

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

<Location H in Lake Akimoto: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
H-1	○	○	○	○	○	○
H-2	○	○	○	—	○	—

<Location H in Lake Akimoto: Site measurement item>

Items	Latitude and longitude of the location		Survey date and time			Water	Sediment				Other	
Locations	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°	2023/8/25	08:32	08:43	27.8	11.4	Ooze	7.5Y5/3	Plant pieces	10.8	5.1
H-1(Bottom layer)				08:35		13.6						
H-2(Surface layer)	37.6616°	140.1226°		09:37	09:47	28.5	14.0	Ooze	7.5Y5/2	Plant pieces	4.6	4.0
H-2(Bottom layer)				09:40		17.5						

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

Locations	Items		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°	2023/8/25	08:32	7.2	<0.5	2.6	8.2	6.1	0.04	1.3	<1	0.8	N.D.(0.0013)	0.0075	-		
H-1(Bottom layer)				08:35	6.6	0.6	3.7	4.6	4.7	0.03	1.4	9	4.2	N.D.(0.0015)	0.016	0.0012		
H-2(Surface layer)	37.6616°	140.1226°		09:37	7.2	0.5	2.9	7.8	6.2	0.04	1.2	<1	1.2	N.D.(0.0016)	0.0070	-		
H-2(Bottom layer)				09:40	6.6	1.7	7.0	1.1	8.8	0.05	2.7	11	10.0	N.D.(0.0015)	0.0070	-		

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>

Items	Latitude and longitude of the location		Survey date and time		pH	Redox potential E _{N,H,E} (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°	2023/8/25	08:43	6.7	106	51.8	9.9	35.0	2.460	0.0	0.0	0.1	0.5	53.9	45.5	0.0060	2.0	16	890	1.2
H-2	37.6616°	140.1226°		09:47	6.5	115	53.6	13.8	51.0	2.400	0.0	0.0	0.1	0.0	39.3	60.6	0.0030	2.0	6.8	280	-

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

<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°	2023/8/25	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.029	-	-	-	N.D.	N.D.(1.5)	N.D.(1.3)	-
					Algae/plant	Monocotyledoneae	Alismatales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Esthwaite waterweed	-	0.16	-	-	-	14	N.D.(1.9)	14	-
					Arthropoda	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish	22	0.68	Juvenile,Imago	-	-	13	N.D.(1.9)	13	5.8
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	20	0.52	Immature fish, Mature fish	Obscure digesta	Viscera removed	9.1	N.D.(1.2)	9.1	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	4	3.0	Mature fish	Obscure digesta	Viscera removed	25	N.D.(1.1)	25	1.4
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	3	2.0	Immature fish, Mature fish	Obscure digesta	Viscera removed	31	N.D.(1.4)	31	1.2
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	60	0.30	Mature fish	-	-	6.8	N.D.(1.3)	6.8	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Japanese char	2	0.40	Mature fish	Empty stomach	Viscera removed	12	N.D.(1.7)	12	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Cherry salmon	4	1.2	Immature fish	<i>Hypomesus nipponensis</i>	Viscera removed	11	N.D.(1.3)	11	0.24
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	9	2.5	Immature fish, Mature fish	<i>Hypomesus nipponensis</i> , <i>Palaemon paucidens</i>	Viscera removed	24	N.D.(1.3)	24	0.84
H-3	Inflowing rivers	37.6653°	140.1329°	2023/8/24	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus macrochirus</i>	Bluegill	17	0.17	Immature fish	<i>Palaemon paucidens</i>	Viscera removed	9.2	N.D.(0.99)	9.2	-
					Algae/plant	-	-	-	-	Sediment deposited on riverbed (Including algae)	-	0.0072	-	-	-	32	N.D.(8.4)	32	-
					Arthropoda	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Caddisfly	50	0.0086	Larva	-	-	N.D.	N.D.(4.5)	N.D.(3.8)	-
					Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	<i>Cottus pollux</i>	Japanese fluvial sculpin	28	0.25	Immature fish	-	-	2.9	N.D.(0.34)	2.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	69	0.26	Immature fish	-	-	3.0	N.D.(0.43)	3.0	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Japanese char	10	0.20	Immature fish	Aquatic insect	Viscera removed	3.7	N.D.(0.37)	3.7	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Masu salmon	8	0.10	Immature fish	-	-	3.6	N.D.(0.76)	3.6	-
H-4	Within the lake and rivers in the vicinity	37.6551°	140.1181°	2023/8/24	Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.22	-	-	-	9.2	N.D.(1.3)	9.2	-
					Arthropoda	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	Jumbo dragonfly	13	0.012	Larva (Dragonfly larva)	-	-	5.1	N.D.(3.5)	5.1	-
					Mollusca	Gastropoda	Discopoda	Pleuroceridae	<i>Semisulcospira libertina</i>	Freshwater snail	30	0.035	Imago	-	Molluscous part	1.8	N.D.(1.4)	1.8	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Rhynchocypris lagowskii steindachneri</i>	Amur minnow	8	0.034	Immature fish, Mature fish	-	-	N.D.	N.D.(1.8)	N.D.(1.6)	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Rana ornativentris</i>	Montane brown frog	2	0.039	Imago	-	-	6.3	N.D.(1.3)	6.3	-
					Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Japanese newt	2	0.0097	Imago	-	-	N.D.	N.D.(4.5)	N.D.(3.6)	-

*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.