

○ Results (water)

Location				FY2012 Autumn Survey											
		Latitude	Longitude	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)
		Abukuma River System	A-1 (Surface layer)	37.621000°	140.521783°	7.5	1.4	4.3	9.8	19.4	0.09	1.7	6	2.5	0.069
A-1 (Deep layer)	7.6		1.2			4.8	9.7	19.7	0.11	1.8	8	3.0	0.018	0.031	—
A-2	37.567333°		140.394567°	7.3	<0.5	3.3	9.9	10.9	0.07	1.0	5	1.9	0.041	0.067	—
B-1	37.784333°		140.492417°	7.7	1.0	4.8	10.3	20.0	0.10	1.8	7	2.6	0.065	0.10	—
B-2	37.812100°		140.505783°	7.6	1.5	5.0	10.2	18.6	0.09	1.8	7	2.7	0.050	0.085	—
B-3	37.818200°		140.467883°	7.6	0.8	3.9	10.1	9.0	0.04	1.3	2	1.4	0.028	0.045	—
Uda River	C-1	37.795333°	140.745917°	7.6	<0.5	2.0	10.9	10.0	0.05	0.8	<1	0.6	0.029	0.049	—
	C-2	37.771750°	140.729033°	7.4	0.6	3.7	9.9	9.3	0.08	1.6	3	2.5	0.063	0.10	—
	C-3	37.779183°	140.803967°	7.6	<0.5	2.5	10.6	8.9	0.05	1.0	1	1.1	0.040	0.065	—
	C-4	37.768667°	140.844283°	7.7	<0.5	2.1	10.8	9.1	0.05	0.8	<1	0.8	0.022	0.036	0.0014
	C-5	37.764600°	140.860300°	7.7	<0.5	2.2	11.3	9.2	0.10	0.9	<1	0.8	0.021	0.033	—
	C-6	37.776383°	140.887717°	7.7	<0.5	2.3	11.0	9.9	0.08	0.9	<1	0.8	0.017	0.028	—
Mano River	D-1	37.733100°	140.925400°	7.9	<0.5	2.9	11.6	10.3	0.07	1.2	<1	0.7	0.032	0.057	0.0018
	D-2	37.709450°	140.956583°	7.3	<0.5	2.8	10.2	12.2	0.06	1.3	1	1.2	0.027	0.050	—
	D-3	37.705100°	140.962250°	7.0	<0.5	2.6	10.2	13.4	0.09	1.2	2	1.2	0.023	0.041	—
	D-4 a	37.730833°	140.908050°	7.6	<0.5	2.9	10.9	10.0	0.06	1.2	<1	0.7	0.055	0.093	—
	D-4 b	37.731217°	140.909633°	7.7	<0.5	3.0	10.8	9.8	0.05	1.2	1	1.0	0.038	0.063	—
	D-5	37.721383°	140.888883°	7.9	0.9	3.8	11.1	8.7	0.09	1.4	8	0.9	0.054	0.091	—
Niida River	E-1	37.660933°	140.911450°	7.8	<0.5	2.7	11.6	7.0	0.04	1.2	<1	0.9	0.10	0.17	0.0031
	E-2 a	37.664000°	140.944717°	7.4	<0.5	2.6	11.3	7.6	0.04	1.1	<1	1.0	0.097	0.15	—
	E-2 b	37.663450°	140.945150°	7.4	<0.5	2.7	11.7	7.4	0.04	1.3	1	1.1	0.11	0.18	—
	E-3	37.644400°	141.001783°	7.3	<0.5	2.5	10.5	9.6	0.05	1.1	2	1.0	0.091	0.14	—
	E-4	37.648467°	140.962950°	7.6	<0.5	2.5	11.2	8.3	0.04	1.1	1	1.0	0.10	0.16	—
