

○ Results (water)

Location				2013 August-September 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)	37.620733°	140.522083°	7.4	1.1	4.3	8.0	18.5	0.10	2.1	4	1.8	0.025	0.057	0.0013
	A-1 (Deep layer)			7.5	1.2	4.5	8.9	18.8	0.10	2.2	5	1.6	0.053	0.11	—
	A-2	37.567300°	140.394567°	7.1	1.4	7.2	8.5	12.4	0.06	3.1	20	7.1	0.064	0.14	—
	B-1	37.784467°	140.492183°	7.4	1.2	5.6	8.5	16.5	0.09	2.8	20	6.6	0.12	0.27	—
	B-2	37.812017°	140.505800°	7.4	1.0	5.2	8.8	15.3	0.08	2.4	10	4.0	0.031	0.068	—
	B-3	37.816583°	140.471500°	7.4	0.8	4.0	9.8	7.5	0.04	1.7	5	2.3	0.017	0.034	—
Uda River	C-1	37.795533°	140.745617°	7.3	<0.5	2.7	9.3	10.2	0.06	1.0	2	0.8	0.032	0.071	—
	C-2	37.771033°	140.727750°	7.1	0.8	6.2	8.1	9.7	0.05	2.8	8	3.1	0.089	0.18	—
	C-3	37.779000°	140.803833°	7.6	0.7	4.4	8.2	8.6	0.05	2.3	3	1.8	0.069	0.15	—
	C-4	37.769133°	140.844283°	7.5	0.6	4.0	9.1	8.8	0.05	1.9	4	1.8	0.040	0.082	0.0011
	C-5	37.764450°	140.860267°	7.6	0.7	3.9	8.9	9.0	0.05	2.0	4	2.0	0.039	0.087	—
	C-6	37.776433°	140.887550°	7.6	<0.5	3.3	8.8	11.4	0.06	1.6	2	1.4	0.019	0.037	—
Mano River	D-1	37.733217°	140.925267°	7.8	0.6	3.1	9.9	11.1	0.06	1.5	1	1.0	0.035	0.075	0.0019
	D-2	37.709500°	140.956550°	7.2	0.7	3.5	8.2	12.9	0.07	1.5	3	1.8	0.037	0.076	—
	D-3	37.704983°	140.962117°	7.1	0.6	3.2	8.7	13.3	0.07	1.4	3	1.3	0.022	0.047	—
	D-4 a	37.730867°	140.907883°	7.5	0.5	3.1	10.0	10.8	0.06	1.5	1	0.9	0.040	0.084	—
	D-4 b	37.731167°	140.909483°	7.6	<0.5	2.9	10.3	10.7	0.06	1.5	2	1.0	0.047	0.100	—
	D-5	37.721600°	140.889583°	7.6	0.5	3.5	9.4	9.4	0.05	1.6	1	0.9	0.045	0.095	—
Niida River	E-1	37.661533°	140.911450°	7.8	0.5	3.7	9.7	7.9	0.04	1.6	2	1.1	0.10	0.22	0.0029
	E-2 a	37.664350°	140.945200°	7.4	0.6	4.5	10.5	8.3	0.05	1.8	6	3.3	0.14	0.28	—
	E-2 b	37.664033°	140.945700°	7.5	0.5	3.8	10.0	8.3	0.05	1.7	2	1.7	0.10	0.22	—
	E-3	37.644833°	141.001300°	7.3	1.1	3.8	8.5	10.8	0.06	1.6	3	2.3	0.10	0.21	—
	E-4	37.646283°	140.965767°	7.6	0.7	3.9	9.7	9.2	0.05	1.6	3	2.0	0.094	0.20	—
	E-5	37.665083°	140.917533°	7.5	0.5	3.6	9.9	8.0	0.04	1.6	2	1.5	0.10	0.19	—
Ota River	F-1	37.597500°	140.925083°	7.4	0.6	2.7	9.1	6.7	0.04	1.2	<1	0.7	0.24	0.52	—
	F-2	37.601500°	140.943633°	7.0	<0.5	2.1	8.5	8.0	0.05	1.0	<1	0.3	0.21	0.44	0.0047
	F-3	37.604483°	140.964133°	7.4	0.5	3.2	8.8	8.3	0.05	1.4	3	1.3	0.29	0.62	—
	F-4	37.607000°	140.972117°	6.7	<0.5	1.2	8.4	9.0	0.05	0.6	<1	0.4	0.085	0.18	—
	F-5	37.602283°	140.987367°	7.1	0.6	2.8	9.1	10.3	0.06	1.2	2	1.4	0.12	0.26	—
	F-6	37.595333°	141.012583°	6.9	0.8	4.5	7.8	306	1.71	2.1	7	3.9	0.15	0.30	—
Lake Hayama (Mano Dam)	G-1 (Surface layer)	37.734340°	140.809690°	7.8	1.2	5.9	8.7	7.5	0.04	2.3	3	2.4	0.037	0.078	—
	G-1 (Deep layer)			7.6	1.6	6.3	8.8	7.8	0.04	2.2	4	2.9	0.045	0.094	0.0018
	G-3 (Surface layer)	37.729433°	140.831667°	8.7	1.0	6.8	10.2	7.5	0.04	2.9	2	2.0	0.028	0.063	—
	G-3 (Deep layer)			8.5	1.2	6.3	9.5	7.7	0.04	2.8	3	2.5	0.030	0.063	—
	G-5 (Surface layer)	37.733880°	140.808300°	8.4	1.2	6.4	8.5	7.5	0.04	2.7	3	2.5	0.028	0.063	—
	G-5 (Deep layer)			7.7	1.3	6.2	8.2	7.6	0.04	2.2	3	2.8	0.033	0.072	—
Lake Akimoto	H-1 (Surface layer)	37.657533°	140.126433°	7.5	<0.5	2.9	8.9	5.7	0.04	1.4	1	1.3	0.012	0.027	—
	H-1 (Deep layer)			7.0	0.7	3.4	7.1	5.0	0.03	1.7	2	1.2	0.0077	0.019	—
	H-3 (Surface layer)	37.665333°	140.132933°	7.5	0.8	3.5	8.8	5.7	0.03	1.5	2	1.7	0.012	0.027	—
	H-3 (Deep layer)			6.7	0.7	3.2	6.4	4.7	0.03	1.4	4	1.5	0.0083	0.019	0.0013
	H-5 (Surface layer)	37.652333°	140.156833°	7.4	0.6	3.4	8.6	5.7	0.04	1.9	2	1.1	0.010	0.023	—
	H-5 (Deep layer)			7.5	1.0	3.2	8.7	6.0	0.03	1.5	2	1.3	0.012	0.024	—
Lake Inawashiro	I-1 (Surface layer)	37.504683°	140.114333°	6.8	<0.5	2.0	8.1	11.2	0.06	0.9	<1	0.6	0.013	0.030	—
	I-1 (Deep layer)			6.8	0.6	2.2	8.2	11.2	0.06	0.8	1	0.9	0.012	0.026	0.00092
	I-3 (Surface layer)	37.507700°	140.026250°	7.0	<0.5	1.8	7.8	11.2	0.06	1.0	<1	0.6	0.010	0.023	—
	I-3 (Deep layer)			6.9	0.5	2.0	8.3	11.3	0.06	1.0	2	1.2	0.018	0.036	—
	J-1 (Surface layer)	37.420333°	140.100833°	6.9	0.6	2.2	8.3	11.2	0.06	1.2	<1	0.6	0.042	0.089	—
	J-1 (Deep layer)			6.9	0.8	2.1	8.1	11.2	0.06	0.9	<1	0.7	0.012	0.024	—
Off the mouth of the Abukuma River (Off Watari Town)	K-2 (Surface layer)	38.045467°	140.940000°	8.3	1.2	3.4	8.2	3,910	25.18	1.9	3	1.9	0.0065	0.017	—
	K-2 (Deep layer)			8.2	0.7	1.4	8.0	5,170	32.96	1.2	2	0.5	0.0083	0.018	0.00095
Off Soma City (Matsukawaura)	L-2	37.816067°	140.976333°	8.0	1.1	3.5	5.7	4,440	27.96	2.1	6	4.6	0.042	0.090	0.0015
	L-3	37.821500°	140.976050°	8.0	0.6	2.9	6.4	4,630	29.23	1.8	2	3.4	0.033	0.071	—
Off Iwaki City (Hisanohama)	M-2 (Surface layer)	37.199633°	141.084750°	8.2	<0.5	1.3	8.0	5,080	33.20	1.2	<1	0.4	0.0085	0.021	—
	M-2 (Deep layer)			8.1	<0.5	1.4	7.6	5,240	33.58	1.1	2	0.7	0.0077	0.015	0.0013

