.5	5.4	0.03	2.6	4	2.0	0.0038	0.020	-
H-5(Bottom layer)					7.3	0.8	3.2	10.1	5.4	0.03	1.7	3	2.2	0.0021	0.021	-

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

<Location H in Lake Akimoto: General survey items/Analysis of radioactive materials Sediment>

Locations	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{SHLE} (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)			
H-1	37.6575°	140.1264°	2016/12/1	10:29	6.7	132	68.1	8.5	23.9	2.557	0.0	0.1	0.3	0.8	63.7	35.1	0.0084	2.0	56	390	-
H-2	37.6616°	140.1226°		09:10	6.7	236	78.4	12.9	43.3	2.440	0.0	0.1	0.2	0.4	46.4	52.9	0.0045	2.0	280	1700	-
H-3	37.6653°	140.1329°		10:02	7.0	116	61.7	9.4	27.9	2.557	0.0	0.9	0.9	20.0	68.3	9.9	0.038	2.0	69	460	1.6
H-4	37.6551°	140.1181°		10:58	7.0	219	67.4	8.0	29.0	2.537	3.5	3.0	5.2	8.3	57.5	22.5	0.022	9.5	200	1300	-
H-5	37.6523°	140.1568°		09:28	6.8	172	56.9	7.6	30.5	2.575	0.7	0.8	3.5	28.8	50.1	16.1	0.048	4.8	200	1200	-

<Location H in Lake Akimoto: 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	
H-1 H-2 H-3	In the lake	37.6575° 37.6616° 37.6653°	140.1264° 140.1226° 140.1329°	2016/12/1	Arthropoda	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus trowbridgii</i>	Signal crayfish	10	0.70	Imago	-	-	22.9	3.9	19	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	4	0.73	Mature fish	-	-	33.7	4.7	29	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	<i>Carassius auratus langsdorffii</i>	7	0.88	Mature fish	Obscure digesta	Viscera removed	43.8	6.8	37	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	2.4	Mature fish	Amorphous Residue	Viscera removed	38.5	5.5	33	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	2	0.82	Mature fish	Amorphous Residue	Viscera removed	27.3	3.3	24	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	55	0.25	Mature fish	-	-	16.8	2.8	14	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	4	0.87	Mature fish	Japanese smelt	Viscera removed	31.0	4.0	27	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	2	1.2	Mature fish	Empty stomach	Viscera removed	58.9	7.9	51	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.4	Mature fish	Fish	Viscera removed	109	16	93	-
H-4	Within the lake and rivers in the vicinity	37.6551°	140.1181°	2016/12/1	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.020	-	-	-	N.D.	N.D.(1.8)	N.D.(1.6)	-
					Arthropoda	Insecta	Odonata	Corduliidae	<i>Somatochlora uchidai</i>	<i>Somatochlora uchidai</i>	23	0.025	Larva (Dragonfly larva)	-	-	22.4	3.4	19	-
					Arthropoda	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	<i>Anotogaster sieboldii</i>									
					Arthropoda	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius									

*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.