

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

Friday, August 10, 2012
Water Environment Division,
Environment Management Bureau,
Ministry of the Environment
Direct line: 03-5521-8316
Switchboard: 03-3581-3351
Director: Tadashi Kitamura (ext. 6610)
Deputy Director: Tetsuo Furuta (ext. 6614)
Coordinator: Katsuhiko Sato (ext. 6628)

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 29-July 11, 2012 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

70 environmental reference points, etc. in the surface water bodies within Ibaraki Prefecture
(Rivers: 53 locations, Lakes and headwaters: 12 locations, Coasts: 5 locations)

(2) Survey Method

- Measurement of concentrations of radioactive materials (radioactive cesium (Cs-134 and Cs-137), etc.) 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))

(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))

(Rivers)

Cs-134: ND-1,900Bq/kg (dried mud)

Cs-137: ND-2,900Bq/kg (dried mud)

(* Cs-134: ND-2,400Bq/kg (dried mud))

(* Cs-137: ND-3,400Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134: 41-420Bq/kg (dried mud)

Cs-137: 63-670Bq/kg (dried mud)

(* Cs-134: 52-530Bq/kg (dried mud))

(* Cs-137: 91-770Bq/kg (dried mud))

(Coasts)

Cs-134: ND-25Bq/kg (dried mud)

Cs-137: ND-39Bq/kg (dried mud)

(* Cs-134: ND-100Bq/kg (dried mud))

(* Cs-137: 11-130Bq/kg (dried mud))

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

(Rivers)

Cs-134: 22-1,400Bq/kg (dry)

Cs-137: 38-2,100Bq/kg (dry)

(* Cs-134: 32-4,000Bq/kg (dry))

(* Cs-137: 56-5,400Bq/kg (dry))

Spatial dose: 0.06-0.39 μ Sv/h

(Lakes and headwaters)

Cs-134: 29-300Bq/kg (dry)

Cs-137: 42-430Bq/kg (dry)

(* Cs-134: 21-360Bq/kg (dry))

(* Cs-137: 37-470Bq/kg (dry))

Spatial dose: 0.08-0.14 μ Sv/h

(Annex for details)

(Map attached)

○ Future Plans

In coordination with relevant organizations, MOE intends to continue to measure radioactive materials in water, sediment, etc. in rivers, lakes, etc. in Fukushima Prefecture, its neighboring prefectures, etc.

ORiver: Water Quality Monitoring Results

(Annex)