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

○ Results (sediments)

Location		2013 August-September Survey																				
		Latitude	Longitude	pH	Redox potential E _{NHE} (mV)	Water content (%)	IL (%)	TOC (mg/g-dry)	Soil particle density (g/cm ³)	Grain size distribution								Median grain diameter (mm)	Maximum grain diameter (mm)	Cs-134 (Bq/kg-dry)	Cs-137 (Bq/kg-dry)	Sr-90 (Bq/kg-dry)
										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) (%)							
Abukuma River System	A-1	37.620733°	140.522083°	6.6	211	27.1	2.6	3	2.700	21	27.5	31.3	16.2	0.7	3.2	0.82	19	170	360	N.D.(<0.18)		
	A-2	37.567300°	140.394567°	7.0	26	46.1	7.2	10	2.657	4.5	9.5	28.0	18.4	13.9	25.7	0.17	9.5	520	1,100	—		
	B-1	37.784467°	140.492183°	7.2	11	41.2	5.9	8	2.699	17.5	5.3	6.7	30.8	20.4	19.3	0.12	19	480	1,100	—		
	B-2	37.812017°	140.505800°	7.0	168	28.5	2.1	1	2.754	0.4	2.1	43.2	48.1	2.3	3.9	0.24	4.75	170	310	—		
	B-3	37.816583°	140.471500°	7.3	156	22.1	2.0	1	2.666	31.8	34.0	26.8	5.4	0.4	1.6	1.3	19	120	270	—		
Uda River	C-1	37.795533°	140.745617°	7.3	214	21.0	2.7	<1	2.808	43.8	31.4	19.5	3.6	0.1	1.6	1.7	9.5	240	540	—		
	C-2	37.771033°	140.727750°	7.0	165	35.6	5.7	4	2.756	30.2	13.3	19.9	12.1	10.8	13.7	0.57	19	630	1,400	—		
	C-4	37.769133°	140.844283°	7.1	212	19.8	2.0	<1	2.749	49.4	23.4	23.3	3.0	0.9	—	2.0	26.5	350	730	0.71		
	C-5	37.764450°	140.860267°	7.1	230	32.8	4.3	3	2.753	14.6	10.2	28.0	25.3	8.9	13.0	0.27	19	390	870	—		
	C-6	37.776433°	140.887550°	7.4	264	27.0	1.6	<1	2.745	0.3	21.4	69.2	6.7	0.2	2.2	0.57	9.5	31	76	—		
Mano River	D-1	37.733217°	140.925267°	7.1	203	17.7	2.1	1	2.725	39.3	39.2	17.6	2.6	0.2	1.1	1.6	19	450	960	0.98		
	D-2	37.709500°	140.956550°	7.0	224	16.0	1.7	1	2.711	48.6	29.9	17.2	2.9	0.4	1.0	1.9	26.5	170	360	—		
	D-3	37.704983°	140.962117°	7.1	251	27.1	2.7	3	2.672	23.3	10.8	35.5	19.6	4.8	6.0	0.41	26.5	170	360	—		
	D-4 a	37.730867°	140.907883°	7.3	239	18.8	3.1	1	2.720	48.3	26.9	17.8	4.8	0.8	1.4	1.9	19	530	1,200	—		
	D-5	37.721600°	140.889583°	7.1	264	20.8	2.7	1	2.718	24.6	28.3	37.1	7.3	1.0	1.7	0.91	19	560	1,200	—		
Niida River	E-1	37.661533°	140.911450°	7.1	186	16.0	0.9	1	2.669	60.2	31.4	7.1	0.7	0.6	—	2.7	38	620	1,300	0.26		
	E-2 a	37.664350°	140.945200°	7.1	205	47.4	6.5	9	2.652	9.9	3.4	19.2	36.7	9.9	20.9	0.18	19	3,200	6,900	—		
	E-3	37.644833°	141.001300°	7.1	226	19.2	1.2	1	2.693	30.6	26.2	34.4	6.7	0.4	1.7	1.0	19	290	640	—		
	E-4	37.646283°	140.965767°	7.0	249	15.5	1.4	1	2.707	46.7	13.4	26.9	11.0	0.6	1.4	1.6	38	490	1,000	—		
	E-5	37.665083°	140.917533°	7.0	279	18.8	1.7	2	2.692	33.2	20.3	36.5	7.8	0.5	1.7	0.96	26.5	510	1,100	—		
Ota River	F-1	37.597500°	140.925083°	7.0	282	24.9	2.2	2	2.654	32.5	28.3	22.8	10.1	2.3	4.0	1.2	26.5	4,500	10,000	—		
	F-2	37.601500°	140.943633°	7.3	289	8.0	0.5	1	2.660	78.4	18.1	3.0	0.2	0.3	—	6.1	26.5	1,800	3,800	0.26		
	F-3	37.604483°	140.964133°	6.4	341	13.3	0.8	<1	2.650	49.6	39.8	7.2	2.6	0.8	—	2.0	19	2,600	5,700	—		
