Distribution of Japanese test results by prefecture

Background:

Following the March 11 earthquake in Japan, and the ensuing nuclear incident at the Fukushima Daichi plant, the Japanese government implemented an extensive sampling and testing program to identify and remove food contaminated with radionuclides from the domestic and export food chain. The results of this testing has been posted on the Japanese Ministry of Health, Labour and Welfare (MHLW) website and has been communicated to the Canadian Food Inspection Agency (CFIA) through the Canadian post in Japan. The results of this testing has been tabulated and analysed to identify the possibility of the contamination reaching the Canadian west coast and to estimate the extent of contaminated water in Japan.

Regulations:

The Japanese actionable limits were decreased after the first year of the incident to increase consumer confidence and to further enhance the Japanese commitment to ensure no contaminated products are exported from Japan. The Canadian actionable limits are based on international actionable limits that have been set out by CODEX Alimentarius. Table 1 describes the Canadian actionable limits and the current and previous Japanese actionable limits.

Radionuclide	Canadian (CODEX) actionable limits	Japanese actionable limits (March 2011 – March 2012)	Current Japanese actionable limits (April 2012 – present)
Iodine 131	1 000	500	100
Cesium 134	1 000	500	100
Cesium 137	1 000	500	100

Table 1: Radionuclide actionable limits in food (excluding dairy products). All values are in Bq/kg.

Method of analysis:

The results were analyzed based on the number of samples with level of radionuclides greater than the applicable Japanese actionable limits expressed as a percentage. The data has been presented for all foods tested in Japan and seafood products that have been caught off the coast of Japan. The data for all the tests results above the applicable Japanese actionable limits are presented in two tables in Appendix 1. The results of this analysis were mapped out by prefecture on a map of Japan and can be found in Appendix 2.

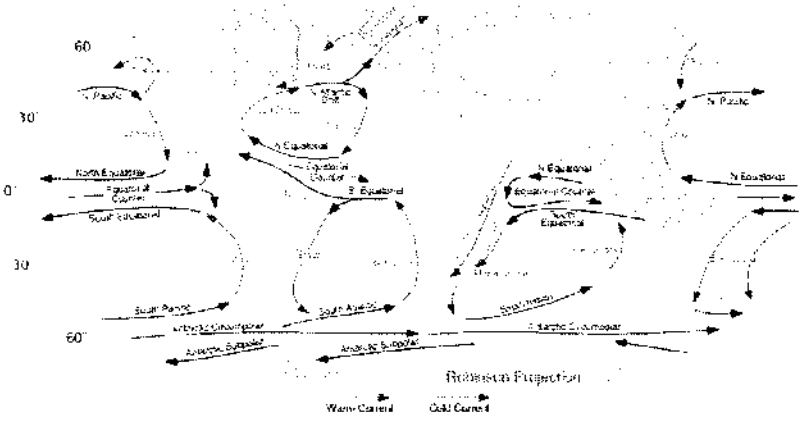
Results:

A total of 135392 samples of food products and 9367 sample of seafood products were analysed from March 2011 to March 2012 with an additional 48954 food samples and 5032 seafood samples analyzed from March 2012 to July 2012. Samples were considered to be unsatisfactory if the test results exceeded the appropriate Japanese actionable limit.

An analysis of the results indicated that the highest percentage of all food and seafood samples of actionable levels were from Fukushima prefecture. For all foods during the period of March 2011 to March 2012, the percentage of unsatisfactory samples of products was at 3.3 % in the Fukushima prefecture. The percentages within neighbouring prefectures (several hundred kilometres away from the Fukushima Daichi plant) had decreased to 0.35 % and 0.6% for Iwate and Shizuoka respectively. The same analysis can be done for the period of March 2012 to July 2012 where percentages observed at the Fukushima prefecture was 5.8 % and dropped to 0.16% in Aomori and 0.11 % at Niigata.

The same trend has been observed when the analysis was done on seafood products. During the first year (March 2011 – March 2012) 6.22 % of samples were unsatisfactory in Fukushima prefecture and decreased to 0.38 % in the adjoining prefecture of Ibaraki. In the latest rounds of testing from March 2012 – July of 2012, the percentage of unsatisfactory samples decreased from 22.0 % to 0.46 % in Chiba and 0.58 % in Aomori.

The higher percentage of unsatisfactory samples in the March 2012 –July 2012 is related to the lowering of the Japanese actionable limits from 500 Bq/Kg to 100 Bq/Kg. By analyzing the data, it appears that the dispersion pattern of the radionuclides is greater in prefectures north of Fukishima as compared to the southern prefectures. The distance between Fukushima and Aomori is greater than the distance between Fukushima and Shizuoka. The increased dispersion could be due to the directions of ocean currents as shown by the ocean currents map. Despite the ocean currents, the radionuclides were not carried to the Hokkaido prefecture only a few hundred kilometres away from the Fukushima Diachi plant as none of the 3830 samples tested were above the Japanese actionable limits.



Conclusions:

By analyzing the Japanese test results, the radionuclide contamination of food and seafood appears to be localized to several prefectures within a few hundred kilometres of the Fukushima Daichi nuclear plant.

Appendix 1

Testing of all food: Percentage of samples with levels of radionuclide contamination greater than the Japanese actionable limits. For the March 2011 to March 2012, these limits are at 500 Bq/Kg for Cesium. For the period of March 2012 to July 2012, these limits have been decreased to 100 Bq/Kg. All greyed out areas represent no samples having radionuclide contamination levels greater than the actionable limits. For a complete summary of all test results, consult Appendix 3.

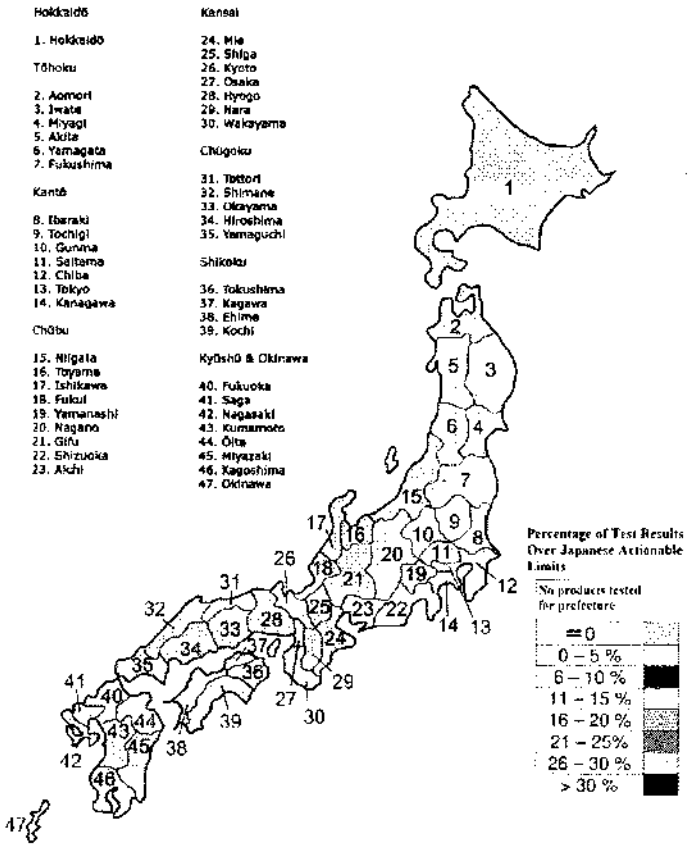
Prefecture	Prefecture # on map	March 2011 to March 2012		March 2012 to July 2012	
		# of food samples tested	% of food samples positive	# of food samples tested	% of food samples positive
Aomori	2			611	0.16 %
Iwate	3	9272	0.35 %	4373	4.94 %
Miyagi	4	14968	0.43 %	3740	2.46 %
Akita	5	1942	0.10 %		
Yamagata	6	12605	0.02 %	3624	0.06 %
Fukushima	7	21543	3.30 %	7437	5.86 %
Ibaraki	8	13450	0.64 %	4733	1.82 %
Tochigi	9	12197	0.61 %	5294	2.30 %
Gunma	10	12111	0.21 %	4992	0.12 %
Saitama	11	3489	3.64 %	944	0.11 %
Chiba	12	3529	0.91 %	1714	0.99 %
Tokyo	13	494	1.42 %	217	1.38 %
Kanagawa	14	1058	1.98 %	465	0.43 %
Niigata	15			892	0.11 %
Nagano	20	7230	0.01 %		
Shizuoka	22	1662	0.60 %		

Testing of Seafood products: Percentage of samples with levels of radionuclide contamination greater than the Japanese actionable limits. For the March 2011 to March 2012, these limits are at 500 Bq/Kg for Cesium. For the period of March 2012 to July 2012, these limits have been decreased to 100 Bq/Kg. All greyed out areas represent no samples having radionuclide contamination levels greater than the actionable limits. For a complete summary of all test results, consult Appendix 3.

