

(News Release)  
The Results of Radioactive Material Monitoring of the Surface Water Bodies  
within Gunma Prefecture  
(May-July 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 Gunma Prefecture during the period of May 22-July 1, 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

72 environmental reference points, etc. in the surface water bodies within Gunma Prefecture

(Rivers: 48 locations, Lakes and headwaters: 24 locations)

Note: Starting with this survey, there are 2 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: January-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))

For rivers, levels were around 500Bq/kg or below at all locations, and have generally remained constant or had a declining tendency. For lakes and headwaters, levels were around 1,000Bq/kg or below at most locations, and have generally remained constant or had a declining tendency.

(Rivers)

Cs-134 + Cs-137: ND-470Bq/kg (dried mud) (\*ND-490Bq/kg (dried mud))

(Lakes and head waters)

Cs-134 + Cs-137: 21-3,400Bq/kg (dried mud) (\*239-1,350Bq/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	58 (42)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	58 (42)
Lakes and headwaters	9 (4)	7 (1)	3 (1)	0 (0)	2 (0)	2 (0)	1 (0)	24 (6)

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

(Rivers)

Cs-134 + Cs-137: 27-14,500Bq/kg (dry) (\*ND-3,500Bq/kg (dry))

Spatial dose: 0.04-0.32μSv/h

(Lakes and headwaters)

Cs-134 + Cs-137: 136-1,950Bq/kg (dry) (\*150-1,130Bq/kg (dry))

Spatial dose: 0.06-0.28μSv/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.

