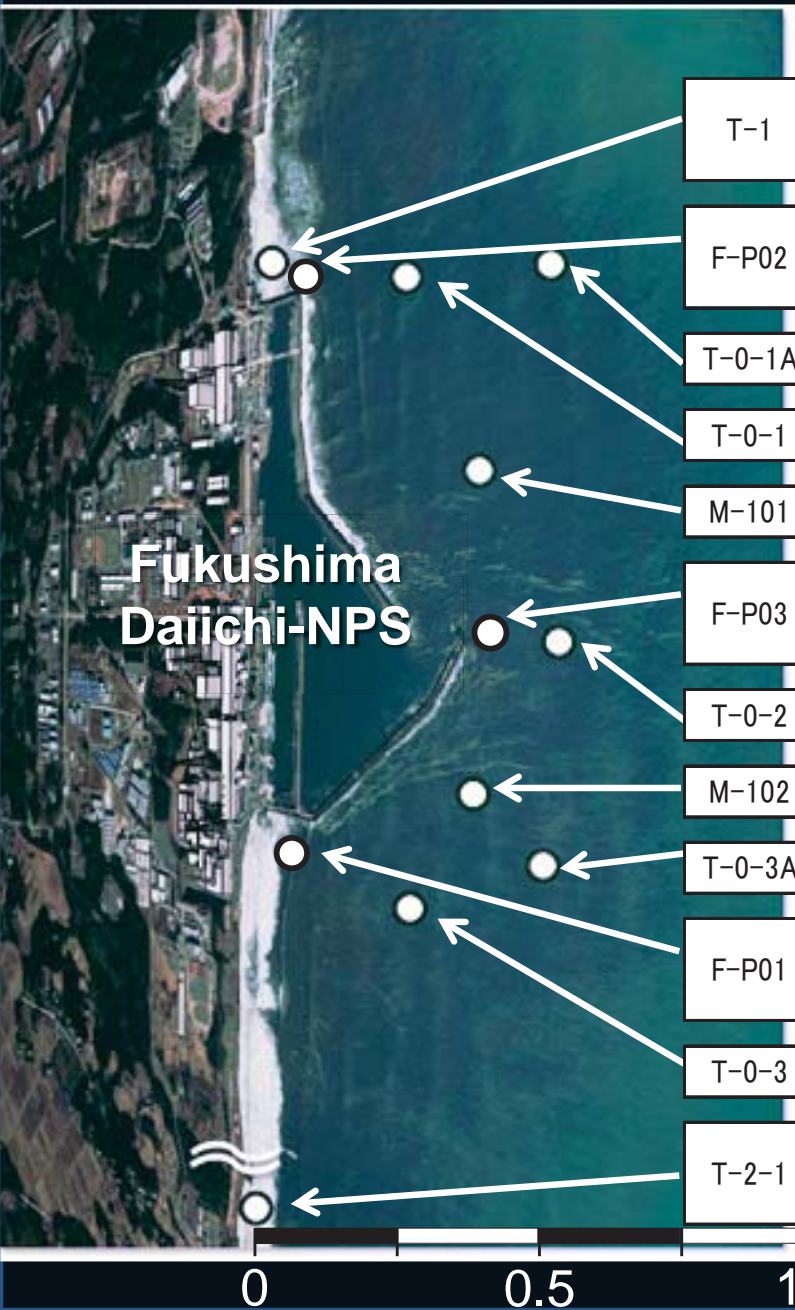


# Sea Area Monitoring

November 18, 2014

Nuclear Regulation Authority (NRA), Japan

# Sea area within 2km radius from the NPS



Sampling point	Sampling Date	Cs-134	Cs-137	total $\beta$	H-3	Sr-90	total $\alpha$	Pu-238	Pu-239+Pu-240
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