	E-5	37.665233°	140.916883°	7.6	<0.5	2.6	11.8	7.4	0.04	1.2	<1	1.1	0.084	0.14	—
Ota River	F-1	37.597533°	140.925167°	7.4	<0.5	2.6	10.2	5.9	0.03	1.2	2	1.1	0.32	0.51	—
	F-2	37.601617°	140.942283°	7.0	<0.5	2.4	9.8	6.7	0.04	0.9	1	0.8	0.26	0.43	0.0056
	F-3	37.604517°	140.963617°	7.3	<0.5	2.3	10.3	6.8	0.04	0.9	1	0.7	0.29	0.46	—
	F-4	37.606967°	140.971983°	6.7	<0.5	1.6	9.4	7.4	0.07	0.7	<1	0.4	0.19	0.31	—
	F-5	37.602183°	140.986750°	6.9	<0.5	2.1	9.5	8.2	0.04	0.8	2	1.2	0.22	0.36	—
	F-6	37.595333°	141.012300°	6.7	<0.5	3.1	8.6	25.8	0.13	1.3	6	2.8	0.22	0.36	—
Lake Hayama (Mano Dam)	G-1 (Surface layer)	37.732050°	140.812717°	7.3	0.6	3.8	8.2	7.2	0.05	1.7	2	1.6	0.071	0.12	—
	G-1 (Deep layer)			7.3	0.7	4.0	8.5	7.1	0.05	1.8	2	1.8	0.075	0.12	0.0024
	G-3 (Surface layer)	37.730167°	140.830667°	7.3	0.6	3.9	8.2	7.1	0.04	1.8	1	1.2	0.077	0.13	—
	G-3 (Deep layer)			7.3	0.7	3.8	8.2	7.0	0.05	1.8	1	1.3	0.076	0.13	—
	G-5 (Surface layer)	37.734117°	140.808833°	7.2	0.6	3.7	8.6	7.1	0.06	2.0	2	1.6	0.087	0.14	—
	G-5 (Deep layer)			7.4	<0.5	3.7	8.4	7.0	0.04	1.8	2	1.6	0.084	0.14	—
Lake Akimoto	H-1 (Surface layer)	37.657533°	140.126433°	7.1	<0.5	3.2	9.0	5.4	0.04	1.5	2	1.3	0.016	0.026	—
	H-1 (Deep layer)			7.1	0.6	3.4	9.0	5.4	0.05	1.8	2	1.3	0.066	0.11	—
	H-3 (Surface layer)	37.665333°	140.132933°	7.2	0.8	3.9	9.5	5.5	0.06	1.7	2	1.3	0.017	0.030	—
	H-3 (Deep layer)			6.5	0.5	3.6	5.6	4.7	0.06	1.2	2	2.1	0.050	0.086	0.0019
	H-5 (Surface layer)	37.652333°	140.156833°	7.1	1.0	4.2	9.0	5.5	0.03	1.9	2	1.4	0.024	0.038	—
	H-5 (Deep layer)			7.2	0.7	3.8	9.1	5.5	0.03	1.5	2	1.3	0.027	0.045	—
Lake Inawashiro	I-1 (Surface layer)	37.504683°	140.114333°	6.9	0.6	1.4	10.6	11.5	0.06	0.8	<1	0.2	0.017	0.031	—
	I-1 (Deep layer)			6.9	0.5	2.8	9.5	11.6	0.06	1.0	1	0.6	0.018	0.031	0.0011
	I-3 (Surface layer)	37.507700°	140.026250°	6.9	0.9	2.3	9.8	11.5	0.06	0.8	<1	0.5	0.025	0.040	—
	I-3 (Deep layer)			6.9	1.2	2.0	10.2	11.6	0.06	0.8	1	0.4	0.018	0.034	—
	J-1 (Surface layer)	37.420333°	140.100833°	6.9	1.9	2.2	9.7	11.8	0.06	0.7	1	0.4	0.016	0.029	—
	J-1 (Deep layer)			6.9	0.5	2.1	10.0	11.7	0.08	1.0	<1	0.4	0.017	0.029	—