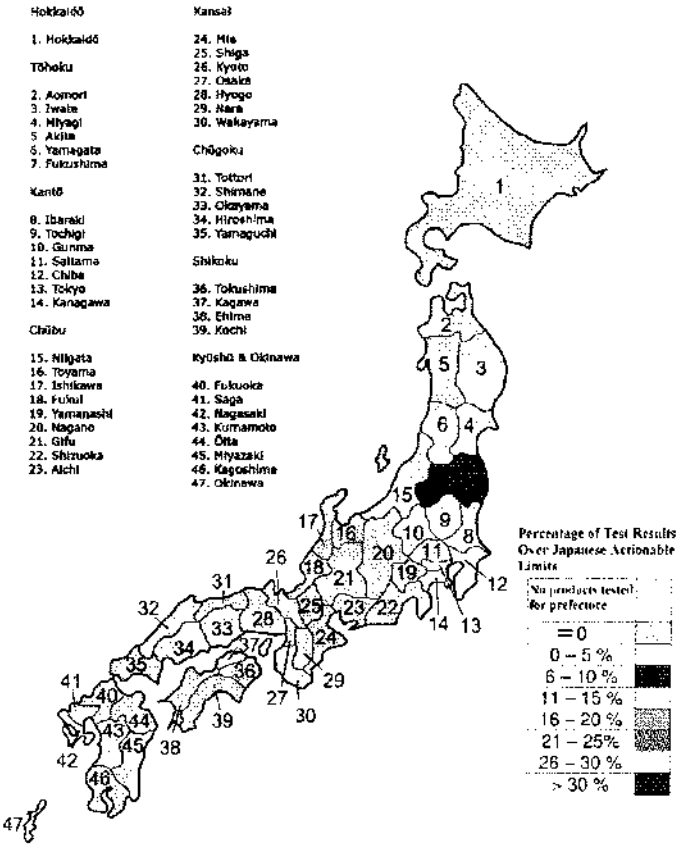
Prefecture	Prefecture # on map	March 2011 to March 2012		March 2012 to July 2012	
		# of seafood samples tested	% of seafood samples positive	# of seafood samples tested	% of seafood samples positive
Aomori	2			172	0.58 %
Iwate	3			363	2.20 %
Miyagi	4			718	4.6 %
Fukushima	7	3650	6.22 %	1547	22.04 %
Ibaraki	8	1595	0.38 %	861	5.11 %
Tochigi	9			376	9.31 %
Gunma	10	134	8.96 %	107	2.80 %
Saitama	11			36	2.78 %
Chiba	12			433	0.46 %
Kanagawa	14			57	1.75 %

Appendix 2

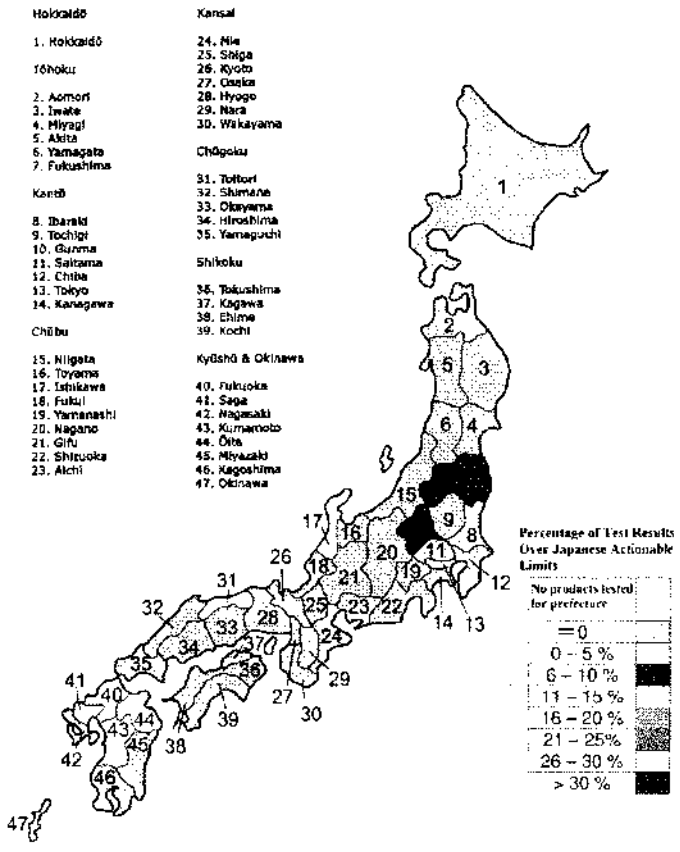
March 2011 to March 2012 (All food)



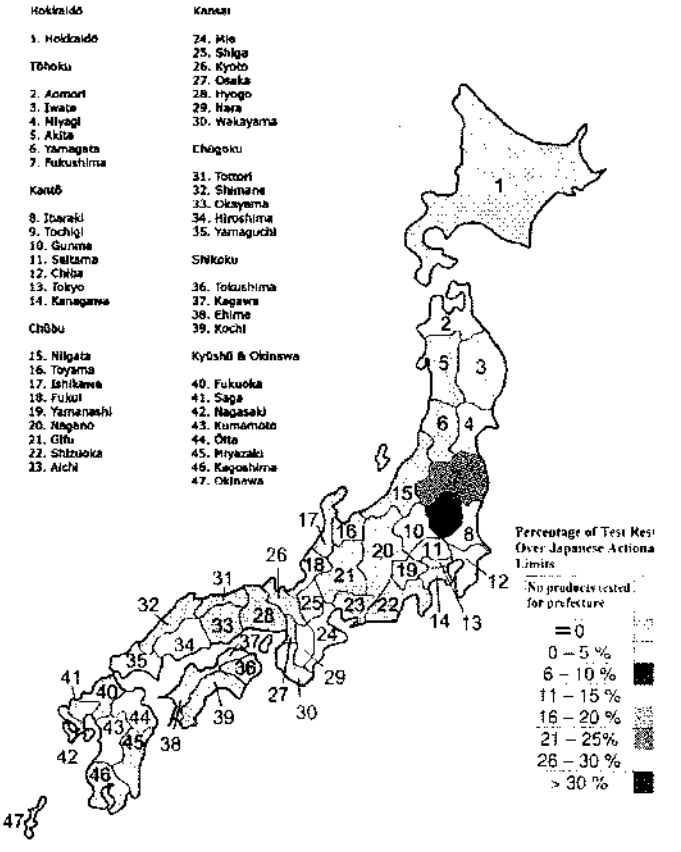
March 2012 to July 2012 (All food)



March 2011 to March 2012 (Seafood)



March 2012 to July 2012 (Seafood)



Appendix 3

Japanese testing data from March 2012 to July 2012							
Prefecture # on Map	Prefecture	Seafood products tested	Seafood products Unsatisfactory	%	All food products tested	All food products Unsatisfactory	%
1	Hokkaido	141	0	0.00%	1667	0	0.00%
2	Aomori	172	1	0.58%	611	1	0.16%
3	Iwate	363	8	2.20%	4373	216	4.94%
4	Miyagi	718	33	4.60%	3740	92	2.46%
5	Akita	26	0	0.00%	882	0	0.00%
6	Yamagata	19	0	0.00%	3624	2	0.06%
7	Fukushima	1547	341	22.04%	7437	436	5.86%
8	Ibaraki	861	44	5.11%	4733	86	1.82%
9	Tochigi	376	35	9.31%	5294	122	2.30%
10	Gunma	107	3	2.80%	4992	6	0.12%
11	Saitama	36	1	2.78%	944	1	0.11%
12	Chiba	433	2	0.46%	1714	17	0.99%
13	Tokyo	23	0	0.00%	217	3	1.38%
14	Kanagawa	57	1	1.75%	465	2	0.43%
15	Niigata	41	0	0.00%	892	1	0.11%
16	Toyama	2	0	0.00%	32	0	0.00%
17	Ishikawa	2	0	0.00%	9	0	0.00%
18	Fukui	1	0	0.00%	11	0	0.00%
19	Yamanashi	4	0	0.00%	142	0	0.00%
20	Nagano	21	0	0.00%	1453	0	0.00%
21	Gifu	1	0	0.00%	86	0	0.00%
22	Shizuoka	24	0	0.00%	391	0	0.00%
23	Aichi	3	0	0.00%	94	0	0.00%
24	Mie	0	0	-	49	0	0.00%
25	Shiga	0	0	-	32	0	0.00%
26	Kyoto	17	0	0.00%	568	0	0.00%
27	Osaka	3	0	0.00%	18	0	0.00%
28	Hyogo	4	0	0.00%	235	0	0.00%
29	Nara	0	0	-	32	0	0.00%
30	Wakayama	4	0	0.00%	36	0	0.00%
31	Tottori	2	0	0.00%	1908	0	0.00%
32	Shimane	1	0	0.00%	1091	0	0.00%
33	Okayama	1	0	0.00%	99	0	0.00%
34	Hiroshima	0	0	-	5	0	0.00%
36	Tokushima	3	0	0.00%	77	0	0.00%
37	Kagawa	0	0	-	12	0	0.00%
38	Ehime	4	0	0.00%	49	0	0.00%
39	Kochi	3	0	0.00%	13	0	0.00%
40	Fukuoka	2	0	0.00%	10	0	0.00%
41	Saga	0	0	-	72	0	0.00%

