

FY2011 Iwate Prefecture Survey Results

[Survey Dates]

Survey	Rivers	Lakes	Sea Areas	Bathing Areas
1 st Time	Dec. 21-23, 2011	-	Jan. 6, 2012	Dec. 21, 2011

[Survey Results]

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

- Radioactive iodine (I-131) was not detectable at any of the locations tested
- Radioactive cesium (Cs-134, Cs-137) was not detectable at any of the locations tested

Sediment

- Radioactive iodine (I-131) was not detectable at any of the locations tested
- Radioactive cesium

Rivers

Cs-134: 27-440Bq/kg (dried mud)

Cs-137: 32-550Bq/kg (dried mud)

Coasts and bathing areas

Radioactive cesium (Cs-134, Cs-137) was not detectable at any of the locations tested

Surrounding Environment

- Radioactive iodine (I-131) was not detectable at any of the locations tested
- Radioactive cesium

Rivers

Cs-134: 45-1,500Bq/kg (dry)

Cs-137: 71-1,900Bq/kg (dry)

Coasts and bathing areas

Radioactive cesium (Cs-134, Cs-137) was not detectable at any of the locations tested

- Spatial dose

Rivers

0.07-0.32μSv/h

Coasts and bathing areas

0.07μSv/h

River: Water Quality Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Full depth m	Water quality										Remarks		
No.	Water body	Point	Municipality					General items						Radioactive material concentrations (Bq/L)						
								Water temperature	Sampling depth m	Color	Odor	Transparency cm	Electrical conductivity	SS mg/L	Turbidity	Radioactive iodine-131	Radioactive cesium Cs-134 Cs-137			
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2011/12/21	Cloudy	4.2	1.39	7.7	0.0	Colorless transparent	None	100 or more	1201.0	3	2.1	<1	<1	<1		
2	Yahagigawa River	Yahagibashi Bridge	Rikuzentakatsi City	2011/12/21	Cloudy	2.7	0.20	8.3	0.0	Colorless transparent	None	100 or more	10.1	<1	<0.1	<1	<1	<1		
3	Kesengawa River	Anehabashi Bridge	Rikuzentakatsi City	2011/12/21	Cloudy	5.2	0.20	6.4	0.0	Dark green	None	100 or more	1436.0	2	1.3	<1	<1	<1	Water and mud sampling directly from the river due to collapse of the Anehabashi Bridge	
4	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2011/12/22	Cloudy	1.0	0.50	3.8	0.0	Colorless transparent	None	100 or more	24.9	3	2.7	<1	<1	<1		
5	Tsuyagawa River	Chiyoagarabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	0.50	3.8	0.0	Colorless transparent	None	100 or more	11.4	<1	1.1	<1	<1	<1		
6	Kitakamigawa River System	Kitakamigawa River	Fujibashi Bridge	Oshushi City	2011/12/23	Sunny	0.6	3.10	3.1	0.0	Colorless transparent	None	100 or more	15.0	3	4.6	<1	<1	<1	
7		Shiratorigawa River	Shiratoribashi Bridge	Oshushi City	2011/12/23	Sunny	1.8	0.50	2.1	0.0	Colorless transparent	None	58	21.0	8	7.6	<1	<1	<1	
8		Koromogawa River	Koromogawabashi Bridge	Oshushi City	2011/12/23	Sunny	2.0	0.80	3.2	0.0	Colorless transparent	None	100 or more	12.6	1	1.9	<1	<1	<1	
9		Otagawa River	Hitosujibashi Bridge	Hirazumishi City	2011/12/23	Sunny	1.0	0.80	2.5	0.0	Greenish brown	None	67	26.8	7	9.0	<1	<1	<1	
10		Iwagawa River Middle Reaches	Kaminohashi Bridge	Ichinosekishi City	2011/12/23	Sunny	1.3	0.40	3.0	0.0	Colorless transparent	None	100 or more	37.3	3	4.1	<1	<1	<1	
11		Kitakamigawa River	Chitosebashi Bridge (Kozenji)	Ichinosekishi City	2011/12/23	Sunny	3.0	2.20	4.5	0.0	Colorless transparent	None	100 or more	14.9	3	4.5	<1	<1	<1	
12		Satetsugawa River	Unadabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.3	0.50	6.4	0.0	Colorless transparent	None	100 or more	18.1	4	6.0	<1	<1	<1	
13		Satetsugawa River	Kannonbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.0	0.50	6.2	0.0	Grayish green	None	73	32.6	2	5.5	<1	<1	<1	
14		Satetsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	0.80	5.1	0.0	Colorless transparent	None	100 or more	17.8	1	1.3	<1	<1	<1	
15		Senmyagawa River Upper Reaches	Miyatabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.0	0.80	4.4	0.0	Colorless transparent	None	100 or more	17.3	2	3.5	<1	<1	<1	
16		Kitakamigawa River	Kitakamigawabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	0.40	3.1	0.0	Colorless transparent	None	100 or more	14.2	2	2.8	<1	<1	<1	
17		Kinomigawa River	Higuchibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	1.4	0.30	3.0	0.0	Colorless transparent	None	100 or more	26.8	1	2.0	<1	<1	<1	
18		Kinryugawa River	Tenjinbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	0.50	2.7	0.0	Dark grayish yellow green	None	100 or more	20.2	1	3.7	<1	<1	<1	