○River: 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	T o n e g a w a R i v e r	Tonegawa River	Hirosehashi Bridge	Minakamamachi Town	2013/6/28	Cloudy	0.7	0.0	>100	4	<1	1.1	<1	<1	
2			Tsukiyonobashi Bridge		2013/6/5	Sunny	0.4	0.0	>100	3	2	3.5	<1	<1	
3		Akayagawa River	Kosodebashi Bridge	Kawabamura Village	2013/6/25	Sunny	0.4	0.0	>100	3	2	2.4	<1	<1	
4		Sakuragawa River	In Ooaza Yachi		2013/6/5	Sunny	0.3	0.0	>100	5	<1	0.5	<1	<1	
5		Katashinagawa River	Katashinagawa River	Kirinokibashi Bridge	Numatashi City	2013/6/24	Sunny	0.3	0.0	>100	6	1	1.2	<1	<1
6				Tonemachitakatoya		2013/6/5	Sunny	0.7	0.0	>100	8	<1	0.9	<1	<1
7				Futaebashi Bridge		2013/6/25	Sunny	0.6	0.0	>100	7	2	1.2	<1	<1
8				2013/6/5		Sunny	0.4	0.0	>100	9	2	1.5	<1	<1	
9		Agatsuragawa River	Shintobashi Bridge	Naganoharamachi Town	2013/6/12	Cloudy	0.5	0.0	67	37	19	8.7	<1	<1	
10		Shirasagawa River	Shutatsubashi Bridge	Nakanojomachi Town	2013/6/12	Cloudy	0.5	0.0	>100	53	2	1.8	<1	<1	
11		Agatsuragawa River	Downstream of Anzabashi Bridge	Higashiagatsuramachi Town	2013/5/28	Cloudy	0.5	0.0	>100	27	2	1.0	<1	<1	
12		Nakutagawa River	Tonodabashi Bridge	Takayamura Village	2013/6/11	Cloudy	0.3	0.0	>100	27	1	1.6	<1	<1	
13		Agatsuragawa River	Agatsurabashi Bridge	Shibukawashi City	2013/5/28	Cloudy	0.9	0.0	>100	24	4	2.2	<1	<1	
14		2013/6/11	Cloudy		0.5	0.0	>100	21	2	2.5	<1	<1			
15		Tonegawa River	Taishobashi Bridge	Shibukawashi City/Yoshiokamachi Town	2013/5/28	Cloudy	1.0	0.0	>100	5	4	1.9	<1	<1	
16		2013/6/11	Cloudy		0.8	0.0	>100	4	2	3.4	<1	<1			
17		Takizawagawa River	Shintakizawabashi Bridge	Shibukawashi City	2013/6/6	Sunny	0.2	0.0	67	19	10	2.6	<1	<1	
18		Tonegawa River	Gunmaohashi Bridge	Maebashi City	2013/6/6	Sunny	0.9	0.0	90	8	5	1.7	<1	<1	
19		Tonegawa River	Fukushirabashi Bridge	Tamamura City	2013/6/4	Sunny	0.4	0.0	>100	8	4	3.2	<1	<1	
20		Nagaigawa River	Kamogondabashi Bridge	Takasakishi City	2013/6/7	Cloudy	0.2	0.0	>100	11	2	1.4	<1	<1	
21		Karasugawa River	Karasugawabashi Bridge	Takasakishi City	2013/6/7	Sunny	0.5	0.0	>100	15	1	0.9	<1	<1	
22		Usugawa River	Nakasebashi Bridge	Amakashi City	2013/6/4	Sunny	0.3	0.0	>100	19	2	1.9	<1	<1	
23		Hanatabashi Bridge	Takasakishi City	2013/6/6	Sunny	2.9	0.0	79	68	4	1.4	<1	<1		
24		Kaburagawa River	Tadakawabashi Bridge	Shimonitama City	2013/5/30	Cloudy	0.5	0.0	>100	37	<1	0.8	<1	<1	
25		Kaburagawabashi Bridge	Takasakishi City/Fujikashi City	2013/5/29	Cloudy	0.3	0.0	48	39	5	4.4	<1	<1		
26		Ogawa River	Kinzanbashi Bridge	Kanramachi Town	2013/5/30	Cloudy	0.2	0.0	>100	22	<1	0.8	<1	<1	
