

(News Release)  
The Results of Radioactive Material Monitoring of the Surface Water Bodies  
within Ibaraki Prefecture  
(May-June Samples)

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In accordance with the Comprehensive Radiation Monitoring Plan determined by the Monitoring Coordination Meeting, the Ministry of the Environment (MOE) is continuing to monitor radioactive materials in water environments (surface water bodies (rivers, lakes and headwaters, and coasts), etc.).

Samples taken from the surface water bodies of Ibaraki Prefecture during the period of May 15-June 18, 2013 have been measured as part of MOE's efforts to monitor radioactive materials; the results have recently been compiled and are released here.

The monitoring results of radioactive materials in surface water bodies carried out to date can be found at the following web page: <http://www.env.go.jp/jishin/rmp.html#monitoring>

1. Survey Overview

(1) Survey Locations

77 environmental reference points, etc. in the surface water bodies within Ibaraki Prefecture  
(Rivers: 53 locations, Lakes and headwaters: 19 locations, Coasts: 5 locations)

Note: Starting with this survey, there are 7 new survey locations of lakes and headwaters.

(2) Survey Method

- Measurement of concentrations of radioactive materials (radioactive cesium (Cs-134 and Cs-137)) in water and sediment
- Measurement of concentrations of radioactive materials and spatial dose-rate in soil in the surrounding environment of water and sediment sample collection points (river terraces, etc.)

2. Outline of Results (\* denotes the results of the previous survey (February-March 2013))

(1) Water Quality (Lower detection limit: 1Bq/L)

Cs-134+ Cs-137: Not detectable (ND) at any location (\* ND at any location)

<Reference>

Specification and Standards for Food, Food Additives, etc. in accordance with the Food Sanitation Act (Drinking Water) (Ministry of Health, Labour and Welfare Public Notice No.130, March 15, 2012)  
Radioactive cesium (total for Cs-134+Cs-137): 10Bq/kg

Target value for radioactive materials in tap water (management target for water supply facilities) (March 5, 2012; 0305 Notice No.1 from the Director of the Water Supply Division, Health Service Bureau, Ministry of Health, Labour and Welfare)

Radioactive cesium (total for Cs-134+Cs-137): 10Bq/kg

(2) Sediment (Lower detection limit: 10Bq/kg (dried mud))

Overall, the levels of both the rivers and lakes/headwaters measured were around 1,000Bq/kg or below for most of the locations (coasts: 100Bq/kg or below), and have declined or remained constant.

(Rivers)

Cs-134+Cs-137: 11-4,100Bq/kg (dried mud) (\*13-3,500Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134+Cs-137: 18-5,100Bq/kg (dried mud) (\*93-1,300Bq/kg (dried mud))

(Coasts)

Cs-134+Cs-137: ND-42Bq/kg (dried mud) (\*ND-49Bq/kg (dried mud))

<Reference> Number of locations by radioactive cesium concentration (500Bq/kg)

Numbers in ( ) denote results measured on the previous occasion.

	500 or below	501 -1,000	1,001 -1,500	1,501 -2,000	2,001 -2,500	2,501 -3,000	3,001 or more	Total
Rivers	36 (33)	9 (8)	4 (2)	3 (0)	0 (2)	0 (0)	1 (1)	53 (46)
Lakes and headwaters	10(8)	5 (3)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	19 (12)
Coasts	5 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (5)

(3) Surrounding Environment (Lower detection limit: 10Bq/kg (dry))

(Rivers)

Cs-134+Cs-137: ND-7,200Bq/kg (dry) (\*56-3,100Bq/kg (dry))

Spatial dose: 0.03-0.31μSv/h

(Lakes and headwaters)

Cs-134+Cs-137: 19-4,800Bq/kg (dry) (\*11-600Bq/kg (dry))

Spatial dose: 0.05-0.17μSv/h

(Annex for details)  
(Map attached)

Future Plans

MOE intends to continue to measure radioactive materials in water, sediment, etc. in rivers, lakes, etc., since concentrations of radioactive materials seem to show fluctuations, depending on locations, due to minor differences in sampling points or properties of samples of each survey.