Note: 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

Sampling point				Sampling date	Weather	Air temperature	Full depth	Sediment															Remarks				
General items								Radioactive material concentrations (Bq/kg (dried mud))																			
No.	Water body	Point	Municipality					Water temperature	Sampling depth (m)	Color	Odor	Mechanical composition							Moisture content (%)	Gravel (mass %)	Property	Radioactive cesium					
				Coarse gravel	Medium gravel	Fine gravel	Coarse sand					Medium sand	Fine sand	Silt	Clay	Cs-134	Cs-137										
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2011/12/21	Cloudy	4.2	1.39	7.4	5	Dark olive brown	None	—	6.8	5.3	5.2	16.4	14.6	34.2	17.5	51.1	2.654	Silt with sand	<30	36	62		
2	Yahagigawa River	Yahagibashi Bridge	Rikuzentakatsi City	2011/12/21	Cloudy	2.7	0.20	8.2	3	Black	None	6.5	45.7	29.2	13.3	5.0	0.3		0.0	90.2	2.711	Sand with gravel	<30	30	32		
3	Kesengawa River	Anehabashi Bridge	Rikuzentakatsi City	2011/12/21	Cloudy	5.2	0.20	7.6	5	Brownish black	None	—	1.0	0.4	3.7	69.0	21.6		4.3	77.1	2.702	Sand	<30	61	82	Water and mud sampling directly from the river due to collapse of the Anehabashi Bridge	
4	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2011/12/22	Cloudy	1.0	0.50	3.8	5	Brownish black	None	—	4.6	19.8	44.9	22.4	5.8		2.5	76.9	2.710	Sand	<30	440	550		
5	Tsuyagawa River	Chiyoagarabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	0.50	3.2	3	Brownish black	None	8.0	25.2	22.7	20.9	20.0	2.1		1.1	77.5	2.709	Sand with gravel	<30	220	300		
6	Kitakamigawa River System	Kitakamigawa River	Fujibashi Bridge	Oshushi City	2011/12/23	Sunny	0.6	3.10	2.0	3	Dark yellowish brown	None	—	—	0.9	0.6	5.0	26.4	41.7	25.4	40.8	2.637	Silt	<30	110	100	
7		Shiratorigawa River	Shiratoribashi Bridge	Oshushi City	2011/12/23	Sunny	1.8	0.50	1.2	3	Dark yellowish brown	None	6.6	9.2	6.3	14.5	50.7	10.7		2.0	73.8	2.707	Sand with gravel	<30	95	120	
8		Koromogawa River	Koromogawabashi Bridge	Oshushi City	2011/12/23	Sunny	2.0	0.80	3.2	3	Dark yellowish brown	None	—	3.5	2.6	11.8	61.9	15.1		5.1	71.5	2.701	Sand	<30	260	310	
9		Otagawa River	Hitosujibashi Bridge	Hirazumishi City	2011/12/23	Sunny	1.0	0.80	2.8	3	Dark yellowish brown	None	5.8	32.7	15.0	14.5	25.6	4.9		1.5	82.2	2.709	Sand with gravel	<30	42	55	
10		Iwagawa River Middle Reaches	Kaminohashi Bridge	Ichinosekishi City	2011/12/23	Sunny	1.3	0.40	3.4	3	Brownish black	None	—	—	0.9	26.2	70.2	1.0		1.7	70.3	2.708	Sand with gravel	<30	160	210	
11		Kitakamigawa River	Chitosebashi Bridge (Kozenji)	Ichinosekishi City	2011/12/23	Sunny	3.0	2.20	8.2	3	Brownish black	None	—	0.3	0.2	0.2	37.7	56.0		5.6	63.4	2.702	Sand	<30	86	84	
12		Satetsugawa River	Unadabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.3	0.50	8.4	3	Dark yellowish brown	None	—	4.9	9.8	47.9	34.0	1.6		1.8	46.6	2.705	Sand with silt	<30	180	240	
13		Satetsugawa River	Kannonbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.0	0.50	3.8	3	Grayish yellow brown	None	—	19.9	25.6	40.5	13.6	0.4		0.0	77.9	2.712	Sand with gravel	<30	140	190	
14		Satetsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	0.80	3.2	3	Gray	None	—	—	—	0.6	46.3	46.6		6.5	72.1	2.702	Sand	<30	130	200	
15		Senmyagawa River Upper Reaches	Miyatabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.0	0.80	2.4	3	Brown	None	—	—	14.8	63.2	20.9	0.8		0.3	76.4	2.710	Sand	<30	130	160	
16		Kitakamigawa River	Kitakamigawabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	0.40	2.4	3	Dark brown	None	—	2.8	6.7	27.2	57.4	5.1		0.8	75.9	2.708	Sand with gravel	<30	27	46	
17		Kinomigawa River	Higuchibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	1.4	0.30	3.6	5	Olive black	None	—	—	0.1	9.3	80.9	6.0		3.7	73.4	2.703	Sand	<30	140	170	
18		Kinryugawa River	Tenjinbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	0.50	3.2	5	Olive black	None	—	—	1.1	30.6	60.8	5.2		2.3	80.7	2.703	Sand	<30	140	180	

