

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°	2023/6/20	14:52	15:27	21.3	19.2	Sand	7.5Y6/3	Shells	3.2	>3.2
J-1(Bottom layer)				15:02		20.8						

<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°	2023/6/20	14:52	6.6	1.3	2.5	9.8	11.8	0.06	0.9	2	0.9	N.D.(0.0016)	0.0041	-
J-1(Bottom layer)				15:02	6.8	2.0	3.7	9.4	12.0	0.06	1.2	5	2.8	N.D.(0.0014)	0.0038	0.00067

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 _{NHLE} (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°	2023/6/20	15:27	7.0	459	24.3	1.2	2.0	2.730	0.6	0.9	54.4	40.8	0.4	2.9	0.27	9.5	0.56	26	0.18

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°	2023/6/18	Arthropoda	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Dragonfly	26	0.012	Larva (Dragonfly larva)	-	-	N.D.	N.D.(3.5)	N.D.(2.7)	-
					Arthropoda	Insecta	Odonata	Libellulidae	<i>Orthetrum albistylum speciosum</i>	Common skimmer									
					Arthropoda	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus</i>	Signal crayfish	30	0.34	Juvenile,Imago			2.5	N.D.(0.34)	2.5	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucidens</i>	Lake prawn	452	0.22	Juvenile,Imago			1.6	N.D.(0.32)	1.6	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	1	0.070	Mature fish	Obscure digesta	Viscera removed	9.3	N.D.(1.2)	9.3	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	6	1.3	Mature fish	Obscure digesta	Viscera removed	17	N.D.(1.1)	17	0.20
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	20	0.089	Immature fish	-	-	5.9	N.D.(0.92)	5.9	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	6	2.2	Mature fish	Obscure digesta	Viscera removed	14	N.D.(1.1)	14	0.34
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	3	3.0	Mature fish	Obscure digesta	Viscera removed	5.8	N.D.(0.68)	5.8	0.38
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	3	1.4	Immature fish, Mature fish	Obscure digesta	Viscera removed	7.5	N.D.(0.97)	7.5	0.53
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	1	1.1	Mature fish	Obscure digesta	Viscera removed	12	N.D.(1.2)	12	0.45
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	1	1.6	Mature fish	Obscure digesta	Viscera removed	11	N.D.(1.2)	11	0.49
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	1	1.9	Mature fish	Obscure digesta	Viscera removed	9.8	N.D.(1.2)	9.8	0.38
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Japanese char	2	2.3	Mature fish	<i>Hypomesus nipponensis</i>	Viscera removed	21	N.D.(1.3)	21	0.073
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou masou</i>	Cherry salmon	1	1.0	Mature fish	Empty stomach	Viscera removed	19	N.D.(1.2)	19	-
					Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus mykiss</i>	Rainbow trout	1	0.95	Mature fish	<i>Hypomesus nipponensis</i>	Viscera removed	13	N.D.(1.3)	13	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	5	3.4	Mature fish	Obscure digesta	Viscera removed	12	N.D.(1.2)	12	0.22
					Vertebrata	Osteichthyes	Perciformes	Actinopterygii	<i>Channa argus</i>	Snakehead	2	3.6	Immature fish, Mature fish	Fish	Viscera removed	52	N.D.(1.2)	52	0.48
					Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Gymnogobius urotaenia</i>	Floating goby	5	0.033	Immature fish	-	-	6.7	N.D.(1.4)	6.7	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	0.24	Immature fish	Tadpole	Viscera removed	5.9	N.D.(0.49)	5.9	-
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.94	Mature fish	Empty stomach	Viscera removed	13	N.D.(1.1)	13	-
					Vertebrata	Amphibia	Anura	Ranidae	<i>Rana japonica</i>	Japanese brown frog	2	0.0082	Imago	-	-	N.D.	N.D.(4.1)	N.D.(3.7)	-
J-1 (south lakeside)	Within the lake and around the Oninuma	37.4203°	140.1008°	2023/6/16	Coarse Particulate Organic Matter	-	-	-	-	Water-bottom leaf litter	-	0.21	-	-	-	9.0	N.D.(1.4)	9.0	-
				2023/6/18	Algae/plant	-	-	-	-	Plankton (Planktonic algae)	-	0.026	-	-	-	N.D.	N.D.(1.3)	N.D.(1.3)	-
					Algae/plant	Dicotyledoneae	Nymphaeales	Nymphaeaceae	<i>Nuphar japonica</i>	Yellow water lili	-	0.31	-	-	-	0.55	N.D.(0.21)	0.55	-
					Algae/plant	Dicotyledoneae	Solanales	Menyanthaceae	<i>Nymphoides peltata</i>	Yellow floating-heart	-	0.30	-	-	-	0.31	N.D.(0.21)	0.31	-
					Arthropoda	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucidens</i>	Lake prawn	1856	1.3	Juvenile,Imago	-	-	5.5	N.D.(0.60)	5.5	0.58
				2023/6/18	Mollusca	Gastropoda	Architaenioglossa	Viviparidae	<i>Heterogen japonica</i>	Japanese mysterysnail	13	0.025	Juvenile	-	Molluscos part	N.D.	N.D.(1.8)	N.D.(1.9)	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudaspius hakonensis</i>	Japanese dace	3	0.078	Immature fish, Mature fish	-	-	12	N.D.(1.3)	12	-
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Opsariichthys platypus</i>	Pale break	23	0.24	Immature fish, Mature fish	-	-	4.9	N.D.(0.38)	4.9	-
				2023/6/20	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius</i> sp.	Silver crucian carp	4	2.9	Mature fish	Obscure digesta	Viscera removed	16	N.D.(1.1)	16	0.45
					Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Barbel steed	2	2.4	Mature fish	Obscure digesta	Viscera removed	31	N.D.(1.3)	31	0.38
				2023/6/18	Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	8	0.018	Immature fish	-	-	N.D.	N.D.(2.1)	N.D.(2.0)	-
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	1	0.22	Immature fish	<i>Palaemon paucidens</i> ,Fish	Viscera removed	13	N.D.(1.7)	13	-
				2023/6/20	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	1	1.4	Mature fish	Empty stomach	Viscera removed	38	N.D.(1.9)	38	0.33
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	1	1.7	Mature fish	Empty stomach	Viscera removed	31	N.D.(1.2)	31	0.19
					Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu dolomieu</i>	Smallmouth bass	1	1.8	Mature fish	Empty stomach	Viscera removed	39.2	1.2	38	0.25
					Vertebrata	Osteichthyes	Perciformes	Actinopterygii	<i>Channa argus</i>	Snakehead	1	1.2	Immature fish	<i>Palaemon paucidens</i>	Viscera removed	22	N.D.(1.4)	22	0.94
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	2	1.5	Mature fish	<i>Palaemon paucidens</i>	Viscera removed	19	N.D.(0.94)	19	0.26
					Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	2.0	Mature fish	Empty stomach	Viscera removed	33	N.D.(1.3)	33	0.24
				2023/6/18	Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Japanese newt	4	0.023	Imago	-	-	N.D.	N.D.(1.9)	N.D.(1.8)	-

*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.