No.	Sampling point			Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks			
	Water body	Point	Municipality				Sampling depth m	Transparency cm	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137					
1	Taga River System	Satonegawa River	Yamagiyabashi Bridge	2012/5/30	Sunny	0.3	0.0	47	10	7	3	<1	<1	<1				
2			Murayamabashi Bridge	2012/5/30	Sunny	0.6	0.0	60	14	8	4	<1	<1	<1				
3		Hanzonogawa River	Kurabeshi	2012/5/30	Cloudy	0.3	0.0	82	5	1	2	<1	<1	<1				
4			Itonarebashi Bridge	2012/5/30	Cloudy	0.2	0.0	71	16	4	2	<1	<1	<1				
5			Okitagawa River	Sakaebashi Bridge	2012/5/30	Cloudy	0.7	0.0	59	5	3	2	<1	<1	<1			
6		Sakaibashi Bridge	2012/5/30	Cloudy, then sunny	0.8	0.0	51	11	7	4	<1	<1	<1	<1				
7		Hananukigawa River	Shinhanukibashi Bridge	2012/5/30	Sunny	0.5	0.0	29	8	7	3	<1	<1	<1				
8	Kujigawa River System	Kujigawa River	Yamagata	2012/5/31	Sunny	0.4	0.0	97	10	2	2	<1	<1	<1				
9			Sakakibashi Bridge	2012/5/31	Sunny	0.6	0.0	56	17	3	2	<1	<1	<1				
10				2012/6/26	Sunny	0.7	0.0	90	13	5	2	<1	<1	<1				
11	Nakagawa River System	Nakagawa River	Noguchi	2012/5/31	Cloudy	1.0	0.0	>100	14	1	2	<1	<1	<1				
12			Shimokami	2012/5/31	Cloudy, partly sunny	1.0	0.0	>100	14	1	1	<1	<1	<1				
13		Nakamarugawa River	Katsutabashi Bridge	2012/5/31	Sunny	0.5	0.0	70	19	3	2	<1	<1	<1				
14			Yanagisawabashi Bridge	2012/5/31	Sunny	1.1	0.0	40	1	9	6	<1	<1	<1				
15		Hinumagawa River	Hinumagawa River	Nagakabashi Bridge	2012/6/11	Sunny	0.2	0.0	65	17	10	4	<1	<1	<1			
16				Takashi	2012/6/11	Cloudy	0.8	0.0	59	18	6	3	<1	<1	<1			
17		Hinumagawa River	Hinumagawa River	Katsubashi Bridge	2012/6/12	Cloudy	0.2	0.0	44	21	7	4	<1	<1	<1			
18				Yabashi Bridge	2012/6/5	Sunny	1.0	0.0	70	34	3	3	<1	<1	<1			
19		Tona River System	Kitaura Lake	Hinumagawa River	2012/6/5	Sunny	0.3	0.0	14	393	5	7	<1	<1	<1			
20				Hokotagawa River	Ashibashi Bridge	2012/6/6	Light rain	0.9	0.0	55	35	5	3	<1	<1	<1		
21	Tomogawa River			Shintonegawabashi Bridge	2012/6/6	Cloudy	0.8	0.0	68	25	5	4	<1	<1	<1			
22	Taiyogawa River			Tazukabashi Bridge	2012/6/6	Light rain	0.4	0.0	>100	25	5	4	<1	<1	<1			
23	Takedagawa River			Uchiukobashi Bridge	2012/6/6	Light rain	0.5	0.0	51	29	6	3	<1	<1	<1			
24	Yamadagawa River			Yamadagawa River	Nirosubashi Bridge	2012/6/6	Cloudy	0.2	0.0	45	29	6	3	<1	<1	<1		
25					Kurakawa River	Kurakawabashi Bridge	2012/6/6	Sunny	1.0	0.0	27	12	7	<1	<1	<1		
26	Kasuga River System			Kasuga River	Gantsugawa River	2012/6/6	Cloudy	0.2	0.0	45	27	11	7	<1	<1	<1		
27					Naganogawa River	Suhobashi Bridge	2012/6/7	Sunny	0.1	0.0	73	41	3	4	<1	<1	<1	