ORiver: Water Quality Monitoring Results

No.	Sampling point				Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks	
	Water body	Point	Municipality	Sampling depth (m)				Transparency (cm)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium				
												Cs-134	Cs-137			
1-7	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitabarakishi City	2013/5/29	Cloudy	0.20	0.0	>100	8	<1	1	<1	<1		
			Murayamabashi Bridge		2013/5/29	Light rain	0.30	0.0	>100	12	2	2	<1	<1		
		Hanazonogawa River	Kurabeishi	Kitabarakishi City	2013/5/29	Cloudy	0.35	0.0	>100	7	<1	1	<1	<1		
			Isonarebashi Bridge		2013/5/28	Cloudy	0.60	0.0	>100	27	4	2	<1	<1		
		Okitagawa River	Sakabashi Bridge	Takahagishi City	2013/5/29	Cloudy	0.40	0.0	>100	5	2	1	<1	<1		
			Sakabashi Bridge	Kitabarakishi City	2013/5/28	Sunny	0.40	0.0	92	13	10	3	<1	<1		
		Hananukigawa River	Shinhananukibashi Bridge	Takahagishi City	2013/5/28	Sunny	0.45	0.0	>100	10	6	2	<1	<1		
8-9	Kujigawa River System	Kujigawa River	Yamagata	Hitachiomiya City	2013/5/28	Sunny	0.70	0.0	>100	17	3	2	<1	<1		
			Sakakibashi Bridge	Hitachishi City/Tokaimura Village	2013/5/28	Sunny	0.45	0.0	60	9	6	4	<1	<1		
10-18	RivernearSawatacem	Nakagawa River	Noguchi	Hitachiomiya City/Shirostomachi Town	2013/5/27	Sunny	0.70	0.0	88	12	8	3	<1	<1		
			Shimokunii	Mitoshi City	2013/5/27	Cloudy	1.20	0.0	73	24	7	4	<1	<1		
			Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2013/5/27	Cloudy	3.30	0.0	76	883	6	4	<1	<1		
			Nakamarugawa River	Yanagiswabashi Bridge	Hitachinakashi City	2013/5/27	Sunny	0.82	0.0	46	302	19	9	<1	<1	
			Hinumamecawaka River	Nagaokabashi Bridge	Ibarakimachi Town	2013/5/24	Sunny	0.30	0.0	57	11	6	5	<1	<1	
			Hinumagawa River	Takahashi		2013/5/24	Sunny	0.35	0.0	61	10	11	5	<1	<1	
		Hinunagawa River	Kanseigawa River	Kanseibashi Bridge	2013/5/24	Sunny	0.70	0.0	63	13	6	5	<1	<1		
			Daiyugawa River	Oyabashi Bridge	Hokotashi City	2013/5/24	Sunny	1.10	0.0	73	18	3	3	<1	<1	
			Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2013/5/27	Sunny	0.62	0.0	83	3,930	5	3	<1	<1	
		19-30	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2013/5/23	Sunny	0.95	0.0	43	18	14	8	<1	<1
				Tomoogawa River	Shintomoogawabashi Bridge		2013/5/23	Sunny	0.82	0.0	44	13	25	8	<1	<1
				Taiyogawa River	Tazukabashi Bridge		2013/5/23	Cloudy	0.20	0.0	79	14	5	6	<1	<1
				Takedagawa River	Uchijukuohashi Bridge	Namegatashi City	2013/5/23	Sunny	0.70	0.0	51	14	14	9	<1	<1
				Yamadagawa River	Nioroshibashi Bridge		2013/5/23	Sunny	0.40	0.0	48	15	17	8	<1	<1
				Kurakawa River	Kurakawabashi Bridge		2013/5/22	Sunny	0.60	0.0	35	15	37	39	<1	<1
				Gantsugawa River	JA Yokohashi		2013/5/22	Sunny	0.19	0.0	35	19	12	8	<1	<1
				Nagaragawa River	Suhoibashi Bridge		Kashimashi City	2013/5/23	Sunny	0.18	0.0	>100	20	2	5	<1
				31-42	Kasumi-ga-ura	Sonobegawa River	Sonobeshinbashi Bridge	Omitamashi City	2013/5/21	Cloudy	1.30	0.0	26	15	26	14
Samogawa River	Tokorobashi Bridge					Ishikashi City/Omitamashi City	2013/5/21	Cloudy	0.90	0.0	69	19	4	4	<1	<1
Koiegawa River	Heiwabashi Bridge					Ishikashi City	2013/5/21	Cloudy	0.70	0.0	28	18	20	13	<1	<1
Kajinashigawa River	Kamishukubashi Bridge					Namegatashi City	2013/5/21	Cloudy	0.67	0.0	42	19	10	9	<1	<1
Hishikigawa River	Hishikibashi Bridge	Kasumigaaurashi City	2013/5/21			Cloudy	0.68	0.0	34	15	24	10	<1	<1		
Ichinogawa River	Kawanakabashi Bridge	Tsuchiurashi City	2013/5/21			Sunny	1.10	0.0	32	16	30	12	<1	<1		
Sakaigawa River	Sakabashi Bridge/National Route 354		2013/5/17			Sunny	0.30	0.0	14	19	20	6	<1	<1		
Shinkawa River	Shintenbashi Bridge	Tsuchiurashi City/Tsukubashi City	2013/5/17			Sunny	2.25	0.0	20	28	14	9	<1	<1		
Sakuragawa River	Eiribashi Bridge		2013/5/17			Sunny	0.35	0.0	43	19	16	15	<1	<1		
Bizengawa River	Bizengawabashi Bridge		2013/5/17			Sunny	1.70	0.0	26	31	4	8	<1	<1		
37	Lakere	Hanamurogawa River	Shinwabashi Bridge			Amimachi Town	2013/5/26	Sunny	0.18	0.0	47	15	16	9	<1	<1
38		Semiegawa River	Katsuhashi Bridge				2013/5/26	Cloudy	0.63	0.0	26	19	16	11	<1	<1
39		Onogawa River	Okuharaohashi Bridge	Ryugasashi City/Ushikushi City	2013/5/26		Cloudy	0.30	0.0	27	17	10	13	<1	<1	
40		Shintonegawa River	Shintonebashi Bridge	Inashikishi City	2013/5/22		Cloudy	1.10	0.0	30	15	16	12	<1	<1	
41		Hitachitonegawa River	Yorokoshigawa River	Horinouchibashi Bridge	Itakoshi City		2013/5/22	Sunny	0.82	0.0	33	19	22	9	<1	<1
42		Maeakawa River	Ayamebashi Bridge	2013/5/22	Cloudy		2.50	0.0	33	14	12	12	<1	<1		
43-44	Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseshi City	2013/5/15	Sunny	0.40	0.0	>100	20	4	2	<1	<1		
			Takishitabashi Bridge	Moriyashi City	2013/5/16	Cloudy	0.42	0.0	30	22	12	13	<1	<1		
45-53	Kokaigawa River	Tagawa River	Tagawabashi Bridge	Chikuseshi City	2013/5/15	Cloudy	0.25	0.0	>100	25	5	2	<1	<1		
			Kurokobashi Bridge	2013/5/15	Sunny	0.40	0.0	33	17	14	9	<1	<1			
		Yatagawa River	Fumimabashi Bridge	Ryugasakishi City/Torideshi City	2013/5/16	Sunny	3.30	0.0	30	19	4	10	<1	<1		
			Murayamabashi Bridge	2013/5/17	Sunny	1.80	0.0	43	27	19	9	<1	<1			
		Nshiyatagawa River	Sakaimatsuhashi Bridge	Tsukubashi City	2013/5/16	Light rain	0.37	0.0	50	22	12	8	<1	<1		
		Inarigawa River	Ogukibashi Bridge	Kogashi City	2013/5/17	Sunny	1.10	0.0	85	29	6	4	<1	<1		
		Kurihashi Bridge	2013/5/15		Cloudy	0.45	0.0	75	13	7	4	<1	<1			
Tonegawa River	Tonegawa River	Fukawa	Tonemachi Town	2013/5/16	Sunny	0.44	0.0	58	20	7	5	<1	<1			
		Sawara	Inashikishi City	2013/5/22	Cloudy	0.34	0.0	52	13	8	6	<1	<1			

\* Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

○River: Sediment Monitoring Results

No.	Sampling point			Sampling date	Weather	Full depth (m)	General items			Concentration of radioactive material [Bq/kg (dried mud)]			Remarks					
	Water body	Point	Municipality				Mud sampling depth (cm)	Mud content %	Property	Radioactive cesium								
										Cs-134	Cs-137	Total						
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitabarakishi City	2013/5/29	Cloudy	0.2	7	80	Gravel/sand	27	70	97					
2			Murayamabashi Bridge			2013/5/29	Light rain	0.3	5	80	Gravel/sand	40	86	126				
3			Kurabeishi				2013/5/29	Cloudy	0.4	5	79	Gravel/sand	13	23	36			
4			Hanazonogawa River	Isonarebashi Bridge		2013/5/28	Cloudy	0.6	5	81	Sand/gravel	15	35	50				
5			Okitagawa River	Sakaebashi Bridge	Takahagishi City	2013/5/29	Cloudy	0.4	7	83	Sand/gravel	17	25	42				
6				Sakaibashi Bridge	Kitabarakishi City	2013/5/28	Sunny	0.4	5	80	Sand/gravel	28	73	101				
7			Hananukigawa River	Shinhananukibashi Bridge	Takahagishi City	2013/5/28	Sunny	0.5	6	78	Sand	48	87	135				
8	Kujigawa River System	Kujigawa River	Yamagata	Hitachiomiya City	2013/5/28	Sunny	0.7	6	74	Sand/silt	23	37	60					
9			Sakakibashi Bridge	Hitachishi City/Tokamura Village	2013/5/28	Sunny	0.5	7	72	Sand/silt	16	39	55					
10	R i v e r N e a r K a s a g a S g a y a s w e m	Nakagawa River	Noguchi	Hitachiomiya City/Shirosatomachi Town	2013/5/27	Sunny	0.7	5	83	Gravel/sand	<10	11	11					
11				Shimokuni	Mitoshi City	2013/5/27	Cloudy	1.2	5	54	Silt/sand	28	73	101				
12				Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2013/5/27	Cloudy	3.3	10	36	Silt/sand	360	750	1,110				
13	Hinumagawa River	Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2013/5/27	Sunny	0.8	5	50	Silt	370	740	1,110					
14			Hinumamaekawa River	Nagaokabashi Bridge		2013/5/24	Sunny	0.3	5	71	Sand/gravel	160	350	510				
15			Hinumagawa River	Takahashi	Ibarakimachi Town	2013/5/24	Sunny	0.4	4	84	Gravel/sand	<10	19	19				
16			Kanseibashi Bridge			2013/5/24	Sunny	0.7	5	81	Sand with gravel	49	110	159				
17			Daiyagawa River	Oyabashi Bridge	Hokotashi City	2013/5/24	Sunny	1.1	5	49	Silt/sand	260	550	810				
18			Hinumagawa River	Hinumabashi Bridge	Mitoshi City/Oaraimachi Town	2013/5/27	Sunny	0.6	4	76	Sand/silt	50	140	190				
19	T o n e g a w a R i v e r	Kitaura Lake	Hokotagawa River	Asahibashi Bridge		2013/5/23	Sunny	1.0	10	60	Sand/silt	100	270	370				
20				Tomoogawa River	Shintomoogawabashi Bridge	Hokotashi City	2013/5/23	Sunny	0.8	4	56	Silt	140	270	410			
21				Taiyogawa River	Tazukabashi Bridge		2013/5/23	Cloudy	0.2	5	77	Sand/silt	110	210	320			
22				Takedagawa River	Uchijukuohashi Bridge		2013/5/23	Sunny	0.7	4	78	Sand	57	120	177			
23				Yamadagawa River	Nioroshibashi Bridge	Namegatashi City	2013/5/23	Sunny	0.4	4	72	Sand	94	210	304			
24				Kurakawa River	Kurakawabashi Bridge		2013/5/22	Sunny	0.6	4	82	Sand	33	65	98			
25				Gantsugawa River	JA Yokohashi			2013/5/22	Sunny	0.2	3	81	Sand	71	140	211		