27		Nanmokugawa River	Ozawabashi Bridge	Nanmokumura Village	2013/5/30	Cloudy	0.2	0.0	>100	25	<1	0.3	<1	<1	
28		Someyagawa River	Yakushibashi Bridge	Shintomura Village	2013/6/6	Sunny	0.2	0.0	82	25	6	1.7	<1	<1	
29		Inogawa River	Kamakurabashi Bridge	Takasakishi City	2013/6/4	Sunny	0.2	0.0	>100	23	1	4.5	<1	<1	
30		Karasugawa River	Iwakurabashi Bridge	Takasakishi City/Tamamura City	2013/5/29	Cloudy	0.3	0.0	33	37	13	6.4	<1	<1	
31		Shinkanumebashi Bridge	Uenomura Village	2013/5/31	Sunny	0.4	0.0	>100	18	<1	0.2	<1	<1		
32		Kannagawa River	Moritobashi Bridge	Kanramachi Town	2013/5/31	Sunny	0.3	0.0	>100	20	<1	0.3	<1	<1	
33		Tobukyo Bridge	Fujikashi City/Kamiatomachi Town	2013/5/30	Cloudy	0.3	0.0	>100	23	2	1.3	<1	<1		
34		Kamagawabashi Bridge	Kamiatomachi Town	2013/6/7	Cloudy	0.3	0.0	44	22	20	5.5	<1	<1		
35		Tonegawa River	Bandoobashi Bridge	Honjoshi City	2013/5/23	Sunny	0.2	0.0	78	12	4	1.8	<1	<1	
36		Akagishirakawa River	In Shimohosomachi Town	2013/6/6	Sunny	0.4	0.0	34	16	18	9.4	<1	<1		
37		Momonokigawa River	Utsuboashi Bridge	Maebashi City	2013/6/3	Sunny	0.4	0.0	52	16	6	6.2	<1	<1	
38		Aratogawa River	Okuharabashi Bridge	2013/6/3	Sunny	0.4	0.0	>100	29	<1	1.3	<1	<1		
39		Kasukawa River	Hozumbashi Bridge	2013/5/23	Sunny	0.3	0.0	46	3	19	5.0	<1	<1		
40		Hirosegawa River	Nakajimbashi Bridge	Isekishi City	2013/5/23	Sunny	0.4	0.0	44	21	16	4.0	<1	<1	
41		Hayakawa River	Hayakawabashi Bridge	2013/5/27	Sunny	0.3	0.0	76	20	8	2.4	<1	<1		
42		Maecjimbashi Bridge	Otashi City	2013/5/23	Sunny	0.5	0.0	60	32	6	2.8	<1	<1		
43		Tonegawa River	Toneozeki Weir	Chiyodamachi Town/Gyodashi City	2013/5/22	Sunny	0.2	0.0	52	14	5	4.8	<1	<1	
44		W a t a r s e g a w a R i v e r	Kogurogawa River	Kayanobashi Bridge	2013/6/21	Cloudy	0.8	0.0	58	18	8	6.6	<1	<1	
45					2013/5/28	Cloudy	0.4	0.0	>100	8	2	0.6	<1	<1	
46				Takatsado	Kiriyoshi City	2013/6/21	Cloudy	0.6	0.0	>100	8	1	1.0	<1	<1
47				2013/5/28		Cloudy	0.7	0.0	83	12	2	1.5	<1	<1	
48		Intake for Akawayoshi water channel	2013/5/28	Cloudy	0.4	0.0	78	11	3	1.6	<1	<1			
49	2013/6/21	Cloudy	0.5	0.0	>100	12	<1	1.6	<1	<1					
50	Tataragawa River	Ejiribashi Bridge	Ouramachi Town	2013/5/22	Sunny	1.3	0.0	74	17	10	3.7	<1	<1		
51	Kiryugawa River	Kamonbashi Bridge	Kiriyoshi City	2013/5/27	Sunny	0.3	0.0	18	8	1	0.9	<1	<1		
52	Sakaibashi Bridge	Kiriyoshi City/Ashikagashi City	2013/5/27	Sunny	0.3	0.0	82	11	8	2.6	<1	<1			
53	Tsuradagawa River	Jonuma Lake	Fatebayashishi City	2013/5/22	Sunny	1.2	0.0	11	28	22	14.0	<1	<1		
54	Yatagawa River	Togodabashi Bridge	Meiwamachi Town/Bakuramachi Town	2013/5/22	Sunny	1.7	0.0	62	44	4	4.8	<1	<1		