28					Sonohogawa River	Sonoheshinbashi Bridge	2012/5/30	Sunny	2.2	0.0	19	15	15	15	<1	<1	<1	
29					Sannogawa River	Tokorobashi Bridge	2012/5/30	Cloudy	1.2	0.0	32	22	15	4	<1	<1	<1	
30					Kosegawa River	Heiwabashi Bridge	2012/5/30	Cloudy	1.0	0.0	17	15	18	18	<1	<1	<1	
31					Kajinagawa River	Kamishukubashi Bridge	2012/5/29	Sunny	0.7	0.0	39	31	17	6	<1	<1	<1	
32					Hishikigawa River	Hishikibashi Bridge	2012/5/30	Sunny	1.0	0.0	19	17	29	11	<1	<1	<1	
33					Ichinogawa River	Kiwanakabashi Bridge	2012/5/29	Cloudy	1.6	0.0	31	24	16	7	<1	<1	<1	
34					Sakagawa River	Sakabashi Bridge/National Route 354	2012/5/29	Cloudy	0.8	0.0	44	34	9	3	<1	<1	<1	
35					Shinkawa River	Shimbenbashi Bridge	2012/5/29	Sunny	2.2	0.0	44	27	9	6	<1	<1	<1	
36					Sakuragawa River	Eiribashi Bridge	2012/5/29	Sunny	1.0	0.0	42	21	8	3	<1	<1	<1	
37					Buzengawa River	Buzengawabashi Bridge	2012/5/30	Sunny	0.8	0.0	28	26	17	8	<1	<1	<1	
38		Hanamurogawa River	Shinwabashi Bridge		2012/5/31	Sunny	0.8	0.0	41	24	12	6	<1	<1	<1			
39		Seimeigawa River	Katsubashi Bridge		2012/5/31	Sunny	0.8	0.0	37	22	10	4	<1	<1	<1			
40		Onogawa River	Okuharabashi Bridge		2012/5/31	Cloudy	0.4	0.0	31	26	15	6	<1	<1	<1			
41		Shintonegawa River	Shintonegawabashi Bridge		2012/5/31	Cloudy	0.6	0.0	23	21	16	19	<1	<1	<1			
42		Yorokoshigawa River	Horinouchibashi Bridge		2012/6/7	Sunny	0.5	0.0	28	33	14	7	<1	<1	<1			
43		Kinugawa River	Kinugawa River		Maekawa River	2012/6/7	Sunny	3.0	0.0	29	33	8	5	<1	<1	<1		
44					Kawashimabashi Bridge	2012/6/5	Sunny	1.0	0.0	>100	15	1	1	<1	<1	<1		
45	Takishitabashi Bridge			2012/6/11	Cloudy	0.5	0.0	47	17	3	3	<1	<1	<1				
46	Kogaigawa River	Kogaigawa River	Tagawabashi Bridge	2012/6/22	Light rain	1.0	0.0	46	10	130	41	<1	<1	<1				
47			Kurakobashi Bridge	2012/6/5	Sunny	1.0	0.0	>100	23	2	2	<1	<1	<1				
48	Kogaigawa River	Kogaigawa River	Fumakibashi Bridge	2012/6/4	Sunny	3.5	0.0	42	17	7	4	<1	<1	<1				
49			Maruyamabashi Bridge	2012/6/4	Sunny	2.0	0.0	34	23	9	6	<1	<1	<1				
50			Sakaimatsubashi Bridge	2012/6/4	Sunny	1.2	0.0	46	21	8	5	<1	<1	<1				
51	Tonegawa River	Tonegawa River	Inari River	2012/6/4	Sunny	1.0	0.0	54	21	6	3	<1	<1	<1				
52			Kuribashi Bridge	2012/6/1	Sunny	1.0	0.0	68	26	9	4	<1	<1	<1				
53			Fukawa	2012/6/22	Light rain	0.6	0.0	14	14	46	12	<1	<1	<1				
54	Tonegawa River	Tonegawa River	Funemachi	2012/6/4	Sunny	0.1	0.0	39	20	6	3	<1	<1	<1				
55			Sawara	2012/5/31	Cloudy	0.5	0.0	21	24	31	12	<1	<1	<1				
56				2012/6/22	Cloudy	1.2	0.0	18	15	18	9	<1	<1	<1				