\*1: Total  $\beta$ : including K-40    \*2: Total  $\beta$ : excluding K-40

T-1	2014/11/3	ND(0.53)	ND(0.70)	1.4 <sup>*1</sup>	1.6				
	2014/10/27	ND(0.52)	ND(0.63)	1.6 <sup>*1</sup>	2.8				
	2014/9/8	ND(0.66)	ND(0.69)	1.1 <sup>*1</sup>	3.7	0.23	ND(2.0)		
	2014/4/10	ND(0.85)	ND(0.82)					ND(5.6 × 10 <sup>-6</sup> )	(9.4 ± 2.2) × 10 <sup>-6</sup>
F-P02	2014/9/16	0.13	0.35	0.14 <sup>*2</sup>	0.84	In progress		In progress	In progress
	2014/8/20	0.13	0.40	0.31 <sup>*2</sup>	2.5	In progress		In progress	In progress
	2014/7/7	ND(0.062)	0.17	0.09 <sup>*2</sup>	0.44	0.083		In progress	In progress
	2014/6/16	ND(0.066)	ND(0.050)	0.03 <sup>*2</sup>	ND(0.41)	0.002		ND(7 × 10 <sup>-5</sup> )	ND(7 × 10 <sup>-6</sup> )
T-0-1A	2014/11/4	ND(0.65)	ND(0.63)	ND(15) <sup>*1</sup>	In progress				
	2014/10/28	ND(0.60)	ND(0.59)	ND(17) <sup>*1</sup>	ND(1.5)				
T-0-1	2014/11/4	ND(0.69)	ND(0.58)	ND(15) <sup>*1</sup>	In progress				
	2014/10/28	ND(0.59)	ND(0.58)	ND(17) <sup>*1</sup>	1.9				
M-101	2014/9/13	0.040	0.12		0.17	0.019			
	2014/8/19	0.0028	0.0093		0.11	0.0011			
F-P03	2014/9/16	0.35	0.94	0.23 <sup>*2</sup>	2.5	In progress		In progress	In progress
	2014/8/20	0.12	0.25	0.19 <sup>*2</sup>	1.1	In progress		In progress	In progress
	2014/7/7	0.24	0.72	0.38 <sup>*2</sup>	2.6	0.66		In progress	In progress
	2014/6/16	ND(0.080)	ND(0.071)	0.03 <sup>*2</sup>	ND(0.41)	0.003		ND(1.3 × 10 <sup>-5</sup> )	ND(1.1 × 10 <sup>-5</sup> )
T-0-2	2014/11/4	ND(0.67)	ND(0.76)	ND(15) <sup>*1</sup>	In progress				
	2014/10/28	ND(0.47)	ND(0.74)	ND(17) <sup>*1</sup>	ND(1.5)				
M-102	2014/9/12	0.039	0.12		0.13	0.010			
	2014/8/20	0.0093	0.028		0.15	0.0019			
T-0-3A	2014/11/4	ND(0.81)	ND(0.76)	ND(15) <sup>*1</sup>	In progress				
	2014/10/28	ND(0.67)	ND(0.63)	ND(17) <sup>*1</sup>	ND(1.5)				
F-P01	2014/9/16	0.060	0.14	0.04 <sup>*2</sup>	0.51	In progress		In progress	In progress
	2014/8/20	ND(0.060)	ND(0.053)	0.03 <sup>*2</sup>	ND(0.41)	In progress		In progress	In progress
	2014/7/7	ND(0.064)	ND(0.068)	0.04 <sup>*2</sup>	ND(0.42)	0.004		In progress	In progress
	2014/6/16	ND(0.056)	0.074	0.04 <sup>*2</sup>	ND(0.41)	0.012		ND(6 × 10 <sup>-6</sup> )	ND(6 × 10 <sup>-6</sup> )
T-0-3	2014/11/4	ND(0.90)	ND(0.73)	ND(15) <sup>*1</sup>	In progress				
	2014/10/28	ND(0.64)	ND(0.58)	ND(17) <sup>*1</sup>	ND(1.5)				
T-2-1	2014/11/3	ND(0.68)	1.3	7.4 <sup>*1</sup>	1.9				
	2014/10/27	ND(0.54)	ND(0.57)	7.1 <sup>*1</sup>	2.6				
	2014/9/22	ND(0.64)	ND(0.67)	1.2 <sup>*1</sup>	ND(1.9)	ND(0.0079)	ND(2.0)		
	2014/4/10	ND(0.70)	ND(0.58)	9.0 <sup>*1</sup>				ND(5.6 × 10 <sup>-6</sup> )	(3.1 ± 0.41) × 10 <sup>-5</sup>

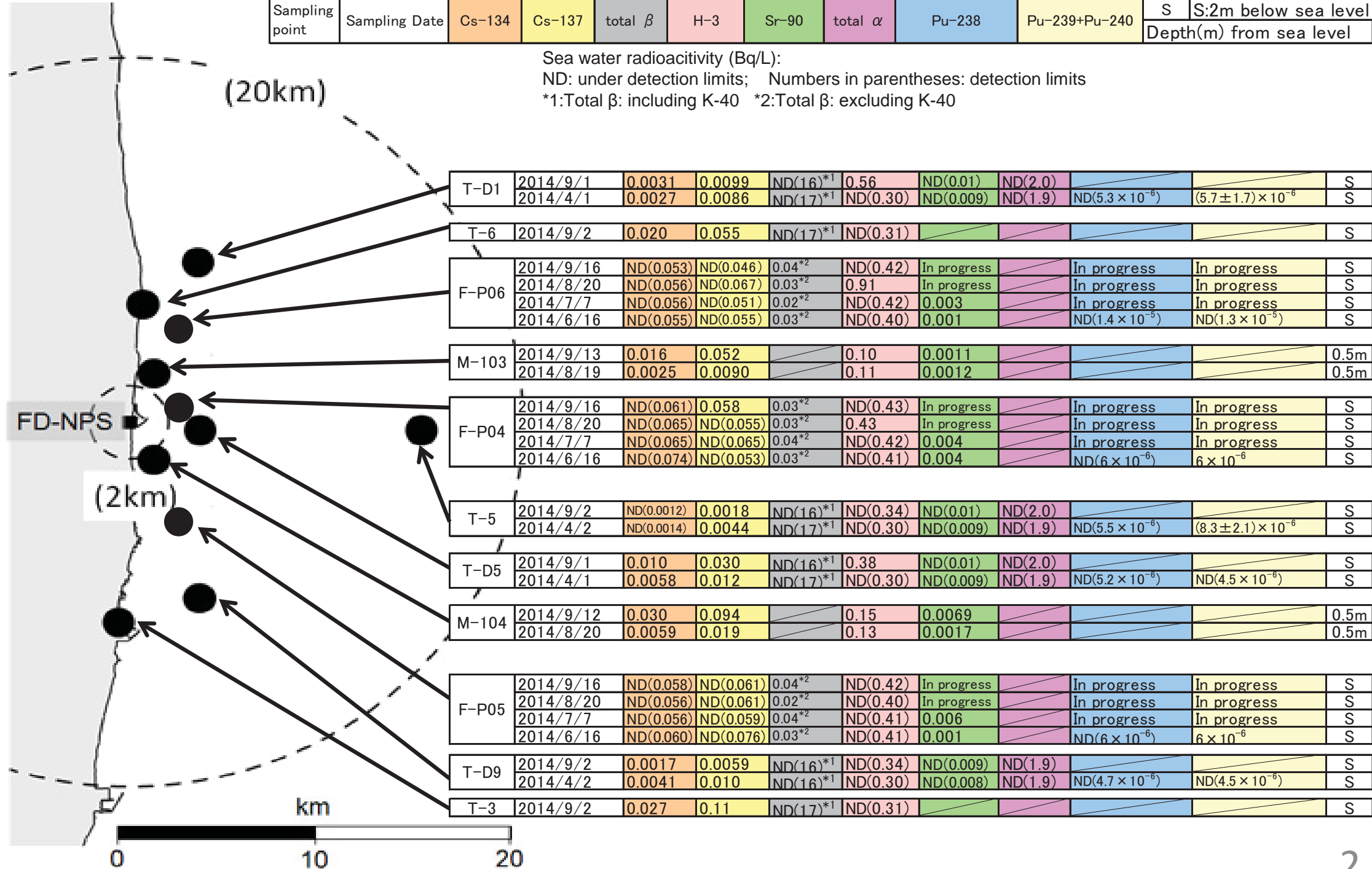
# Sea area between 2-20km radius from the NPS (1)