\* Collection 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.	Sampling point			Sampling date	Weather	Full depth (m)	General items			Radioactive material concentrations (Bq/kg (dried mud))			Remarks	
	Water body	Point	Municipality				Mud sampling depth (cm)	Mud content (%)	Property	Radioactive cesium				
										Cs-134	Cs-137	Total		
1	T o n e g a w a R i v e r	Tonegawa River	Hiroebashi Bridge	2013/6/28	Cloudy	0.7	5	86	Gravel/sand	23	49	72		
2			Tsukiyonobashi Bridge	2013/6/5	Sunny	0.4	10	81	Sand/gravel	21	49	70		
3			Akayagawa River	Kosodebashi Bridge	2013/6/25	Sunny	0.4	5	81	Gravel/sand	14	32	46	
4		Sakuragawa River	In Oozu Yachi	Kawabamura Village	2013/6/5	Sunny	0.3	10	77	Sand/gravel	92	190	282	
5					2013/6/24	Sunny	0.3	3	77	Sand/gravel	80	180	260	
6		Katashinagawa River	Kirinokibashi Bridge	Kataashinamura Village	2013/6/24	Sunny	0.3	7	84	Gravel/sand	11	35	46	
7					2013/6/5	Sunny	0.7	10	86	Gravel/sand	<10	<10	-	
8					2013/6/25	Sunny	0.6	5	86	Gravel/sand	<10	<10	-	
9		Agatsumagawa River	Shimobashi Bridge	Naganoharamachi Town	2013/6/12	Cloudy	0.5	10	77	Sand/gravel	<10	<10	-	
10					2013/6/12	Cloudy	0.5	5	76	Gravel/sand	<10	<10	-	
11		Shirasunagawa River	Shuttatsubashi Bridge	Nakanojomachi Town	2013/5/28	Cloudy	0.5	3	81	Gravel/sand	<10	<10	-	
12					2013/6/11	Cloudy	0.3	10	81	Sand/gravel	<10	<10	-	
13		Nakutagawa River	Tonodabashi Bridge	Takayamamura Village	2013/5/28	Cloudy	0.9	3	77	Sand/gravel	<10	16	16	
14					2013/6/11	Cloudy	0.5	10	66	Sand/silt	11	23	34	
15		Agatsumagawa River	Agatsumabashi Bridge	Shibukawashi City	2013/5/28	Cloudy	1.0	5	79	Sand/gravel	14	32	46	
16					2013/6/11	Cloudy	0.8	10	76	Sand	16	38	54	
17		Taktzawagawa River	Shimokizawabashi Bridge	Shibukawashi City/Yoshokamachi Town	2013/6/6	Sunny	0.2	10	78	Sand/gravel	21	44	65	
18					2013/6/6	Sunny	0.9	10	74	Sand	25	48	73	
19		Tonegawa River	Futaebashi Bridge	Numatashi City	2013/6/4	Sunny	0.4	10	70	Sand/silt	20	44	64	
20					2013/6/7	Cloudy	0.2	5	74	Sand/gravel	56	130	186	
21		Nagaigawa River	Kamigondabashi Bridge	Takasakishi City	2013/6/7	Cloudy	0.2	5	74	Sand/gravel	56	130	186	
22					2013/6/7	Cloudy	0.2	5	74	Sand/gravel	56	130	186	
23		Karasugawa River	Karasugawabashi Bridge	Annakashi City	2013/6/7	Sunny	0.5	5	75	Sand	12	29	41	
24					2013/6/4	Sunny	0.3	10	78	Sand/gravel	42	85	127	
25		Usuigawa River	Hanatakabashi Bridge	Takasakishi City	2013/6/6	Sunny	2.9	10	75	Sand/silt	10	37	47	
26					2013/6/6	Sunny	0.5	10	83	Sand/gravel	<10	<10	-	
27		Kaburagawa River	Tadakawabashi Bridge	Shimonitamachi Town	2013/5/30	Cloudy	0.5	10	83	Sand/gravel	<10	<10	-	
28					2013/5/29	Cloudy	0.3	10	59	Silt	64	150	214	
29		Ogawa River	Kinzanbashi Bridge	Kanramachi Town	2013/5/30	Cloudy	0.2	10	90	Gravel/sand	<10	13	13	
30					2013/5/30	Cloudy	0.2	10	80	Sand/gravel	<10	13	13	
31		Nannokugawa River	Ozawabashi Bridge	Nannokumura Village	2013/5/30	Cloudy	0.2	10	80	Sand/gravel	<10	13	13	
32					2013/5/30	Cloudy	0.2	10	80	Sand/gravel	<10	13	13	
33		Someyagawa River	Yakushibashi Bridge	Shintomura Village	2013/6/6	Sunny	0.2	10	80	Sand/gravel	13	34	47	
34					2013/6/4	Sunny	0.2	10	78	Sand	<10	23	23	
35		Inogawa River	Kamakurabashi Bridge	Takasakishi City	2013/6/4	Sunny	0.2	10	78	Sand	<10	23	23	
36					2013/6/4	Sunny	0.2	10	78	Sand	<10	23	23	
37		Karasugawa River	Iwakurabashi Bridge	Takasakishi City/Tamamuramachi Town	2013/5/29	Cloudy	0.3	10	25	Silt	92	210	302	
38					2013/5/31	Sunny	0.4	10	90	Sand/gravel	<10	16	16	
39		Kannagawa River	Moritobashi Bridge	Kannamachi Town	2013/5/31	Sunny	0.3	10	85	Sand/gravel	<10	<10	-	
40					2013/5/30	Cloudy	0.3	10	79	Sand/gravel	<10	<10	-	
41		Kannagawa River	Tobukyo Bridge	Fujiokashi City/Kamisatomachi Town	2013/5/30	Cloudy	0.3	10	79	Sand/gravel	<10	<10	-	
42					2013/6/7	Cloudy	0.3	5	70	Sand/gravel	15	21	36	
43		Tonegawa River	Toneozeki Weir	Chiyodamachi Town/Gyodashi City	2013/5/23	Sunny	0.2	10	41	Sand/silt	64	160	224	
44					2013/6/21	Cloudy	0.8	4	73	Sand/gravel	27	48	75	
45		Kogurogawa River	Kayanobashi Bridge	Kiriyoshi City	2013/5/28	Cloudy	0.4	10	70	Sand	100	230	330	
46					2013/6/21	Cloudy	0.6	5	74	Gravel/sand	53	90	143	
47		Watarasegawa River	Takatado	Kiriyoshi City	2013/5/28	Cloudy	0.7	10	76	Sand	23	42	65	
48					2013/5/28	Cloudy	0.4	10	81	Sand/gravel	22	56	78	
49	Tataragawa River	Ejribashi Bridge	Ouramachi Town	2013/6/21	Cloudy	0.5	5	77	Sand/gravel	29	36	65		
50				2013/6/21	Cloudy	0.5	5	77	Sand/gravel	29	36	65		
51	Kiryugawa River	Kannonbashi Bridge	Kiriyoshi City	2013/5/27	Sunny	0.3	10	77	Sand	44	87	131		
52				2013/5/27	Sunny	1.3	10	51	Silt/sand	38	66	104		
53	Kiryugawa River	Sakabashi Bridge	Kiriyoshi City/Ashikagashi City	2013/5/27	Sunny	0.3	10	77	Sand	44	87	131		
54				2013/5/27	Sunny	0.3	10	82	Sand	27	49	76		
55	Tsuruudagawa River	Jonuma Lake	Tatebayashishi City	2013/5/22	Sunny	1.2	10	24	Silt	130	340	470		
56				2013/5/22	Sunny	1.2	10	24	Silt	130	340	470		
57	Yatagawa River	Togodabashi Bridge	Mewamachi Town/Itakuramachi Town	2013/5/22	Sunny	1.7	10	62	Sand/silt	40	84	124		
58				2013/5/22	Sunny	1.7	10	62	Sand/silt	40	84	124		