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

ORiver: Sediment Monitoring Results

No.	Water body	Sampling point		Sampling date	Weather	Full depth m	General items			Concentration of radioactive material Bq/kg (dried mud)			Remarks		
		Point	Municipality				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137				
1	Taga River System	Saitonegawa River	Yamagoyashashi Bridge	2012/5/30	Sunny	0.3	5	95	Sand	<30	68	98			
2		Murayamabashi Bridge	Kitabarakashi City	2012/5/30	Sunny	0.6	5	95	Sand	<30	49	76			
3		Hanzanogawa River	Kurabeshi		2012/5/30	Cloudy	0.3	5	95	Sand	<30	41	61		
4		Ianarebashi Bridge		2012/5/30	Cloudy	0.2	5	95	Sand	<30	19	34			
5		Sakabashi Bridge		2012/5/30	Cloudy	0.7	5	84	Sand	<30	40	61			
6		Okitagawa River	Sakabashi Bridge	Kitabarakashi City	2012/5/30	Cloudy, then sunny	0.5	5	94	Sand	<30	42	67		
7		Hananogawa River	Shirhananokubashi Bridge	Takahagi City	2012/5/30	Sunny	0.5	5	86	Sand	<30	98	150		
8	Kujigawa River system	Kujigawa River	Yamagata	2012/5/31	Sunny	0.4	5	85	Sand	<30	24	38			
9		Sakabashi Bridge	Hitachinashi City/Tokaimura Village	2012/5/31	Sunny	0.6	5	95	Sand	<30	<10	11			
10				2012/6/26	Sunny	0.7	5	95	Sand	<30	<10	<10			
11	Nakagawa River System	Nakagawa River	Woguchi	2012/5/31	Cloudy	1.0	5	92	Sand	<30	<10	13			
12			Shimokami	Mitoshi City	2012/5/31	Cloudy, partly sunny	1.0	5	93	Sand	<30	<10	16		
13			Katsurabashi Bridge	Mitoshi City/Hitachinakashi City	2012/5/31	Sunny	0.5	5	84	Sand	<30	35	51		
14		Nakamarugawa River	Yamagiswabashi Bridge	Hitachinakashi City	2012/6/26	Sunny	6.8	2	91	Sand	<30	12	22		
15					2012/5/31	Sunny	1.1	10	73	Sludge	<30	280	410		
16		Hinamagawa River	Hinamagawa River	Nagakubashi Bridge	2012/6/11	Sunny	0.2	2	89	Sand/gravel	<30	58	100		
17			Hinamagawa River	Takabashi	2012/6/11	Cloudy	0.8	3	79	Sand/gravel	<30	110	160		
18			Kansegawa River	Kanegabashi Bridge	2012/6/12	Cloudy	0.2	2	95	Sand/gravel	<30	35	57		
19			Daiyagawa River	Oyabashi Bridge	2012/6/5	Sunny	1.0	5	90	Sand	<30	250	380		
20			Hinamagawa River	Hinamabashi Bridge	2012/6/5	Sunny	0.3	5	74	Mud	<30	510	750		
21			Hokotagawa River	Asahibashi Bridge	2012/6/6	Light rain	0.9	5	83	Sand	<30	110	160		
22			Tonogawa River	Shintonegawabashi Bridge	2012/6/6	Cloudy	0.8	5	80	Sand	<30	90	130		
23		Kitaura Lake	Tanogawa River	Tanzukubashi Bridge	2012/6/6	Light rain	0.4	5	96	Sand	<30	38	70		
24	Takedagawa River		Uchijukubashi Bridge	2012/6/6	Light rain	0.5	5	76	Sand	<30	64	88			
25	Yamadagawa River		Norobibashi Bridge	2012/6/6	Cloudy	0.2	5	77	Sand	<30	160	230			
26	Kurakawa River		Kurakawabashi Bridge	2012/6/6	Sunny	1.0	5	92	Sand	<30	90	140			
27	Gamagawa River		JA Yabashi	2012/6/6	Cloudy	0.2	5	93	Sand	<30	110	180			
28	Nagagawa River		Sakobashi Bridge	2012/6/7	Sunny	0.1	5	94	Mud	<30	340	490			
29	Sonobogawa River		Sonobeshinbashi Bridge	2012/5/30	Sunny	2.2	10	88	Gravel/sand	<30	100	160			
30	Sannogawa River		Tokorobashi Bridge	2012/5/30	Cloudy	1.2	5	91	Gravel/sand	<30	630	920			
31	Kosogawa River		Hewabashi Bridge	2012/5/30	Cloudy	1.0	5	70	Silt/sand	<30	330	500			
32	Kajinagawa River		Kamehikubashi Bridge	2012/5/29	Sunny	0.7	5	92	Sand	<30	15	27			
33	R	Hishikigawa River	Hishikubashi Bridge	2012/5/30	Sunny	1.0	5	87	Gravel/sand	<30	340	520			
34			Ichinogawa River	Kawanabashi Bridge	2012/5/29	Cloudy	1.6	5	80	Silt/sand	<30	370	580		
35			Sakagawa River	Sakabashi Bridge/National Route 354	2012/5/29	Cloudy	0.8	5	93	Gravel/sand	<30	310	470		
36			Shinkawa River	Shintonebashi Bridge	2012/5/29	Sunny	2.2	5	77	Silt	<30	380	520		
37			Sakuragawa River	Fairbashi Bridge	2012/5/29	Sunny	1.0	5	81	Sand	<30	21	41		
38			Bizengawa River	Bizengawabashi Bridge	2012/5/30	Sunny	0.8	5	72	Sludge	<30	1,900	2,900		
39			Hanamarogawa River	Shirawabashi Bridge	2012/5/31	Sunny	5	86	Gravel/sand	<30	520	760			
40			Semogawa River	Katsubashi Bridge	2012/5/31	Sunny	0.8	5	87	Sand	<30	830	1,300		
41			Onogawa River	Okuharabashi Bridge	2012/5/31	Cloudy	0.4	5	81	Sand/silt	<30	240	380		
42			Hifachitongawa River	Shintonegawa River	Shintonebashi Bridge	2012/5/31	Cloudy	0.6	5	86	Sand/silt	<30	130	200	
43	Yakokogawa River	Hinomachibashi Bridge			2012/6/7	Sunny	0.5	5	26	Mud	<30	130	180		
44	Makawa River	Yamagiswabashi Bridge		2012/6/7	Sunny	3.0	5	64	Mud	<30	220	360			
45		Kawashimabashi Bridge		Chikusashi City	2012/6/5	Sunny	1.0	5	89	Sand	<30	13	19		
46	Kinugawa River	Kinugawa River		Takishitabashi Bridge	2012/6/11	Cloudy	0.5	10	85	Sand	<30	36	64		
47		Tanogawa River		Tanogawabashi Bridge	2012/6/22	Light rain	1.0	5	88	Sand	<30	14	26		
48	Kokaigawa River	Kokitagawa River		Katobashi Bridge	2012/6/5	Sunny	10.0	5	95	Sand	<30	<10	10		
49				Kokitagawa River	Kokitagawashi Bridge	2012/6/5	Sunny	1.5	5	74	Sand	<30	83	130	
50				Fammakubashi Bridge	Ryugasaki City/Torideshi City	2012/6/4	Sunny	3.5	5	93	Sand	<30	28	40	
51				Miyamabashi Bridge	2012/6/4	Sunny	2.0	10	45	Mud	<30	700	1,100		
52			Nishinagawa River	Sakatsubashi Bridge	2012/6/4	Sunny	1.2	5	65	Sand	<30	400	600		
53	Tonogawa River	Tonogawa River	Inagawa River	2012/6/4	Sunny	1.0	10	82	Sand	<30	660	950			
54			Kurhashi Bridge	Kogashi City	2012/6/11	Sunny	1.0	5	90	Sand	<30	22	30		
55			Fukawa	Tonemachi Town	2012/6/22	Light rain	0.6	5	83	Sand/silt	<30	190	290		
56	Tonogawa River	Tonogawa River	Fukawa	2012/6/4	Sunny	0.1	10	64	Mud	<30	130	190			
57					2012/5/31	Cloudy	0.5	5	92	Gravel/sand	<30	75	120		
58			Sawara	2012/6/22	Cloudy	1.2	5	94	Sand	<30	82	120			