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

River: Surrounding Environment (River Terrace (Left Bank) Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Surrounding Environment (soil/air dose)							Remarks	
							Left bank								
							Soil			Air dose (μSv/h)					
							General items		Radioactive material concentrations (Bq/kg (dry))						
No.	Water body	Point	Municipality	Color	Odor	Property	Radioactive iodine-131	Radioactive cesium							
								Cs-134	Cs-137						
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2011/12/21	Cloudy	4.2	Brownish black	Faint earth	Loamy	<30	110	130	0.11		
2	Yahagigawa River	Yahagibashi Bridge	Rikuzentakadashi City	2011/12/21	Cloudy	2.7	Brownish black	None	Loamy	<30	250	340	0.14		
3	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2011/12/21	Cloudy	5.2	Brownish black	Faint earth	Sandy	<30	45	71	0.09		
4	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2011/12/22	Cloudy	1.0	—	—	—	—	—	—	—		
5	Tsuyagawa River	Chiyogaharabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	Brownish black	Faint earth	Loamy	<30	230	300	0.16		
6	Kitakamigawa River System	Kitakamigawa River	Fujibashi Bridge	Oshushi City	2011/12/23	Sunny	0.6	Dark brown	Faint earth	Loamy	<30	140	170	0.12	
7		Shiratorigawa River	Shiratoribashi Bridge	Oshushi City	2011/12/23	Sunny	1.8	Brownish black	Faint earth	Loamy	<30	620	870	0.27	
8		Koromogawa River	Koromogawabashi Bridge	Oshushi City	2011/12/23	Sunny	2.0	Olive brown	None	Clay-loamy	<30	770	1,000	0.20	
9		Otagawa River	Hitosujibashi Bridge	Hiraizumishi City	2011/12/23	Sunny	1.0	Brownish black	Faint earth	Clay-loamy	<30	1,300	1,800	0.22	
10		Iwaigawa River Middle Reaches	Kaminohashi Bridge	Ichinosekishi City	2011/12/23	Sunny	1.3	Brownish black	Faint earth	Loamy	<30	1,500	1,900	0.23	
11		Kitakamigawa River	Chitosebashi Bridge (Kozenji)	Ichinosekishi City	2011/12/23	Sunny	3.0	Dark brown	Faint earth	Clay-loamy	<30	1,000	1,300	0.13	
12		Satetsugawa River	Unadabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.3	Brownish black	Faint earth	Loamy	<30	100	130	0.13	
13		Satetsugawa River	Kannonbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.0	Dark grayish yellow	Faint earth	Loamy	<30	150	180	0.16	
14		Satetsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	Olive black	None	Clay-loamy	<30	910	1,200	0.28	
15		Senmayagawa River Upper Reaches	Miyatabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.0	Brownish black	Faint earth	Loamy	<30	660	840	0.21	
16		Kitakamigawa River	Kitakamigawabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	Dark brown	Faint earth	Loamy	<30	630	830	0.19	
17		Kinomigawa River	Higuchibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	1.4	Brownish black	Faint earth	Loamy	<30	650	820	0.11	
18		Kinryugawa River	Tenjinbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	Dark brown	Faint earth	Loamy	<30	560	700	0.29	