\* Collection 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	Left bank				Right bank				Remarks			
	Water body	Point	Municipality	Property			Radioactive material concentrations (Bq/kg (dry))			Air dose (μSv/h)	Property	Radioactive material concentrations (Bq/kg (dry))				Air dose (μSv/h)		
							Radioactive cesium					Radioactive cesium						
							Cs-134	Cs-137	Total			Cs-134	Cs-137	Total				
1	T o n e c a w a R i v e r  K a r a s u g a R i v e r  S y s t e m  R i v e r  W a t e r R i v e r  T o n e c a w a	Tonegawa River	Hiroebashi Bridge	Minakamimachi Town	2013/6/28	Cloudy	Loamy	1,200	2,300	3,500	0.23	Loamy	740	1,500	2,240	0.21		
2			Tsukiyonobashi Bridge			2013/6/5	Sunny	Loamy	130	270	400	0.11	Loamy	370	700	1,070	0.09	
3			Akayagawa River	Kosodebashi Bridge	Kawabamura Village	2013/6/25	Sunny	Loamy	190	390	580	0.12	Loamy	170	320	490	0.10	
4						2013/6/5	Sunny	Loamy	32	60	92	0.11	Loamy	110	220	330	0.08	
5			Sakuragawa River	In Oozu Yachi	Katashinamura Village	2013/6/5	Sunny	Loamy	1,400	2,800	4,200	0.28	Loamy	1,000	1,900	2,900	0.26	
6						2013/6/24	Sunny	Loamy	2,600	5,300	7,900	0.31	Loamy	2,400	5,100	7,500	0.26	
7						2013/6/24	Sunny	Loamy	210	440	650	0.11	Loamy	390	790	1,180	0.11	
8			Katashinagawa River	Tonemachitakatoya	Numatsashi City	2013/6/5	Sunny	Sandy	17	30	47	0.10	Sandy	42	97	139	0.10	
9						2013/6/25	Sunny	Sandy	<10	27	27	0.08	Sandy	39	85	124	0.11	
10						2013/6/5	Sunny	Loamy	340	650	990	0.10	Loamy	260	540	800	0.11	
11				Futabashi Bridge	Naganoharamachi Town	2013/6/25	Sunny	Loamy	590	1,100	1,690	0.10	Loamy	280	560	840	0.11	
12			Agatsumagawa River	Shimobashi Bridge			2013/6/12	Cloudy	Loamy	260	550	810	0.08	Loamy	240	500	740	0.08
13							2013/6/12	Cloudy	Loamy	100	230	330	0.07	Loamy	280	640	920	0.08
14			Shirasunagawa River	Shuttatsubashi Bridge	Higashiagatsumamachi Town	2013/5/28	Cloudy	Loamy	90	170	260	0.09	Loamy	190	420	610	0.07	
15							2013/6/11	Cloudy	Loamy	910	2,000	2,910	0.27	Loamy	220	510	730	0.08
16			Agatsumagawa River	Downstream of Azumabashi Bridge	Takayamamura Village	2013/6/25	Sunny	Loamy	170	320	490	0.08	Loamy	78	180	258	0.04	
17							2013/5/28	Cloudy	Loamy	150	280	430	0.08	Loamy	280	550	830	0.09
18							2013/6/11	Cloudy	Loamy	250	510	760	0.08	Loamy	550	1,200	1,750	0.09
19			Nakutagawa River	Tonodabashi Bridge	Shibukawashi City	2013/5/28	Cloudy	Loamy	230	460	690	0.10	Loamy	160	330	490	0.07	
20							2013/6/11	Cloudy	Loamy	250	510	760	0.08	Loamy	550	1,200	1,750	0.09
21							2013/5/28	Cloudy	Loamy	230	460	690	0.10	Loamy	160	330	490	0.07
22			Agatsumagawa River	Agatsumabashi Bridge	Shibukawashi City	2013/6/11	Cloudy	Loamy	250	510	760	0.08	Loamy	550	1,200	1,750	0.09	
23							2013/5/28	Cloudy	Loamy	230	460	690	0.10	Loamy	160	330	490	0.07
24							2013/6/11	Cloudy	Loamy	250	510	760	0.08	Loamy	550	1,200	1,750	0.09
25			Tonegawa River	Taishobashi Bridge	Shibukawashi City/Yoshiokamachi Town	2013/6/6	Sunny	Loamy	280	490	770	0.06	Loamy	80	150	230	0.06	
26							2013/6/6	Sunny	Loamy	28	57	85	0.04	Loamy	66	140	206	0.07
27			Tonegawa River	Gunmaobashi Bridge	Tamamuranachi Town	2013/6/4	Sunny	Loamy	33	89	122	0.05	Loamy	37	66	103	0.06	
28							2013/6/7	Cloudy	Loamy	330	680	1,010	0.10	Loamy	310	630	940	0.14
29			Nagaigawa River	Kamigondabashi Bridge	Takasaki City	2013/6/7	Sunny	Loamy	310	650	960	0.10	Sandy	180	340	520	0.12	
30							2013/6/4	Sunny	Loamy	400	810	1,210	0.15	Loamy	340	750	1,090	0.12
