

(News Release)  
The Results of Radioactive Material Monitoring of the Surface Water Bodies  
within Gunma Prefecture  
(October-December Samples)

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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 Gunma Prefecture during the period of October 8-December 19, 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 Gunma Prefecture  
(Rivers: 48 locations, Lakes: 22 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: July-October 2012)

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

Cs-134 + Cs-137: Not detectable (ND) at any location (\* ND-1Bq/L)

<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 most of the 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 of the locations, and in general, a decline were seen at many of the locations compared to the previous survey results.

(Rivers)

Cs-134 + Cs-137: ND-1,560Bq/kg (dried mud) (\*ND-720Bq/kg (dried mud))

(Lakes and headwaters)

Cs-134 + Cs-137: 16-3,500Bq/kg (dried mud) (\*33-4,100Bq/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	53 (55)	1 (2)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	55 (57)
Lakes and headwaters	9 (13)	6 (9)	2 (5)	2 (1)	2 (2)	0 (2)	1 (4)	22 (36)

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

(Rivers)

Cs-134 + Cs-137: 11-9,300Bq/kg (dry) (\*32-6,000Bq/kg (dry))

Spatial dose: 0.04-0.35μSv/h

(Lakes and headwaters)

Cs-134 + Cs-137: 120-3,300Bq/kg (dry) (\* 86-6,600Bq/kg (dry))