42	Nagasaki	5	0	0.00%	60	0	0.00%
43	Kumamoto	0	0	-	16	0	0.00%
44	Oita	0	0	-	17	0	0.00%
45	Miyazaki	2	0	0.00%	256	0	0.00%
46	Kagoshima	2	0	0.00%	494	0	0.00%
47	Okinawa	1	0	0.00%	2	0	0.00%
Sum		5032	469	9.32%	48954	985	2.01%

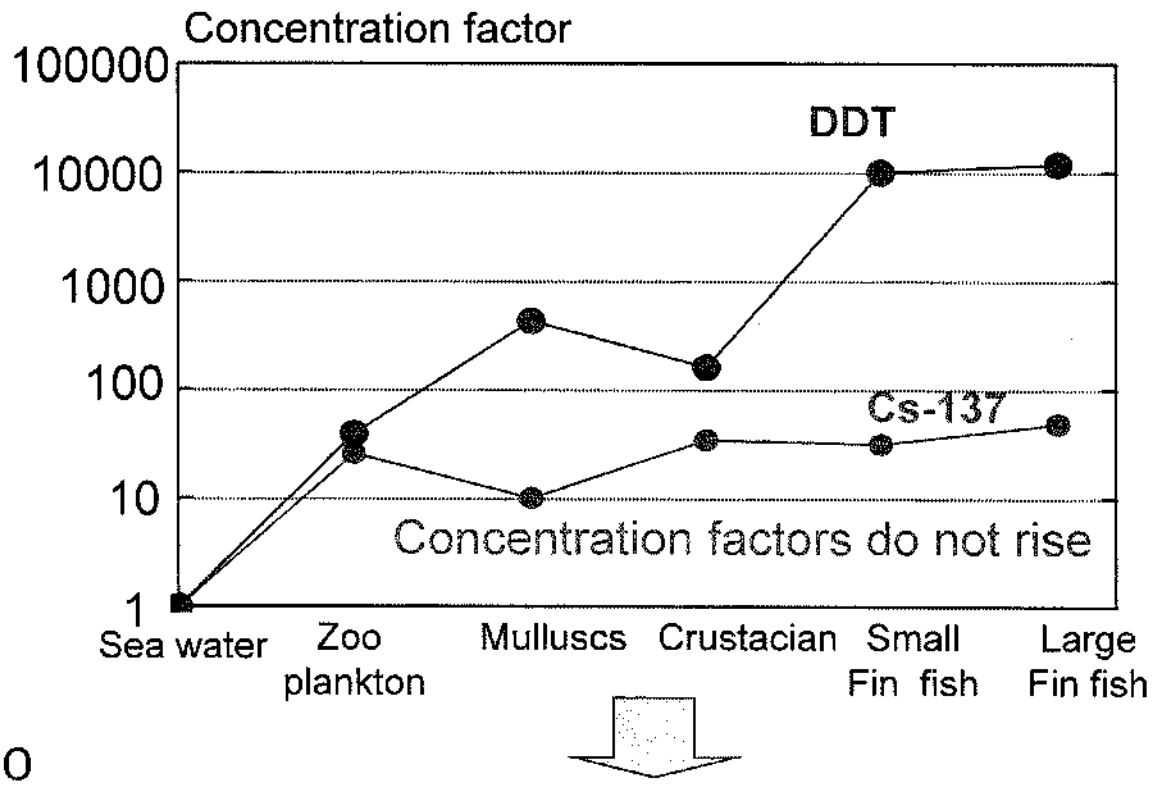
Japanese testing data from March 2011 to March 2012							
Prefecture # on Map	Prefecture	Seafood products tested	Seafood products Unsatisfactory	%	All food products tested	All food products Unsatisfactory	%
1	Hokkaido	567	0	0.00%	2163	0	0.00%
2	Aomori	406	0	0.00%	1438	0	0.00%
3	Iwate	530	0	0.00%	9272	32	0.35%
4	Miyagi	862	0	0.00%	14963	64	0.43%
5	Akita	9	0	0.00%	1942	2	0.10%
6	Yamagata	21	0	0.00%	12605	3	0.02%
7	Fukushima	3650	227	6.22%	21543	718	3.33%
8	Ibaraki	1595	6	0.38%	13450	86	0.64%
9	Tochigi	156	0	0.00%	12197	75	0.61%
10	Gunma	134	12	8.96%	12111	26	0.21%
11	Saitama	11	0	0.00%	3489	127	3.64%
12	Chiba	774	0	0.00%	3529	32	0.91%
13	Tokyo	48	0	0.00%	494	7	1.42%
14	Kanagawa	230	0	0.00%	1058	21	1.98%
15	Niigata	89	0	0.00%	2294	0	0.00%
16	Toyama	1	0	0.00%	180	0	0.00%
17	Ishikawa	0	0	-	151	0	0.00%
18	Fukui	1	0	0.00%	203	0	0.00%
19	Yamanashi	9	0	0.00%	360	0	0.00%
20	Nagano	15	0	0.00%	7230	1	0.01%
21	Gifu	0	0	0.00%	251	0	0.00%
22	Shizuoka	94	0	0.00%	1662	10	0.60%
23	Aichi	16	0	0.00%	193	0	0.00%
24	Mie	32	0	0.00%	173	0	0.00%
25	Shiga	0	0	0.00%	1596	0	0.00%
26	Kyoto	38	0	0.00%	1083	0	0.00%
27	Osaka	1	0	0.00%	33	0	0.00%
28	Hyogo	7	0	0.00%	507	0	0.00%
29	Nara	0	0	0.00%	23	0	0.00%
30	Wakayama	9	0	0.00%	98	0	0.00%
31	Tottori	0	0	-	3926	0	0.00%
32	Shimane	3	0	0.00%	2531	0	0.00%

33	Okayama	2	0	0.00%	165	0	0.00%
34	Hiroshima	12	0	0.00%	33	0	0.00%
35	Yamaguchi	1	0	0.00%	6	0	0.00%
36	Tokushima	2	0	0.00%	131	0	0.00%
37	Kagawa	1	0	0.00%	210	0	0.00%
38	Ehime	10	0	0.00%	143	0	0.00%
39	Kochi	17	0	0.00%	63	0	0.00%
40	Fukuoka	0	0	-	7	0	0.00%
41	Saga	0	0	-	160	0	0.00%
42	Nagasaki	7	0	0.00%	165	0	0.00%
43	Kumamoto	0	0	-	89	0	0.00%
44	Oita	0	0	-	8	0	0.00%
45	Miyazaki	4	0	0.00%	205	0	0.00%
46	Kagoshima	3	0	0.00%	1246	0	0.00%
47	Okinawa	0	0	-	13	0	0.00%
Sum		9367	245	2.62%	135392	1204	0.89%

Bio-accumulation or bio-concentration of radionucleotides through food chain

$$\text{Concentration factor} = \frac{\text{Concentration in fish body}}{\text{Concentration in sea water}}$$

Materials	Concentration Factor of marine fish
Cs	5～100
I	10
U	10
Pt	3.5
Hg	360～600
DDT	12000
PCB	1200～1000000



▪ Very low Concentration Factors

▪ Bio-accumulation or bio-concentration of radionucleotides through food chain is not increasing.

Why are not accumulated ?

Referance:
Fujio Kasamatsu
bio-concentration Edit. N. Yamagata 、
Radioisotopes 48, 1999.