Sampling point	Sampling Date	Cs-134	Cs-137	total $\beta$	H-3	Sr-90	total $\alpha$	Pu-238	Pu-239+Pu-240	S	S:2m below sea level
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

\*1: Total  $\beta$ : including K-40 \*2: Total  $\beta$ : excluding K-40



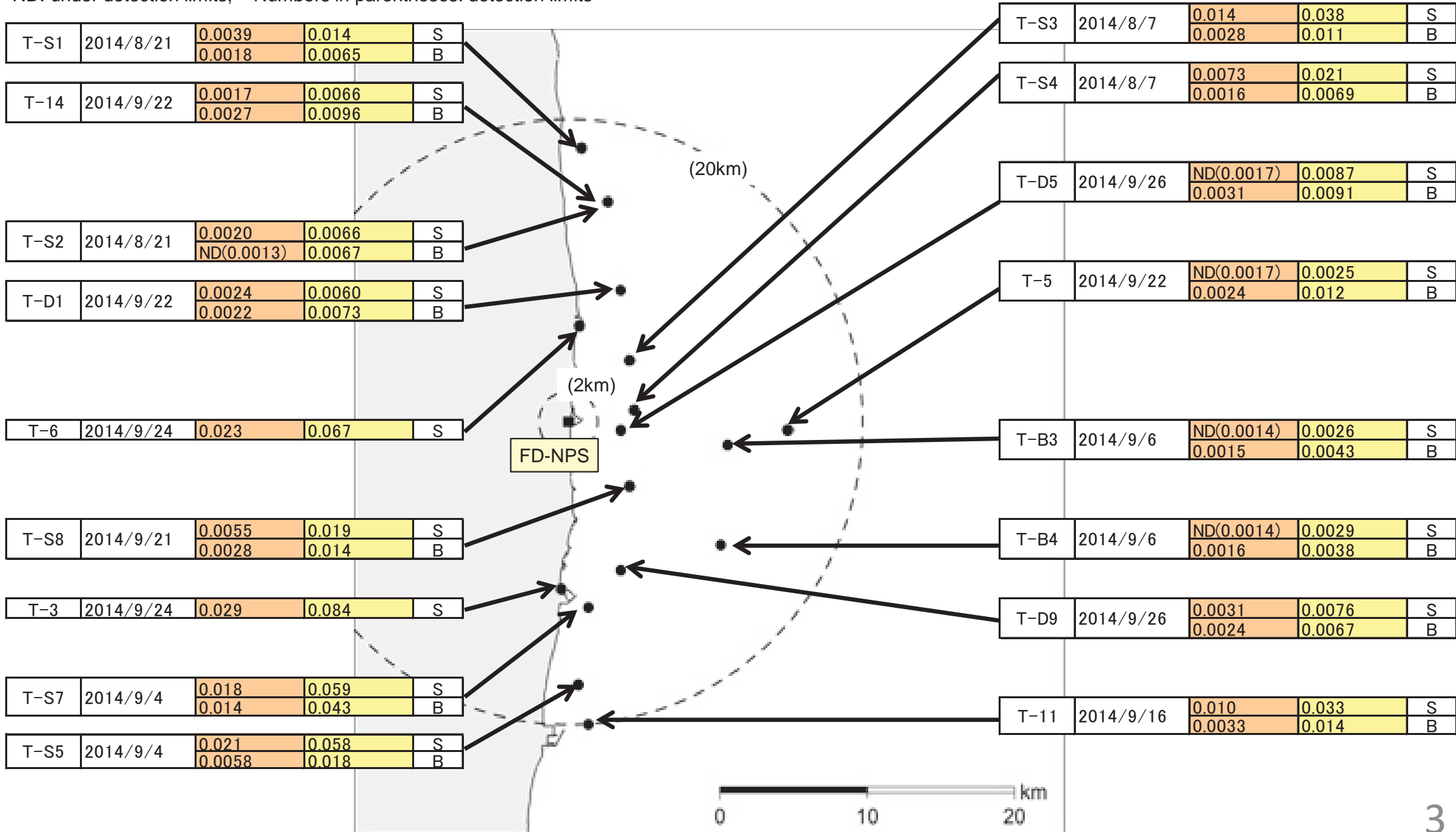
T-D1	2014/9/1	0.0031	0.0099	ND(16) <sup>*1</sup>	0.56	ND(0.01)	ND(2.0)			S
	2014/4/1	0.0027	0.0086	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.3 × 10 <sup>-6</sup> )	(5.7 ± 1.7) × 10 <sup>-6</sup>	S
T-6	2014/9/2	0.020	0.055	ND(17) <sup>*1</sup>	ND(0.31)					S
F-P06	2014/9/16	ND(0.053)	ND(0.046)	0.04 <sup>*2</sup>	ND(0.42)	In progress		In progress	In progress	S
	2014/8/20	ND(0.056)	ND(0.067)	0.03 <sup>*2</sup>	0.91	In progress		In progress	In progress	S
	2014/7/7	ND(0.056)	ND(0.051)	0.02 <sup>*2</sup>	ND(0.42)	0.003		In progress	In progress	S
	2014/6/16	ND(0.055)	ND(0.055)	0.03 <sup>*2</sup>	ND(0.40)	0.001		ND(1.4 × 10 <sup>-5</sup> )	ND(1.3 × 10 <sup>-5</sup> )	S
M-103	2014/9/13	0.016	0.052		0.10	0.0011				0.5m
	2014/8/19	0.0025	0.0090		0.11	0.0012				0.5m
F-P04	2014/9/16	ND(0.061)	0.058	0.03 <sup>*2</sup>	ND(0.43)	In progress		In progress	In progress	S
	2014/8/20	ND(0.065)	ND(0.055)	0.03 <sup>*2</sup>	0.43	In progress		In progress	In progress	S
	2014/7/7	ND(0.065)	ND(0.065)	0.04 <sup>*2</sup>	ND(0.42)	0.004		In progress	In progress	S
	2014/6/16	ND(0.074)	ND(0.053)	0.03 <sup>*2</sup>	ND(0.41)	0.004		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>	S
T-5	2014/9/2	ND(0.0012)	0.0018	ND(16) <sup>*1</sup>	ND(0.34)	ND(0.01)	ND(2.0)			S
	2014/4/2	ND(0.0014)	0.0044	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.5 × 10 <sup>-6</sup> )	(8.3 ± 2.1) × 10 <sup>-6</sup>	S
T-D5	2014/9/1	0.010	0.030	ND(16) <sup>*1</sup>	0.38	ND(0.01)	ND(2.0)			S
	2014/4/1	0.0058	0.012	ND(17) <sup>*1</sup>	ND(0.30)	ND(0.009)	ND(1.9)	ND(5.2 × 10 <sup>-6</sup> )	ND(4.5 × 10 <sup>-6</sup> )	S