Spatial dose: 0.06-0.32μSv/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					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		Radioactive cesium						
												I-131	Cs-134	Cs-137						
1	Tonegawa River	Hirosebash Bridge	Minakamimachi Town	2012/11/29	Cloudy	0.25	0.0	>100	6	10	3	<1	<1	<1						
2		Tsukiyonobashi Bridge		2012/11/27	Cloudy	0.40	1.0	>100	6	<1	<1	<1	<1	<1	<1					
3		Akayagawa River		Kosodebash Bridge	2012/11/27	Snow	0.40	0.0	>100	10	<1	<1	<1	<1	<1	<1				
4		Sakuragawa River		In Oozu Yachi	2012/11/27	Snow	0.30	0.0	>100	7	<1	<1	<1	<1	<1	<1				
5		Katsushimamura Village		2012/11/27	Snow	0.60	0.0	>100	6	<1	<1	<1	<1	<1	<1	<1				
6		Katashinagawa River		Tonemachikatowa	2012/11/27	Sunny	0.45	0.0	>100	11	<1	<1	<1	<1	<1	<1				
7		Futebashi Bridge		Numatashi City/Showamura Village	2012/11/28	Cloudy	0.35	1.0	>100	14	2	1	<1	<1	<1	<1				
8		Agatsumagawa River		Shintobashi Bridge	Naganoharamachi Town	2012/11/28	Sunny	0.30	0.0	45	25	6	8	<1	<1	<1	<1			
9		Shirasumagawa River		Shuttatsubashi Bridge	Nakanoyomachi Town	2012/11/28	Sunny	1.00	0.0	79	44	3	3	<1	<1	<1	<1			
10		Agatsumagawa River		Downstream of Azumabashi Bridge	Higashitagatsumamachi Town	2012/11/28	Sunny	0.30	0.0	28	25	17	11	<1	<1	<1	<1			
11		Nakutagawa River		Tonodabashi Bridge	Takayamamura Village	2012/11/28	Sunny	0.40	0.0	73	14	<1	0	<1	<1	<1	<1			
12		Agatsumagawa River		Agatsumabashi Bridge	Shibukawashi City	2012/11/29	Sunny	0.65	0.0	25	35	19	12	<1	<1	<1	<1			
13		Tonegawa River		Taishobashi Bridge	Shibukawashi City	2012/11/29	Cloudy	0.50	1.0	>100	15	1	1	<1	<1	<1	<1			
14		Takizawagawa River		Shimokazawabashi Bridge	Shibukawashi City/Yoshiokamachi Town	2012/11/30	Cloudy	0.20	0.0	60	26	4	4	<1	<1	<1	<1			
15		Tonegawa River		Gammobashi Bridge	Maebushishi City	2012/12/6	Cloudy	0.30	0.0	81	23	4	4	<1	<1	<1	<1			
16		Tonegawa River		Fukushimabashi Bridge	Tamamuramachi Town	2012/12/5	Cloudy	0.25	2.0	>100	24	2	2	<1	<1	<1	<1			
17	Karasugawa River	Nagaigawa River	Kamigondabashi Bridge	Takasakishi City	2012/12/4	Cloudy, partly sunny	0.30	0.0	>100	12	<1	1	<1	<1	<1					
18		Karasugawa River	Karasugawabashi Bridge	Takasakishi City	2012/12/4	Sunny	0.50	0.0	>100	12	<1	0	<1	<1	<1	<1				
19		Usugawa River	Nakasebashi Bridge	Amakashi City	2012/12/9	Cloudy	0.20	0.0	>100	22	1	1	<1	<1	<1	<1				
20		Hanatakabashi Bridge	Takasakishi City	2012/12/5	Sunny	0.30	1.0	>100	42	1	<1	<1	<1	<1	<1	<1				
21		Kaburagawa River	Tadakawabashi Bridge	Tomokashi City/Shimonitamachi Town	2012/12/13	Sunny	0.70	0.0	>100	41	<1	1	<1	<1	<1	<1				
22		Kaburagawa River	Kaburagawabashi Bridge	Takasakishi City/Fujikashi City	2012/12/5	Sunny	0.70	1.0	>100	40	1	1	<1	<1	<1	<1				
23		Ogawa River	Kimzabashi Bridge	Kanramachi Town	2012/12/13	Sunny	0.20	0.0	>100	24	<1	0	<1	<1	<1	<1				
24		Namokugawa River	Ozawabashi Bridge	Namokumura Village	2012/12/13	Sunny	0.30	0.0	>100	30	<1	1	<1	<1	<1	<1				
25		Somiyagawa River	Yakushibashi Bridge	Shinomura Village	2012/12/9	Cloudy, partly snow	0.20	0.0	>100	35	2	2	<1	<1	<1	<1				
26		Inogawa River	Kanakurabashi Bridge	Takasakishi City	2012/12/5	Cloudy	0.30	0.0	>100	44	3	1	<1	<1	<1	<1				
27		Karasugawa River	Iwakurabashi Bridge	Tamamuramachi Town	2012/12/5	Sunny	0.30	1.0	>100	4	2	1	<1	<1	<1	<1				
28		Karasugawa River	Shinkanamebashi Bridge	Uenomura Village	2012/12/13	Sunny	0.50	0.0	>100	23	<1	0	<1	<1	<1	<1				
29		Kannagawa River	Moritobashi Bridge	Kannamachi Town	2012/12/13	Sunny	0.50	0.0	>100	24	<1	0	<1	<1	<1	<1				
30		Kannagawa River	Tobukyo Bridge	Fujikashi City/Kamikawamachi Town	2012/12/18	Sunny	0.40	0.0	50	25	<1	0	<1	<1	<1	<1				