	F-4	37.607000°	140.972117°	6.5	346	21.1	1.0	2	2.650	23.7	26.1	39.4	9.4	0.3	1.1	0.85	26.5	1,700	3,800	—		
	F-5	37.602283°	140.987367°	6.6	261	17.1	1.0	<1	2.669	51.6	27.9	15.9	3.0	0.2	1.4	2.1	9.5	380	790	—		
Lake Hayama (Mano Dam)	G-1	37.734340°	140.809690°	7.2	111	76.8	26.7	80	2.406	0	0.3	1.8	21.8	29.9	46.2	0.0099	2	5,400	12,000	8.8		
	G-2	37.725833°	140.821383°	6.6	75	54.4	11.1	39	2.598	10.9	13.4	16.1	13.2	18.1	28.3	0.13	19	2,600	5,500	—		
	G-3	37.729433°	140.831667°	6.6	46	43.9	6.4	13	2.677	14.7	11.9	17.3	17.1	16.9	22.1	0.17	9.5	860	1,900	—		
	G-4	37.738200°	140.803450°	7.2	127	33.1	3.6	4	2.682	4.0	12.2	46.5	20.5	8.6	8.2	0.35	9.5	2,000	4,200	—		
	G-5	37.733880°	140.808300°	6.6	126	77.2	22.4	110	2.349	0	0.5	2.3	13.6	33.5	50.1	0.0049	2	12,000	26,000	—		
Lake Akimoto	H-1	37.657533°	140.126433°	6.5	68	64.8	8.8	18	2.567	21.9	0	0.1	0.8	28.3	48.9	0.0058	19	200	470	—		
	H-2	37.661550°	140.122550°	6.4	145	77.0	12.7	30	2.528	2.1	1.2	1.5	1.6	46.1	47.5	0.0057	4.75	390	860	—		
	H-3	37.665333°	140.132933°	6.4	40	66.2	11.1	25	2.575	0	0.1	0.1	2.7	53.0	44.1	0.0068	2	350	770	1.6		
	H-4	37.655067°	140.118050°	6.6	91	65.3	8.5	27	2.547	0	1.3	1.6	6.9	31.1	59.1	0.0019	2	240	550	—		
	H-5	37.652333°	140.156833°	6.7	22	53.1	6.2	16	2.668	0	0.3	4.4	39.3	23.9	32.1	0.050	2	350	770	—		
Lake Inawashiro	I-1	37.504683°	140.114333°	7.0	55	82.6	10.4	29	2.559	0	0.1	4.7	30.6	16.1	48.5	0.0073	2	1,900	4,100	N.D.(<0.33)		
	I-2	37.499467°	140.140883°	6.9	-36	67.5	7.5	17	2.628	0.8	1.4	3.5	36.6	16.6	41.1	0.026	4.75	850	1,900	—		
	I-3	37.507700°	140.026250°	7.1	-15	68.8	8.3	16	2.646	0	0.2	3.3	25.2	29.0	42.3	0.016	2	79	170	—		
	I-4	37.515967°	140.109167°	6.9	176	24.6	2.2	2	2.756	32.0	16.9	36.4	9.7	1.2	3.8	0.82	19	32	75	—		
	I-5	37.420333°	140.100833°	7.2	73	30.0	2.0	4	2.672	0.3	4.1	73.9	17.4	0.7	3.6	0.32	9.5	68	150	—		
Off the mouth of the Abukuma River (Off Watari Town)	K-1	38.045617°	140.928150°	7.7	174	20.8	1.6	<1	2.715	0	4.9	48.2	37.4	3.9	5.6	0.27	2	32	68	—		
	K-2	38.045467°	140.940000°	7.9	-49	42.8	4.6	4	2.730	0	0.2	1.4	64.7	17.0	16.7	0.11	2	270	580	N.D.(<0.18)		
	K-3	38.045767°	140.952033°	7.9	-72	48.5	6.5	10	2.691	0	0.3	0.4	21.7	54.6	23.0	0.039	2	180	380	—		
Off Soma City (Matsukawaura)	L-1	37.820933°	140.960917°	7.8	156	35.4	3.6	3	2.701	1.5	2.9	20.6	47.6	12.7	14.7	0.16	9.5	84	180	—		
	L-2	37.816067°	140.976333°	8.1	186	24.7	1.1	<1	2.734	0.3	0.5	47.8	46.9	1.1	3.4	0.25	19	27	63	N.D.(<0.24)		
	L-3	37.821500°	140.976050°	8.1	178	22.0	1.1	<1	2.754	0	0.5	49.5	46.9	0.4	2.7	0.25	2	13	29	—		
Off Iwaki City (Hisanohama)	M-1	37.173883°	141.078817°	8.1	234	26.3	2.0	1	2.773	0.2	0.3	2.3	92.0	2.5	2.7	0.16	4.75	58	140	—		
	M-2	37.199633°	141.084750°	8.0	275	26.0	2.2	<1	2.784	1.0	0.9	3.8	89.6	1.9	2.8	0.16	4.75	58	130	N.D.(<0.21)		
	M-3	37.232417°	141.093383°	8.0	266	27.4	2.4	1	2.771	0	0.7	2.0	90.0	2.9	4.4	0.16	2	61	120	—		