○ Results (water)

Location				FY2012 Autumn Survey											
		Latitude	Longitude	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)
Off the mouth of the Abukuma River (Off Watari Town)	K-2 (Surface layer)	38.045517°	140.940133°	8.1	<0.5	1.2	7.2	5,190	33.26	1.3	2	1.4	0.014	0.023	—
	K-2 (Deep layer)			8.1	<0.5	1.2	7.5	5,190	33.53	1.2	1	0.6	0.016	0.026	0.0012
Off Soma City (Matsukawaura)	L-2	37.815517°	140.976333°	8.0	<0.5	1.6	7.5	5,050	32.39	1.2	4	2.5	0.043	0.072	0.0015
	L-3	37.821683°	140.976500°	8.0	<0.5	1.5	7.5	5,010	32.34	1.3	3	2.1	0.045	0.073	—
Off Iwaki City (Hisanohama)	M-2 (Surface layer)	37.199600°	141.085300°	8.1	<0.5	0.9	7.6	5,240	33.75	1.2	<1	0.2	0.0042	0.0088	—
	M-2 (Deep layer)			8.1	<0.5	0.9	7.7	5,220	33.73	1.2	1	0.2	0.015	0.025	0.0013

Note) N.D. means to be below the detection limit.



Results of Radionuclide Analysis of Aquatic Organisms, Radioactive Material Monitoring in the Water Environment (2012 Autumn Survey)

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)
										Growth stage	Stomach contents	Total	Cs-134	Cs-137	
A-1 (Abukuma River)	2012/10/30	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius	2	1.4	33	13	20	0.34		
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbatus</i>	Hemibarbus barbatus	63	0.72	Immature fish	—	35	13	22	—
A-2 (Harase River)	2012/10/29	Streptophyta	Zygnematales	Zygnematales	Zygnematales	<i>Spirogyra sp.</i>	Spirogyra	—	0.088	—	—	9.3	3.3	6.0	—
		Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx sp.</i>	Calopteryx	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	Asiagomphus melaenops	203	0.14	Larva	—	54	21	33	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Davidius nanus	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	Onychogomphus viridicostus	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	—	—	—	—	—	—	—	—
		Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Atyidae	291	0.19	Adult	—	30	12	18	—
		Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	<i>Semisulcospira libertina</i>	Semisulcospira libertina	58	0.046	Adult/non-adult	—	24	9	15	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	95	0.27	Mature fish	—	57	21	36	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	14	0.21	Mature fish/Immature fish	—	68	25	43	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Nipponocypris temminckii</i>	Dark chub	26	0.40	Mature fish	—	100	36	64	—
		Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Noemacheilus barbatus</i>	Stone loach	34	0.46	Mature fish	—	65	25	40	—
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	16	0.43	Immature fish	—	172	62	110	—
		Vertebrata	Amphibia	Anura	—	—	—	21	0.012	Larval	—	720	270	450	—
		Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Cynops pyrrhogaster	14	0.089	Adult	—	52	19	33	—
		—	—	—	—	—	—	—	0.98	—	—	350	130	220	—