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

ORiver: Surrounding Environment Monitoring Results

No.	Sampling point			Sampling date	Weather	Property	Left bank					Right bank					Remarks	
	Water body	Point	Municipality				Concentration of radioactive material			Air dose $\mu\text{Sv/h}$	Property	Concentration of radioactive material			Air dose $\mu\text{Sv/h}$	Remarks		
							Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137				Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137					
1	Taga River System	Stonogawa River	Yamaogayashi Bridge	Kitabarakiki City	2012/5/30	Sunny	Loamy	<-30	720	1,100	0.39	Loamy	<-30	1,100	1,700	0.34		
			Murayamabashi Bridge		2012/5/30	Sunny	Sandy	<-30	420	640	0.18	Loamy	<-30	200	290	0.17		
		Hanzonogawa River	Karabashi	2012/5/30	Cloudy	Loamy	<-30	270	430	0.18	Loamy	<-30	160	260	0.18			
			Omogawabashi Bridge	2012/5/30	Cloudy	Loamy	<-30	1,140	1,500	0.22	Loamy	<-30	1,400	2,000	0.25			
2	Kujigawa River System	Okitagawa River	Sakabashi Bridge	Takahashi City	2012/5/30	Cloudy	Sandy	<-30	35	53	0.09	Sandy	<-30	67	110	0.10		
			Sakabashi Bridge		2012/5/30	Cloudy, partly sunny	Loamy	<-30	500	790	0.19	Loamy	<-30	530	860	0.22		
		Hanagawa River	Shinhanamikobashi Bridge	Takahashi City	2012/5/30	Sunny	Sandy	<-30	120	180	0.18	Loamy	<-30	1,200	1,800	0.22		
			Yamagata	Hitchinoyoshi City	2012/5/31	Sunny	Loamy	<-30	80	120	0.13	Sandy	<-30	77	26	0.10		
3	Nakagawa River	Kujigawa River	Sakabashi Bridge	Hitachishi City/Tokamura Village	2012/5/31	Sunny	Sandy	<-30	48	74	0.10	Sandy	<-30	200	420	0.13		
			Sakabashi Bridge		2012/6/26	Sunny	Sandy	<-30	77	130	0.11	Loamy	<-30	220	350	0.13		
		Noguchi	Hitachinoyoshi City/Shirasatomachi Town	2012/5/31	Cloudy	Loamy	<-30	260	400	0.10	Loamy	<-30	68	110	0.09			
			Mitoshi City	2012/5/31	Cloudy, partly sunny	Loamy	<-30	510	510	0.12	Clayish	<-30	510	750	0.19			
4	Nakagawa River System	Nakagawa River	Katsutabashi Bridge	Mitoshi City/Hitchinokashi City	2012/5/31	Sunny	Loamy	<-30	130	220	0.10	Clayish	<-30	120	190	0.11		
			Yamagatawashi Bridge		2012/6/26	Sunny	Loamy	<-30	260	370	0.11	Loamy	<-30	120	190	0.11		
		Himatsugawa River	Nakamatsugawa River	2012/5/31	Sunny	Loamy	<-30	150	230	0.13	Loamy	<-30	770	1,200	0.12			
			Hanumatsugawa River	2012/6/11	Sunny	Loamy	<-30	27	38	0.08	Loamy	<-30	240	340	0.10			
5	Himatsugawa River	Himatsugawa River	Ukihashi	Ibarakimachi Town	2012/5/31	Cloudy	Loamy	<-30	230	350	0.11	Loamy	<-30	300	460	0.11		
			Kansegawa River		2012/6/12	Cloudy	Loamy	<-30	160	230	0.11	Loamy	<-30	320	470	0.13		
		Dayagawa River	Okubashi Bridge	Hokotashi City/Otamachi Town	2012/6/5	Sunny	-	-	-	0.09	-	-	-	-	-	-	Soil not exposed	
			Himatsugawa River	Himatsugawa Bridge	Mitoshi City/Otamachi Town	2012/6/8	Sunny	-	-	-	0.20	-	-	-	-	-	-	
6	Kitanara Lake	Hokotagawa River	Asahibashi Bridge	Hokotashi City	2012/6/6	Light rain	Loamy	<-30	1,400	2,100	0.09	-	-	-	-	1,700	0.15	
			Tomogawa River		Shintomogawabashi Bridge	2012/6/6	Cloudy	Loamy	<-30	240	360	0.12	Loamy	<-30	290	430	0.16	
		Tawogawa River	Tanokabashi Bridge	2012/6/6	Light rain	Loamy	<-30	370	560	0.12	Loamy	<-30	320	490	0.12			
			Takedagawa River	Tchikakabashi Bridge	2012/6/6	Light rain	Loamy	<-30	290	450	0.14	Loamy	<-30	620	640	0.14		
7	Tono River	Yamadagawa River	Norobashashi Bridge	Nanogatahshi City	2012/6/6	Cloudy	Loamy	<-30	680	990	0.12	Loamy	<-30	340	510	0.13		
			Karakawabashi Bridge		2012/6/6	Sunny	Loamy	<-30	320	450	0.13	Loamy	<-30	920	1,400	0.14		