26				Nagaregawa River	Suboibashi Bridge	Kashimashi City	2013/5/23	Sunny	0.2	4	79	Sand/silt	170	360	530			
27				Sonobegawa River	Sonobeshinbashi Bridge	Omitamashi City	2013/5/21	Cloudy	1.3	10	61	Sand/silt	150	280	430			
28				Sannogawa River	Tokorobashi Bridge	Ishiohoshi City/Omitamashi City	2013/5/21	Cloudy	0.9	6	78	Sand	280	580	860			
29		Koiseigawa River	Heiwabashi Bridge	Ishiohoshi City	2013/5/21	Cloudy	0.7	7	74	Sand/silt	56	97	153					
30		Kajinashigawa River	Kamishukubashi Bridge	Namegatashi City	2013/5/21	Cloudy	0.7	8	80	Sand/silt	44	110	154					
31		Hishikigawa River	Hishikibashi Bridge	Kasumigaurashi City	2013/5/21	Cloudy	0.7	8	76	Sand	190	410	600					
32		Ichinosegawa River	Kawanakabashi Bridge		2013/5/21	Sunny	1.1	10	49	Sand/silt	280	560	840					
33		Sakaigawa River	Sakaibashi Bridge/National Route 354			2013/5/17	Sunny	0.3	10	76	Silt/sand	50	110	160				
34		Shinkawa River	Shintenbashi Bridge	Tsuchiurashi City	2013/5/17	Sunny	2.3	10	21	Silt	1,400	2,700	4,100					
35		Sakuragawa River	Eiribashi Bridge	Tsuchiurashi City/Tsukubashi City	2013/5/17	Sunny	0.4	10	73	Sand/silt	25	51	76					
36		Bizengawa River	Bizengawabashi Bridge	Tsuchiurashi City	2013/5/17	Sunny	1.7	10	68	Sand/gravel	570	1,200	1,770					
37		Hanamurogawa River	Shinwabashi Bridge		2013/5/26	Sunny	0.2	4	78	Sand	270	540	810					
38		Seimeigawa River	Katsuhashi Bridge	Amimachi Town	2013/5/26	Cloudy	0.6	6	77	Sand/silt	430	860	1,290					
39		Onogawa River	Okuharaohashi Bridge	Ryugasakishi City/Ushikushi City	2013/5/26	Cloudy	0.3	7	65	Sand/silt	300	660	960					
40	S y s t e m	Hitachitongawa River	Shintonegawa River	Shintonebashi Bridge	Inashikishi City	2013/5/22	Cloudy	1.1	10	50	Silt/sand	130	240	370				
41				Yorokoshigawa River	Horinouchibashi Bridge		2013/5/22	Sunny	0.8	6	51	Silt/sand	70	140	210			
42				Maekawa River	Ayamebashi Bridge	Itakoshi City	2013/5/22	Cloudy	2.5	10	49	Silt/sand	190	440	630			
43			Kinugawa River	Kinugawa River	Kawashimabashi Bridge	Chikuseishi City	2013/5/15	Sunny	0.4	10	81	Sand	<10	18	18			
44						Takishitabashi Bridge	Moriyashi City	2013/5/16	Cloudy	0.4	10	67	Sand/silt	67	120	187		
45						Tagagawa River	Tagawabashi Bridge	Chikuseishi City	2013/5/15	Cloudy	0.3	10	88	Gravel/sand	11	24	35	
46			Kokaigawa River	Kokaigawa River	Kurokobashi Bridge		2013/5/15	Sunny	0.4	10	67	Silt/sand	76	150	226			
47						Fumimabashi Bridge	Ryugasakishi City/Torideshi City	2013/5/16	Sunny	3.3	10	78	Sand	33	65	98		
48						Yatagawa River	Maruyamabashi Bridge		2013/5/17	Sunny	1.8	10	32	Silt	560	1,100	1,660	
49						Nishiyatagawa River	Sakaimatsuhashi Bridge	Tsukubashi City	2013/5/16	Light rain	0.4	10	35	Silt/sand	400	760	1,160	
50		Inarigawa River			Ogukibashi Bridge		2013/5/17	Sunny	1.1	6	70	Sand/gravel	570	1,200	1,770			
51	Tonegawa River	Tonegawa River	Kuribashi Bridge	Kogashi City	2013/5/15	Cloudy	0.5	10	70	Sand/silt	34	75	109					
52				Fukawa	Tonemachi Town	2013/5/16	Sunny	0.4	10	59	Silt/sand	100	190	290				
53				Sawara	Inashikishi City	2013/5/22	Cloudy	0.3	7	81	Sand/gravel	37	80	117				

\* Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

○River: Surrounding Environment Monitoring Results

No.	Sampling point			Sampling date	Weather	Left bank				Right bank				Remarks				
	Water body	Point	Municipality			Property	Concentration of radioactive material [Bq/kg (dry)]			Air dose (μSv/h)	Property	Concentration of radioactive material [Bq/kg (dry)]			Air dose (μSv/h)			
							Radioactive cesium					Radioactive cesium						
							Cs-134	Cs-137	Total			Cs-134	Cs-137			Total		
1	Taga River System	Satonegawa River	Yamagoyabashi Bridge	Kitaibarakishi City	2013/5/29	Cloudy	Loamy	2,100	4,200	6,300	0.27	Loamy	2,400	4,800	7,200	0.31		
2		Murayamabashi Bridge	2013/5/29		Light rain	Loamy	800	1,600	2,400	0.12	Loamy	1,100	2,300	3,400	0.13			
3		Hanazonogawa River	Kurabeishi	Takahagishi City	2013/5/29	Cloudy	Sandy	550	1,200	1,750	0.13	Sandy	250	490	740	0.10		
4			Isonarabashi Bridge		2013/5/28	Cloudy	Sandy	330	640	970	0.12	Sandy	680	1,300	1,980	0.20		
5		Okitagawa River	Sakaebashi Bridge	Kitaibarakishi City	2013/5/29	Cloudy	Sandy	46	100	146	0.10	Sandy	270	590	860	0.09		
6			Sakaebashi Bridge		2013/5/28	Sunny	Sandy	510	1,000	1,510	0.12	Sandy	300	590	890	0.17		
7		Hanankigawa River	Shinhananukibashi Bridge	Takahagishi City	2013/5/28	Sunny	Sandy	200	400	600	0.14	Sandy	580	1,100	1,680	0.12		
8	Kujigawa River System	Yamagata	Hitachiyoniyashi City	2013/5/28	Sunny	Sandy	69	160	229	0.11	Sandy	30	49	79	0.09			
9		Kujigawa River	Sakakibashi Bridge	Hitachishi City/Tokaimura Village	2013/5/28	Sunny	Sandy	170	320	490	0.11	Sandy	200	430	630	0.11		
10	S y s t e m	Nakagawa River	Nogachi	Hitachiyoniyashi City/Shirosotomachi Town	2013/5/27	Sunny	Sandy	200	410	610	0.08	Sandy	12	14	26	0.06		
11			Shimokuni	Mitoshi City	2013/5/27	Cloudy	Sandy	54	130	184	0.08	Loamy	130	260	390	0.09		
12			Katsutabashi Bridge	Mitoshi City/Hitachinakashi City	2013/5/27	Cloudy	Sandy	230	440	670	0.08	Sandy	200	400	600	0.08		
13		Hinunagawa River	Nakamarugawa River	Yanagisawabashi Bridge	Hitachinakashi City	2013/5/27	Sunny	Sandy	310	610	920	0.08	Sandy	140	270	410	0.08	
14			Hinunamagawa River	Nagaokabashi Bridge	Ibarakimachi Town	2013/5/24	Sunny	Sandy	62	120	182	0.08	Sandy	330	610	940	0.11	
15			Hinunagawa River	Takahashi		2013/5/24	Sunny	Sandy	180	350	530	0.08	Sandy	31	76	107	0.07	
16			Kansegawa River	Kansegabashi Bridge		2013/5/24	Sunny	Sandy	170	350	520	0.10	Loamy	450	920	1,370	0.09	
17		Daiyagawa River	Oyabashi Bridge	Hokotashi City		2013/5/24	Sunny	-	-	-	-	-	-	-	-	-	Soil not exposed	
18		Hinunagawa River	Hinunabashi Bridge	Mitoshi City/Oaraimachi Town	2013/5/27	Sunny	Sandy	400	830	1,230	0.14	Sandy	740	1,400	2,140	0.12		
19		T o n e g a w a	Kitaura Lake	Hokotagawa River	Asahibashi Bridge	2013/5/23	Sunny	-	-	-	-	-	-	-	-	-	Soil not exposed	
20				Tomogawa River	Shintomogawabashi Bridge	Hokotashi City	2013/5/23	Sunny	Sandy	290	570	860	0.11	Sandy	80	210	290	0.09
21	Taiyogawa River			Tazukabashi Bridge	2013/5/23	Cloudy	Sandy	180	360	540	0.09	Sandy	100	200	300	0.06		
22	Takedagawa River			Uchiyukabashi Bridge	2013/5/23	Sunny	Sandy	280	570	850	0.08	Sandy	440	870	1,310	0.11		
23	Yamagawa River			Nirokobashi Bridge	2013/5/23	Sunny	Sandy	49	120	169	0.06	Sandy	520	1,100	1,620	0.08		