31		Kannagawa River	Kannagawabashi Bridge	Kamiatomachi Town	2012/12/18	Sunny	0.40	0.0	65	24	6	1	<1	<1	<1	<1				
32		Tonegawa River	Bandobashi Bridge	Iesakishi City/Honjoshi City	2012/12/18	Sunny	0.30	0.0	15	29	36	5	<1	<1	<1	<1				
33	Akagishirakawa River	In Shimohosonemachi Town	2012/12/17	Cloudy	0.20	0.0	>100	38	3	1	<1	<1	<1	<1	<1					
34	Momonokigawa River	Utsuboashi Bridge	Maebushishi City	2012/12/17	Cloudy	0.20	0.0	35	29	2	2	<1	<1	<1	<1					
35	Aratogawa River	Okubarabashi Bridge	2012/12/17	Cloudy	0.20	0.0	43	32	5	3	<1	<1	<1	<1	<1					
36	Kasukawa River	Hozumbashi Bridge	2012/12/17	Rain	0.15	1.0	60	44	3	1	<1	<1	<1	<1	<1					
37	Hirosegawa River	Nakajimbashi Bridge	Iesakishi City	2012/12/18	Sunny	0.30	0.0	43	39	2	2	<1	<1	<1	<1					
38	Havakawa River	Havakawabashi Bridge	2012/12/14	Sunny	0.20	0.0	34	35	11	7	<1	<1	<1	<1	<1					
39	Havakawa River	Maecjimbashi Bridge	Ohashi City	2012/12/18	Sunny	0.40	0.0	60	55	3	1	<1	<1	<1	<1					
40	Tonegawa River	Toneozeki Weir	Chiyodamachi Town/Gyodashi City	2012/10/30	Cloudy	0.60	0.0	50	28	7	7	<1	<1	<1	<1					
				2012/12/18	Cloudy	0.40	0.0	45	33	3	2	<1	<1	<1	<1					
41	Systecm	Kogurogawa River	Kayanobashi Bridge	2012/10/8	Sunny	0.50	0.0	>100	8	<1	0	<1	<1	<1	<1					
							2012/10/29	Sunny	0.50	0.0	>100	8	2	1	<1	<1	<1	<1		
42					2012/12/12	Sunny	0.50	0.0	>100	8	<1	0	<1	<1	<1	<1				
43		Watarasegawa River	Takatsudo	Kiryushi City	2012/12/12	Sunny	0.40	0.0	>100	13	<1	1	<1	<1	<1	<1				
							2012/10/10	Sunny	0.60	0.0	>100	13	<1	1	<1	<1	<1	<1		
					Intake for Akaiwayosui water channel		2012/10/30	Cloudy	1.30	0.0	>100	11	2	2	<1	<1	<1	<1		
							2012/12/12	Sunny	1.20	0.0	>100	13	<1	1	<1	<1	<1	<1		
44		Tataragawa River	Ejimbashi Bridge	Ouramachi Town	2012/12/19	Sunny	0.30	0.0	70	29	4	2	<1	<1	<1	<1				
45					Kannobashi Bridge	2012/12/12	Sunny	0.20	0.0	>100	9	<1	1	<1	<1	<1	<1			
46		Kiryugawa River	Sakabashi Bridge	Kiryushi City	2012/10/10	Sunny	0.25	1.0	>100	13	<1	1	<1	<1	<1	<1				
								2012/10/30	Sunny	1.00	0.0	>100	10	<1	1	<1	<1	<1	<1	
								2012/12/14	Sunny	0.30	0.0	>100	12	<1	1	<1	<1	<1	<1	
47		Tsuruudagawa River	Jonuma Lake	Tatebayashishi City	2012/12/10	Sunny	1.40	0.0	36	41	13	10	<1	<1	<1	<1				
48		Yatagawa River	Toгодabashi Bridge	Meiwamachi Town/Itakuramachi Town	2012/12/19	Sunny	0.60	0.0	52	112	8	5	<1	<1	<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.	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	Radioactive cesium Cs-137	Total	
1	Tonegawa River	Hirosehashi Bridge	Minakamimachi Town	2012/11/29	Cloudy	0.25	3	88	Sand	<30	32	58	90	
2		Tsukiyonobashi Bridge		2012/11/27	Cloudy	0.40	3	93	Sand	<30	28	40	68	
3	Akayagawa River	Kosodebashi Bridge	Kawabamura Village	2012/11/27	Snow	0.40	3	85	Sand	<30	11	29	40	
4		In Oozu Yachi		2012/11/27	Snow	0.30	2	83	Sand	<30	99	160	259	
5	Katashinagawa River	Kirinokibashi Bridge	Numatahara Village	2012/11/27	Snow	0.60	2	95	Sand	<30	12	19	31	
6		Tonemachikatoya		2012/11/27	Sunny	0.45	2	89	Sand	<30	<10	<10	-	
7	Agatsunagawa River	Futabashi Bridge	Numatahara Village	2012/11/28	Cloudy	0.35	2	88	Sand	<30	28	46	74	
8		Shintobashi Bridge		Naganoharamachi Town	2012/11/28	Sunny	0.30	3	85	Sand	<30	35	60	95
9	Shirasunagawa River	Shutatsubashi Bridge	Nakanomachi Town	2012/11/28	Sunny	1.00	-	-	-	-	-	-	-	Unable to collect samples due to low water level
10		Downstream of Azumabashi Bridge		Higashiagatsunomachi Town	2012/11/28	Sunny	0.30	3	91	Sand	<30	<10	10	10
11	Nakatagawa River	Tonodabashi Bridge	Takayamamura Village	2012/11/28	Sunny	0.40	2	82	Sand	<30	32	53	85	
12		Agatsunagawa River		Agatsunabashi Bridge	2012/11/29	Sunny	0.65	2	91	Sand	<30	<10	<10	-
13	Tonegawa River	Tsishobashi Bridge	Shibukawashi City	2012/11/29	Cloudy	0.50	3	91	Sand	<30	12	18	30	