		Gumbogawa River	JA Yokokashi	2012/6/6	Cloudy	Loamy	<-30	660	910	0.13	Loamy	<-30	450	670	0.13			
			Nagagawa River	Sakobashi Bridge	2012/6/7	Sunny	-	-	-	-	-	-	-	-	-	-	Soil not exposed	
8	Kurogawa River	Sotogawa River	Sonobeshashi Bridge	Omatamashi City	2012/5/30	Sunny	Loamy	<-30	250	420	0.12	Loamy	<-30	460	650	0.10		
			Sanogawa River		Tokorobashi Bridge	Ihokashi City/Omatamashi City	2012/5/30	Cloudy	Loamy	<-30	210	320	0.14	Loamy	<-30	320	480	0.12
		Kosogawa River	Hirwabashi Bridge	Ihokashi City	2012/5/30	Cloudy	Loamy	<-30	340	480	0.15	Loamy	<-30	950	1,300	0.13		
			Kajinobigawa River	Kaminobashashi Bridge	Nanogatahshi City	2012/5/29	Sunny	Loamy	<-30	340	530	0.11	Loamy	<-30	130	200	0.11	
9	Hishikigawa River	Hishikigawa River	Hishikibashi Bridge	Kasumigaura City	2012/5/30	Sunny	Loamy	<-30	250	360	0.12	Loamy	<-30	210	320	0.13		
			Tchinosogawa River		Kawarabashi Bridge	2012/5/29	Cloudy	Loamy	<-30	190	260	0.11	Loamy	<-30	170	250	0.12	
		Sakagawa River	Sakabashi Bridge/National Route 354	Tsuchiurashi City	2012/5/29	Cloudy	Loamy	<-30	300	520	0.17	Loamy	<-30	180	280	0.13		
			Shinkawa River	Shintebashi Bridge	2012/5/29	Sunny	Sandy	<-30	240	360	0.15	Sandy	<-30	590	410	0.13		
10	Sakuragawa River	Harubashi Bridge	Sakuragawa River	Tsuchiurashi City/Tsukubashi City	2012/5/29	Sunny	Loamy	<-30	180	280	0.09	Loamy	<-30	78	110	0.09		
			Buzengawa River		2012/5/30	Sunny	Loamy	<-30	360	550	0.09	Loamy	<-30	380	580	0.12		
		Hinomurogawa River	Shinwabashi Bridge	2012/5/31	Sunny	Loamy	<-30	470	610	0.20	Loamy	<-30	300	420	0.19			
			Seimogawa River	Katsushashi Bridge	Ammachi Town	2012/5/31	Sunny	Loamy	<-30	49	70	0.19	Loamy	<-30	370	550	0.19	
11	Omogawa River	Okubashashi Bridge	Ryugasaki City/Inashikishi City	2012/5/31	Cloudy	Loamy	<-30	340	490	0.20	Loamy	<-30	560	820	0.20			
			Shintomogawa River	Shintomobashi Bridge	Inashikishi City	2012/5/31	Cloudy	Loamy	<-30	460	710	0.09	Loamy	<-30	1,100	700	0.12	
		Yokokoshigawa River	Hinomachibashi Bridge	Ihokashi City	2012/6/7	Sunny	Loamy	<-30	210	310	0.09	Loamy	<-30	180	270	0.11		
			Maekawa River	Avamashashi Bridge	Ihokashi City	2012/6/7	Sunny	Sandy	<-30	210	320	0.09	Loamy	<-30	66	88	0.10	
12	Kinogawa River	Kinogawa River	Kawashimabashi Bridge	Chikusetsu City	2012/6/5	Sunny	Loamy	<-30	69	100	0.09	Loamy	<-30	75	110	0.09		
			Takishitabashi Bridge		2012/6/22	Light rain	Loamy	<-30	830	1,200	0.16	Sandy	<-30	65	110	0.11		
		Tagawa River	Yagawabashi Bridge	Yakishi City	2012/6/5	Sunny	Loamy	<-30	47	67	0.08	Loamy	<-30	48	70	0.08		
			Kokagawa River	Karokobashi Bridge	Chikusetsu City	2012/6/5	Sunny	Loamy	<-30	240	360	0.10	Loamy	<-30	180	280	0.08	
13	Kokagawa River	Furumakishashi Bridge	Ryugasaki City/Toridashi City	2012/6/4	Sunny	Loamy	<-30	210	300	0.13	Loamy	<-30	200	310	0.13			
			Yatagawa River	Miyayamabashi Bridge	2012/6/4	Sunny	Loamy	<-30	530	770	0.14	Loamy	<-30	440	650	0.14		
		Nishivatagawa River	Sakamatsubashi Bridge	Tsukubashi City	2012/6/4	Sunny	Loamy	<-30	83	130	0.06	Loamy	<-30	200	300	0.08		
			Imagawa River	Okubashi Bridge	2012/6/4	Sunny	Loamy	<-30	230	350	0.15	Loamy	<-30	930	1,300	0.17		
14	Tonogawa River	Tonogawa River	Karibashi Bridge	Kogashi City	2012/6/1	Sunny	Loamy	<-30	110	160	0.07	Loamy	<-30	86	130	0.08		
			2012/6/22		Light rain	Loamy	<-30	180	280	0.10	Loamy	<-30	100	150	0.10			
		Tonogawa River	Takawa	Tomemachi Town	2012/6/4	Sunny	Loamy	<-30	300	460	0.19	Loamy	<-30	290	470	0.15		
			Sawara	2012/5/31	Cloudy	Loamy	<-30	73	130	0.06	Loamy	<-30	500	710	0.10			
15				2012/6/22	Cloudy	Loamy	<-30	68	99	0.06	Loamy	<-30	300	440	0.10			