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

Results of Radionuclide Analysis of Aquatic Organisms, Radioactive
Material Monitoring in the Water Environment (2013 August-September 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			
Abukuma River System	A-1	2013/9/17	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	3	0.46	2-year-old fish	—	14	4.1	9.8	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	Zacco platypus	5	0.057	Mature fish	Some (details unknown)	16	5.1	11	—	
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass	1	0.49	Mature fish	—	38	12	26	—	
	A-2 (Harase River)	2013/8/24	Algae/plant	—	—	—	—	Attached algae	—	0.063	—	—	460	140	320	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	46	0.013	Larva	—	—	131	42	89	—
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>									
			Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>									
			Arthropod	Insecta	Odonata	Cordulegastridae	<i>Anotogaster sieboldii</i>	<i>Anotogaster sieboldii</i>									
			Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melanops</i>	<i>Asiagomphus melanops</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>	141	0.059	Larva	—	—	44	15	29	—
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Anax nigrofasciatus nigrofasciatus</i>	<i>Anax nigrofasciatus nigrofasciatus</i>									
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Anax parthenope julius</i>	<i>Anax parthenope</i>									
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	<i>Boyeria maclachlani</i>									
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Planaeschna milnei</i>	<i>Planaeschna milnei</i>									
			Arthropod	Insecta	Odonata	Anisoptera	<i>Sympetrum sp.</i>	<i>Sympetrum</i>									
			Arthropod	Malacostraca	Malacostraca	Atyinae	<i>Neocaridina sp.</i>	<i>Neocaridina sp.</i>	725	0.094	Imago	—	—	40	13	27	—
			Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae	<i>Semilucospira libertina</i>	<i>Semilucospira libertina</i>	26	0.043	Imago	—	—	16	4.6	11	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Phoxinus lagowskii steindachneri</i>	Amur Minnow	15	0.046	More than 1 year old	Some (details unknown)	—	19	5.8	13	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	15	0.29	2-year-old fish	Some (details unknown)	—	69	21	48	—
			Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	94	0.069	Yearling fish	—	—	19	5.7	13	—
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	3	0.10	Yearling fish	Insects, small prawns	—	41	13	28	—		
	Vertebrata	Amphibia	Anura	Ranidae	<i>Rana porosa porosa</i>	Daruma pond frog	23	0.12	Imago	—	—	69	22	47	—		
	Vertebrata	Amphibia	Anura	—	—	Tadpole	27	0.023	Larva	—	—	299	99	200	—		
	Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	<i>Cynops pyrrhogaster</i>	4	0.027	Imago	—	—	22	6.7	15	—		

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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			
Abukama River System	B-2	2013/8/10	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	Zacco platypus	5	0.079	Mature fish	—	32	11	21	—	
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (small)	2	0.25	Immature fish	—	46	14	32	—	
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (medium)	1	0.52	2-year-old fish	—	89	28	61	—	
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	1	1.9	7-year-old fish	Aquatic insects, small fish	144	46	98	0.22	
		2013/8/11	Vertebrata	Osteichthyes	Siluriformes	Siluridae	<i>Silurus asotus</i>	Amur catfish	1	1.2	Mature fish	Small fish	162	52	110	—	
		2013/8/20	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	1.5	12-year-old fish	Some (details unknown)	72	24	48	0.44	
		2013/8/27	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	2	2.6	5-year-old fish	Some (details unknown)	104	33	71	0.43	
		2013/8/29	Vertebrata	Osteichthyes	Siluriformes	Ictaluridae	<i>Ictalurus punctatus</i>	Channel catfish	3	3.4	Mature fish	—	87	27	60	0.17	
		2013/8/30	Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	30	1.4	Yearling fish	Some (details unknown)	36	11	25	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace (medium)	2	0.50	Mature fish	—	56	18	38	—	
	Algae/plant		—	—	—	—	Attached algae	—	0.044	—	—	171	51	120	—		
	B-3 (Surikami River)	2013/8/20	Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	613	0.13	—	—	124	39	85	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>									
			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>	132	0.092	Larva	—	11	3.7	6.8	—	
			Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>	113	0.047	Larva	—	20	6.4	14	—	
			Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	Red swamp crawfish	2	0.037	Imago	—	64	20	44	—	
			Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	21	1.1	Yearling fish	Some (details unknown)	31	9.8	21	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace (small)	14	0.16	More than 1 year old	Some (details unknown)	25	8.1	17	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	14	0.061	More than 1 year old	—	39	13	26	—	
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout (small)	9	0.17	Yearling fish	Some (details unknown)	16	4.7	11	—	
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout (medium)	3	0.14	More than 1 year old	Insect	18	5.9	12	—	
			Vertebrata	Amphibia	Anura	Ranidae	<i>Rana rugosa</i>	Wrinkled Frog	5	0.019	Imago	—	68	22	46	—	
			Vertebrata	Amphibia	Anura	—	—	Tadpole	21	0.017	Larva	—	296	96	200	—	
			coarse particulate organic matters (CPOMs)	—	—	—	—	—	CPOMs(fallen leaves)	—	0.14	—	—	204	64	140	—

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										Growth stage	Stomach contents	Total	Cs-134	Cs-137					
Uda River	C-6	2013/8/25	Algae/plant	—	—	—	Attached algae	—	0.019	—	—	520	160	360	—				
			Chlorophyta	Chlorophyceae	Oedogoniales	Oedogoniaceae	<i>Oedogonium sp.</i>	Oedogonium	—	0.020	—	—	54	18	36	—			
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	93	0.016	Larva	—	—	180	60	120	—		
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>	17	0.0073	Larva	—	—	54	17	37	—		
			Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melanops</i>	<i>Asiagomphus melanops</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>	70	0.016	Larva	—	—	20	7.1	13	—		
			Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Insecta	Odonata	Libellulidae	<i>Epiophlebia superstes</i>	<i>Epiophlebia superstes</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	<i>Boyeria maclachlani</i>	—	—	—	—	—	—	—	—	—		
			Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	Red swamp crawfish	2	0.041	Imago	—	—	29	11	18	—		
			Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Freshwater shrimp	307	0.029	Imago	—	—	38	11	27	—		
			Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	7	0.13	Imago	—	—	44	15	29	—		
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Nipponocypris temminckii</i>	Dark chub	15	0.16	2-year-old fish	Some (details unknown)	—	26	8.3	18	—		
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudogobio esocinus</i>	<i>Pseudogobio esocinus</i>	10	0.052	2-year-old fish	Some (details unknown)	—	19	5.6	13	—		
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	<i>Zacco platypus</i>	20	0.10	2-year-old fish	Some (details unknown)	—	22	7.2	15	—		
			Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	<i>R. fluviatilis</i>	19	0.11	Mature fish	Some (details unknown)	—	140	43	97	—		
			Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	<i>R. sp. CB</i>	32	0.059	More than 1 year old	Some (details unknown)	—	68	23	45	—		
			Vertebrata	Amphibia	Anura	Ranidae	<i>Rana ornativentris</i>	Montane brown frog	16	0.055	Imago	—	—	33	11	22	—		
						coarse particulate organic matters (CPOMs)	—	—	—	—	—	0.20	—	—	—	147	47	100	—