14		Takizawagawa River		Shimatzawabashi Bridge	2012/11/30	Cloudy	0.20	2	87	Sand	<30	15	33	48
15	Tonegawa River	Gunmaohashi Bridge	Machishishi City	2012/12/6	Cloudy	0.30	3	83	Sand	<30	13	24	37	
16		Fukushimabashi Bridge		Tamamura Town	2012/12/5	Cloudy	0.25	3	82	Sand	<30	14	32	46
17	Nagatagawa River	Kamagadabashi Bridge	Takasaki City	2012/12/4	Cloudy, partly sunny	0.30	2	83	Sand	<30	87	160	247	
18		Karasugawa River		Karasugawabashi Bridge	2012/12/4	Sunny	0.50	3	89	Sand	<30	17	28	45
19	Hsuigawa River	Nakasebashi Bridge	Amakashi City	2012/12/9	Cloudy	0.20	3	85	Gravel/sand	<30	33	62	95	
20		Hanatabashi Bridge		2012/12/5	Sunny	0.30	3	83	Sand	<30	13	27	40	
21	Kaburagawa River	Tadokawabashi Bridge	Hinomaki City/Shimomachi Town	2012/12/13	Sunny	0.70	3	84	Gravel/sand	<30	<10	15	15	
22		Kaburagawabashi Bridge		Takasaki City/Tanokashi City	2012/12/5	Sunny	0.70	3	69	Sand/silt	<30	27	64	91
23	Ogawa River	Kinzubashi Bridge	Nannokamura Village	2012/12/13	Sunny	0.20	2	82	Gravel/sand	<30	13	23	36	
24		Ozawabashi Bridge		2012/12/13	Sunny	0.30	2	87	Gravel/sand	<30	<10	18	18	
25	Someyagawa River	Yakushibashi Bridge	Shintomura Village	2012/12/9	Cloudy, partly snow	0.20	3	84	Sand	<30	24	43	67	
26		Inagawa River		Kamakubashi Bridge	2012/12/5	Cloudy	0.30	3	89	Gravel/sand	<30	<10	11	11
27	Karasugawa River	Iwakurabashi Bridge	Tamamura Town	2012/12/5	Sunny	0.30	3	56	Silt	<30	110	200	310	
28		Shinkanabashi Bridge		Uenomura Village	2012/12/13	Sunny	0.50	1	89	Gravel/sand	<30	<10	16	16
29	Kannagawa River	Moritobashi Bridge	Kannamachi Town	2012/12/13	Sunny	0.50	3	92	Sand	<30	<10	<10	-	
30		Tohokyo Bridge		Fujiokashi City/Kamikawamachi Town	2012/12/18	Sunny	0.40	3	87	Sand	<30	14	29	43
31	Tonegawa River	Kamagadabashi Bridge	Kamatsunomachi Town	2012/12/18	Sunny	0.40	4	74	Clay	<30	14	23	36	
32		Bandobashi Bridge		Iesakishi City/Honjoshi City	2012/12/18	Sunny	0.30	1	33	Silt	<30	92	160	252
33	Akagishirakawa River	In Shimahosomachi Town	Machishishi City	2012/12/17	Cloudy	0.20	1	80	Sand	<30	20	41	61	
34		Usuiboashi Bridge		2012/12/17	Cloudy	0.20	3	89	Sand	<30	14	27	41	
35	Aratogawa River	Okufurubashi Bridge	Kiryushi City	2012/12/17	Cloudy	0.20	4	79	Sand	<30	<10	<10	-	
36		Hosurubashi Bridge		2012/12/17	Rain	0.15	4	90	Sand/gravel	<30	104	21	31	
37	Hirosegawa River	Nakajimbashi Bridge	Iesakishi City	2012/12/18	Sunny	0.30	2	89	Clay/gravel	<30	<10	<10	-	
38		Hayakawabashi Bridge		2012/12/14	Sunny	0.20	2	67	Sand	<30	91	170	261	
39	Hayakawa River	Maemibashi Bridge	Okashi City	2012/12/18	Sunny	0.40	3	88	Sand	<30	27	50	77	
40		Tonezoki Weir		Chiyodamachi Town/Gyodashi City	2012/10/8	Sunny	0.60	3	54	Sand	<30	230	410	640
41	Kogurogawa River	Kayanobashi Bridge	Kiryushi City	2012/10/30	Cloudy	0.60	6	59	Silt	<30	130	250	380	
42		Takatsubo		2012/12/18	Cloudy	0.40	5	82	Sand	<30	22	50	72	
43	Watarasegawa River	Intake for Akaiwayosui water channel	Kiryushi City	2012/10/8	Sunny	0.50	5	82	Sand	<30	88	140	228	
44		2012/10/29		Sunny	0.50	4	91	Sand	<30	45	75	120		
45	Futaragawa River	Ejiribashi Bridge	Oirumachi Town	2012/12/12	Sunny	0.50	3	80	Sand	<30	67	120	187	
46		Kannonbashi Bridge		2012/12/12	Sunny	0.20	3	81	Sand	<30	33	67	100	
47	Kiriyugawa River	Sakaibashi Bridge	Kiryushi City	2012/10/10	Sunny	0.25	3	91	Sand	<30	34	61	95	
48		2012/10/30		Sunny	1.00	10	93	Sand	<30	48	70	118		
49	Tsarudagawa River	Jonima Lake	Tatebayashishi City	2012/12/14	Sunny	0.30	3	92	Gravel/sand	<30	38	67	105	
50		2012/12/10		Sunny	1.40	5	36	Mud/silt	<30	580	980	1,560		
51	Yatagawa River	Togodabashi Bridge	Meiwamachi Town/Takuramachi Town	2012/12/19	Sunny	0.60	3	68	Clay	<30	<10	<10	-	

