

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

< Location H in Lake Akimoto: Samples collected >

Locations	Items	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	Items	Latitude and longitude of the location		Survey date and time		Water temperature (degrees C)	Sediment			Other				
		Scheduled latitude	Scheduled longitude	Date	Time (water)		Time (sediment)	Property	Color	Contaminants	Water depth (m)	Transparency (m)		
H-1(Surface layer)		37.6575°	140.1264°	2015/10/21	09:09	09:19	13.7	12.2	Ooze	7.5Y 4/1	Plant	13.6	3.5	
H-1(Deep layer)		37.6575°	140.1264°		09:09		12.8							
H-2		37.6616°	140.1226°		-	10:06	-	13.3	Ooze	7.5Y 4/1	Plant	-	-	-
H-3(Surface layer)		37.6653°	140.1329°		09:28	09:42	13.9	13.3	Sand sediment	7.5Y 3/2	Plant	10.0	3.4	3.4
H-3(Deep layer)		37.6653°	140.1329°		09:28		13.3							
H-4		37.6551°	140.1181°			10:16		13.5	Ooze	7.5Y 4/2	Elodea nuttallii	-	-	-
H-5(Surface layer)		37.6523°	140.1568°			08:42	08:50	13.3					9.0	3.6
H-5(Deep layer)		37.6523°	140.1568°			08:42		13.4	Sand sediment	7.5Y 3/2	Plant			

< 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)	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)												
H-1(Surface layer)		37.6575°	140.1264°	2015/10/21	9:09	7.1	0.6	3.6	10.1	4.9	0.03	1.4	2	1.6	0.0044	0.017	-
H-1(Deep layer)		37.6575°	140.1264°		9:09	7.0	<0.5	3.0	8.7	4.9	0.03	1.4	2	1.7	0.0040	0.017	-
H-3(Surface layer)		37.6653°	140.1329°		9:28	7.1	0.6	3.9	9.3	4.9	0.03	1.4	2	1.7	0.0028	0.0098	-
H-3(Deep layer)		37.6653°	140.1329°		9:28	7.0	<0.5	3.3	9.1	4.8	0.03	1.4	<1	1.4	0.0023	0.010	0.0012
H-5(Surface layer)		37.6523°	140.1568°		8:42	7.2	0.8	4.1	9.2	4.9	0.03	1.4	2	1.7	0.0034	0.010	-
H-5(Deep layer)		37.6523°	140.1568°		8:42	7.1	<0.5	3.5	9.6	4.9	0.03	1.6	1	1.7	0.0024	0.011	-

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

Locations	Items	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	
H-1		37.6575°	140.1264°	2015/10/21	9:19	6.6	44	67.9	9.1	25.6	2.553	0.0	0.0	0.1	0.1	58.7	41.1	0.0069	2.0	170	800	-	
H-2		37.6616°	140.1226°		10:06	6.6	24	78.6	11.7	34.0	2.510	0.0	0.7	1.5	2.0	36.1	59.7	0.0029	4.8	520	2200	-	
H-3		37.6653°	140.1329°		9:42	6.6	75	79.3	12.9	42.0	2.257	0.2	14.3	46.2	39.3	0.014	2.0	340	1400	2.2	340	1400	2.2
H-4		37.6551°	140.1181°		10:16	6.5	17	72.2	11.4	41.6	2.482	1.8	9.5	40.8	40.7	0.0087	9.5	220	960	-	220	960	-
H-5		37.6523°	140.1568°		8:50	6.5	31	61.4	8.3	30.1	2.597	0.0	0.1	1.2	32.5	46.8	19.4	0.049	2.0	380	1800	-	

< Location H in Lake Akimoto: Analysis 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			
H-1 H-2 H-3	In the lake	37.6575° 37.6616° 37.6653°	140.1264° 140.1226° 140.1329°	2015/10/21	Arthropod	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish	55	3.0	Imago	-	-	-	6.3	22	8.4	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	17	2.7	Mature fish (4-year-old)	-	-	-	7.2	33	0.65	
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius auratus langsdorfii	25	3.1	Mature fish (3-year-old)	Carassius	Viscera removed	6.4	27	1.1		
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	0.68	Mature fish (2-year-old)	Empty stomach	Viscera removed	11	39	-		
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	4	1.1	Mature fish (3-year-old)	Empty stomach	Viscera removed	7.7	35	1.1		
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	2	0.61	Mature fish (3-year-old)	Pond Smelt	Viscera removed	6.9	32	-		
					Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	151	0.84	Mature fish (1-year-old)	Plankton	Viscera removed	4.6	17	0.40		
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropetrus dolomieu dolomieu</i>	Small mouth bass	1	1.3	Mature fish (3-year-old)	Signal crayfish	Viscera removed	16	71	1.4		
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.4	Mature fish (17-year-old)	Empty stomach	Viscera removed	31	130	0.96		
										Particulate Organic Matter	-	-	-	Bottom fallen leaves	-	0.14	-	-	-	2.9
H-4	Within the lake and rivers in the vicinity	37.6551°	140.1181°	2015/10/19	Phycophyta	-	-	-	-	Plankton (Planktonic algae)	-	0.032	-	-	-	2.6	14	-		
					Angiospermae	Monocotyledoneae	-	-	-	-	Western Waterweed	-	0.34	-	-	-	11	40	-	
					Arthropod	Insecta	Hydrocharitaceae	Cordulegasteridae	<i>Elodea nuttallii</i>	Western Waterweed	-	0.34	-	-	-	-	11	40	-	
					Vertebrata	Amphibia	Anura	Ranidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii	15	0.017	Larva (dragonfly larva)	-	-	-	-	N.D.(5.6)	12	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Glandirana rugosa</i>	Wrinkled Frog	5	0.074	Imago	-	-	-	-	4.1	15	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Rana ornativentris</i>	Montane brown frog	5	0.074	Imago	-	-	-	-	4.1	15	-
					Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Cynops pyrrhogaster	7	0.046	Imago	-	-	-	-	4.3	19	-

*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 organisms 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.