M-104	2014/9/12	0.030	0.094		0.15	0.0069				0.5m
	2014/8/20	0.0059	0.019		0.13	0.0017				0.5m
F-P05	2014/9/16	ND(0.058)	ND(0.061)	0.04 <sup>*2</sup>	ND(0.42)	In progress		In progress	In progress	S
	2014/8/20	ND(0.056)	ND(0.061)	0.02 <sup>*2</sup>	ND(0.40)	In progress		In progress	In progress	S
	2014/7/7	ND(0.056)	ND(0.059)	0.04 <sup>*2</sup>	ND(0.41)	0.006		In progress	In progress	S
	2014/6/16	ND(0.060)	ND(0.076)	0.03 <sup>*2</sup>	ND(0.41)	0.001		ND(6 × 10 <sup>-6</sup> )	6 × 10 <sup>-6</sup>	S
T-D9	2014/9/2	0.0017	0.0059	ND(16) <sup>*1</sup>	ND(0.34)	ND(0.009)	ND(1.9)			S
	2014/4/2	0.0041	0.010	ND(16) <sup>*1</sup>	ND(0.30)	ND(0.008)	ND(1.9)	ND(4.7 × 10 <sup>-6</sup> )	ND(4.5 × 10 <sup>-6</sup> )	S
T-3	2014/9/2	0.027	0.11	ND(17) <sup>*1</sup>	ND(0.31)					S

# Sea area between 2-20km radius from the NPS (2)

Sampling point	Sampling Date	Cs-134	Cs-137	S/B	S:2m below sea level B:2-3m above sea bottom
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits



# Sea area between 20-100km radius from the NPS(1)

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B	
					S:2m below sea level	B:2-3m above sea bottom
					Depth(m) from sea level	

Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

T-MA	2014/9/17	ND(0.0016)	0.0038		S
		0.0014	0.0056		B

T-13-1	2014/9/17	0.0023	0.0069		S
		0.0020	0.0090		B

T-7	2014/9/12	ND(0.0015)	0.0019		S
		ND(0.0015)	0.0033		B

T-4	2014/9/24	0.014	0.059		S
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T-12	2014/9/20	0.0034	0.012		S
		0.0017	0.0094		B

T-17-1	2014/9/20	0.0037	0.015		S
		ND(0.0016)	0.0070		B

M-C1	2014/8/16	ND(0.00093)	0.0022	0.0011	1m
		ND(0.00059)	0.0020		47m

T-B1	2014/9/18	ND(0.0014)	0.0028		S
		ND(0.0014)	0.0024		B

M-D1	2014/8/23	ND(0.00069)	0.0020	0.0011	1m
		ND(0.00067)	0.0023		50m
		ND(0.00070)	0.0024		113m