\*Collection points for rivers are listed from North to South, and for different points along the river, from upstream to downstream.

ORiver: Surrounding Environment (River Terrace) Monitoring Results

No.	Sampling point				Sampling date	Weather	Property	Left bank				Air dose μSv/h	Property	Right bank				Air dose μSv/h	Remarks
	Water body	Point	Municipality	Concentration of radioactive material: Bq/kg (dry)				Concentration of radioactive material: Bq/kg (dry)											
				Radioactive iodine I-131				Cs-134	Radioactive cesium Cs-137	Total	Radioactive iodine I-131			Cs-134	Radioactive cesium Cs-137	Total			
T o n e g a w a	Tonegawa River	Hiroebashi Bridge	Minakamimachi Town	2012/11/29	Cloudy	Loamy	<-30	1,400	2,600	4,000	0.30	Loamy	<-30	780	1,400	2,180	0.28		
		Tsukiyonobashi Bridge		2012/11/27	Cloudy	Loamy	<-30	180	320	500	0.13	Loamy	<-30	340	610	950	0.12		
	Sakuragawa River	Kosodobashi Bridge	Kawabamura Village	2012/11/27	Snow	Loamy	<-30	170	330	500	0.10	Loamy	<-30	240	680	920	0.10		
		Onoawa Yachi		2012/11/27	Snow	Loamy	<-30	520	910	1,430	0.23	Loamy	<-30	1,400	2,500	3,900	0.33		
	Katashingawa River	Krimokobashi Bridge	Katashimamura Village	2012/11/27	Snow	Loamy	<-30	280	510	790	0.15	Loamy	<-30	410	700	1,110	0.12		
		Tonemachikataya		2012/11/27	Sunny	Sandy	Loamy	<-30	57	84	141	0.09	Sandy	<-30	17	31	48	0.11	
	Agatsumagawa River	Futabashi Bridge	Numatashi City/Showamura Village	2012/11/28	Cloudy	Loamy	<-30	240	450	690	0.10	Loamy	<-30	91	170	261	0.11		
		Shintobashi Bridge		2012/11/28	Sunny	Loamy	<-30	310	580	890	0.09	Loamy	<-30	130	220	350	0.09		
	Shirasugawa River	Shuttatsubashi Bridge	Nakanoyamachi Town	2012/11/28	Sunny	Loamy	<-30	130	240	370	0.06	Loamy	<-30	180	320	500	0.08		
		Agatsumagawa River		2012/11/28	Sunny	Loamy	<-30	411	58	99	0.10	Loamy	<-30	960	1,400	2,180	0.11		
Nikutagawa River	Tonobashi Bridge	Takayamamura Village	2012/11/28	Sunny	Loamy	<-30	160	270	430	0.08	Loamy	<-30	100	170	270	0.07			
	Agatsumagawa River		2012/11/29	Sunny	Loamy	<-30	280	490	770	0.10	Loamy	<-30	350	980	1,330	0.10			
Tateyama River	Tonegawa River	Tashobashi Bridge	Shibukawashi City	2012/11/29	Cloudy	Loamy	<-30	490	800	1,290	0.09	Loamy	<-30	180	320	500	0.08		
	Takozawagawa River	Shirakawabashi Bridge		2012/11/30	Cloudy	Loamy	<-30	240	390	630	0.07	Loamy	<-30	96	140	236	0.06		
Tonegawa River	Gummedashi Bridge	Maebashishi City	2012/11/26	Cloudy	Loamy	<-30	<10	11	11	0.05	Loamy	<-30	80	160	250	0.07			
	Fukashibashi Bridge		2012/12/5	Cloudy	Loamy	<-30	24	45	69	0.06	Loamy/skeletal	<-30	46	73	119	0.07			
Naganagawa River	Kamigondabashi Bridge	Takasaki City	2012/12/4	Cloudy, partly sunny	Loamy/skeletal	<-30	380	690	1,070	0.12	Loamy/skeletal	<-30	560	1,000	1,560	0.14			
	Karasugawa River		Karasugawabashi Bridge	2012/12/4	Sunny	Loamy	<-30	420	740	1,160	0.12	Loamy	<-30	290	500	790	0.14		
Karasugawa River	Usugawa River	Amakashi City	2012/12/9	Cloudy	Loamy	<-30	340	610	950	0.14	Loamy	<-30	330	570	900	0.15			
	Usugawa River		Hanatakebashi Bridge	2012/12/5	Sunny	Loamy	<-30	69	140	209	0.07	Loamy	<-30	180	300	480	0.09		
Kaburagawa River	Tadakawabashi Bridge	Tomokashi City/Shimontamachi Town	2012/12/13	Sunny	Loamy	<-30	190	350	540	0.10	Loamy/sandy	<-30	180	300	480	0.14			
	Kaburagawabashi Bridge		2012/12/5	Sunny	Loamy	<-30	32	49	81	0.07	Loamy	<-30	33	63	96	0.06			
Ogawa River	Kizambashi Bridge	Kanamachi Town	2012/12/13	Sunny	Loamy	<-30	180	310	490	0.08	Loamy	<-30	140	270	410	0.08			
	Nanmokogawa River		Ozawabashi Bridge	2012/12/13	Sunny	Loamy	<-30	220	390	610	0.08	Loamy	<-30	310	530	840	0.11		
Someyagawa River	Yakushibashi Bridge	Shimomura Village	2012/12/9	Cloudy, partly snow	Loamy	<-30	130	260	390	0.06	Loamy	<-30	140	220	360	0.06			
	Inogawa River		Kamakurabashi Bridge	2012/12/5	Cloudy	Sandy	<-30	36	66	102	0.05	Loamy/skeletal	<-30	83	140	223	0.07		
Karasugawa River	Iwakurabashi Bridge	Takasaki City/Tamamura Town	2012/12/5	Sunny	Loamy/skeletal	<-30	52	90	142	0.07	Loamy/skeletal	<-30	120	188	308	0.06			
	Shinkamochibashi Bridge		2012/12/13	Sunny	Loamy	<-30	400	620	1,020	0.14	Loamy	<-30	97	180	277	0.09			
Riwa River	Kannagawa River	Moribashi Bridge	Kanamachi Town	2012/12/13	Sunny	Loamy	<-30	77	130	207	0.07	Sandy/skeletal	<-30	23	44	67	0.07		
	Tobako Bridge	2012/12/18		Sunny	Loamy	<-30	75	130	205	0.08	Loamy	<-30	100	170	270	0.08			
Iwagawa River	Kannagawabashi Bridge	Kamatsamachi Town	2012/12/18	Sunny	Loamy/skeletal	<-30	81	140	221	0.07	Loamy	<-30	40	79	119	0.08			
	Utsunobashi Bridge		2012/12/18	Sunny	Loamy	<-30	59	93	154	0.07	Loamy	<-30	22	45	67	0.07			
Tonegawa River	Itakagaharagawa River	In Shimobosomachi Town	2012/12/17	Cloudy	Loamy	<-30	61	110	171	0.07	Loamy	<-30	110	170	280	0.07			
	Mononokogawa River		Utsunobashi Bridge	2012/12/17	Cloudy	Loamy	<-30	52	83	137	0.07	Loamy	<-30	44	74	118	0.07		
Aratogawa River	Okurabashi Bridge	Maebashishi City	2012/12/17	Cloudy	Loamy	<-30	25	39	64	0.04	Loamy	<-30	20	32	52	0.05			
	Kanokawa River		Hozumabashi Bridge	2012/12/17	Rain	Loamy	<-30	48	100	148	0.06	Loamy	<-30	120	190	310	0.07		
Hirosegawa River	Nakamabashi Bridge	Iesakishi City	2012/12/18	Sunny	Loamy	<-30	76	130	206	0.07	Loamy	<-30	49	74	123	0.06			
	Hayakawa River		Hayakawabashi Bridge	2012/12/14	Sunny	Loamy	<-30	55	94	149	0.06	Loamy	<-30	100	190	290	0.06		
Hayakawa River	Macimabashi Bridge	Otushi City	2012/12/18	Sunny	Loamy	<-30	35	61	96	0.07	Loamy	<-30	42	85	127	0.08			
	Tonegawa River		Tonezoki Weir	2012/10/30	Cloudy	Loamy	<-30	100	190	290	0.07	Loamy	<-30	87	130	210	0.08		
Saitama River	Koguragawa River	Kayanobashi Bridge	2012/10/18	Sunny	Loamy	<-30	69	120	189	0.07	Loamy	<-30	37	71	108	0.09			
	Yatsuda River		2012/10/8	Sunny	Loamy	<-30	2,000	3,500	5,500	0.24	Loamy	<-30	2,200	3,500	5,700	0.25			
Yatsuda River	Takatsudo	Kiriyoshi City	2012/10/29	Sunny	Loamy	<-30	1,300	2,500	4,000	0.24	Loamy	<-30	1,600	2,800	4,400	0.22			
	Wataragawa River		Intake for Akaiwayosui water channel	2012/12/12	Sunny	Loamy	<-30	700	1,300	2,000	0.23	Loamy	<-30	1,600	2,800	4,400	0.22		
Tataragawa River	Ejirubashi Bridge	Ouramachi Town	2012/10/10	Sunny	Loamy	<-30	190	380	570	0.10	Sandy	<-30	66	110	176	0.09			
	Kamonbashi Bridge		2012/10/30	Cloudy	Loamy	<-30	140	240	380	0.11	Sandy	<-30	51	85	136	0.09			
Kiriyagawa River	Sakabashi Bridge	Kiriyoshi City/Ashikagashi City	2012/12/12	Sunny	Loamy	<-30	120	220	340	0.10	Sandy	<-30	44	71	115	0.08			
	2012/10/10		Sunny	Loamy	<-30	120	180	300	0.08	Loamy	<-30	120	200	320	0.09				
Furudagawa River	Jonama Lake	Fatebayashishi City	2012/10/30	Sunny	Loamy	<-30	73	120	193	0.07	Loamy	<-30	77	130	207	0.09			
	2012/12/14		Sunny	Loamy	<-30	62	130	192	0.08	Loamy	<-30	83	140	223	0.06				
Yatagawa River	Togodabashi Bridge	Meriwamachi Town/Ikaramachi Town	2012/12/10	Sunny	Loamy	<-30	100	170	270	0.07	Loamy/skeletal	<-30	73	100	173	0.09			
	2012/12/19		Sunny	Loamy	<-30	100	170	270	0.08	Loamy	<-30	70	110	180	0.08				

\* Samples for surrounding environment (soil) were generally collected from 5 points in 3m square on 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.