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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			
Muro River	D-1	2013/8/11	Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	13	1.2	Imago	—	161	51	110	—	
		2013/8/27	Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (stock)	31	1.1	Yearling fish	—	102	32	70	—	
	D-2	2013/8/28	Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	22	0.49	Yearling fish	Some (details unknown)	63	20	43	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Zacco platypus</i>	Zacco platypus	13	0.077	1-year-old fish	—	79	25	54	—	
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae		<i>Oncorhynchus masou</i>	Yamame trout	2	0.034	1-year-old fish	None	46	15	31	—		
	D-4a D-4b	2013/8/28	Algae/plant	—	—	—	—	Attached algae	—	0.043	—	—	400	130	270	—	
			Angiospermac	Monocotyledoneae	Najadales	Potamogetonaceae	<i>Potamogeton pusillus</i>	Small pondweed	—	0.13	—	—	9.9	N.D.(<4.1)	9.9	—	
			Bryopsida	Sphagnopsida	Sphagnales	Sphagnaceae	<i>Sphagnum sp.</i>	Sphagnum	—	0.040	—	—	256	86	170	—	
			Chlorophyta	Ulvophyceae	Cladophorales	Cladophoraceae	<i>Cladophora sp.</i>	Cladophora	—	0.016	—	—	24	6.9	17	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae		<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	291	0.066	Larva	—	159	49	110	—
			Arthropod	Insecta	Trichoptera	Stenopsychidae		<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>								
			Arthropod	Insecta	Megaloptera	Corydalidae		<i>Parachauliodes continentalis</i>	<i>Parachauliodes continentalis</i> Weele	160	0.094	Larva	—	63	20	43	—
			Arthropod	Insecta	Megaloptera	Corydalidae		<i>Protohermes grandis</i>	<i>Protohermes grandis</i>								
			Arthropod	Insecta	Odonata	Corduliidae		<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	56	0.014	Larva	—	67	20	47	—
			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>	238	0.031	Imago	—	218	68	150	—
			Arthropod	Insecta	Odonata	Gomphidae		<i>Sinogomphus flavolimbatus</i>	<i>Sinogomphus flavolimbatus</i>								
			Arthropod	Insecta	Odonata	Gomphidae		<i>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>	5	0.11	Imago	—	450	140	310	—
			Arthropod	Malacostraca	Decapoda	Procambarus		<i>Procambarus clarkii</i>	Red swamp crawfish								
			Arthropod	Malacostraca	Decapoda	Atyidae			Freshwater shrimp	238	0.031	Imago	—	218	68	150	—
			Mollusca	Gastropoda	Sorbeoconcha	Pleuroceridae		<i>Semisulcospira libertina</i>	<i>Semisulcospira libertina</i>	74	0.080	Imago	—	42	13	29	—
	Vertebrata	Osteichthyes	Perciformes	Gobiidae		<i>Rhinogobius sp.</i>	R. sp. CB	23	0.059	More than 1 year old	—	191	61	130	—		
	Amphibia	Amphibia	Anura	Ranidae		<i>Rana catesbeiana</i>	American Bullfrog (tadpole)	8	0.011	Larva	—	570	180	390	—		

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										Growth stage	Stomach contents	Total	Cs-134	Cs-137		
Nida River	2013/8/26	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (large)	2	3.0	5-year-old fish	None	450	140	310	1.1	
		Algae/plant	—	—	—	—	Attached algae	—	0.048	—	—	3,200	1,000	2,200	—	
	Chlorophyta	Chlorophyceae	Oedogoniales	Oedogoniaceae	<i>Oedogonium sp.</i>	Oedogonium	—	0.019	—	—	269	89	180	—		
	Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	147	0.028	Larva	—	—	1,290	410	880	—	
	Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>										
	Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	88	0.029	Larva	—	—	221	71	150	—	
	Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaenops</i>	<i>Asiagomphus melaenops</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>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>										
	Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	<i>Boyeria maclachlani</i>										
	Arthropod	Arachnida	Araneae	Araneidae	Araneidae	Araneidae	69	0.017	Imago	—	—	222	72	150	—	
	Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	22	0.19	Imago	—	—	319	99	220	—	
	Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Plecoglossus altivelis</i>	Sweetfish (natural upstream)	2	0.089	Yearling fish	Some (details unknown)	—	340	110	230	—	
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	<i>Carassius auratus langsdorffii</i>	5	0.045	1-year-old fish	None	—	221	71	150	—	
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	11	0.30	1-year-old fish	None	—	171	51	120	—	
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	<i>Hemibarbus barbus</i> (small)	65	0.13	Yearling fish	None	—	116	36	80	—	
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonenis</i>	Japanese dace	9	0.12	1-year-old fish	—	—	320	100	220	—	
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.090	2-year-old fish	Insects	—	280	90	190	—	
	Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius sp.</i>	Rhinogobius	9	0.031	More than 1 year old	Some (details unknown)	—	500	160	340	—	
	Amphibia	Amphibia	Anura	Ranidae	<i>Rana catesbeiana</i>	American Bullfrog (tadpole)	22	0.13	Larva	—	—	4,100	1,300	2,800	—	
			coarse particulate organic matters (CPOMs)	—	—	—	—	—	0.29	—	—	—	500	160	340	—
		2013/9/5	Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	Japanese eel	3	1.6	Mature fish	None	400	130	270	0.32