Note: •Air dose was measured with a survey meter, TCS-172 or TCS-161 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.

River: Surrounding Environment (River Terrace (Right Bank)) Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Surrounding Environment (soil/air dose)							Remarks		
							Right bank									
							Soil					Air dose (μSv/h)				
							General items			Radioactive material concentrations (Bq/kg (dry))						
No.	Water body	Point	Municipality				Color	Odor	Property	Radioactive iodine-131	Radioactive cesium Cs-134	Cs-137				
1	Sakarigawa River Lower Reaches	Sanobashi Bridge	Ofunatoshi City	2011/12/21	Cloudy	4.2	Brownish black	Faint earth	Loamy	<30	480	630	0.10			
2	Yahagigawa River	Yahagibashi Bridge	Rikuzentakadashi City	2011/12/21	Cloudy	2.7	Brownish black	Faint earth	Loamy	<30	91	120	0.08			
3	Kesengawa River	Anehabashi Bridge	Rikuzentakadashi City	2011/12/21	Cloudy	5.2	—	—	—	—	—	—	0.07			
4	Okawa River	Prefectural border with Miyagi	Ichinosekishi City	2011/12/22	Cloudy	1.0	Brownish black	Faint earth	Loamy	<30	480	630	0.15			
5	Tsuyagawa River	Chiogaharabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	Brownish black	Faint earth	Loamy	<30	1,000	1,400	0.17			
6	Kitakamigawa River System	Kitakamigawa River	Fujibashi Bridge	Oshushi City	2011/12/23	Sunny	0.6	Dark brown	Faint earth	Clay-loamy	<30	350	500	0.18		
7		Shiratorigawa River	Shiratoribashi Bridge	Oshushi City	2011/12/23	Sunny	1.8	Dark brown	Faint earth	Loamy	<30	1,200	1,600	0.24		
8		Koromogawa River	Koromogawabashi Bridge	Oshushi City	2011/12/23	Sunny	2.0	Brown	Faint earth	Clay-loamy	<30	180	250	0.15		
9		Otagawa River	Hitosujibashi Bridge	Hiraizumishi City	2011/12/23	Sunny	1.0	Brownish black	Faint earth	Clay-loamy	<30	1,000	1,300	0.19		
10		Iwaigawa River Middle Reaches	Kaminohashi Bridge	Ichinosekishi City	2011/12/23	Sunny	1.3	Black	Faint earth	Loamy	<30	330	440	0.18		
11		Kitakamigawa River	Chitosebashi Bridge (Kozenji)	Ichinosekishi City	2011/12/23	Sunny	3.0	Dark brown	Faint earth	Loamy	<30	900	1,200	0.16		
12		Satetsugawa River	Unadabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.3	Brownish black	Faint earth	Loamy	<30	160	190	0.15		
13		Satetsugawa River	Kannonbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	4.0	Olive brown	Faint earth	Loamy	<30	990	1,200	0.19		
14		Satetsugawa River	Kanzakibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.2	Brownish black	Faint earth	Loamy	<30	760	1,000	0.24		
15		Senmayagawa River Upper Reaches	Miyatabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	3.0	Dull yellowish brown	Faint earth	Loamy	<30	370	460	0.22		
16		Kitakamigawa River	Kitakamigawabashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	Dark brown	Faint earth	Loamy	<30	1,500	1,900	0.24		
17		Kinomigawa River	Higuchibashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	1.4	Brownish black	Faint earth	Loamy	<30	130	210	0.09		
18		Kinryugawa River	Tenjinbashi Bridge	Ichinosekishi City	2011/12/22	Cloudy	2.6	Dark brown	Faint earth	Loamy	<30	570	720	0.32		

Note: ・ Air dose was measured with a survey meter, TCS-172 or TCS-161 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.