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

\* Collection 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

Sampling point				Sampling date	Weather	Full depth m	General items					Concentration of radioactive material Bq/L			Remarks	
No.	Point						Sampling depth m	Secchi disk depth m	Electrical conductivity mS/m	SS mg/L	Turbidity	Radioactive iodine I-131	Radioactive cesium Cs-134 Cs-137			
1	g a w a	Okutoneko Lake (Yagisawa Dam)	Center	Surface layer	2012/11/12	Rain	68.6	0.5	1.4	3	3	4	<1	<1	<1	
			Lower layer	67.6				3		25	24	<1	<1	<1		
2		Naramatako Lake (Naramata Dam)	Center	Surface layer	2012/11/12	Cloudy	64.4	0.5	1.6	5	<1	2	<1	<1	<1	
			Lower layer	63.4				7		2	4	<1	<1	<1		
3	R i v e r	Dogenko Lake (Sudagai Dam)	Center	Surface layer	2012/11/6	Rain	36.3	0.5	1.4	6	3	4	<1	<1	<1	
			Lower layer	35.3				4		10	<1	<1	<1			
4		Marunuma Lake (Marunuma Dam)	Center	Surface layer	2012/12/3	Cloudy	44.7	0.5	4.9	10	<1	1	<1	<1	<1	
			Lower layer	43.7				17		28	31	<1	<1	<1		
5	W a t e r	Fujwarako Lake (Fujiwara Dam)	Center	Surface layer	2012/11/6	Light rain	54.6	0.5	2.8	5	<1	1	<1	<1	<1	
			Lower layer	53.6				4		13	10	<1	<1	<1		
6		Tanbarako Lake (Tanbara Dam)	Center	Surface layer	2012/11/5	Sunny	40.5	0.5	7.0	4	<1	0	<1	<1	<1	
			Lower layer	39.5				4		<1	0	<1	<1	<1		
7	a t e r	Akayako Lake (Aimata Dam)	Center	Surface layer	2012/11/7	Sunny	44.9	0.5	4.1	9	<1	1	<1	<1	<1	
			Lower layer	43.9				8		15	11	<1	<1	<1		
8		Sonoharako Lake (Sonohara Dam)	Center	Surface layer	2012/11/7	Sunny	23.8	0.5	1.0	10	4	4	<1	<1	<1	
			Lower layer	22.8				10		8	6	<1	<1	<1		
9	y	Akagionuma Lake	Center	Surface layer	2012/11/8	Sunny	15.9	0.5	2.7	5	4	3	<1	<1	<1	
			Lower layer	14.9				6		4	3	<1	<1	<1		
10	B o d e r	Okushimako Lake (Shimagawa Dam)	Center	Surface layer	2012/11/15	Cloudy	41.7	0.5	9.6	13	<1	0	<1	<1	<1	
			Lower layer	40.7				16		<1	1	<1	<1	<1		
11	y r s	Shimanko Lake (Nakanajo Dam)	Center	Surface layer	2012/11/14	Sunny	8.5	0.5	2.6	27	<1	1	<1	<1	<1	
			Lower layer	7.5				28		<1	1	<1	<1	<1		
12		Tashiroko Lake (Kazawa Dam)	Center	Surface layer	2012/12/4	Cloudy, partly sunny	3.8	0.5	2.8	9	2	2	<1	<1	<1	
			Lower layer	2.8				9		15	3	<1	<1	<1		
13	W a t e r	Harunako Lake	Center	Surface layer	2012/11/8	Sunny	15.0	0.5	3.8	10	<1	1	<1	<1	<1	
			Lower layer	14.0				11		2	2	<1	<1	<1		
14	a t e r	Kirizumiko Lake (Kirizumi Dam)	Center	Surface layer	2012/11/13	Sunny	3.8	0.5	2.2	12	<1	2	<1	<1	<1	
			Lower layer	2.8				12		2	3	<1	<1	<1		
15	e r v e r	Usuiko Lake (Sakamoto Dam)	Center	Surface layer	2012/11/13	Sunny	13.1	0.5	2.2	12	<1	2	<1	<1	<1	
			Lower layer	12.1				12		1	2	<1	<1	<1		
16	B r e a k	Aratuneko Lake (Dodairagawa Dam)	Center	Surface layer	2012/12/11	Sunny	33.3	0.5	2.1	37	3	3	<1	<1	<1	
			Lower layer	32.3				51		15	12	<1	<1	<1		
17	o d w a	Oshio Lake (Oshio Dam)	Center	Surface layer	2012/11/15	Sunny	13.1	0.5	3.8	20	1	1	<1	<1	<1	
			Lower layer	12.1				20		4	2	<1	<1	<1		
18	y	Kamako Lake (Shimokubo Dam)	Center	Surface layer	2012/12/3	Cloudy	74.1	0.5	4.3	17	<1	1	<1	<1	<1	
			Lower layer	73.1				20		4	5	<1	<1	<1		
19		Hebikamiko Lake (Shozawa Dam)	Center	Surface layer	2012/12/10	Cloudy	12.9	0.5	3.6	19	<1	1	<1	<1	<1	
			Lower layer	11.9				18		<1	1	<1	<1	<1		
20	Watarasegawa River Water Body	Kusakiko Lake (Kusaki Dam)	Center	Surface layer	2012/12/7	Sunny	38.5	0.5	5.5	10	<1	1	<1	<1	<1	
			Lower layer	37.5				10		2	2	<1	<1	<1		
21		Umedako Lake (Kiriyugawa Dam)	Center	Surface layer	2012/12/11	Cloudy	27.5	0.5	3.0	8	1	2	<1	<1	<1	
			Lower layer	26.5				8		13	6	<1	<1	<1		
22	Nakatsugawa River Water Body	Nozoriko Lake (Nozori Dam)	Center	Surface layer	2012/11/14	Cloudy	22.4	0.5	4.8	3	<1	1	<1	<1	<1	
			Lower layer	21.4				3		6	2	<1	<1	<1		