31			Karasugawa River	Karasugawabashi Bridge	Annakashi City	2013/6/6	Sunny	Loamy	84	170	254	0.06	Loamy	130	270	400	0.09	
32							2013/5/30	Cloudy	Loamy	88	170	258	0.11	Loamy	160	330	490	0.13
33			Usugawa River	Nakasebashi Bridge	Takasaki City	2013/5/29	Cloudy	Sandy	53	110	163	0.06	Sandy	20	57	77	0.05	
34							2013/5/30	Cloudy	Loamy	54	110	164	0.07	Loamy	240	450	690	0.07
35			Kaburagawa River	Kaburagawabashi Bridge	Takasaki City/Fujiokashi City	2013/5/30	Cloudy	Loamy	250	540	790	0.07	Loamy	240	520	760	0.09	
36							2013/6/6	Sunny	Loamy	78	160	238	0.05	Loamy	92	200	292	0.05
37			Ogawa River	Kinzanbashi Bridge	Kanramachi Town	2013/6/4	Sunny	Loamy	29	56	85	0.05	Loamy	86	160	246	0.07	
38							2013/5/29	Cloudy	Sandy	260	530	790	0.05	Sandy	73	140	213	0.06
39			Nanmokugawa River	Ozawabashi Bridge	Takasaki City/Tamamuranachi Town	2013/5/31	Sunny	Loamy	150	320	470	0.08	Loamy	99	200	299	0.09	
40							2013/5/31	Sunny	Loamy	170	350	520	0.06	Loamy	20	38	58	0.06
41			Someyagawa River	Yakushibashi Bridge	Shintomura Village	2013/5/30	Cloudy	Loamy	170	370	540	0.07	Loamy	60	120	180	0.08	
42							2013/6/7	Cloudy	Loamy	58	140	198	0.06	Loamy	34	65	99	0.07
43			Inogawa River	Kamakurabashi Bridge	Takasaki City	2013/5/23	Sunny	Sandy	69	140	209	0.05	Sandy	53	140	193	0.06	
44							2013/6/6	Sunny	Loamy	33	71	104	0.07	Loamy	44	82	126	0.06
45			Karasugawa River	Iwakurabashi Bridge	Takasaki City/Tamamuranachi Town	2013/6/3	Sunny	Loamy	59	160	219	0.06	Loamy	77	200	277	0.07	
46							2013/6/3	Sunny	Loamy	21	35	56	0.04	Loamy	31	92	123	0.04
47			Aratagawa River	Okuharabashi Bridge	Iseakishi City	2013/5/23	Sunny	Sandy	74	160	234	0.05	Sandy	48	91	139	0.05	
48							2013/5/23	Sunny	Sandy	33	52	85	0.06	Sandy	42	95	137	0.07
49		Kasukawa River	Hozambashi Bridge	Otashi City	2013/5/27	Sunny	Loamy	99	200	299	0.07	Loamy	160	320	480	0.09		
50						2013/5/23	Sunny	Sandy	73	160	234	0.05	Sandy	48	91	139	0.05	
51		Hirosegawa River	Nakajimbashi Bridge	Iseakishi City	2013/5/22	Sunny	Sandy	130	320	450	0.06	Sandy	120	210	330	0.09		
52						2013/5/22	Sunny	Sandy	130	320	450	0.06	Sandy	120	210	330	0.09	
53		Hayakawa River	Hayakawabashi Bridge	Gyodamachi Town/Gyodashi City	2013/6/21	Cloudy	Loamy	140	270	410	0.08	Loamy	130	230	360	0.07		
54						2013/5/28	Cloudy	Sandy	250	540	790	0.19	Sandy	2,300	4,700	7,000	0.32	
55		Hayakawa River	Maajimbashi Bridge	Kiryushi City	2013/6/21	Cloudy	Loamy	610	1,300	1,910	0.17	Loamy	4,800	9,700	14,500	0.31		
56						2013/5/28	Cloudy	Sandy	48	130	178	0.08	Sandy	56	120	176	0.08	
57		Watarasegawa River	Inlake for Akaiwayosui water channel	Kiryushi City	2013/5/28	Cloudy	Sandy	88	180	268	0.10	Sandy	64	120	184	0.09		
58						2013/6/21	Cloudy	Loamy	160	360	520	0.08	Loamy	77	190	267	0.08	
59		Tataragawa River	Ejiribashi Bridge	Ouramachi Town	2013/5/22	Sunny	Sandy	160	350	510	0.05	Sandy	67	120	187	0.04		
60						2013/5/27	Sunny	Loamy	50	99	149	0.08	Loamy	100	210	310	0.10	
61		Kiryugawa River	Kannonbashi Bridge	Kiryushi City	2013/5/27	Sunny	Loamy	90	170	260	0.08	Loamy	140	290	430	0.08		
62						2013/5/27	Sunny	Loamy	90	170	260	0.08	Loamy	140	290	430	0.08	
63		Tsurudagawa River	Jonuma Lake	Tatebayashi City	2013/5/22	Sunny	Sandy	140	310	450	0.07	Sandy	150	340	490	0.07		
64						2013/5/22	Sunny	Sandy	130	250	380	0.07	Sandy	180	320	500	0.05	
65		Yatagawa River	Toгодabashi Bridge	Meiwamachi Town/Itakuramachi Town	2013/5/22	Sunny	Sandy	130	250	380	0.07	Sandy	180	320	500	0.05		