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)
										Growth stage	Stomach contents	Total	Cs-134	Cs-137	
B-3 (Surikami River)	2012/11/1	Chlorophyta	Chlorophyceae	Oedogoniales	Oedogoniaceae	<i>Oedogonium sp.</i>	Oedogonium	—	0.031	—	—	68	27	41	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Acroneuria sp.</i>	Acroneuria	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Calineuria sp.</i>	Calineuria	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Kamimuria quadrata</i>	Kamimuria quadrata	—	—	—	—	—	—	—	—
		Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimuria tibialis</i>	Kamimuria tibialis	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Kamimuria uenoi</i>	Kamimuria uenoi Kohno	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Neoperla sp.</i>	Neoperla geniculata	360	0.017	Larva	—	14	5.8	8.5	—
		Arthropoda	Insecta	Plecoptera	Perlidae	<i>Oyamia sp.</i>	Oyamia sp.	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Paragnetina suzuki</i>	Paragnetina suzuki Okamoto	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Paragnetina tinctipennis</i>	Paragnetina tinctipennis	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Paragnetina sp.</i>	Paragnetina	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	Parastenopsyche sauteri	1,528	0.19	Larva	—	208	78	130	—
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sp.</i>	Stenopsyche	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx atrata</i>	Calopteryx atrata	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx sp.</i>	Calopteryx	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Anisogomphus maacki</i>	Anisogomphus maacki	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Davidius nanus	147	0.054	Larva	—	24	8.1	16	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	Onychogomphus viridicostus	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	Sieboldius albardae	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzuki</i>	Stylogomphus suzuki	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Odonata	Aeshnidae	<i>Planaeschna milnei</i>	Planaeschna milnei	—	—	—	—	—	—	—	—
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes continentalis</i>	Parachauliodes continentalis Weele	143	0.051	Larva	—	23	9.2	14	—
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	Protohermes grandis	—	—	—	—	—	—	—	—
		Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	Red swamp crawfish	35	0.18	Adult	—	54	19	35	—
		Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	<i>Semisulcospira libertina</i>	Semisulcospira libertina	434	0.20	Adult	—	63	22	41	—
		Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	<i>Cottus polux</i>	Japanese fluvial sculpin	2	0.046	Mature fish	—	35	13	22	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	18	0.076	Mature fish/Immature fish	—	45	17	28	—
Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	6	0.022	Immature fish	—	61	24	37	—		
Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	8	0.040	Mature fish	—	66	24	42	—		
Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	3	0.089	Immature fish	—	103	38	65	—		
Vertebrata	Amphibia	Anura	—	—	—	38	0.022	Larva	—	470	180	290	—		
—	—	—	—	—	—	—	0.80	—	—	237	87	150	—		

Results of Radionuclide Analysis of Aquatic Organisms, Radioactive  
Material Monitoring in the Water Environment (2012 Autumn Survey)

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)
										Growth stage	Stomach contents	Total	Cs-134	Cs-137	
C-5	2012/11/7	Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	<i>Cladophora sp.</i>	Cladophora	—	0.021	—	—	300	110	190	—
	2012/11/6	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	8	0.16	Immature fish	—	101	38	63	—
Uda River	2012/11/6	—	—	—	—	—	—	—	0.81	—	—	101	36	65	—
		Arthropoda	Insecta	Plecoptera	Perlidae	<i>Kamimura tibialis</i>	<i>Kamimura tibialis</i>	413	0.016	Larva	—	17	7.4	10	—
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Kamimura uenoi</i>	<i>Kamimura uenoi</i> Kohno								
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Neoperla sp.</i>	<i>Neoperla geniculata</i>								
		Arthropod	Insecta	Acronuria	Perlidae	<i>Niponiella limbatella</i>	<i>Niponiella limbatella</i> Klapalek								
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Oyamia lugubris</i>	<i>Oyamia lugubris</i>								
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Paragnetina suzuki</i>	<i>Paragnetina suzuki</i> Okamoto								
		Arthropod	Insecta	Plecoptera	Perlidae	<i>Paragnetina tinctipennis</i>	<i>Paragnetina tinctipennis</i>								
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	291	0.026	Larva	—	680	250	430	—
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Stenopsyche sauteri</i>								
		Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	129	0.016	Larva	—	93	37	56	—
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx atrata</i>	<i>Calopteryx atrata</i>								
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx cornelia</i>	<i>Calopteryx cornelia</i>								
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Mnais costalis</i>	<i>Mnais costalis</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius fujiana</i>	<i>Davidius fujiana</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	<i>Davidius nanus</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	<i>Onychogomphus viridicostus</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sinogomphus flavolimbatus</i>	<i>Sinogomphus flavolimbatus</i>								
		Arthropod	Insecta	Odonata	Libellulidae	<i>Epiophlebia superstes</i>	<i>Epiophlebia superstes</i>	196	0.055	Larva	—	43	15	28	—
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes continentalis</i>	<i>Parachauliodes continentalis</i> Weele								
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>	3	0.13	Adult	—	74	28	46	—
Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab										
Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Freshwater shrimp	407	0.056	Adult	—	74	28	46	—		
Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Nipponocypris temminckii</i>	Dark chub	75	0.32	Mature fish	—	83	31	52	—		
Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon sp.</i>	<i>Tribolodon</i>	3	0.11	Mature fish	—	430	150	280	—		
Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	<i>R. fluviatilis</i>	7	0.060	Mature fish	—	400	150	250	—		