\*Collection points are listed from North to South.

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

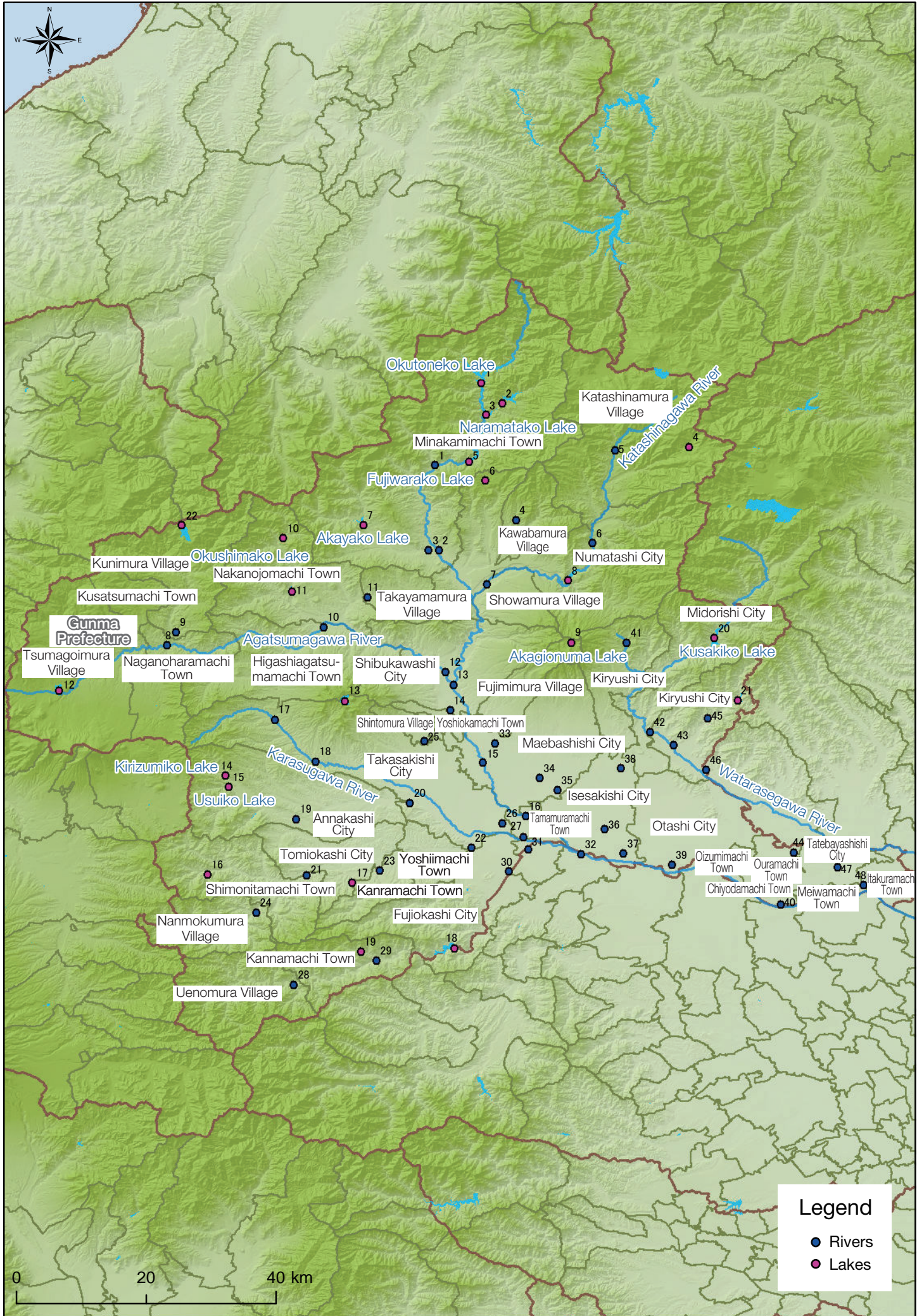
Sampling point			Sampling date	Weather	Full depth m	Sediment							Surrounding environment (lake shore)					Remarks	
						General items			Concentration of radioactive material Bq/kg (dried mud)				Property	Soil					Air dose μSv/h
No.	Point		Mud sampling depth cm	Mud content %	Property	Radioactive iodine I-131	Radioactive cesium		Total	Radioactive iodine I-131	Concentration of radioactive material Bq/kg (dry)			Total	Air dose μSv/h				
						Cs-134	Cs-137				Cs-134	Cs-137							
1	T o n e t s u g a w a  B o r d i v e r	Okutoneko Lake (Yagisawa Dam)	Center	2012/11/12	Rain	68.6	3	52	Silt	<30	440	770	1,210	Sandy	<30	42	78	120	0.22
2		Naramatako Lake (Naramata Dam)	Center	2012/11/12	Cloudy	64.4	10	41	Silt	<30	820	1,600	2,420	Loamy/skeletal	<30	170	300	470	0.26
3		Dogenko Lake (Sudagai Dam)	Center	2012/11/6	Rain	36.3	5	53	Silt	<30	200	360	560	Loamy/skeletal	<30	110	180	290	0.23
4		Marunuma Lake (Marunuma Dam)	Center	2012/12/3	Cloudy	44.7	10	36	Silt	<30	<10	16	16	Loamy	<30	44	91	135	0.11
5		Fujiwarako Lake (Fujiwara Dam)	Center	2012/11/6	Light rain	54.6	5	53	Silt	<30	680	1,200	1,880	Loamy/skeletal	<30	470	810	1,280	0.12
6		Tanbarako Lake (Tanbara Dam)	Center	2012/11/5	Sunny	40.5	12	47	Silt	<30	130	250	380	Loamy/skeletal	<30	1,200	2,100	3,300	0.24
7		Akayako Lake (Aimata Dam)	Center	2012/11/7	Sunny	44.9	5	53	Silt	<30	820	1,500	2,320	Loamy	<30	440	760	1,200	0.13
8		Sonoharako Lake (Sonohara Dam)	Center	2012/11/7	Sunny	23.8	4	53	Silt	<30	180	320	500	Loamy/skeletal	<30	170	300	470	0.12
9		Akagionuma Lake	Center	2012/11/8	Sunny	15.9	4	36	Mud	<30	550	930	1,480	Loamy	<30	110	180	290	0.11
10	B a i w a g a t s u g a w a  R i v e r	Okushimako Lake (Shimagawa Dam)	Center	2012/11/15	Cloudy	41.7	17	61	Silt	<30	130	250	380	Loamy/skeletal	<30	420	720	1,140	0.26
11		Shimako Lake (Nakanajo Dam)	Center	2012/11/14	Sunny	8.5	10	70	Sand	<30	190	320	510	Loamy	<30	630	1,100	1,730	0.16
12		Tashiroko Lake (Kazawa Dam)	Center	2012/12/4	Cloudy, partly sunny	3.8	8	34	Silt	<30	290	510	800	Loamy	<30	160	300	460	0.12
13	R i v e r  B o r d i v e r	Harunako Lake	Center	2012/11/8	Sunny	15.0	15	20	Silt	<30	<10	30	30	Loamy	<30	630	1,000	1,630	0.32
14		Kirizumiko Lake (Kirizumi Dam)	Center	2012/11/13	Sunny	3.8	2	47	Silt	<30	700	1,200	1,900	Loamy	<30	230	390	620	0.13
15		Usuike Lake (Sakamoto Dam)	Center	2012/11/13	Sunny	13.1	10	40	Silt	<30	1,300	2,200	3,500	Loamy/skeletal	<30	330	600	930	0.12
16		Arafuneko Lake (Dodaiagawa Dam)	Center	2012/12/11	Sunny	33.3	7	43	Silt	<30	170	280	450	Loamy	<30	70	120	190	0.10
17		Oshioko Lake (Oshio Dam)	Center	2012/11/15	Sunny	13.1	10	43	Silt	<30	66	130	196	Loamy	<30	230	420	650	0.14
18		Kannako Lake (Shimokubo Dam)	Center	2012/12/3	Cloudy	74.1	8	56	Silt	<30	78	150	228	Loamy/skeletal	<30	93	180	273	0.06
19		Hebikamiko Lake (Shiozawa Dam)	Center	2012/12/10	Cloudy	12.9	7	41	Silt	<30	340	650	990	Loamy/skeletal	<30	120	210	330	0.09
20		Watarasegawa River Water Body	Kusakiko Lake (Kusaki Dam)	Center	2012/12/7	Sunny	38.5	2	67	Silt	<30	170	270	440	Loamy	<30	310	540	850
21	Umedako Lake (Kiriyugawa Dam)		Center	2012/12/11	Cloudy	27.5	5	55	Silt	<30	270	440	710	Loamy/clayish	<30	130	210	340	0.08
22	Nakatagawa River Water Body	Nozoriko Lake (Nozori Dam)	Center	2012/11/14	Cloudy	22.4	15	42	Silt	<30	230	470	700	Loamy	<30	220	400	620	0.11