\* 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.

\* Collection 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-1728 of Hitachi-Aloka Medical, Ltd.

# ○Lake and Headwater: Water Quality Monitoring Results

No.	Sampling point				Sampling date	Weather	Full depth (m)	General items					Radioactive material concentrations (Bq/L)		Remarks
	Point							Sampling depth (m)	Secchi disk depth (m)	Electrical conductivity (mS/m)	SS (mg/L)	Turbidity	Radioactive cesium		
													Cs-134	Cs-137	
1	T o n e g a w a	Okutoneko Lake (Yagisawa Dam)	Center	Minakamimachi Town	Surface layer	2013/6/27	Sunny	75.5	0.5	5.1	2	<1	0.8	<1	<1
					Lower layer				74.5		2	2	3.8	<1	<1
2		Naramatako Lake (Naramata Dam)	Center	Minakamimachi Town	Surface layer	2013/6/27	Sunny	54.8	0.5	4.5	3	<1	0.6	<1	<1
					Lower layer				53.8		4	<1	1.2	<1	<1
3		Dogenko Lake (Sudagai Dam)	Center		Surface layer	2013/6/26	Cloudy	45.3	0.5	3.0	2	2	3.0	<1	<1
					Lower layer				44.3		3	2	2.1	<1	<1
4	R i v e r	Marunuma Lake (Marunuma Dam)	Center	Katashinamura Village	Surface layer	2013/6/24	Sunny	40.9	0.5	6.5	6	<1	0.5	<1	<1
					Lower layer				39.9		7	1	1.0	<1	<1
5		Fujiwarako Lake (Fujiwara Dam)	Center	Minakamimachi Town	Surface layer	2013/7/1	Cloudy	48.5	0.5	2.2	3	2	2.1	<1	<1
					Lower layer				47.5		2	2	2.5	<1	<1
6	W a t e r	Tanbarako Lake (Tanbara Dam)	Center	Numatashi City	Surface layer	2013/6/25	Cloudy	41.3	0.5	4.0	4	<1	0.7	<1	<1
					Lower layer				40.3		4	1	1.4	<1	<1
7		Akayako Lake (Aimata Dam)	Center	Minakamimachi Town	Surface layer	2013/6/14	Sunny	33.5	0.5	7.0	9	<1	0.9	<1	<1
					Lower layer				32.5		6	2	3.5	<1	<1
8	B o d y	Sonoharako Lake (Sonohara Dam)	Center	Numatashi City	Surface layer	2013/6/20	Cloudy	29.5	0.5	1.9	9	2	2.4	<1	<1
					Lower layer				28.5		8	1	1.8	<1	<1
9		Akagionuma Lake	Center	Maebashishi City	Surface layer	2013/6/21	Cloudy	15.9	0.5	7.1	5	<1	0.7	<1	<1
					Lower layer				14.9		5	4	2.9	<1	<1
10		Okushimako Lake (Shimagawa Dam)	Center	Nakanojomachi Town	Surface layer	2013/6/17	Sunny	37.9	0.5	18.9	12	2	1.4	<1	<1
					Lower layer				36.9		13	<1	0.4	<1	<1
11	A g a t s u m a g a w a R i v e r W a t e r B o d y	Shimako Lake (Nakanajo Dam)	Center		Surface layer	2013/6/17	Cloudy	8.2	0.5	4.5	15	2	0.9	<1	<1
					Lower layer				7.2		18	3	1.6	<1	<1
12		Tashiroko Lake (Kazawa Dam)	Center	Tsumagoimura Village	Surface layer	2013/6/13	Light rain	4.5	0.5	1.5	7	3	3.2	<1	<1
					Lower layer				3.5		7	3	3.2	<1	<1
13		Harunako Lake	Center	Takasakishi City	Surface layer	2013/6/11	Cloudy	14.0	0.5	6.8	9	<1	0.6	<1	<1
					Lower layer				13.0		10	1	0.8	<1	<1
14	K a r a s u g a w a R i v e r B o d y	Kirizumiko Lake (Kirizumi Dam)	Center	Annakashi City	Surface layer	2013/6/10	Sunny	4.1	0.5	3.2	12	2	1.5	<1	<1
					Lower layer				3.1		12	2	1.6	<1	<1
15		Usuiko Lake (Sakamoto Dam)	Center		Surface layer	2013/6/10	Sunny	12.4	0.5	4.1	6	<1	0.9	<1	<1
					Lower layer				11.4		13	4	4.8	<1	<1
16		Arafuneko Lake (Dodairagawa Dam)	Center	Shimonitamachi Town	Surface layer	2013/6/4	Sunny	32.5	0.5	1.9	41	4	2.2	<1	<1
					Lower layer				31.5		40	<1	0.9	<1	<1
17		Oshioke Lake (Oshio Dam)	Center	Tomiokashi City	Surface layer	2013/6/3	Sunny	10.1	0.5	3.0	23	1	1.2	<1	<1
					Lower layer				9.1		23	3	3.8	<1	<1
18		Kannako Lake (Shimokubo Dam)	Center	Fujiokashi City	Surface layer	2013/5/31	Sunny	67.1	0.5	8.1	17	<1	0.9	<1	<1
					Lower layer				66.1		20	<1	1.0	<1	<1
19		Hebikamiko Lake (Shiozawa Dam)	Center	Kannamachi Town	Surface layer	2013/6/28	Cloudy	6.4	0.5	2.3	13	2	2.5	<1	<1
					Lower layer				5.4		14	4	3.4	<1	<1
20	W a t a r a s e g a w a R i v e r W a t e r B o d y	Kusakiko Lake (Kusaki Dam)	Center	Midorishi City	Surface layer	2013/5/28	Cloudy	34.0	0.5	3.0	11	2	2.2	<1	<1
					Lower layer				33.0		12	<1	1.1	<1	<1
21		Umedako Lake (Kiryugawa Dam)	Center	Kiryushi City	Surface layer	2013/5/27	Sunny	26.9	0.5	3.2	7	1	1.5	<1	<1
					Lower layer				25.9		8	1	2.2	<1	<1
22	N a k a t s u g a w a R i v e r W a t e r B o d y	Nozoriko Lake (Nozori Dam)	Center	Nakanojomachi Town	Surface layer	2013/6/18	Cloudy	7.3	0.5	>7.3	4	<1	0.6	<1	<1
					Lower layer				6.3		3	<1	0.7	<1	<1
23	W a t a r a s e g a w a R i v e r W a t e r B o d y	Jonuma Lake	Center	Tatebayashishi City	Surface layer	2013/5/24	Sunny	1.6	0.5	0.5	29	18	14.0	<1	<1
					Lower layer				0.6		28	26	14.0	<1	<1
24		Tataranuma Lake	Center	Tatebayashishi City	Surface layer	2013/5/24	Sunny	6.6	0.5	0.9	19	7	6.9	<1	<1
					Lower layer				5.6		25	6	8.0	<1	<1

\*Collection points are listed from North to South.