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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			
Ota River	F-1	2013/8/26	Algae/plant	—	—	—	Attached algae	—	0.070	—	—	7,400	2,300	5,100	—		
			Streptophyta	Zygnemataphyce	Zygnematales	Zygnemataceae	<i>Spirogyra sp.</i>	Spirogyra	—	0.0096	—	—	278	88	190	—	
			Bryopsida	Sphagnopsida	Sphagnales	Sphagnaceae	<i>Sphagnum sp.</i>	Sphagnum	—	0.048	—	—	510	160	350	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	Stenopsyche marmorata	33	0.0074	Larva	—	—	660	220	440	—
			Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	Macromia amphigena	128	0.031	Larva	—	460	150	310	—	
			Arthropod	Insecta	Odonata	Cordulegastriidae	<i>Anotogaster sieboldii</i>	Anotogaster sieboldii									
			Arthropod	Insecta	Odonata	Gomphidae	<i>Asiagomphus melaneops</i>	Asiagomphus melaneops									
			Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius nanus</i>	Davidius nanus									
			Arthropod	Insecta	Odonata	Gomphidae	<i>Davidius sp.</i>	Davidius									
			Arthropod	Insecta	Odonata	Gomphidae	<i>Nihonogomphus viridis</i>	Nihonogomphus viridis									
			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 suzukii</i>	Stylogomphus suzukii									
			Arthropod	Insecta	Odonata	Libellulidae	<i>Sympetrum sp.</i>	Sympetrum									
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Boyeria maclachlani</i>	Boyeria maclachlani	67	0.031	Larva	—	390	120	270	—	
			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Parachauliodes continentalis</i>	Parachauliodes continentalis Weele									
			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	Protohermes grandis	3	0.0085	Immature fish	—	940	300	640	—	
			Arthropod	Malacostraca	Decapoda	Procambarus	<i>Procambarus clarkii</i>	Red swamp crawfish									
			Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Freshwater shrimp	205	0.027	Imago	—	730	230	500	—	
			Arthropod	Malacostraca	Decapoda	Grapsidae	<i>Eriocheir japonica</i>	Japanese mitten crab	6	0.12	Imago	—	1,420	440	980	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorfii	1	0.055	2-year-old fish	Some (details unknown)	1,300	420	880	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonenis</i>	Japanese dace (medium)	78	0.19	3-year-old fish	—	770	250	520	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Cobitis biwae</i>	Cobitis biwae	10	0.017	More than 1 year old	—	251	81	170	—	
			Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius fluviatilis</i>	R. fluviatilis	28	0.10	More than 1 year old	—	4,100	1,300	2,800	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonenis</i>	Japanese dace (large)	10	0.41	2-year-old fish	Some (details unknown)	42	13	29	—	
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon sp.</i>	Tribolodon (Pacific redfin)	2	0.54	4-year-old fish	—	52	16	36	—	
	F-3	2013/9/6	Vertebrata	Osteichthyes	Anguilliformes	Anguillidae	<i>Anguilla japonica</i>	Japanese eel	3	1.5	Mature fish	Procambarus clarkii	510	160	350	0.29	
	F-4	2013/9/7	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	3.2	3-year-old fish	Some (details unknown)	880	280	600	2.8	
	F-5																

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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 Hayama	G-1	2013/8/30	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorfii	2	2.3	4-year-old fish	Some (details unknown)	530	170	360	1.1		
	G-2	2013/8/31	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus mykiss</i>	Rainbow trout	1	1.1	4-year-old fish	Some (details unknown)	264	84	180	—		
	G-3	2013/9/4	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	2	1.0	2-year-old fish	Small fish	770	240	530	—		
	G-4	2013/8/27	Algae/plant	—	—	—	—	Attached algae	—	0.033	—	—	1,470	470	1,000	—		
			Algae/plant	—	—	—	—	—	Floating algae	—	0.029	—	—	26	7.9	18	—	
			Angiospermae	Monocotyledoneae	Najadales	Potamogetonaceae	<i>Potamogeton pusillus</i>	Small pondweed	—	0.076	—	—	—	22	7.1	15	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche marmorata</i>	<i>Stenopsyche marmorata</i>	115	0.015	Larva	—	—	1,430	460	970	—	
			Arthropod	Insecta	Trichoptera	Stenopsychidae	<i>Stenopsyche sauteri</i>	<i>Parastenopsyche sauteri</i>										
			Arthropod	Insecta	Odonata	Corduliidae	<i>Macromia amphigena amphigena</i>	<i>Macromia amphigena</i>	85	0.019	Larva	—	—	104	34	70	—	
			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>Nihonogomphus viridis</i>	<i>Nihonogomphus viridis</i>										
			Arthropod	Insecta	Odonata	Gomphidae	<i>Sieboldius albardae</i>	<i>Sieboldius albardae</i>										
			Arthropod	Insecta	Odonata	Gomphidae	<i>Stylogomphus suzukii</i>	<i>Stylogomphus suzukii</i>										
			Arthropod	Insecta	Odonata	Aeshnidae	<i>Anax nigrofasciatus nigrofasciatus</i>	<i>Anax nigrofasciatus nigrofasciatus</i>	35	0.019	Larva	—	—	97	31	66	—	
			Arthropod	Insecta	Megaloptera	Corydalidae	<i>Protohermes grandis</i>	<i>Protohermes grandis</i>										
			Arthropod	Malacostraca	Decapoda	Atyidae	Atyidae	Freshwater shrimp	129	0.027	Imago	—	—	307	97	210	—	
			Vertebrata	Osteichthyes	Perciformes	Gobiidae	<i>Rhinogobius flumineus</i>	<i>Rhinogobius flumineus</i>	20	0.023	Imago	Insects (aquatic insects)	—	—	206	66	140	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	14	0.16	1-year-old fish	Some (details unknown)	—	—	278	88	190	—
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	7	0.042	Yearling fish	Insects (aquatic insects)	—	—	204	64	140	—
	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (small)	2	0.20	1-year-old fish	Insects (aquatic insects)	—	—	430	130	300	—		
			coarse particulate organic matters (CPOMs)	—	—	—	—	CPOMs(fallen leaves)	—	0.36	—	—	590	190	400	—		

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										Growth stage	Stomach contents	Total	Cs-134	Cs-137		
Lake Akimoo	2013/8/22	Algae/plant	—	—	—	—	Floating algae	—	0.046	—	—	36	11	25	—	
		Streptophyta	Zygnematales	Zygnematales	Zygnematales	<i>Spirogyra sp.</i>	Spirogyra	—	0.030	—	—	78	24	54	—	
		Angiospermae	Monocotyledoneae	Hydrocharitales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	—	0.13	—	—	19	5.9	13	—	
		Mollusca	Gastropoda	Sorbococoncha	Pleuroceridae	<i>Semisulcospira libertina</i>	Semisulcospira libertina	44	0.035	Imago	—	—	163	53	110	—
		Vertebrata	Osteichthyes	Cypriniformes	Balitoridae	<i>Lefua echigonia</i>	Lefua echigonia	45	0.024	Mature fish	—	—	10	2.9	6.8	—
		Vertebrata	Osteichthyes	Scorpaeniformes	Cottidae	<i>Cottus pollux</i>	Japanese fluvial sculpin	22	0.15	1-year-old fish	—	—	45	15	30	—
		Vertebrata	Amphibia	Anura	Bufonidae	<i>Bufo japonicus formosus</i>	Japanese toad	1	0.087	Imago	—	—	32	11	21	—
		Vertebrata	Amphibia	Anura	—	—	—	42	0.033	Larva	—	—	340	110	230	—
		Vertebrata	Amphibia	Caudata	Salamandridae	<i>Cynops pyrrhogaster</i>	Cynops pyrrhogaster	9	0.056	Imago	—	—	19	5.9	13	—
		coarse particulate organic matters (CPOMs)	—	—	—	—	—	—	0.29	—	—	—	37	12	25	—
		Vertebrata	Osteichthyes	Osmeriformes	Osmeridae	<i>Hypomesus nipponensis</i>	Japanese smelt	173	0.70	Mature fish	—	—	29	9.0	20	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius auratus</i>	Carassius auratus langsdorffii	16	2.3	5-year-old fish	Some (details unknown)	—	96	28	68	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus	10	0.42	4-year-old fish	Some (details unknown)	—	68	20	48	—
		Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace (small)	16	0.92	3-year-old fish	—	—	187	57	130	—
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace (large)	1	0.23	4-year-old fish	Some (details unknown)	—	123	37	86	—	
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Yamame trout	1	0.36	2-year-old fish	None	—	72	21	51	—	
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char (large)	2	0.60	3-year-old fish	Small fish	—	125	39	86	—	
	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (small)	6	0.32	3-year-old fish	None	—	106	33	73	—	
	Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	4	1.6	3-year-old fish	Some (details unknown)	—	147	47	100	1.0	
	Arthropod	Malacostraca	Decapoda	Astacidae	<i>Pacifastacus leniusculus trowbridgii</i>	Signal crayfish	25	1.8	Imago	—	—	91	29	62	11	
	Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Cyprinus carpio</i>	Common carp	1	3.0	6-year-old fish	Some (details unknown)	—	47	14	33	0.99	
	Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char (small)	1	0.091	2-year-old fish	None	—	83	27	56	—	