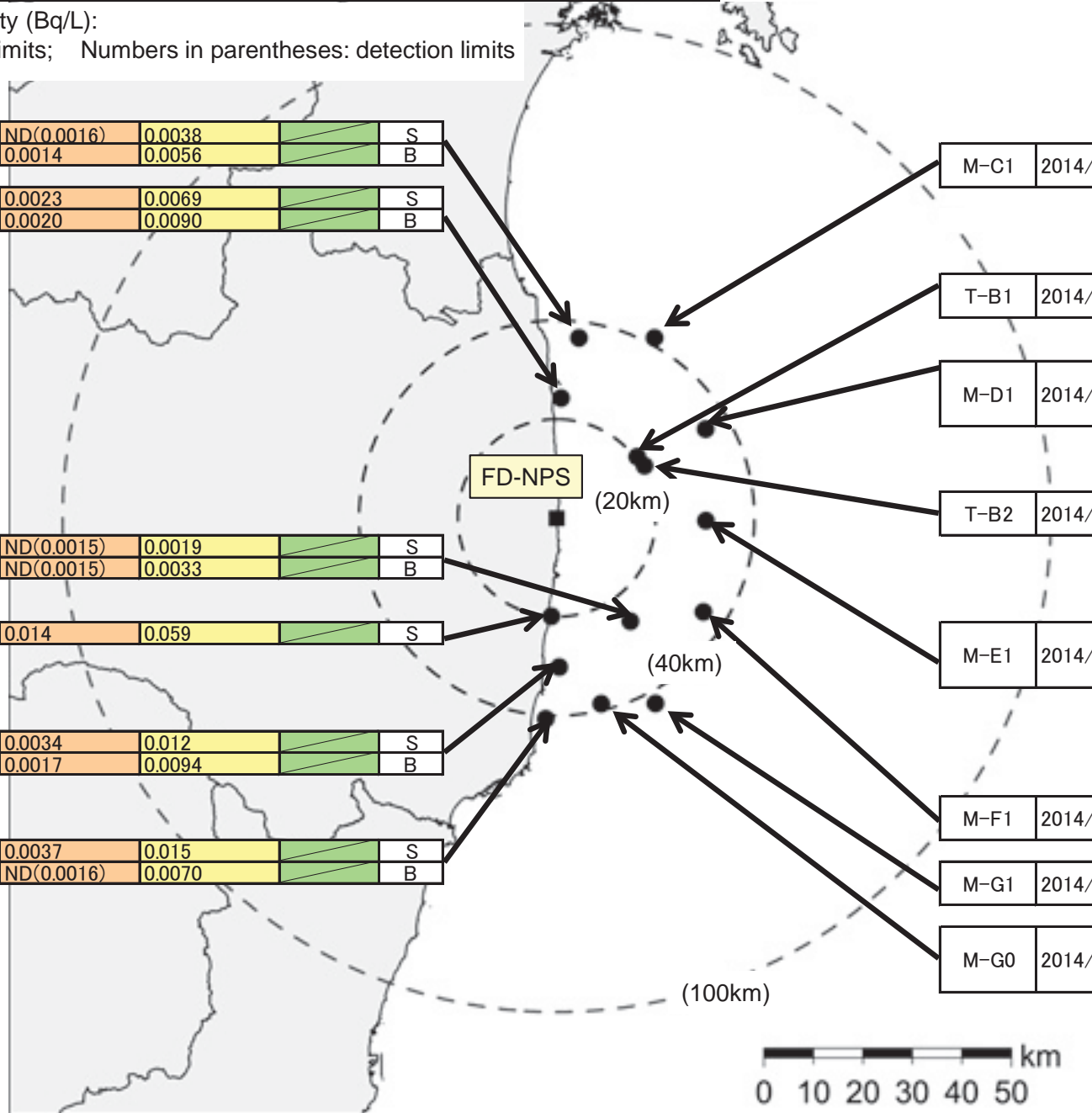
T-B2	2014/9/18	ND(0.0014)	0.0030		S
		ND(0.0014)	0.0037		B

M-E1	2014/8/22	ND(0.00072)	0.0020	0.00088	1m
		ND(0.00063)	0.0019		50m
		ND(0.00060)	0.0028		124m