Coast and Bathing Area: Water Quality Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Full depth m	Water quality											Remarks	
No.	Water body		Point					Municipality	General items								Radioactive material concentrations (Bq/L)			
									Water temperature	Sampling depth m	Color	Odor	Secchi disk depth m	Salinity	SS mg/L	Turbidity	Radioactive iodine-131	Radioactive cesium Cs-134 Cs-137		
19	Sea areas	Ofunatowan Bay (A)	S-31	—	2012/1/6	Sunny	0.8	16.6	8.2	0.5	Green	None	6.5	33.4	1	1.2	<1	<1	<1	
			1 m from the bottom	—	—	—	—	—	8.6	15.6	—	None	—	33.4	1	0.8	<1	<1	<1	
20		Hirotawan Bay	S-34	—	2012/1/6	Sunny	1.2	11.0	8.2	0.5	Dark green	None	6.9	30.8	<1	0.9	<1	<1	<1	
			1 m from the bottom	—	—	—	—	—	9.1	10.0	—	None	—	33.5	1	0.9	<1	<1	<1	
21	Bathing areas	Onowan Bay	Hirota	—	2011/12/21	Cloudy	4.0	0.8	10.4	0.0	Colorless transparent	None	—	—	<1	0.3	<1	<1	<1	

Note: Sampling points are listed from north to south.

Coast and Bathing Area: Sediment Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Full depth m	Sediment																Remarks			
General items												Radioactive material concentrations (Bq/kg (dried mud))															
No.	Water body		Point					Municipality	Mud temperature	Mud sampling depth(m)	Color	Odor	Mechanical composition							Mud content (%)	Mud particle diameter (mm)	Property	Radioactive iodine-131		Radioactive cesium		
				Coarse gravel	Medium gravel	Fine gravel	Coarse sand						Medium sand	Fine sand	Silt	Clay	Cs-134	Cs-137									
19	Sea areas	Ofunatowan Bay (A)	S-31	—	2012/1/6	Sunny	0.8	16.6	8.8	10	Olive black	None	—	—	—	—	0.5	8.7	57.9	32.9	43.5	2.567	Silt	<30	<10	<13	
			1 m from the bottom	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20		Hirotawan Bay	S-34	—	2012/1/6	Sunny	1.2	11.0	8.4	10	Olive black	None	—	—	0.1	1.1	59.8	35.2	3.8	81.5	2.703	Sand	<30	<10	<10		
			1 m from the bottom	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	Bathing areas	Onowan Bay	Hirota	—	2011/12/21	Cloudy	4.0	0.8	9.0	3	Dull yellowish brown	None	—	—	0.3	7.9	85.6	5.5	0.7	75.9	2.707	Sand	<30	<10	<10		