24	Kurakawa River			Kurakawabashi Bridge	2013/5/22	Sunny	Sandy	140	270	410	0.09	Sandy	180	390	570	0.09		
25	Gantsugawa River			JA Yokohashi	2013/5/22	Sunny	Sandy	240	530	770	0.09	Sandy	370	730	1,100	0.05		
26	Nagaregawa River			Suhoibashi Bridge	2013/5/23	Sunny	-	-	-	-	-	-	-	-	-	-	Soil not exposed	
27	R i v e r			K a s a s u k i g a w a	Sonobegawa River	Sonobeshinabashi Bridge	2013/5/21	Cloudy	Sandy	160	330	490	0.08	Loamy	320	610	930	0.08
28					Sannogawa River	Takorobashi Bridge	2013/5/21	Cloudy	Sandy	590	1,200	1,790	0.09	Sandy	240	510	750	0.10
29					Koizogawa River	Hizwabashi Bridge	2013/5/21	Cloudy	Sandy	430	850	1,280	0.13	Sandy	250	510	760	0.10
30		Kajinogawa River	Kaminshukubashi Bridge		2013/5/21	Cloudy	Sandy	380	770	1,150	0.07	Sandy	140	300	440	0.08		
31		Hishikigawa River	Hishikubashi Bridge		2013/5/21	Cloudy	Sandy	110	230	330	0.07	Sandy	320	620	940	0.11		
32		Ichinogawa River	Kawanakabashi Bridge		2013/5/21	Sunny	Sandy	94	220	314	0.09	Sandy	150	320	470	0.08		
33		Sakagawa River	Sakabashi Bridge/National Route 354		2013/5/17	Sunny	Sandy	560	1,000	1,560	0.15	Sandy	120	230	350	0.12		
34		Shinkawa River	Shintenbashi Bridge		2013/5/17	Sunny	Sandy	560	1,200	1,760	0.10	Sandy	210	480	690	0.10		
35		Sakuragawa River	Eiribashi Bridge		2013/5/17	Sunny	Sandy	88	200	288	0.08	Sandy	96	200	296	0.10		
36		Bizenogawa River	Bizenogawabashi Bridge		2013/5/17	Sunny	Sandy	250	560	810	0.12	Sandy	280	550	830	0.13		
37		Hanamurogawa River	Shinwabashi Bridge		2013/5/26	Sunny	Sandy	390	810	1,200	0.12	Sandy	320	680	1,000	0.13		
38	Seinogawa River	Kasubashi Bridge	2013/5/26	Cloudy	Sandy	410	830	1,240	0.16	Sandy	310	640	950	0.17				
39	Onogawa River	Okuharabashi Bridge	2013/5/26	Cloudy	Sandy	290	600	890	0.11	Sandy	380	750	1,130	0.12				
40	Shironegawa River	Shimonebashi Bridge	2013/5/22	Cloudy	Sandy	260	530	790	0.09	Sandy	260	580	840	0.08				
41	S y s t e m	Hitachitonegawa River	Yorokobigawa River	Horinouchibashi Bridge	2013/5/22	Sunny	Sandy	93	160	253	0.06	Sandy	98	200	298	0.07		
42			Maekawa River	Ayamebashi Bridge	2013/5/22	Cloudy	Sandy	59	130	189	0.03	Sandy	190	400	590	0.04		
43	K i n g a w a	River	Kawashinabashi Bridge	2013/5/15	Sunny	Sandy	63	140	203	0.09	Sandy	62	140	202	0.08			
44			Takishitabashi Bridge	2013/5/16	Cloudy	Sandy	440	960	1,400	0.12	Sandy	640	1,200	1,840	0.15			
45			Tagawabashi Bridge	2013/5/15	Cloudy	Sandy	49	110	159	0.07	Sandy	15	31	46	0.06			
46			Kurokobashi Bridge	2013/5/15	Sunny	Sandy	110	200	310	0.08	Sandy	71	170	241	0.08			
47	K o k a i g a w a	River	Fumimachibashi Bridge	2013/5/16	Sunny	Sandy	510	1,000	1,510	0.13	Sandy	140	290	430	0.12			
48			Maruyamabashi Bridge	2013/5/17	Sunny	Sandy	350	750	1,100	0.12	Sandy	610	1,300	1,910	0.11			
49			Nishivatagawa River	Sakamatsubashi Bridge	2013/5/16	Light rain	Sandy	25	63	88	0.06	Sandy	240	510	750	0.09		
50	Inarigawa River	Ogukibashi Bridge	2013/5/17	Sunny	Sandy	360	730	1,090	0.12	Sandy	790	1,600	2,390	0.17				
51	T o n e g a w a	River	Kurihashi Bridge	2013/5/15	Cloudy	Sandy	<10	<10	-	0.06	Sandy	70	130	200	0.08			
52			Fukawa	2013/5/16	Sunny	Sandy	320	650	970	0.15	Sandy	210	460	670	0.08			
53			Sawara	2013/5/22	Cloudy	Sandy	91	200	291	0.07	Sandy	88	180	268	0.06			