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										Growth stage	Stomach contents	Total	Cs-134	Cs-137		
Lake Inawashiro	I-1 I-2 (north lakeside)	2013/9/20	Arthropod	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucitens</i>	Common prawn	322	0.23	Imago	—	12	3.8	8.3	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius (small)	40	0.26	1-year-old fish	—	12	3.3	8.6	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius (large)	5	2.1	7-year-old fish	—	40	11	29	0.46
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (small)	9	0.69	1-year-old fish	Some (details unknown)	24	7.3	17	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (large)	2	1.6	5-year-old fish	Some (details unknown)	65	20	45	—
			Vertebrata	Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	47	1.7	2-year-old fish	Some (details unknown)	61	20	41	—
			Vertebrata	Osteichthyes	Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish	439	1.0	Mature fish	—	13	3.9	8.6	—
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Oncorhynchus masou</i>	Seena	3	1.1	2-year-old fish	Small fish	52	17	35	—
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char (small)	1	0.32	2-year-old fish	Small fish	122	38	84	—
			Vertebrata	Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char (large)	1	0.95	3-year-old fish	None	158	48	110	—
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (small)	3	0.67	2-year-old fish	Small fish	74	22	52	—
			Vertebrata	Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	4	1.8	1-year-old fish	Small fish	90	27	63	0.30
			J-3 (south lakeside)	2013/8/21	Algae/plant	—	—	—	—	Floating algae	—	0.048	—	—	1.1	N.D.(<0.95)
	Angiospermae	Monocotyledoneae			Hydrocharitales	Hydrocharitaceae	<i>Elodea nuttallii</i>	Western Waterweed	—	0.15	—	—	N.D.	N.D.(<0.81)	N.D.(<0.67)	—
	Angiospermae	Dicotyledoneae			Nymphaeales	Nymphaeaceae	<i>Nuphar japonicum</i>	Cow lily	—	0.27	—	—	4.4	1.7	2.7	—
	Mollusca	Gastropoda			Architaenioglossa	Viviparidae	<i>Bellamyia japonica</i>	Japanese mysterysnail	6	0.089	Imago	—	9.8	3.4	6.4	—
	Vertebrata	Osteichthyes			Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish (small)	165	0.25	Yearling fish	—	1.8	N.D.(<1.7)	1.8	—
	Vertebrata	Osteichthyes			Cypriniformes	Cobitidae	<i>Misgurnus anguillicaudatus</i>	Oriental weatherfish (large)	5	0.029	More than 1 year old	—	1.8	N.D.(<1.8)	1.8	—
	Vertebrata	Amphibia			Anura	Ranidae	<i>Rana rugosa</i>	Wrinkled Frog	5	0.035	Imago	—	6.4	2.0	4.4	—
	2013/8/25	Arthropod		Malacostraca	Decapoda	Palaemonidae	<i>Palaemon paucitens</i>	Common prawn	120	0.049	Imago	—	8.7	2.6	6.1	—
	2013/8/26	Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Pseudogobio esocinus</i>	Pseudogobio esocinus	11	0.18	Mature fish	—	29	8.5	20	—
		Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Tribolodon hakonensis</i>	Japanese dace	3	0.25	4-year-old fish	Some (details unknown)	82	26	56	—
		Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius (small)	18	0.12	1-year-old fish	—	19	6.4	13	—
		Vertebrata		Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (small)	13	0.13	Yearling fish	Crustacean fragments	36	12	24	—
	2013/8/28	Vertebrata		Osteichthyes	Perciformes	Centrarchidae	<i>Micropterus dolomieu</i>	Small mouth bass (large)	1	0.17	1-year-old fish	None	90	28	62	—
		Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (small)	10	1.0	1-year-old fish	Some (details unknown)	27	8.4	19	—
	2013/8/29	Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Carassius sp.</i>	Carassius (large)	2	1.6	6-year-old fish	Some (details unknown)	19	6.1	13	—
		Vertebrata		Osteichthyes	Cypriniformes	Cyprinidae	<i>Hemibarbus barbus</i>	Hemibarbus barbus (large)	1	0.93	5-year-old fish	Some (details unknown)	43	14	29	—
	2013/9/18	Vertebrata		Osteichthyes	Salmoniformes	Salmonidae	<i>Salvelinus leucomaenis</i>	Char	1	0.75	4-year-old fish	Some (details unknown)	173	53	120	—