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)
										Growth stage	Stomach contents	Total	Cs-134	Cs-137	
D-1, D-2, D-3	2012/11/5	Vertebrata	Osteichthyes	Osmerriformes	Osmerridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	57	2.1	Mature fish	Some (details unknown)	330	120	210	0.83
		Streptophyta	Zygnematales	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	<i>Spirogyra</i>	—	0.052	—	—	540	200	340	—
Mano River	2012/10/24	Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	503	0.074	Larva	—	510	190	320	—
		Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Stenopsyche sauteri</i>								
		Arthropod	Insecta	Odonata	Cordulidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	87	0.021	Larva	—	113	44	69	—
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx atrata</i>	<i>Calopteryx atrata</i>								
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx cornelia</i>	<i>Calopteryx cornelia</i>								
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Calopteryx sp.</i>	<i>Calopteryx</i>								
		Arthropod	Insecta	Odonata	Calopterygidae	<i>Mnais costalis</i>	<i>Mnais costalis</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	<i>Davidius nanus</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	<i>Davidius</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Onychogomphus viridicostus</i>	<i>Onychogomphus viridicostus</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Sinogomphus flavolimbatus</i>	<i>Sinogomphus flavolimbatus</i>								
		Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzuki</i>	<i>Stylogomphus suzuki</i>								
		Arthropod	Insecta	Odonata	Aeshnidae	<i>Anax parthenope</i>	<i>Anax parthenope</i>	129	0.039	Larva	—	127	47	80	—
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes continentalis</i>	<i>Parachauliodes continentalis</i> Weele								
		Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>	139	0.022	Adult	—	224	84	140	—
		Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Freshwater shrimp								
		Mollusca	Gastropoda	Sorbococoncha	Pleuroceridae	<i>Semisulcospira libertina</i>	<i>Semisulcospira libertina</i>	61	0.070	Adult	—	440	160	280	—
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus keta</i>	Salmon	2	3.6	Mature fish	Some (details unknown)	1.1	N.D. (<0.88)	1.1	0.028
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.21	Mature fish	Some (details unknown)	800	300	500	—
		Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	<i>Rhinogobius</i>	49	0.11	Mature fish	—	740	280	460	—
		Vertebrata	Amphibia	Anura	—	—	—	20	0.013	Larva	—	1,110	430	680	—
		—	—	—	—	—	—	—	—	—	1.2	—	—	510	190





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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)	
										Growth stage	Stomach contents	Total	Cs-134	Cs-137		
Lake Akimoto	2012/10/23	Streptophyta	Zygnemathophyceae	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	—	0.18	—	—	50	17	33	—	
		Angiospermae	Monocotyledoneae	Hydrocharitales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	—	0.34	—	—	16	5.9	9.7	—	
		Arthropod	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus trowbridgii</i>	Signal crayfish	52	3.5	Adult	—	—	144	53	91	12
		Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	68	0.34	Mature fish	—	—	71	25	46	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	2	1.7	Mature fish	Some (details unknown)	—	120	45	75	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	2	3.1	Mature fish	Some (details unknown)	—	54	21	33	1.1
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	1	0.36	Mature fish	Some (details unknown)	—	159	59	100	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	4	0.60	Mature fish	Some (details unknown)	—	206	76	130	—
		Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	15	2.7	Mature fish	Some (details unknown)	—	380	140	240	1.6
		—	—	—	—	—	—	—	—	CPOM (litter)	—	—	48	18	30	—
Lake Inawashiro	2012/10/22	Streptophyta	Zygnemathophyceae	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	—	0.022	—	—	135	55	80	—	
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	5	3.2	Mature fish	Some (details unknown)	—	47	16	31	0.68
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	15	0.83	Immature fish	Some (details unknown)	—	62	24	38	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	10	0.98	Mature fish	Some (details unknown)	—	77	29	48	—
		Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	Cobitidae	Cobitidae	17	0.13	Mature fish	—	—	31	12	19	—
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	6	4.4	Mature fish	Some (details unknown)	—	201	71	130	0.17
		Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	0.71	Mature fish	Some (details unknown)	—	72	26	46	—
	2012/10/22	—	—	—	—	—	—	—	0.79	—	—	390	150	240	—	
	2012/10/22	Angiospermae	Dicotyledoneae	Nymphaeales	Nymphaeaceae	<i>Nuphar japonicum</i>	Cow lily	—	2.0	—	—	—	2.9	1.1	1.8	—
		Angiospermae	Monocotyledoneae	Hydrocharitales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	—	0.25	—	—	—	13	4.9	8.5	—
		Mollusca	Gastropoda	Architaenioglossa	Viviparidae	<i>Bellamyia japonica</i>	Japanese mysterysnail	12	0.17	Adult	—	—	9.0	3.6	5.4	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	2	0.94	Mature fish	Some (details unknown)	—	39	14	25	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	8	1.4	Immature fish	Some (details unknown)	—	97	37	60	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	6	1.3	Mature fish	Some (details unknown)	—	113	42	71	—
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masu</i>	Seema	1	0.55	Mature fish	Some (details unknown)	—	118	42	76	—
		Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	2	1.3	Mature fish	Some (details unknown)	—	181	71	110	—
		Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	2	0.75	Mature fish	Some (details unknown)	—	109	37	72	—
2012/10/22		Vertebrata	Amphibia	Anura	—	—	—	—	0.042	Larva	—	—	43	17	26	—