M-F1	2014/8/28	ND(0.00060)	0.0020		1m
		ND(0.00054)	0.0017		135m

M-G1	2014/8/27	ND(0.00068)	0.0016		1m
		ND(0.00062)	0.0027		131m

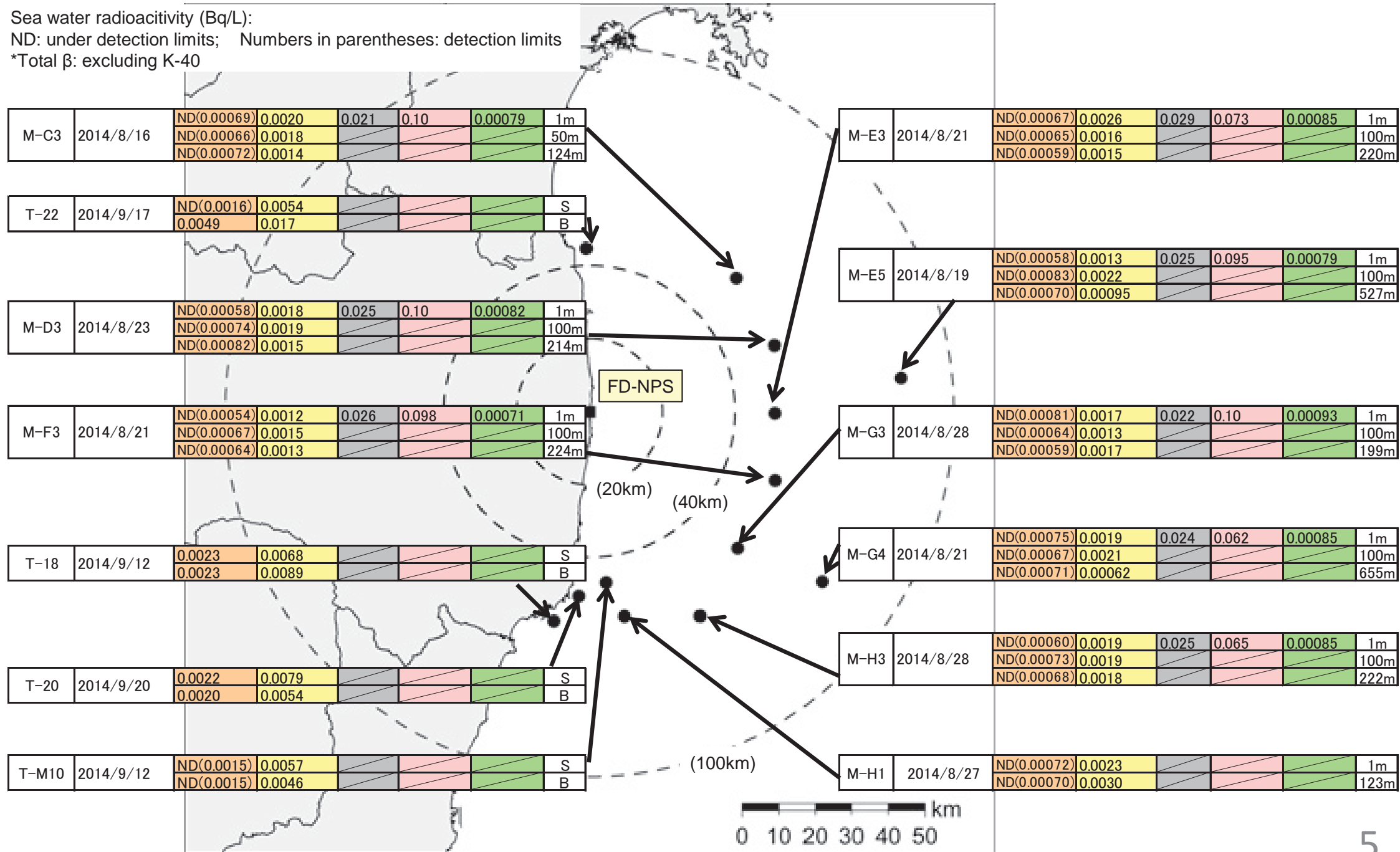
M-G0	2014/8/31	ND(0.00051)	0.0019		1m
		ND(0.00056)	0.0021		50m
		ND(0.00061)	0.0020		99m



# Sea area between 20-100km radius from the NPS(2)

Sampling point	Sampling Date	Cs-134	Cs-137	Total β *	H-3	Sr-90	S/B	S:2m below sea level B:2-3m above sea bottom	
							Depth(m) from sea level		

Sea water radioactivity (Bq/L):  
 ND: under detection limits; Numbers in parentheses: detection limits  
 \*Total β: excluding K-40



