

OResults of Radioactive Material Monitoring of Aquatic Organisms (Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J)

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: Samples collected>

Items	General items		Radioactive materials			
	Water	Sediment	Water (Cs)	Water (Sr)	Sediment (Cs)	Sediment (Sr)
J-1	○	○	○	○	○	○

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: Site measurement item>

Items	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)
J-1(Surface layer)	37.4203°	140.1008°	2019/10/17	10:30	11:10	16.3	16.5	Sand	7.5Y 4/3	Shell fragments,Waterweed	3.5	>3.5
J-1(Bottom layer)						16.5						

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: General survey items/Analysis of radioactive materials Water>

Items	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)		
J-1(Surface layer)	37.4203°	140.1008°	2019/10/17	10:30	6.6	<0.5	1.5	9.7	11.5	0.06	0.9	2	1.5	N.D.(0.0014)	0.0058	-
J-1(Bottom layer)					6.7	0.9	2.4	9.5	11.6	0.06	1.3	2	1.9	N.D.(0.0015)	0.0062	0.00084

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

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: General survey items/Analysis of radioactive materials Sediment>

Items	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)			
J-1	37.4203°	140.1008°	2019/10/17	11:10	6.4	558	24.9	1.1	2.0	2.758	0.0	1.0	65.9	29.4	1.3	2.4	0.30	2.0	2.1	35	0.15

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

<Lake Inawashiro (north lakeside) I / Lake Inawashiro (south lakeside) J: 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	
I-1 I-2 (north lakeside)	Within the lake and Nagase River	37.5047° 37.4995°	140.1143° 140.1409°	2019/10/18	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	1	0.42	Mature fish	Obscure digesta	Viscera removed	13.98	0.98	13	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Acheilognathus tabira tohokuensis</i>	Acheilognathus tabira tohokuensis	128	0.23	Immature fish,Mature fish	-	-	3.7	N.D.(0.69)	3.7	-
				2019/10/22	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	1138	0.95	Immature fish,Mature fish	-	-	5.9	N.D.(1.1)	5.9	0.25
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	0.011	Immature fish	-	-	5.8	N.D.(4.7)	5.8	-
				2019/10/18	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	Gnathopogon elongatus elongatus	417	1.3	Immature fish,Mature fish	-	-	3.5	N.D.(0.62)	3.5	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudorasbora parva</i>	Stone moroko	160	0.47	Mature fish	-	-	2.8	N.D.(0.53)	2.8	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus salmoides</i>	Largemouth bass	1	0.043	Immature fish	Fish,Common prawn	Viscera removed	16	N.D.(3.7)	16	-
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius urotaenia</i>	Goby	42	0.15	Immature fish	-	-	5.1	N.D.(0.72)	5.1	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.1	Mature fish	Carassius	Viscera removed	17.2	1.2	16	-
					Coarse Particulate Organic Matter	-	-	-	-	Bottom fallen leaves	-	0.22	-	-	-	3.7	N.D.(0.75)	3.7	-
J-1 (south lakeside)	Within the lake and around the Oninuma	37.4203°	140.1008°	2019/10/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur minnow	15	0.082	Immature fish,Mature fish	-	-	N.D.	N.D.(0.80)	N.D.(0.98)	-
				2019/10/18	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	30	0.22	Immature fish,Mature fish	Obscure digesta	Viscera removed	24.5	1.5	23	-
				2019/10/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	84	1.1	Immature fish,Mature fish	-	-	1.6	N.D.(0.31)	1.6	0.16
				2019/10/18	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsariichthys platypus</i>	Pale chub	17	0.12	Immature fish,Mature fish	-	-	7.5	N.D.(0.66)	7.5	-
				2019/10/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsariichthys platypus</i>	Pale chub	205	2.1	Mature fish	-	-	6.72	0.42	6.3	0.27
				2019/10/18	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	2	0.29	Mature fish	Obscure digesta	Viscera removed	25.6	1.6	24	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	0.039	Immature fish	-	-	3.2	N.D.(1.5)	3.2	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Gnathopogon elongatus elongatus</i>	Gnathopogon elongatus elongatus	20	0.066	Immature fish	-	-	6.2	N.D.(0.85)	6.2	-
				2019/10/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	2	1.7	Mature fish	Corbicula,Common prawn,Radix,Plant pieces	Viscera removed	30.2	2.2	28	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudorasbora parva</i>	Stone moroko	9	0.027	Mature fish	-	-	4.1	N.D.(1.3)	4.1	-
				2019/10/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudorasbora parva</i>	Stone moroko	5	0.029	Mature fish	-	-	1.3	N.D.(1.6)	1.3	-
					Vertebrata	Osteichthyes	Salmoniformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	17	0.087	Mature fish	-	-	6.1	N.D.(0.75)	6.1	-
				2019/10/18	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	3	4.9	Mature fish	Empty stomach	Viscera removed	61.7	3.7	58	0.088
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	5	0.16	Immature fish	Rhinogobius,Ephemeroptera,Stenopsyche marmorata,Japanese freshwater crab,Millipede,Rhinogobius,Terrestrial insect	Viscera removed	1.2	N.D.(0.42)	1.2	-
2019/10/18	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	12	8.9	Immature fish,Mature fish	Fish,Protohermes	Viscera removed	41.5	2.5	39	0.21				
	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Lepomis macrochirus</i>	Bluegill	2	0.068	Immature fish	Spiders,Terrestrial insect,Dytiscidae,Dragonfly(larva)	Viscera removed	11	N.D.(0.91)	11	-				
2019/10/17	Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	Rhinogobius flumineus	25	0.012	Immature fish,Mature fish	-	-	2.3	N.D.(2.3)	2.3	-				

*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.