Iodine and Cesium

- Iodine .....solid/gaseous (sublimation nucleotide)

  I-131 (Half life time: 8.04 days)

- Cs.....solid , behaves like potassium :

  does not accumulate to specific organs

  Cs-137 (Half life time :30.1years),

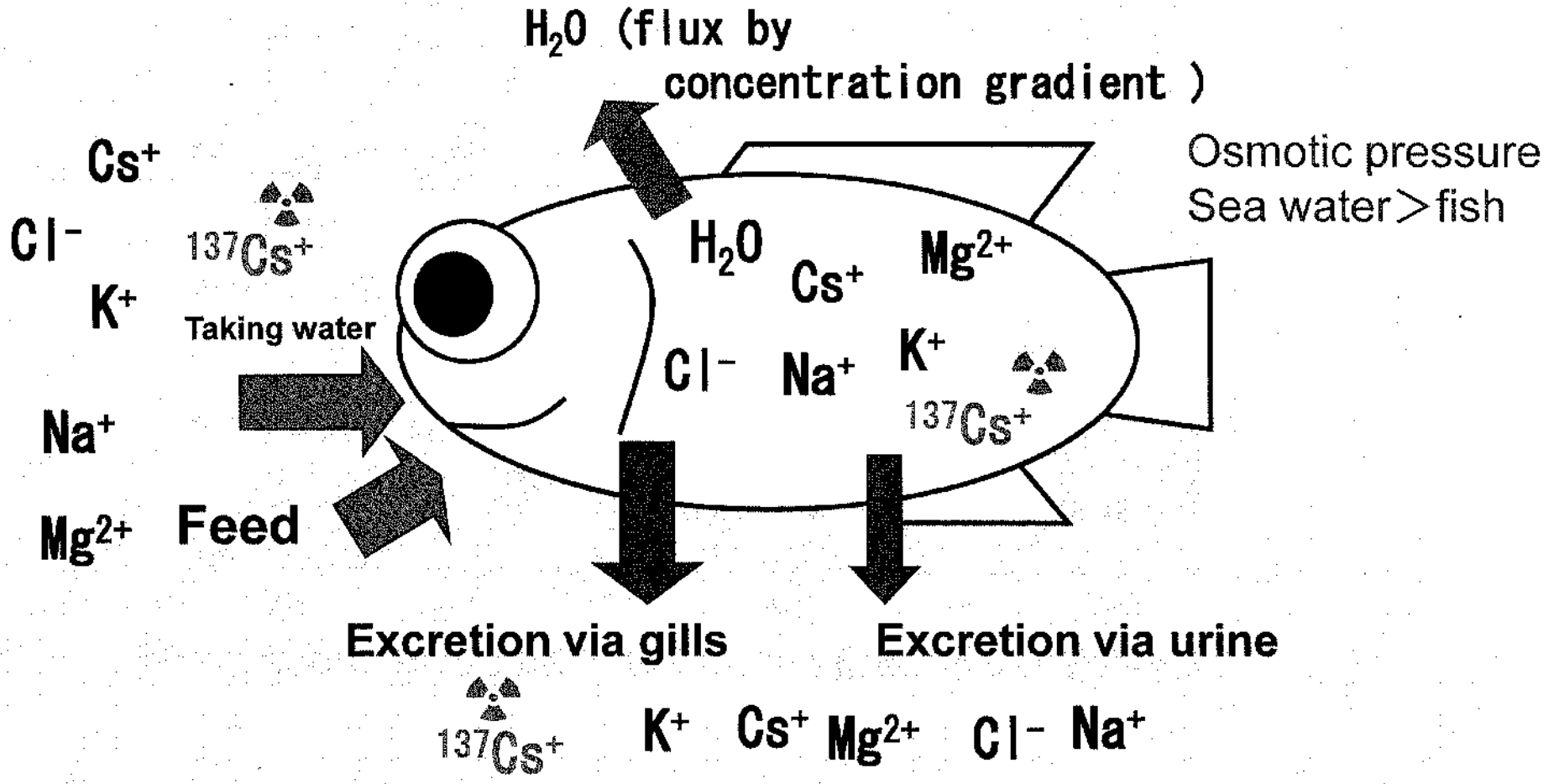
  Cs-134 (Half life time: 2.07years)

Periodic table

	1A	2A	3A	4A	5A	6A	7A	8			1B	2B	3B	4B	5B	6B	7B	0
1	H																	He
2	Li	Be											B	C	N	O	F	Ne
3	Na	Mg											Al	Si	P	S	Cl	Ar
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	Cs	Ba	*	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
7	Fr	Ra	**															

*	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
**	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr

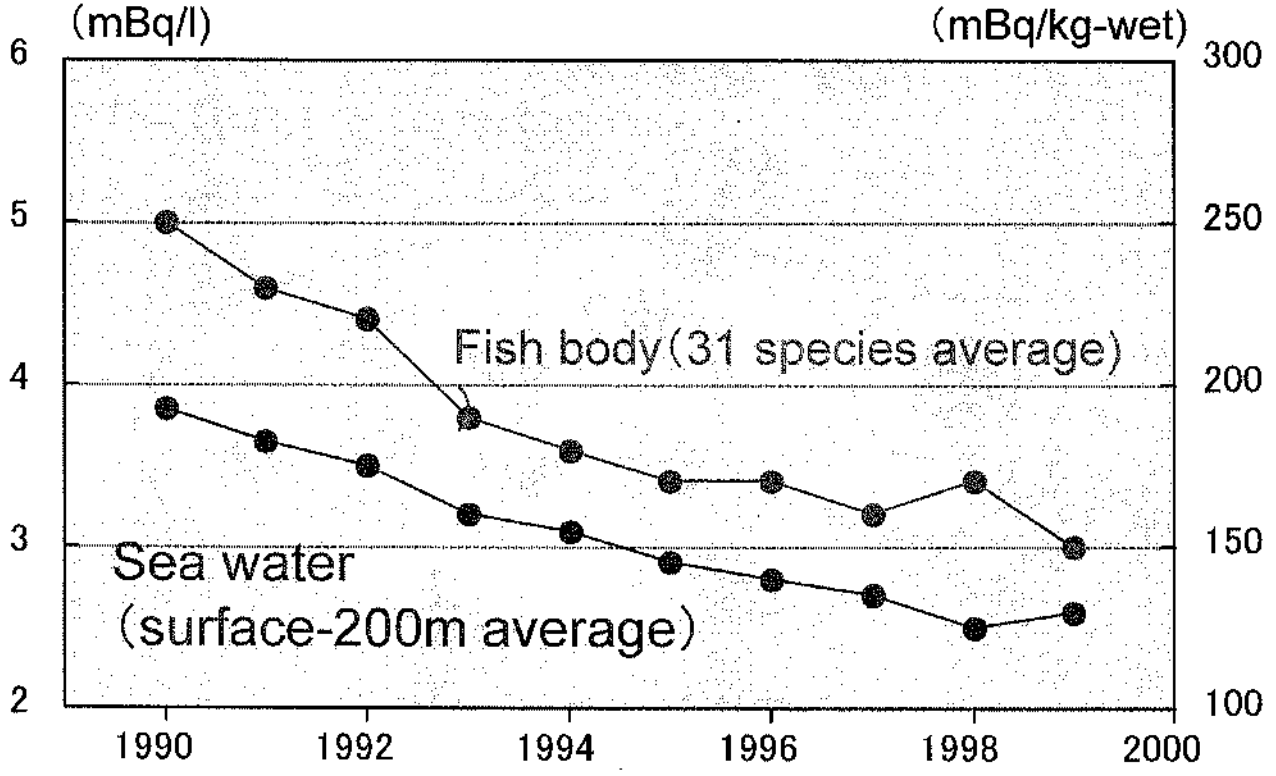
The flow of salts in marine fish body



- Radionucleotides excrete, not accumulate.
- The concentration in fish is depend on the concentration of environmental water .

(Ref: Fundamental physiology of fish Edit. K. Aida)

Comparison of Cs-137 concentration between sea water and fish body

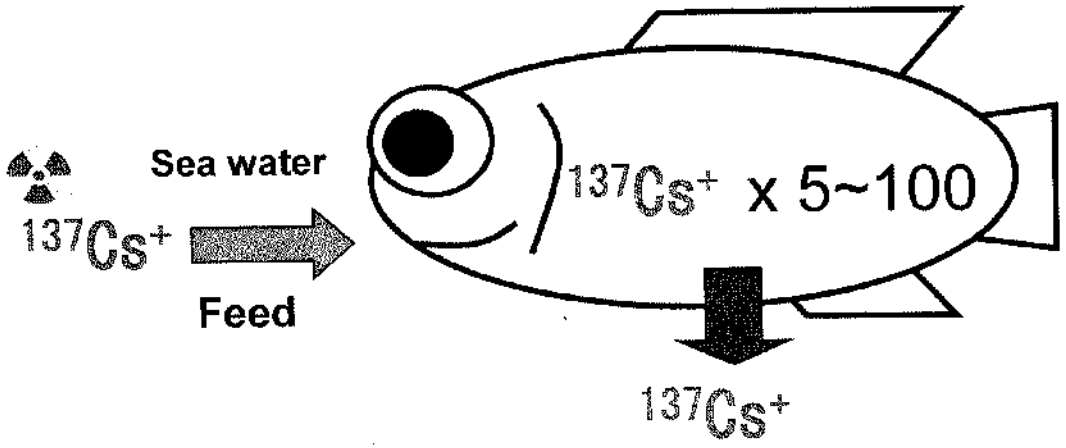


Cs-137 concentration annual changes in Japan coast

- Fish body concentration depends on sea water concentration

(Ref. : F. Kasamatsu Aquabiology 122, 1999)