*Air dose was measured with a survey meter, TCS-171 or TCS-172 of Hitachi-Aloka Medical, Ltd.

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

OLake and Headwater: Water Quality Monitoring Results

No.	Sampling point		Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
	Point	Layer				Sampling depth m	Secchi disk depth m	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive cesium				
											I-131	Cs-134	Cs-137		
1	Hinuma Lake	Hiroura	Surface layer	2012/6/6	Cloudy	2.6	0.5	0.6	401	9	7	<1	<1	<1	
		Lower layer	1.6				0.5	332	10	7	<1	<1	<1		
2	Hinuma Lake	Miyamae	Surface layer	2012/6/6	Cloudy	3.1	0.5	0.7	332	6	4	<1	<1	<1	
		Lower layer	2.1				0.5	312	8	5	<1	<1	<1		
3	Hinuma Lake	Oyazawa	Surface layer	2012/6/6	Cloudy	2.3	0.5	0.8	193	7	5	<1	<1	<1	
		Lower layer	1.3				0.5	248	7	5	<1	<1	<1		
4	Kasumigaura Lake	Offshore of Tamasukuri	Surface layer	2012/6/27	Cloudy	6.9	0.5	0.7	23	13	9	<1	<1	<1	
		Lower layer	5.9				0.5	21	22	13	<1	<1	<1		
5	Kasumigaura Lake	Offshore of Kakeuma	Surface layer	2012/6/27	Cloudy	1.7	0.5	0.6	25	13	9	<1	<1	<1	
		Lower layer	1.2				0.5	25	18	9	<1	<1	<1		
6	Kasumigaura Lake	Center of the lake	Surface layer	2012/6/27	Sunny	6.2	0.5	0.8	25	13	8	<1	<1	<1	
		Lower layer	5.2				0.5	18	7	<1	<1	<1			
7	Kasumigaura Lake	Offshore of Aso	Surface layer	2012/6/27	Cloudy	1.8	0.5	0.5	26	12	8	<1	<1	<1	
		Lower layer	1.3				0.5	26	16	9	<1	<1	<1		
8	Kitaura Lake	Offshore of Kamaya	Surface layer	2012/6/27	Sunny	6.8	0.5	0.8	27	10	6	<1	<1	<1	
		Lower layer	5.8				0.5	27	4	4	<1	<1	<1		
9	Kitaura Lake	Jingishashi Bridge	Surface layer	2012/6/27	Sunny	2.4	0.5	0.4	29	20	8	<1	<1	<1	
		Lower layer	1.9				0.5	29	27	13	<1	<1	<1		
10	Hitachionogawa River	Sotomatsukaura Lake	Surface layer	2012/6/27	Sunny	1.8	0.5	0.6	30	14	7	<1	<1	<1	
		Lower layer	1.3				0.5	28	13	6	<1	<1	<1		
11	Hitachionogawa River	Hisu	Surface layer	2012/6/27	Sunny	5.1	0.5	0.5	30	23	11	<1	<1	<1	
		Lower layer	4.1				0.5	30	25	12	<1	<1	<1		
12	Ushikumama Lake	Center of Ushikumama Lake	Surface layer	2012/6/19	Cloudy	1.6	0.5	0.7	21	13	6	<1	<1	<1	
		Lower layer	0.6				0.5	20	18	10	<1	<1	<1		