\* Samples for surrounding environment (soil) were generally collected from 5 points in 3m square in the river terrace, etc., and mixed. Depending on the site situation, factors, such as the area of sampling may be much smaller, may cause figures to vary significantly.

\* Sampling points for rivers are listed from north to south, and for different points along the river, from upstream to downstream.

\* Air dose was measured with a survey meter, TCS-172B of Hitachi-Aloka Medical, Ltd.

# OLake and Headwater: Water Quality Monitoring Results

Sampling point			Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks
No.	Point	Surface layer/Lower layer				Sampling depth (m)	Secchi disk depth (m)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium		
											Cs-134	Cs-137	
1	Hiroura	Surface layer	2013/5/20	Cloudy	2.5	0.5	0.9	1,540	7	10.1	<1	<1	
		Lower layer				1.5		1,460	9	9.0	<1	<1	
2	Hinuma Lake	Surface layer	2013/5/20	Cloudy	3.1	0.5	0.9	1,430	8	8.4	<1	<1	
		Lower layer				2.1		1,520	7	8.0	<1	<1	
3	Oyazawa	Surface layer	2013/5/20	Light rain	2.2	0.5	0.7	1,340	13	15.1	<1	<1	
		Lower layer				1.2		675	11	13.8	<1	<1	
4	Offshore of Tamatsukuri	Surface layer	2013/6/5	Sunny	6.8	0.5	0.9	31	11	8.9	<1	<1	
		Lower layer				5.8		31	21	14.8	<1	<1	
5	Kasumigaura Lake	Surface layer	2013/6/5	Sunny	1.8	0.5	0.8	31	13	11.7	<1	<1	
		Lower layer				0.8		32	14	13.0	<1	<1	
6	Center of the lake	Surface layer	2013/6/5	Sunny	6.2	0.5	1.0	32	7	9.8	<1	<1	
		Lower layer				5.2		32	14	11.1	<1	<1	
7	Offshore of Aso	Surface layer	2013/6/5	Sunny	1.6	0.5	0.7	32	21	16.2	<1	<1	
		Lower layer				0.6		33	26	14.7	<1	<1	
8	Kitaura Lake	Surface layer	2013/6/5	Sunny	6.6	0.5	0.8	30	19	11.2	<1	<1	
		Lower layer				5.6		31	17	12.4	<1	<1	
9	Jingubashi Bridge	Surface layer	2013/6/5	Sunny	2.3	0.5	0.7	39	15	17.2	<1	<1	
		Lower layer				1.3		40	17	15.7	<1	<1	
10	Sotonasakaura Lake	Surface layer	2013/6/5	Sunny	2.2	0.5	0.7	48	9	19.3	<1	<1	
		Lower layer				1.2		49	18	15.9	<1	<1	
11	Hitachinogawa River	Surface layer	2013/6/5	Sunny	4.9	0.5	0.8	49	11	12.0	<1	<1	
		Lower layer				3.9		50	12	11.0	<1	<1	
12	Ushikunuma Lake	Surface layer	2013/5/16	Sunny	1.9	0.5	0.5	23	16	15.3	<1	<1	
		Lower layer				0.9		24	15	15.1	<1	<1	
13	Mizunuma Dam	Surface layer	2013/6/7	Cloudy	16.0	0.5	2.3	6	2	2.3	<1	<1	New sampling point
		Lower layer				15.0		6	3	2.7	<1	<1	
14	Koyama Dam	Surface layer	2013/6/7	Cloudy	15.2	0.5	1.9	7	4	3.6	<1	<1	New sampling point
		Lower layer				14.2		7	1	1.8	<1	<1	
15	Hananuki Dam	Surface layer	2013/6/7	Cloudy	24.3	0.5	2.3	6	2	1.8	<1	<1	New sampling point
		Lower layer				23.3		7	1	1.0	<1	<1	
16	Jyuo Dam	Surface layer	2013/6/4	Sunny	21.7	0.5	2.0	11	3	4.1	<1	<1	New sampling point
		Lower layer				20.7		13	2	3.7	<1	<1	
17	Ryujin Dam	Surface layer	2013/6/4	Sunny	22.5	0.5	1.8	7	3	3.6	<1	<1	New sampling point
		Lower layer				21.5		11	12	13.2	<1	<1	
18	Fujigawagawa Dam	Surface layer	2013/6/11	Cloudy	10.2	0.5	2.3	16	2	2.7	<1	<1	New sampling point
		Lower layer				9.2		17	5	9.2	<1	<1	
19	Iida Dam	Surface layer	2013/6/11	Cloudy	16.2	0.5	4.2	9	2	1.3	<1	<1	New sampling point
		Lower layer				15.2		11	4	7.5	<1	<1	

\* Sampling points are listed from north to south.