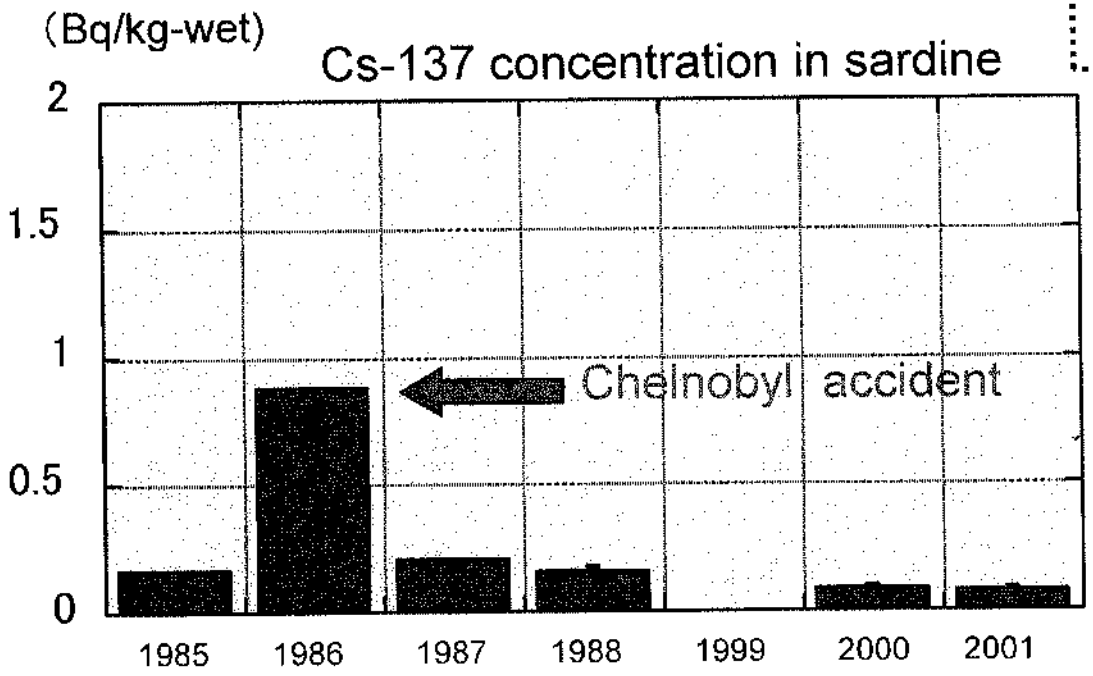
Excretion of radio nucleotides



Biological half time of

Cs-137＝50 days

The half of Cs-137 is excrete in 50days. (Laboratory work result)



- In natural condition Cs-137 excretes quickly.

Ref:
K. Yoshida 、JCAC 34, 1999.
F. Kasamatsu、Radioisotopes 48, 1999.

Young, Eric R HLTH:EX

From: Young, Eric R HLTH:EX
Sent: Tuesday, May 1, 2012 1:27 PM
To: Wright, Kristin J HLTH:EX
Subject: FW: recent radiation monitoring of the environment near Fukushima
Attachments: Fukushima USIE Summary status at 25-Apr-2012 (p 27-41).pdf

Please print attachment and message and add to Tsunami Debris folder.
Thx
Eric

From: François Thériault [mailto:francois.theriault@hc-sc.gc.ca]
Sent: Tuesday, May 1, 2012 12:37 PM
To: Brown, Kirsten HLTH:EX; randall.daley@INSPECTION.GC.CA; robin.brown@dfo-mpo.gc.ca; Victoria.Heron@phac-aspc.gc.ca; Caitlin Harrison; Young, Eric R HLTH:EX
Subject: recent radiation monitoring of the environment near Fukushima

Hi all,

For the Radiation Risk to the Environment One Pager - I'm sending you a pdf file which is a section I extracted from the latest status report from Fukushima that we received from the IAEA (released Apr 25, 2012) - I extracted the section related to the radiation monitoring in the environment which contains a lot of results from recent sampling analysis for fish, water, and other food collected near the Fukushima-Daiichi NPP. This could help for the one pager if we want to pick some of those results and do a comparison with the current Canadian Guidelines for food and water - in other words, maybe some of that data can be used to say that if Cs-134 and Cs-137 concentrations in fish and shellfish collected just a few km from Fukushima are below the Canadian guideline of 1000 Bq/kg, we can presume that concentrations 5000 km away are likely to only be lower, therefore safe to eat according to Canadian guidelines.

(1 pdf attached)

Table of HC Canadian Guidelines below (+ link to complete version of the document for those who don't already have a copy).

Reference values - Canadian Guidelines :

Radionuclide	**Action Levels (Bq kg^{-1})$^{(1)}$**		
	Fresh Liquid Milk	**Other Commercial Foods and Beverages**	**Public Drinking Water**
^{89}Sr	300	1 000	300
^{90}Sr	30	100	30
^{103}Ru	1 000	1 000	1 000
^{106}Ru	100	300	100
^{131}I	100	1 000	100

^{134}Cs, ^{137}Cs	300	1 000	100
^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{241}Am	1	10	1

Source: Health Canada (2000) - Canadian Guidelines for the Restriction of Radioactively Contaminated Food and Water Following a Nuclear Emergency (PDF)

François Thériault
Scientific Information Officer | Agent d'information scientifique
Health Canada > Nuclear Emergency Preparedness and Response Division | **Santé Canada** > Division de la préparation et de l'intervention en cas d'urgence nucléaire
2720 Riverside Drive, A/L 6604G, Ottawa (Ontario) K1A 0K9 : tel (613) 941 4377 | francois.theriault@hc-sc.gc.ca

Health Canada Santé Canada

Radiation monitoring of the environment

Monitoring of the marine environment

Marine monitoring results

On 30 March 2012, TEPCO released results of marine soil sampling within the 20 km zone of the Fukushima Daiichi NPS for samples taken on 22 and 23 March 2012. Figure 30 shows the results.

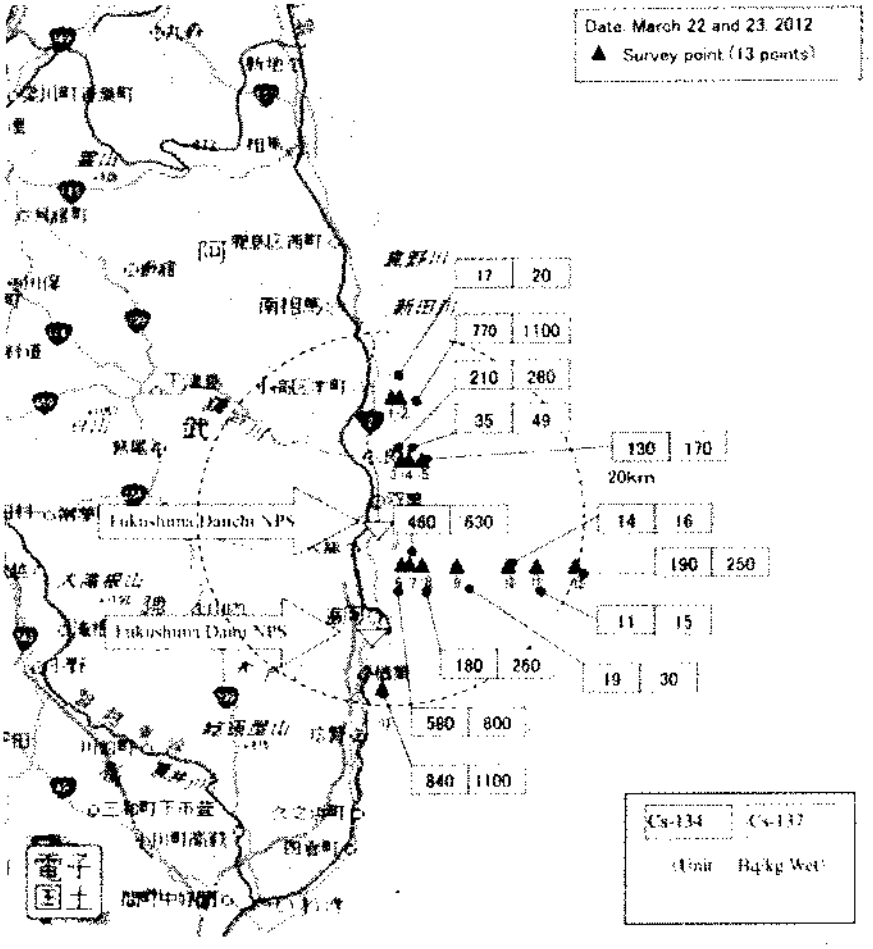


Figure 30: Results of soil sampling conducted on 22 and 23 March 2012

On 28 March TEPCO released sea water results for samples taken on 25 and 26 March. These results are available in Figure 31.