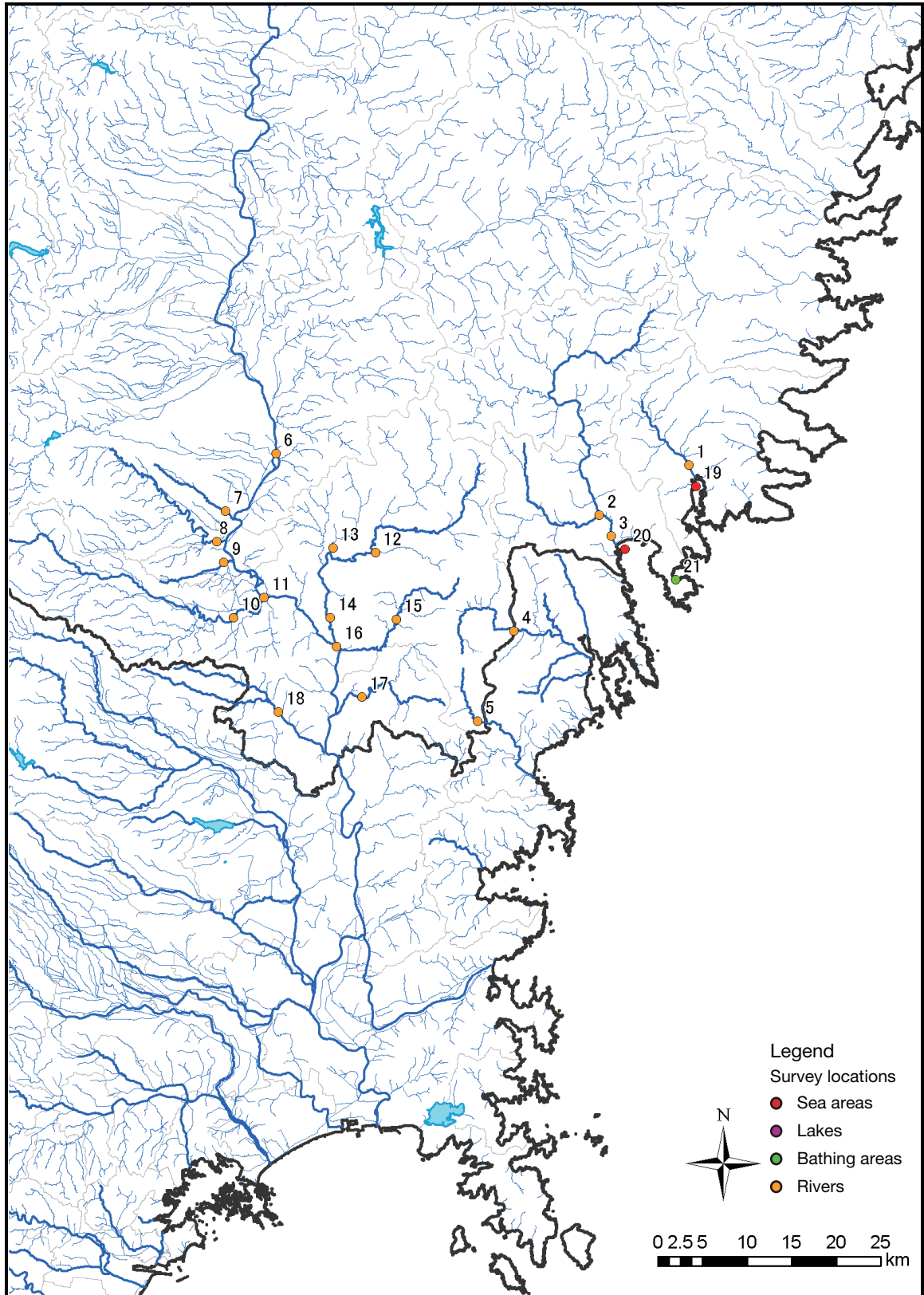
Note: Sampling points are listed from north to south.

Coast and Bathing Area: Surrounding Environment (Beach) Monitoring Results

Sampling point				Sampling date	Weather	Air temperature	Surrounding Environment (soil/air dose)							Remarks
			Soil					Air dose (μSv/h)						
			General items				Radioactive material concentrations (Bq/kg (dry))							
			Color				Odor		Property	Radioactive iodine1-131	Radioactive cesium			
Cs-134	Cs-137													
No.	Water body		Point	Municipality										
19	Sea areas	Ofunatowan Bay (A)	S-31	—	2012/1/6	Sunny	0.8	—	—	—	—	—	—	—
			1 m from the bottom	—	—	—	—	—	—	—	—	—	—	—
20		Hirotawan Bay	S-34	—	2012/1/6	Sunny	1.2	—	—	—	—	—	—	—
			1 m from the bottom	—	—	—	—	—	—	—	—	—	—	—
21	Bathing areas	Onowan Bay	Hirota	—	2011/12/21	Cloudy	4.0	Dull yellow orange	None	Sandy	<30	<10	<10	0.07

Note: • Air dose was measured with a survey meter, TCS-172 or TCS-161 of Hitachi-Aloka Medical, Ltd.

• Sampling points are listed from north to south.



Survey Locations (Iwate Prefecture)