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

No.	Sampling point		Sampling date	Weather	Full depth m	Sediment					Surrounding environment (lake shore)					Remarks	
	Point	Layer				General items			Concentration of radioactive material Bq/kg (dried mud)			Property	Soil				
						Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137			Property	Concentration of radioactive material Bq/kg (dry)			Air dose µSv/h
1	Hinuma Lake	Hiroura	Surface layer	2012/6/6	Cloudy	2.6	5	53	Sludge	<30	80	120	Sandy	<30	56	87	0.08
		Lower layer	5				44	Sludge	<30	69	110	Sandy/loamy	<30	41	68	0.09	
2	Hinuma Lake	Miyamae	Surface layer	2012/6/6	Cloudy	3.1	5	57	Sludge	<30	210	340	Sandy	<30	4	4	
		Lower layer	5				57	Sludge	<30	210	340	Sandy	<30	4	4		
3	Hinuma Lake	Oyazawa	Surface layer	2012/6/6	Cloudy	2.3	5	37	Silt	<30	88	140	Sandy	<30	29	42	0.09
		Lower layer	10				80	Sand	<30	240	370	Sandy	<30	300	420	0.11	
4	Kasumigaura Lake	Offshore of Tamasukuri	Surface layer	2012/6/27	Cloudy	6.9	10	34	Silt	<30	58	120	Sandy	<30	94	150	0.12
		Lower layer	10				86	Sand	<30	73	110	Sandy	<30	94	150	0.12	
5	Kasumigaura Lake	Offshore of Kakeuma	Surface layer	2012/6/27	Cloudy	1.7	10	80	Sand	<30	240	370	Sandy	<30	300	420	0.11
		Lower layer	10				86	Sand	<30	73	110	Sandy	<30	94	150	0.12	
6	Kasumigaura Lake	Center of the lake	Surface layer	2012/6/27	Sunny	6.2	10	34	Silt	<30	58	120	Sandy	<30	94	150	0.12
		Lower layer	10				86	Sand	<30	73	110	Sandy	<30	94	150	0.12	
7	Kasumigaura Lake	Offshore of Aso	Surface layer	2012/6/27	Cloudy	1.8	10	86	Sand	<30	73	110	Sandy	<30	94	150	0.12
		Lower layer	10				86	Sand	<30	73	110	Sandy	<30	94	150	0.12	
8	Kitaura Lake	Offshore of Kamaya	Surface layer	2012/6/27	Sunny	6.8	10	29	Silt	<30	190	320	Sandy	<30	280	430	0.10
		Lower layer	10				76	Sand	<30	43	63	Loamy	<30	120	220	0.06	
9	Kitaura Lake	Jingishashi Bridge	Surface layer	2012/6/27	Sunny	2.4	10	76	Sand	<30	43	63	Loamy	<30	120	220	0.06
		Lower layer	10				85	Sand	<30	41	69	Loamy	<30	97	150	0.08	
10	Hitachionogawa River	Sotomatsukaura Lake	Surface layer	2012/6/27	Sunny	1.8	10	84	Sand	<30	68	106	Loamy	<30	170	270	0.08
		Lower layer	10				84	Sand	<30	68	106	Loamy	<30	170	270	0.08	
11	Hitachionogawa River	Hisu	Surface layer	2012/6/27	Sunny	5.1	10	84	Sand	<30	68	106	Loamy	<30	170	270	0.08
		Lower layer	10				34	Mud	<30	420	670	Loamy	<30	190	300	0.14	
12	Ushikumama Lake	Center of Ushikumama Lake	Surface layer	2012/6/19	Cloudy	1.6	10	34	Mud	<30	420	670	Loamy	<30	190	300	0.14
		Lower layer	10				34	Mud	<30	420	670	Loamy	<30	190	300	0.14	

*Air dose was measured with a survey meter, TCS-171 or TCS-172 of Hitachi-Aloka Medical, Ltd.

*Sampling points are listed from north to south.

○Coast: Water Quality Monitoring Results

Sampling point		Sampling date	Weather	Full depth	General items					Concentration of radioactive material Bq/L			Remarks
No.	Water body				Sampling depth m	Secchi disk depth m	Salinity ‰	S S mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137		
1	Offshore of Satonegawa River Estuary	Surface layer	2012/6/30	Sunny	12.0	0.5	4.0	28	1	5	<1	<1	<1
		Lower layer				11.0		29	<1	2	<1	<1	<1
2	Offshore of Okitagawa River Estuary	Surface layer	2012/6/30	Sunny	11.1	0.5	4.0	28	<1	2	<1	<1	<1
		Lower layer				10.1		28	<1	7	<1	<1	<1
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	Surface layer	2012/6/29	Sunny	10.1	0.5	3.0	28	1	2	<1	<1	<1
		Lower layer				9.1		29	<1	6	<1	<1	<1
4	Neighboring water body of Ken-o Offshore of Nakagawa River	Surface layer	2012/6/29	Cludy, then sunny	5.7	0.5	3.0	23	1	4	<1	<1	<1
		Lower layer				4.7		29	<1	4	<1	<1	<1
5	Offshore of Tonegawa River Estuary	Surface layer	2012/7/11	Sunny	8.7	0.5	0.7	12	1	3	<1	<1	<1
		Lower layer				7.7		30	2	3	<1	<1	<1

○Coast: Sediment Monitoring Results

Sampling point		Sampling date	Weather	Full depth	General items			Concentration of radioactive material Bq/kg (dried mud)			Remarks
No.	Water body				Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137		
1	Offshore of Satonegawa River Estuary	2012/6/30	Sunny	12.0	5	85	Sandy	<30	23	30	
2	Offshore of Okitagawa River Estuary	2012/6/30	Sunny	11.1	5	85	Sandy	<30	22	30	
3	Offshore of Momiyagawa River/Kujigawa River Estuaries	2012/6/29	Sunny	10.1	5	78	Sandy	<30	25	39	
4	Neighboring water body of Ken-o Offshore of Nakagawa River	2012/6/29	Cludy, then sunny	5.7	5	90	Sandy	<30	<10	<10	
5	Offshore of Tonegawa River Estuary	2012/7/11	Sunny	8.7	3	78	Sandy	<30	<10	17	

*Sampling points are listed from north to south.