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										Growth stage	Stomach contents	Total	Cs-134	Cs-137		
Off the mouth of the Abukuma River (Off Yamai Town)	Surrounding water area off the mouth of the Abukuma River	2013/8/29	Arthropod	Malacostraca	Decapoda	Portunidae	<i>Portunus trituberculatus</i>	Japanese blue crab	6	1.7	Imago	—	1.8	0.63	1.2	—
			Arthropod	Malacostraca	Decapoda	Portunidae	<i>Ovalipes punctatus</i>	Ovalipes punctatus	5	0.70	Imago	—	0.39	0.39	N.D.(<0.85)	—
			Vertebrata	Osteichthyes	Marbled rockfish	Fat greenling	<i>Hexagrammos otakii</i>	Fat greenling	8	2.4	2-year-old fish	Small fish, crustacean fragments	1.6	0.46	1.1	0.019
			Vertebrata	Osteichthyes	Scorpaeniformes	Triglidae	<i>Chelidonichthys spinosus</i>	Gurnard	11	2.7	3-year-old fish	Small fish, crustacean fragments	2.5	0.78	1.7	0.024
			Vertebrata	Osteichthyes	Scorpaeniformes	Sebastidae	<i>Sebastes sp.</i>	Sebastes	5	1.1	5-year-old fish	Small fish, crustacean fragments	7.0	2.1	4.9	—
			Vertebrata	Osteichthyes	Pleuronectiformes	Paralichthyidae	<i>Paralichthys olivaceus</i>	Bastard halibut	6	2.5	1-year-old fish	Small fish	1.7	0.51	1.2	0.015
			Vertebrata	Osteichthyes	Perciformes	Sparidae	<i>Evmnis japonica</i>	Crimson sea-bream	8	1.7	4-year-old fish	Some (details unknown)	2.2	0.73	1.5	—
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)	
Off Soma City (Matsukawaura)	L-1 L-2 L-3	2013/9/4	Chlorophyta	Ulvothycyceae	Ulvales	Ulvoaceae	<i>Ulva pertusa</i>	Ulva pertusa	—	0.51	—	—	0.53	N.D.(<0.32)	0.53	—
			Angiospermae	Monocotyledoneae	Najadales	Zosteraceae	<i>Zostera marina</i>	eel grass	—	0.31	—	—	N.D.	N.D.(<0.29)	N.D.(<0.28)	—
			Arthropod	Malacostraca	Decapoda	Alpheidae	<i>Alpheus sp.</i>	Alpheus	60	0.10	Imago	—	6.7	2.1	4.6	—
			Arthropod	Malacostraca	Decapoda	Palaemonidae	<i>Palaemon sp.</i>	Palaemon	97	0.068	Imago	—	4.6	1.5	3.1	—
			Arthropod	Malacostraca	Decapoda	Portunidae	<i>Charybdis japonica</i>	Shore swimming crab	20	0.88	Imago	—	5.2	1.6	3.6	—
			Annelida	Polychaeta	—	—	Polychaeta	polychaetes	241	0.020	Imago	—	6.9	N.D.(<3.1)	6.9	—
			Mollusca	Bivalvia	Pterioidea	Ostreidae	<i>Crassostrea gigas</i>	Japanese oyster (shell)	43	2.6	Imago	—	6.0	1.9	4.1	—
			Mollusca	Bivalvia	Pterioidea	Ostreidae	<i>Crassostrea gigas</i>	Japanese oyster (molluscan part)	43	0.80	Imago	—	2.3	0.71	1.6	—
			Mollusca	Bivalvia	Veneroidea	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck (shell)	64	1.0	Imago	—	1.6	0.46	1.1	—
			Mollusca	Bivalvia	Veneroidea	Veneridae	<i>Ruditapes philippinarum</i>	Japanese littleneck (molluscan body)	64	0.48	Imago	—	2.4	0.77	1.6	—
			Vertebrata	Osteichthyes	Pleuronectiformes	Pleuronectidae	Pleuronectidae	Pleuronectidae	9	0.026	Immature fish	—	4.6	1.4	3.2	—
			Vertebrata	Osteichthyes	Perciformes	Gobiidae	Gobiidae	Gobiidae	43	0.16	Immature fish	—	5.3	1.7	3.6	—
			Vertebrata	Osteichthyes	Mugiliformes	Mugilidae	<i>Liza haematocheilus</i>	Haarder	1	0.40	2-year-old fish	—	5.0	1.7	3.6	—
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)	
Off Iwaki City (Hisanohama)	M-1 M-2 M-3	2013/9/11	Echinoderm	Echinoidea	Echinoida	Phyrosomatidae	<i>Glyptocidaris crenularis</i>	Sea urchin	35	1.3	Imago	—	23	6.9	16	6.0
			Vertebrata	Osteichthyes	Marbled rockfish	Fat greenling	<i>Hexagrammos otakii</i>	Fat greenling	8	4.7	2-year-old fish	Small prawns	29	8.9	20	0.16
			Vertebrata	Osteichthyes	Scorpaeniformes	Triglidae	<i>Chelidonichthys spinosus</i>	Gurnard	6	1.3	2-year-old fish	Crustacean fragments (small crabs)	7.1	2.2	4.9	—
			Vertebrata	Osteichthyes	Pleuronectiformes	Pleuronectidae	<i>Pleuronectes yokohamae</i>	Marbled sole	8	4.8	Mature fish	Some (details unknown)	19	6.1	13	0.11
			Vertebrata	Osteichthyes	Pleuronectiformes	Paralichthyidae	<i>Paralichthys olivaceus</i>	Bastard halibut	5	4.7	1-year-old fish	Some (details unknown)	4.1	1.5	2.6	0.040
			Vertebrata	Cartilage fish	Rajiformes	Rajidae	<i>Okamejei kenojei</i>	Skate	5	2.6	Mature fish	Crustacean fragments (small crabs)	84	26	58	0.24
			Vertebrata	Osteichthyes	Zeiformes	Zeidae	<i>Zeus faber</i>	John dory	3	3.0	Mature fish	Small prawns, squid	5.3	1.6	3.7	N.D.(<0.019)
	Vertebrata	Cartilage fish	Sandbar shark	Banded houndshark	<i>Mustelus manazo</i>	Starspotted smooth-hound	4	3.9	Mature fish	Crustacean fragments (small crabs)	8.8	2.8	6.0	0.029		
	M-4 (Hisanohama)	2013/9/5	Brown algae	Phaeophyceae	Laminariales	Lessoniaceae	<i>Eisenia bicyclis</i>	Eisenia bicyclis	—	1.2	—	—	1.6	0.50	1.1	—
			Echinoderm	Sea Urchin	Loxechinus	Strongylocentrotus	<i>Strongylocentrotus nudus</i>	Northern sea urchin	30	3.1	Imago	—	4.8	1.5	3.3	—
Mollusca			Gastropoda	Archaeogastropoda	Haliotis asinina	<i>Haliotis discus</i>	abalone(shell)	12	0.60	Imago	—	16	5.0	11	—	
Mollusca	Gastropoda	Archaeogastropoda	Haliotis asinina	<i>Haliotis discus</i>	abalone(molluscan body)	12	1.8	Imago	—	1.9	0.75	1.1	—			