# Sea area along and off the coast of Miyagi Prefecture

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/M/B
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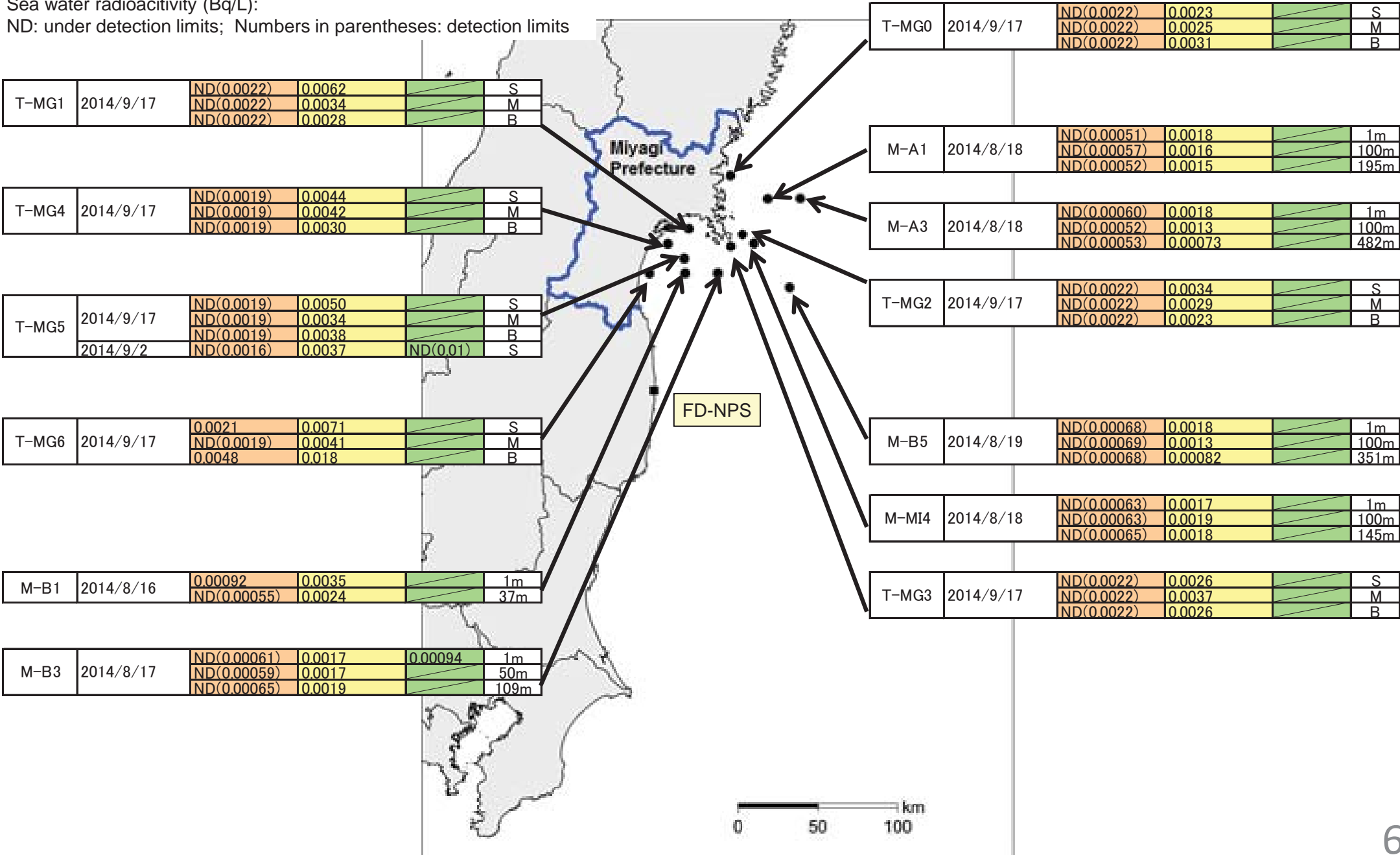
S:2m below sea level

M:between 2m below sea level and 2-3m above sea bottom

B:2-3m above sea bottom

Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits



# Sea area along and off the coast of Ibaraki Pref. and Chiba Pref.

Sampling point	Sampling Date	Cs-134	Cs-137	Sr-90	S/B
					S:2m below sea level B:2-3m above sea bottom
					Depth(m) from sea level

Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

T-Z	2014/10/21	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B

T-A	2014/10/21	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B

T-B	2014/10/21	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B

M-J1	2014/8/30	0.00080	0.0033	0.00073	1m
		ND(0.00071)	0.0024		40m

T-C	2014/10/21	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B
	2014/9/13	ND(1.1)	ND(1.2)	ND(0.01)	S

M-K1	2014/8/29	ND(0.00083)	0.0029		1m
		ND(0.00075)	0.0027		23m

T-D	2014/10/20	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B

M-M1	2014/8/26	ND(0.00069)	0.0027		1m
		ND(0.00061)	0.0029		104m

M-I0	2014/8/29	0.00087	0.0046	0.0011	1m
		0.00099	0.0053		65m

M-I1	2014/8/28	ND(0.00071)	0.0031		1m
		0.00088	0.0037		50m
		0.0012	0.0045		92m

M-I3	2014/8/25	ND(0.00065)	0.0014		1m
		ND(0.00058)	0.0019		100m
		ND(0.00064)	0.0017		176m