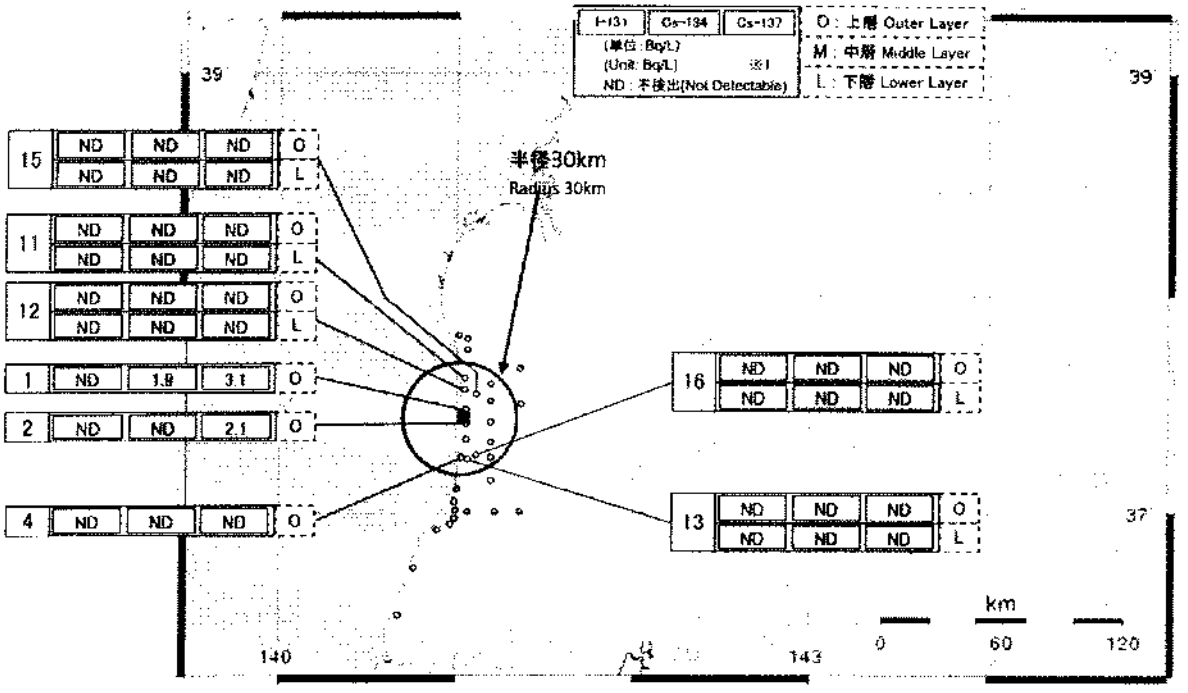


*Figure 31: Results of sea water monitoring conducted on 25 and 26 March 2012**

**This map was produced by MEXT, based on information contained in a press release provided by TEPCO.*

On 8 and 9 April TEPCO released results of marine soil samples taken on 6 and 7 April. These results were compiled by MEXT in and made available in Figure 32.

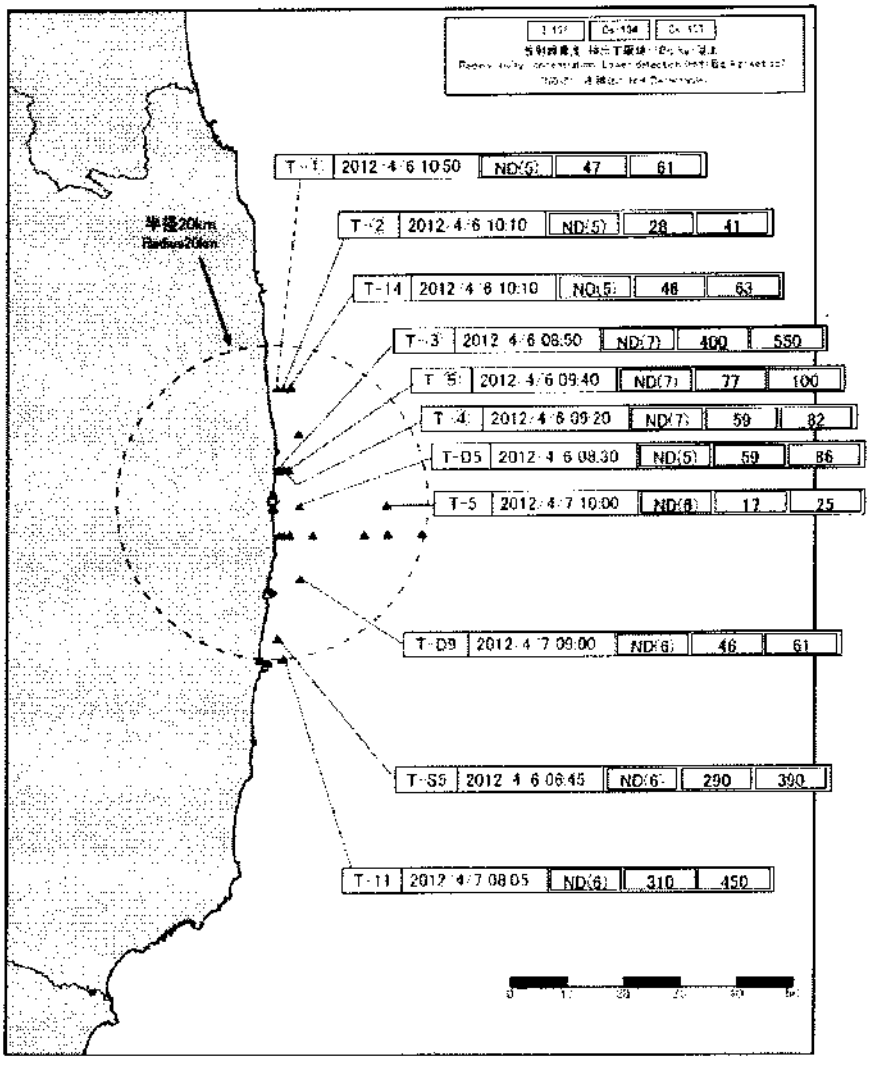


*Figure 32: Results of marine soil sampling conducted on 6 and 7 April 2012**

**This map was produced by MEXT, based on information contained in a press release provided by TEPCO.*

Protective measures for the public

Current status of evacuation areas

On 30 March the Nuclear Emergency Response Headquarters released a document outlining the reclassification of some restricted areas and area in which evacuation orders have been issued. The reclassification of these areas has been conducted on the basis outlined in this document. Figure 33 shows which areas have changed designation including which areas had their restrictions removed during the month of April.