Results of Radionuclide Analysis of Aquatic Organisms, Radioactive Material Monitoring in the Water Environment (2012 Autumn Survey)

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)
										Growth stage	Stomach contents	Total	Cs-134	Cs-137	
Off the mouth of the Abukuma River Estuary	2012/10/31	Arthropod	Malacostraca	Decapoda	Portunidae	<i>Portunus trituberculatus</i>	Japanese blue crab	5	1.8	Adult	—	N.D.	N.D.(<0.87)	N.D.(<0.62)	—
		Vertebrata	Osteichthyes	Scorpaeniformes	Hemirhamphidae	<i>Hemirhamphus villosus</i>	Hemirhamphus villosus	6	4.0	Mature fish	Empty stomach	6.5	2.5	4.0	N.D.(<0.02)
		Vertebrata	Osteichthyes	Pleuronectiformes	Pleuronectidae	<i>Platichthys stellatus</i>	Starry flounder	5	1.6	Mature fish	Empty stomach	32	12	20	—
		Vertebrata	Osteichthyes	Righteye flounder	Flounder	<i>Paralichthys olivaceus</i>	Flounder	4	2.3	Mature fish	Small fish	18	7.4	11	0.024
		Vertebrata	Osteichthyes	Perciformes	Carangidae	<i>Seriola quinqueradiata</i>	Japanese amberjack	2	2.8	Mature fish	Small fish	0.9	N.D.(<0.86)	0.91	—
		Vertebrata	Osteichthyes	Perciformes	Lateolabridae	<i>Lateolabrax japonicus</i>	Japanese sea bass	3	3.8	Mature fish	Small fish	21	8.1	13	0.093
		Vertebrata	Osteichthyes	Perciformes	Sparidae	<i>Acanthopagrus schlegelii</i>	Japanese black porgy	4	2.3	Mature fish	Empty stomach	6.9	2.7	4.2	0.081
		Vertebrata	Osteichthyes	Puffer	Puffer	<i>Takifugu pardalis</i>	Globefish	2	1.0	Mature fish	Empty stomach	5.7	2.4	3.3	—
Off Soma City (Matsukawaura)	2012/10/30	Angiospermae	Monocotyledoneae	Najadales	Zosteraceae	<i>Zostera marina</i>	eel grass	—	0.23	—	—	4.1	1.5	2.6	—
		Chlorophyta	Ulvophyceae	Ulvales	Ulvaceae	<i>Ulva pertusa</i>	Ulva pertusa	—	0.49	—	—	N.D.	N.D.(<0.32)	N.D.(<0.47)	—
		Arthropod	Malacostraca	Decapoda	Varunidae	<i>Hemigrapsus penicillatus</i>	Hemigrapsus penicillatus	54	0.098	Adult	—	13	5.2	7.7	—
		Annelida	Polychaeta	—	—	Polychaeta	polychaetes	209	0.059	Adult	—	6.4	2.2	4.2	—
		Mollusca	Bivalvia	Pterioidea	Ostreidae	<i>Crassostrea gigas</i>	Japanese oyster (shell)	many	2.9	Adult	—	60	23	37	0.73
		Mollusca	Bivalvia	Veneroidea	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck (shell)	many	1.1	Adult	—	N.D.	N.D.(<1.1)	N.D.(<0.83)	—
		Mollusca	Bivalvia	Veneroidea	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck (shell)	many	1.3	Adult	—	1.9	0.77	1.1	3.2