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

Sampling point					Sampling date	Weather	Full depth (m)	Sediment						Surrounding environment (lake shore)					Remarks
No.	Point		Municipality	General items				Radioactive material concentrations (Bq/kg (dried mud))			Property	Soil							
				Mud sampling depth (cm)				Mud content (%)	Property	Radioactive cesium			Property	Radioactive material concentrations (Bq/kg (dry))			Air dose (μSv/h)		
										Cs-134		Cs-137		Total	Cs-134	Cs-137		Total	
1	One-gawa River Water Body	Okutoneko Lake (Yagisawa Dam)	Center	Minakamimachi Town	2013/6/27	Sunny	75.5	5	31	Silt	760	1500	2,260	Loamy	140	250	390	0.19	
2		Naramatako Lake (Naramata Dam)	Center	Minakamimachi Town	2013/6/27	Sunny	54.8	5	31	Silt	920	2000	2,920	Sandy	140	280	420	0.22	
3		Dogenko Lake (Sudagai Dam)	Center	Minakamimachi Town	2013/6/26	Cloudy	45.3	5	35	Silt	280	680	960	Loamy	360	760	1,120	0.26	
4		Marunuma Lake (Marunuma Dam)	Center	Katashinamura Village	2013/6/24	Sunny	40.9	10	26	Silt	<10	21	21	Loamy	40	96	136	0.11	
5		Fujiwarako Lake (Fujiwara Dam)	Center	Minakamimachi Town	2013/7/1	Cloudy	48.5	10	36	Silt	380	930	1,310	Loamy	410	890	1,300	0.09	
6		Tanbarako Lake (Tanbara Dam)	Center	Numatashi City	2013/6/25	Cloudy	41.3	7	28	Silt	130	290	420	Loamy	140	280	420	0.15	
7		Akayako Lake (Aimata Dam)	Center	Minakamimachi Town	2013/6/14	Sunny	33.5	10	42	Silt	890	1900	2,790	Loamy	360	690	1,050	0.13	
8		Sonoharako Lake (Sonohara Dam)	Center	Numatashi City	2013/6/20	Cloudy	29.5	10	44	Silt	190	400	590	Loamy	350	740	1,090	0.10	
9		Akagionuma Lake	Center	Maebashishi City	2013/6/21	Cloudy	15.9	9	18	Silt	290	770	1,060	Loamy	550	1200	1,750	0.13	
10	Agatsumagawa River Water Body	Okushimako Lake (Shimagawa Dam)	Center	Nakanojomachi Town	2013/6/17	Sunny	37.9	10	40	Silt	160	400	560	Loamy	580	1200	1,780	0.22	
11		Shimako Lake (Nakanojo Dam)	Center	Nakanojomachi Town	2013/6/17	Cloudy	8.2	9	53	Silt/sand	270	570	840	Loamy	230	490	720	0.11	
12		Tashiroko Lake (Kazawa Dam)	Center	Tsumagoimura Village	2013/6/13	Light rain	4.5	10	22	Silt	270	580	850	Loamy	180	410	590	0.10	
13	Karasawa River Water Body	Harunako Lake	Center	Takasakishi City	2013/6/11	Cloudy	14.0	10	9	Silt	<10	47	47	Loamy	650	1300	1,950	0.28	
14		Kirizumiko Lake (Kirizumi Dam)	Center	Annakashi City	2013/6/10	Sunny	4.1	10	32	Silt	780	1600	2,380	Loamy	240	560	800	0.10	
15		Usuiko Lake (Sakamoto Dam)	Center	Matsuidamachi Town	2013/6/10	Sunny	12.4	10	30	Silt	1100	2300	3,400	Loamy	480	1100	1,580	0.10	
16		Arafuneko Lake (Dodairagawa Dam)	Center	Shimonitamachi Town	2013/6/4	Sunny	32.5	10	35	Silt	160	330	490	Loamy	260	510	770	0.11	
17		Oshio Lake (Oshio Dam)	Center	Tomiokamachi Town	2013/6/3	Sunny	10.1	10	41	Silt	110	230	340	Loamy	260	550	810	0.10	
18		Kannako Lake (Shimokubo Dam)	Center	Fujiokashi City	2013/5/31	Sunny	67.1	10	51	Silt	58	120	178	Loamy	120	240	360	0.06	
19		Hebikamiko Lake (Shiozawa Dam)	Center	Kannamachi Town	2013/6/28	Cloudy	6.4	5	62	Sand/silt	32	79	111	Loamy	130	250	380	0.09	
20	Watarasegawa River Water Body	Kusakiko Lake (Kusaki Dam)	Center	Midorishi City	2013/5/28	Cloudy	34.0	10	47	Silt	210	440	650	Sandy	280	550	830	0.17	
21		Umedako Lake (Kiryugawa Dam)	Center	Kiryushi City	2013/5/27	Sunny	26.9	10	29	Silt	19	43	62	Loamy	240	500	740	0.08	
22	Nakatsugawa River Water Body	Nozoriko Lake (Nozori Dam)	Center	Nakanojomachi Town	2013/6/18	Cloudy	7.3	6	29	Silt	22	60	82	Loamy	320	690	1,010	0.06	
23	Watarasegawa River Water Body	Jonuma Lake	Center	Tatebayashishi City	2013/5/24	Sunny	1.6	10	18	Silt	160	380	540	Loamy	86	160	246	0.06	New sampling point
24		Tataranuma Lake	Center	Tatebayashishi City	2013/5/24	Sunny	6.6	10	19	Silt	510	930	1,440	Loamy	110	220	330	0.06	New sampling point

\* 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.

\* Collection points are listed from North to South.

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