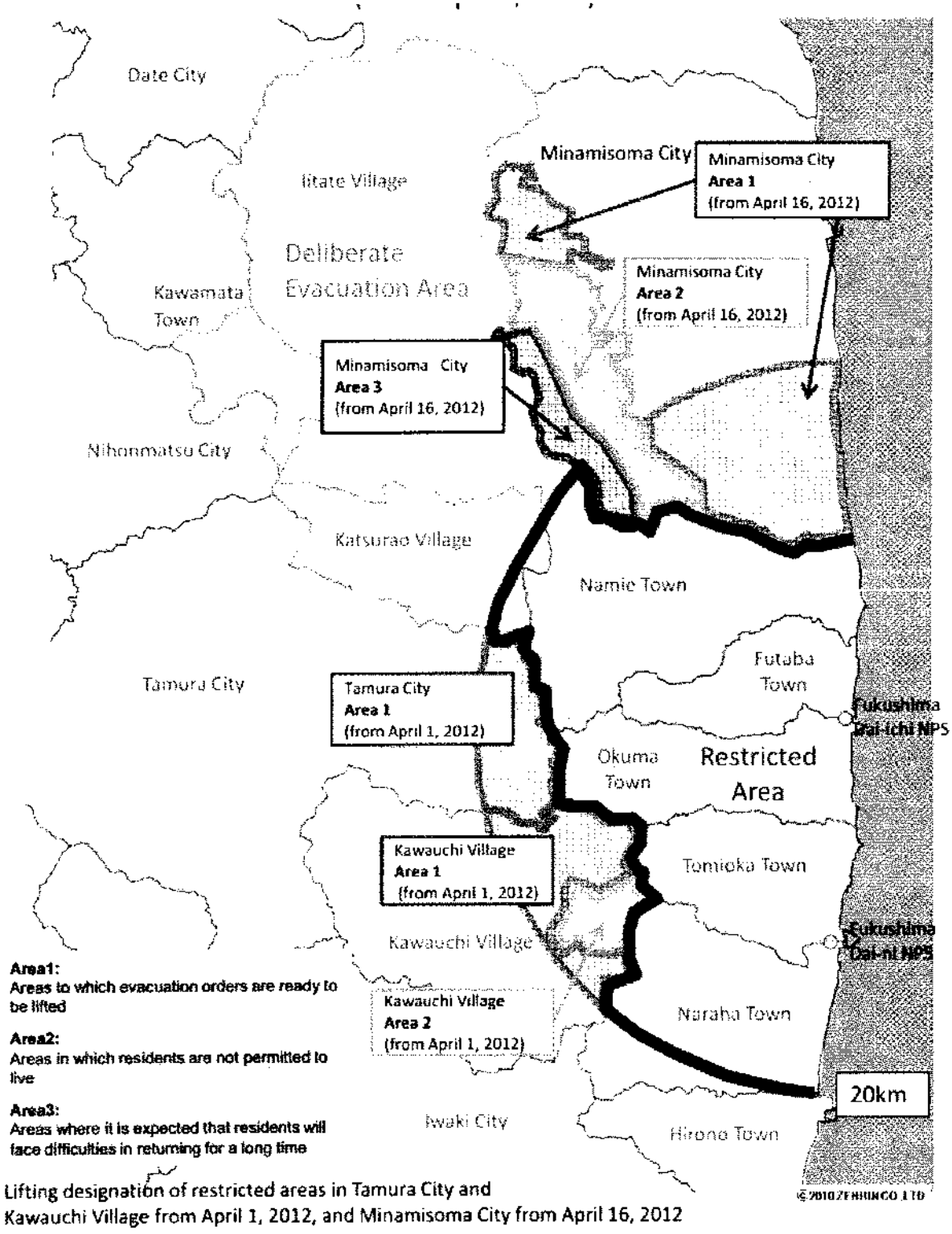


Figure 33: Current evacuation areas (as of 1 April)

The previous map of evacuation areas is available in previous reports and online.

Radiation monitoring of foodstuffs

Nuclide analysis of fish and shell fish

On 30 March 2012, TEPCO released images of workers sampling shell fish within the 20 km zone of the Fukushima Daiichi NPS. Figure 34 shows the images that were provided. A video of the collection process is also available online.

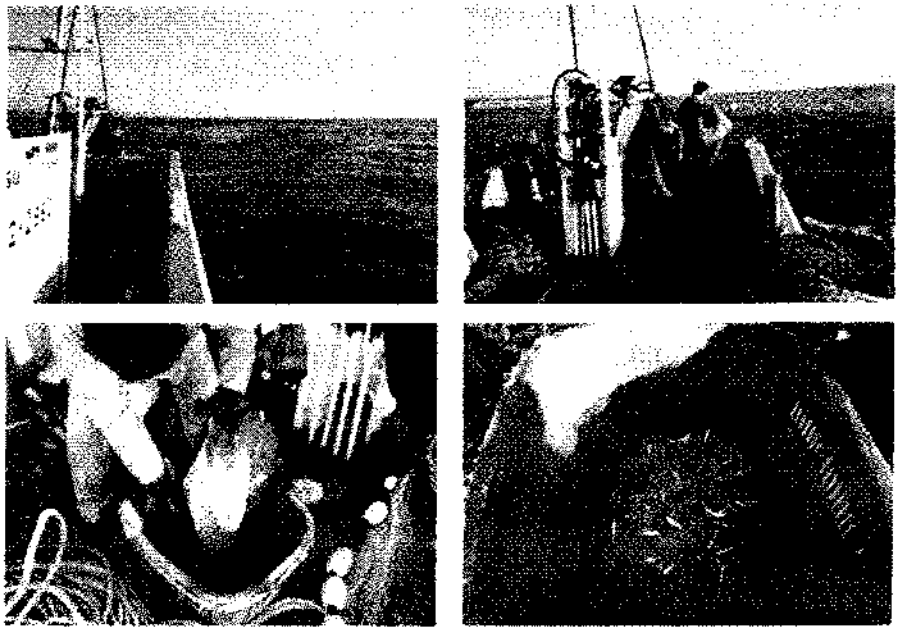


Figure 34: Workers sampling shell fish in the area around the Fukushima Daiichi NPS

On 12 April TEPCO released the first results of their sampling of fish and shell fish. These results are available in Table 5.

Table 5: Results from fish and shell fish measurements taken by TEPCO on 29 March

Sample	Location	Date of sample	Radioactiviity density (Bq/kg raw)		
			Cs-134	Cs-137	I-131
Ishikawasirauo (whole)	2km offshote of the Kido-gawa River	29 March 2012	11	12	ND
Kounago (whole)	2km offshote of the Kido-gawa River	29 March 2012	4.9	8.0	ND
Kounago (whole)	5km offshote of the Kido-gawa River	29 March 2012	ND	ND	ND

On 20 April TEPCO provided additional results of the sampling for fish and shellfish. They are provided in Table 6.

Table 6: Results from fish and shell fish measurements taken by TEPCO on 7 April

Sample	Location	Date of sample	Radioactivity density (Bq/kg raw)		
			Cs-134	Cs-137	I-131
Sea bass (muscle)	2km offshote of the Kido-gawa River	7 April 2012	670	940	ND
Common skete (muscle)	2km offshote of the Kido-gawa River	7 April 2012	310	430	ND
Spotbelly rockfish (muscle)	2km offshote of the Kido-gawa River	7 April 2012	350	480	ND
Spiny dogfish (muscle)	2km offshote of the Kido-gawa River	7 April 2012	ND	ND	ND
Pacific cod (muscle)	2km offshote of the Kido-gawa River	7 April 2012	7.1	9.6	ND
Flounder (muscle)	2km offshote of the Kido-gawa River	7 April 2012	77	100	ND
Hiratsume-gani (all)	2km offshote of the Kido-gawa River	7 April 2012	12	14	ND
Flounder (muscle)	5km offshote of the Kido-gawa River	7 April 2012	130	170	ND
Marbled sole (muscle)	5km offshote of the Kido-gawa River	7 April 2012	210	280	ND
Pacific cod (muscle)	5km offshote of the Kido-gawa River	7 April 2012	14	28	ND
Sea raven (muscle)	5km offshote of the Kido-gawa River	7 April 2012	120	170	ND
Roughscale sole (muscle)	5km offshote of the Kido-gawa River	7 April 2012	7.0	10	ND
Spiny dogfish (muscle)	5km offshote of the Kido-gawa River	7 April 2012	ND	5.3	ND

Food monitoring

Food monitoring data were reported on 26 – 30 March and 2 – 6, 9 – 14 and 16 – 21 April 2012 by the Ministry of Health, Labour and Welfare (MHLW) for a total of 15792 samples collected from 46 different prefectures in Japan (Table 7).

Analytical results for 15554 (over 98%) of the 15792 samples indicated that Cs-134 and Cs-137 or I-131 were either not detected or were below the provisional regulation values or new standard limits for radionuclides (effective from 1 April 2012) set by the Japanese authorities. However, 13 samples were above the provisional regulation values (Table 8, between 24 March and 4 April 2012), and 225 samples were above the new standard limits (Table 9, between 2 and 21 April 2012) for radionuclides Cs-134 and Cs-137.

Food restrictions

Updated information was reported by the MHLW on 29 March and on 5, 6, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20 and 23 April 2012 placing restrictions on the distribution of:

- Outdoor cultivated, log-grown shiitake mushrooms produced in certain areas of Chiba, Ibaraki, Iwate, Miyagi, and Tochigi prefectures.
- Hothouse cultivated, log-grown shiitake mushrooms produced in certain areas of Tochigi prefecture.
- Bamboo shoots produced in certain areas of Chiba, Fukushima and Ibaraki prefectures.
- Rice (produced in 2012), hatakewasabi, wild Japanese butterbur scape and fishery products (land-locked salmon, Japanese dace and white-spotted char) from certain areas of Fukushima prefecture.
- Fishery products (rock fish, Japanese sea bass, nibe croaker and olive flounder - all taken offshore), channel catfish (excluding farmed fish) and silver crucian carp (excluding farmed fish) taken from the Kasumigaura basin of Ibaraki prefecture.
- Sea bass (from Sendai bay) and land-locked salmon and Japanese dace from Abukuma river (including its branches but excluding upper reaches from Shichigashuku dam) in Miyagi prefecture.