		Mollusca	Bivalvia	Veneroidea	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck (molluscous part)	many	0.72	Adult	—	13	4.7	8.1	—
		Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Acanthogobius flavimanus</i>	Yellowfin Goby	16	0.19	Mature fish	—	7.5	2.9	4.6	—
		Vertebrata	Osteichthyes	Mugiliformes	Mugilidae	<i>Mugil cephalus</i>	Flathead mullet	10	0.36	Immature fish	—	23	8.8	14	—
Off Iwaki City (Hisanohama)	2012/11/5	Echinoderm	Sea Urchin	Sea urchin	Sea urchin	<i>Glyptocidaris crenularis</i>	tugaruuni	50	2.0	Adult	—	42	16	26	—
		Vertebrata	Osteichthyes	Marbled rockfish	Gurnard	<i>Chelidonichthys spinosus</i>	Gurnard	5	1.1	Mature fish	Shrimps, crabs	6.7	2.3	4.4	—
		Vertebrata	Osteichthyes	Righteye flounder	Righteye flounder	<i>Pleuronectes yokohamae</i>	Marbled sole	5	2.5	Mature fish	Sandworm	37	14	23	0.24
		Vertebrata	Osteichthyes	Righteye flounder	Flounder	<i>Paralichthys olivaceus</i>	Flounder	5	5.6	Mature fish	Small fish, Squid	58	21	37	0.085
		Vertebrata	Osteichthyes	John dory	John dory	<i>Zeus faber</i>	John dory	2	1.6	Mature fish	Empty stomach	24	8.7	15	—
		Vertebrata	Chondrichthyes	Rajiformes	Rajidae	<i>Okamejei kenoei</i>	Common Skete	5	1.8	Mature fish	Shrimps, crabs	118	43	75	—
	Vertebrata	Chondrichthyes	Rajiformes	Rajidae	<i>Okamejei kenoei</i>	Stomach contents(shrimp)	—	0.055	—	—	6.8	2.3	4.5	—	
	Vertebrata	Chondrichthyes	Squatiformes	Squatimidae	<i>Squatina japonica</i>	Japanese angelshark	1	4.1	Mature fish	Empty stomach	48	18	30	0.030	
	2012/11/22	Brown algae	Phaeophyceae	Sea cabbage	Sea cabbage	<i>Eisemia bicyclis</i>	Eisemia bicyclis	—	1.1	—	—	8.7	3.3	5.4	—
		Echinoderm	Sea Urchin	Loxechinus	Strongylocentrotus	<i>Strongylocentrotus nudus</i>	Northern sea urchin	41	4.2	Adult	—	12	4.4	7.7	—
		Mollusca	Gastropoda	Archaeogastropod	Haliotis asinina	<i>Haliotis discus</i>	abalone(shell)	10	0.58	Adult	—	16	6.0	9.6	—
Mollusca		Gastropoda	Archaeogastropod	Haliotis asinina	<i>Haliotis discus</i>	abalone(molluscan body)	10	1.6	Adult	—	5.1	1.9	3.2	—	

(Note) N.D. means to be below the detection limit.

\* However, for certain described for the gastric contents in the Notices, on the removal of the stomach contents, were subjected to analyze the entire amount.