M-IB2	2014/8/29	ND(0.00064)	0.0026		1m
		ND(0.00069)	0.0029		108m

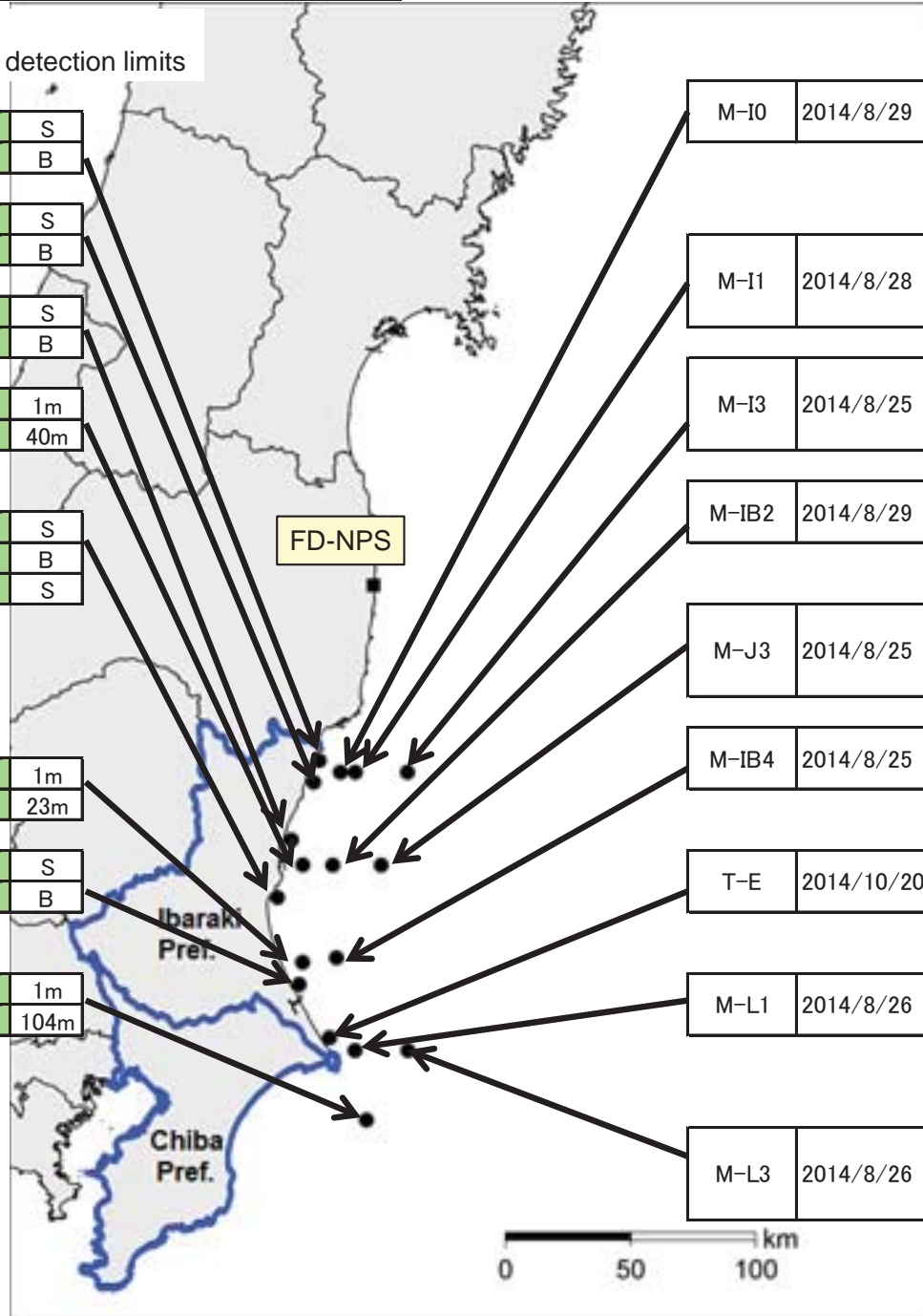
M-J3	2014/8/25	ND(0.00061)	0.0017		1m
		ND(0.00067)	0.0023		100m
		ND(0.00058)	0.00089		561m

M-IB4	2014/8/25	ND(0.00083)	0.0017		1m
		ND(0.00079)	0.0027		111m

T-E	2014/10/20	ND(1.1)	ND(1.3)		S
		ND(1.1)	ND(1.3)		B

M-L1	2014/8/26	0.0012	0.0038		1m
		ND(0.00078)	0.0032		36m

M-L3	2014/8/26	ND(0.00068)	0.0022		1m
		ND(0.00058)	0.0024		100m
		ND(0.00055)	0.0018		159m





# Open sea off the coast of Eastern Japan

Sampling point	Sampling Date	Cs-134	Cs-137	Depth(m) from sea level
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Sea water radioactivity (Bq/L):

ND: under detection limits; Numbers in parentheses: detection limits

M-10	2014/6/18	ND(0.00054)	0.0020	1m
		ND(0.00073)	0.0017	100m
		ND(0.00052)	0.0013	200m
		ND(0.00058)	0.0011	300m
		ND(0.00051)	0.00059	500m

M-11	2014/6/18	0.00062	0.0030	1m
		0.00078	0.0028	100m
		ND(0.00052)	0.0020	200m
		ND(0.00054)	0.0014	300m
		ND(0.00059)	0.0012	500m

M-14	2014/6/19	ND(0.00056)	0.0022	1m
		ND(0.00057)	0.0018	100m
		ND(0.00053)	0.0016	200m
		ND(0.00058)	0.00093	300m
		ND(0.00059)	0.00054	500m

M-15	2014/6/19	ND(0.00056)	0.0025	1m
		ND(0.00055)	0.0021	100m
		ND(0.00060)	0.0017	200m
		ND(0.00052)	0.0012	300m
		ND(0.00061)	0.00080	500m

M-19	2014/6/20	0.00095	0.0033	1m
		ND(0.00057)	0.0020	100m
		ND(0.00063)	0.0014	200m
		ND(0.00053)	0.0012	300m
		ND(0.00057)	0.00086	500m

M-21	2014/6/21	ND(0.00057)	0.0020	1m
		ND(0.00056)	0.0029	100m
		0.00063	0.0032	200m
		ND(0.00065)	0.0021	300m
		ND(0.00053)	0.0015	500m

M-20	2014/6/21	0.00067	0.0026	1m
		ND(0.00059)	0.0028	100m
		ND(0.00073)	0.0024	200m
		ND(0.00057)	0.0015	300m
		ND(0.00055)	0.00070	500m

M-26	2014/6/23	ND(0.00056)	0.0022	1m
		ND(0.00069)	0.0031	100m
		0.00099	0.0038	200m
		0.0013	0.0047	300m
		0.00066	0.0032	500m

M-25	2014/6/24	ND(0.00057)	0.0016	1m
		ND(0.00055)	0.0019	100m
		0.00069	0.0033	200m
		0.00097	0.0043	300m
		ND(0.00060)	0.0023	500m

M-27	2014/6/22	ND(0.00057)	0.0028	1m
		ND(0.00070)	0.0027	100m
		0.0010	0.0033	200m
		ND(0.00056)	0.0035	300m
		0.0011	0.0051	500m