\*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.

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

\*Collection points are listed from North to South.





**Legend**

- Rivers
- Lakes

0 20 40 km

**Gunma Prefecture**

Okutoneko Lake  
 Naramatako Lake  
 Fujiwarako Lake  
 Akayako Lake  
 Okushimako Lake  
 Agatsumagawa River  
 Kirizumiko Lake  
 Usuiko Lake  
 Karasugawa River  
 Katashinagawa River  
 Akagionuma Lake  
 Kusakiko Lake  
 Watarasegawa River

Katashinamura Village  
 Minakamimachi Town  
 Numatashi City  
 Kawabamura Village  
 Showamura Village  
 Midorishi City  
 Tsumagoimura Village  
 Naganoharamachi Town  
 Higashiagatsumamachi Town  
 Shibukawashi City  
 Fujimimura Village  
 Kiryushi City  
 Kiryushi City  
 Shintomura Village  
 Yoshiokamachi Town  
 Maebashishi City  
 Isesakishi City  
 Otashi City  
 Takasakishi City  
 Annakashi City  
 Tomiokashi City  
 Yoshiimachi Town  
 Shimonitamachi Town  
 Kanramachi Town  
 Nanmokumura Village  
 Uenomura Village  
 Fujiokashi City  
 Tamamuramachi Town  
 Oizumimachi Town  
 Ouramachi Town  
 Tatebayashishi City  
 Chiyodamachi Town  
 Meiwamachi Town  
 Itakuramachi Town