# ○Lake and Headwater: Sediment and Surrounding Environment (Lake Shore) Monitoring Results

Sampling point		Sampling date	Weather	Full depth (m)	Sediment						Surrounding environment (lake shore)					Remarks	
					General items			Concentration of radioactive material [Bq/kg (dried mud)]			Soil						
No.	Point				Mud sampling depth (cm)	Mud content (%)	Property	Radioactive cesium			Property	Concentration of radioactive material [Bq/kg (dry)]			Air dose (μSv/h)		
								Cs-134	Cs-137	Total		Cs-134	Cs-137	Total			
1	Hinuma Lake	Hiroura	2013/5/20	Cloudy	2.5	10	40	Silt	61	160	221	Sandy	260	540	800	0.13	
2		Miyamae	2013/5/20	Cloudy	3.1	10	22	Silt	36	110	146	Loamy	13	18	31	0.07	
3		Oyazawa	2013/5/20	Light rain	2.2	9	33	Silt/sand	170	400	570	-	-	-	-	-	
4	Kasumigaura Lake	Offshore of Tamatsukuri	2013/6/5	Sunny	6.8	10	19	Silt	210	440	650	Sandy	24	54	78	0.10	
5		Offshore of Kakeuma	2013/6/5	Sunny	1.8	5	77	Sand	100	180	280	Sandy	120	250	370	0.10	
6		Center of the lake	2013/6/5	Sunny	6.2	10	17	Silt	80	220	300	-	-	-	-	-	
7		Offshore of Aso	2013/6/5	Sunny	1.6	5	77	Sand	50	100	150	Sandy	81	130	211	0.12	
8	Kitaura Lake	Offshore of Kamaya	2013/6/5	Sunny	6.6	10	15	Silt	220	390	610	Sandy	260	510	770	0.08	
9		Jingubashi Bridge	2013/6/5	Sunny	2.3	5	66	Sand/silt	37	84	121	Sandy	<10	19	19	0.05	
10	Hitachinonegawa River	Sotonasakaura Lake	2013/6/5	Sunny	2.2	3	74	Sand	41	72	113	Loamy	69	130	199	0.07	
11		Ikisu	2013/6/5	Sunny	4.9	3	76	Sand	33	71	104	Sandy	91	200	291	0.06	
12	Ushikunuma Lake	Center of Ushikunuma Lake	2013/5/16	Sunny	1.9	10	22	Silt	370	640	1,010	Sandy	140	310	450	0.11	
13	Mizunuma Dam	Center of the lake	2013/6/7	Cloudy	16.0	10	19	Silt	1,700	3,400	5,100	Sandy	380	790	1,170	0.15	New sampling point
14	Koyama Dam		2013/6/7	Cloudy	15.2	10	26	Silt/sand	310	630	940	Sandy	310	680	990	0.13	New sampling point
15	Hananuki Dam		2013/6/7	Cloudy	24.3	10	26	Silt	830	1,900	2,730	Sandy	170	330	500	0.17	New sampling point
16	Jyuo Dam		2013/6/4	Sunny	21.7	10	25	Silt	180	440	620	Sandy	1,600	3,200	4,800	0.15	New sampling point
17	Ryujin Dam		2013/6/4	Sunny	22.5	10	19	Silt	360	660	1,020	Sandy	71	140	211	0.09	New sampling point
18	Fujigawa Dam		2013/6/11	Cloudy	10.2	10	30	Silt	170	330	500	Sandy	250	540	790	0.13	New sampling point
19	Iida Dam		2013/6/11	Cloudy	16.2	10	17	Silt	<10	18	18	Loamy	220	500	720	0.11	New sampling point

- Samples for surrounding environment (lake shore) were generally collected from 5 points in 3m square on the lake shore, etc., and mixed. Depending on the site situation, factors, such as the area of sampling may be much smaller, may cause figures to vary significantly.
- Sampling points are listed from north to south.
- Air dose was measured with a survey meter, TCS-172B of Hitachi-Aloka Medical, Ltd.

## ○Coast: Water Quality Monitoring Results

Sampling point		Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks
No.	Water body				Sampling depth (m)	Secchi disk depth (m)	Salinity (‰)	SS (mg/L)	Turbidity	Radioactive cesium		
										Cs-134	Cs-137	
1	Offshore of Satonegawa River Estuary	Surface layer	2013/6/10	Cloudy ㊄	12.9	0.5	5.0	29	2	1.3	<1	<1
		Lower layer				11.9		30	2	1.1	<1	<1
2	Offshore of Okitagawa River Estuary	Surface layer	2013/6/10	Cloudy ㊄	11.3	0.5	4.5	29	4	1.6	<1	<1
		Lower layer				10.3		30	4	1.6	<1	<1
3	Offshore of Momiyagawa River/Kujigawa River	Surface layer	2013/6/10	Cloudy ㊄	9.6	0.5	3.5	27	1	1.9	<1	<1
		Lower layer				8.6		29	2	1.7	<1	<1
4	Neighboring water body of Ken-o Offshore	Surface layer	2013/6/10	Cloudy ㊄	6.4	0.5	1.6	25	8	4.0	<1	<1
		Lower layer				5.4		25	9	3.8	<1	<1
5	Offshore of Tonegawa River Estuary	Surface layer	2013/6/18	Cloudy ㊄	8.8	0.5	1.8	6	7	7.1	<1	<1
		Lower layer				7.8		28	2	1.0	<1	<1

## ○Coast: Sediment Monitoring Results

No.	Water body	Sampling date	Weather	Full depth (m)	General items		Concentration of radioactive material [Bq/kg (dried mud)]			Remarks
					Mud content (%)	Property	Radioactive cesium			
							Cs-134	Cs-137	Total	
1	Offshore of Satonegawa River Estuary	2013/6/10	Cloudy	12.9	76	Sand	13	22	35	
2	Offshore of Okitagawa River Estuary	2013/6/10	Cloudy	11.3	74	Sand	10	32	42	
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	2013/6/10	Cloudy	9.6	74	Sand/silt	<10	14	14	
4	Neighboring water body of Ken-o Offshore of Nakagawa River	2013/6/10	Cloudy	6.4	78	Sand	<10	11	11	
5	Offshore of Tonegawa River Estuary	2013/6/18	Cloudy	8.8	79	Sand	<10	<10	-	

• Sampling points are listed from north to south.