Restrictions on the distribution and consumption of land-locked salmon (excluding farmed fish) were also enacted in Fukushima prefecture (Niida River, including its branches), while restrictions on the distribution of tea leaves in a specific area of Ibaraki prefecture were lifted.

A summary of the status of food restrictions reported since March 2011 is attached at Annex A.

Table 7: Samples Collected by Prefecture as Reported by the Ministry of Health, Labour and Welfare between 24 March and 21 April 2012

Prefecture	Number of Samples
Aichi	34
Akita	384
Aomori	103
Chiba	500
Ehime	17
Fukui	4
Fukuoka	1
Fukushima	2078
Gifu	20
Gunma	1950
Hiroshima	2
Hokkaido	404
Hyogo	99
Ibaraki	1699
Ishikawa	5
Iwate	1077
Kagawa	12
Kagoshima	192
Kanagawa	77
Kochi	9
Kumamoto	1
Kyoto	168
Mie	17
Miyagi	1730

Prefecture	Number of Samples
Miyazaki	63
Nagano	1156
Nagasaki	27
Nara	3
Niigata	238
Oita	3
Okayama	32
Okinawa	1
Osaka	5
Saga	4
Saitama	185
Shiga	7
Shimane	382
Shizuoka	218
Tochigi	706
Tokushima	43
Tokyo	44
Tottori	569
Toyama	12
Wakayama	24
Yamagata	1251
Yamanashi	11
Not known	225
Total	**15792**

Table 8: Samples above the Japanese Provisional Regulation Values as Reported by the Ministry of Health, Labour and Welfare between 24 March and 4 April 2012

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
26-Mar-12	Fukushima	26-Feb-12	boar meat	527
26-Mar-12	Fukushima	26-Feb-12	boar meat	555
26-Mar-12	Fukushima	27-Feb-12	boar meat	617
26-Mar-12	Fukushima	28-Feb-12	boar meat	1730
26-Mar-12	Fukushima	04-Mar-12	boar meat	844
26-Mar-12	Fukushima	04-Mar-12	boar meat	890
28-Mar-12	Ibaraki	-	bamboo shoots	730
28-Mar-12	Fukushima	23-Mar-12	Japanese dace	570
28-Mar-12	Fukushima	18-Mar-12	land-locked salmon	18700
28-Mar-12	Fukushima	18-Mar-12	land-locked salmon	2070
30-Mar-12	Iwate	26-Mar-12	log-grown shiitake	512
04-Apr-12	Fukushima	29-Mar-12	Char	840
04-Apr-12	Fukushima	29-Mar-12	land-locked salmon	810

Table 9: Samples above the Standard Limits for Radionuclides in Food as Reported by the Ministry of Health, Labour and Welfare between 2 and 21 April 2012

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
04-Apr-12	Miyagi	02-Apr-12	log-grown shiitake	350
04-Apr-12	Chiba	03-Apr-12	bamboo shoots	110
04-Apr-12	Chiba	03-Apr-12	bamboo shoots	120
04-Apr-12	Fukushima	-	greenling	350
04-Apr-12	Fukushima	-	brown hakeling	290
04-Apr-12	Fukushima	-	common skate	640
04-Apr-12	Fukushima	-	common skate	140
04-Apr-12	Fukushima	-	rock fish	430
04-Apr-12	Fukushima	-	lefteye flounder	120
04-Apr-12	Fukushima	-	lefteye flounder	110
04-Apr-12	Fukushima	-	righteye flounder	120
04-Apr-12	Fukushima	-	righteye flounder	140
04-Apr-12	Fukushima	-	pacific cod	120
04-Apr-12	Fukushima	-	spotbelly rock fish	560
04-Apr-12	Fukushima	-	righteye flounder	120

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
04-Apr-12	Fukushima	-	greenling	210
04-Apr-12	Fukushima	-	rock fish	580
04-Apr-12	Fukushima	-	land-locked salmon	250
05-Apr-12	Ibaraki	03-Apr-12	log-grown shiitake	160
05-Apr-12	Ibaraki	03-Apr-12	log-grown shiitake	340
05-Apr-12	Ibaraki	03-Apr-12	log-grown shiitake	960
05-Apr-12	Ibaraki	03-Apr-12	log-grown shiitake	170
05-Apr-12	Ibaraki	2 to 4-Apr-12	bamboo shoots	170
05-Apr-12	Ibaraki	2 to 4-Apr-12	bamboo shoots	240
05-Apr-12	Ibaraki	2 to 4-Apr-12	bamboo shoots	140
05-Apr-12	Chiba	03-Apr-12	bamboo shoots	130
05-Apr-12	Chiba	03-Apr-12	bamboo shoots	170
05-Apr-12	Ibaraki	03-Apr-12	dried shiitake	1400
06-Apr-12	Ibaraki	01-Apr-12	white spotted char (wild)	330
06-Apr-12	Ibaraki	01-Apr-12	land-locked salmon (wild)	240
06-Apr-12	Kanagawa	05-Apr-12	log-grown shiitake	140
06-Apr-12	Ibaraki	05-Apr-12	dried shiitake	620
06-Apr-12	Ibaraki	05-Apr-12	dried shiitake	1400
06-Apr-12	Ibaraki	05-Apr-12	dried shiitake	570
06-Apr-12	Ibaraki	05-Apr-12	dried shiitake	130
06-Apr-12	Fukushima	03-Apr-12	Japanese butterbur scape	210
06-Apr-12	Fukushima	03-Apr-12	Japanese butterbur scape	200
06-Apr-12	Fukushima	03-Apr-12	Japanese butterbur scape	110
06-Apr-12	Fukushima	03-Apr-12	Japanese butterbur scape	110
06-Apr-12	Fukushima	03-Apr-12	Japanese butterbur scape	150
06-Apr-12	Fukushima	04-Apr-12	bamboo shoots	290
06-Apr-12	Fukushima	04-Apr-12	bamboo shoots	920
06-Apr-12	Fukushima	05-Apr-12	bamboo shoots	400
09-Apr-12	Ibaraki	05-Apr-12	rockfish	170
09-Apr-12	Tochigi	05-Apr-12	log-grown shiitake	190
09-Apr-12	Tochigi	05-Apr-12	log-grown shiitake	520
09-Apr-12	Tochigi	05-Apr-12	log-grown shiitake	110
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	210
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	210
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	420
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	520
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	530
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	350

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	240
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	660
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	640
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	950
09-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	190
09-Apr-12	Gunma	01-Apr-12	Japanese butterbur scape	290
09-Apr-12	Chiba	06-Apr-12	log-grown shiitake	740
10-Apr-12	Miyagi	05-Apr-12	sea bass	140
10-Apr-12	Miyagi	05-Apr-12	log-grown shiitake	170
10-Apr-12	Miyagi	05-Apr-12	log-grown shiitake	200
10-Apr-12	Miyagi	05-Apr-12	log-grown shiitake	210
10-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	270
10-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	280
10-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	490
10-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	170
10-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	300
10-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	280
10-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	1000
10-Apr-12	Chiba	09-Apr-12	bamboo shoots	130
10-Apr-12	Chiba	09-Apr-12	bamboo shoots	170
10-Apr-12	Chiba	09-Apr-12	bamboo shoots	120
11-Apr-12	Miyagi	09-Apr-12	log-grown shiitake	150
11-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	170
11-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	390
11-Apr-12	Tochigi	06-Apr-12	log-grown shiitake	290
11-Apr-12	Tochigi	10-Apr-12	log-grown shiitake	630
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	330
11-Apr-12	Tochigi	10-Apr-12	log-grown shiitake	290
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	490
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	410
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	200
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	200
11-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	170
11-Apr-12	Tochigi	10-Apr-12	log-grown shiitake	190
11-Apr-12	Tochigi	10-Apr-12	log-grown shiitake	120
11-Apr-12	Chiba	09-Apr-12	bamboo shoots	110
11-Apr-12	Fukushima	09-Apr-12	fat greenling	600
11-Apr-12	Fukushima	09-Apr-12	fat greenling	360

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
11-Apr-12	Fukushima	09-Apr-12	ocellate spot skate	630
11-Apr-12	Fukushima	08-Apr-12	rockfish	460
11-Apr-12	Fukushima	09-Apr-12	rockfish	550
11-Apr-12	Fukushima	09-Apr-12	sea bass	170
11-Apr-12	Fukushima	08-Apr-12	slime flounder	190
11-Apr-12	Fukushima	08-Apr-12	olive flounder	170
11-Apr-12	Fukushima	09-Apr-12	olive flounder	160
11-Apr-12	Fukushima	09-Apr-12	marbled flounder	150
11-Apr-12	Fukushima	09-Apr-12	marbled flounder	120
11-Apr-12	Fukushima	09-Apr-12	ridged-eye flounder	140
11-Apr-12	Fukushima	06-Apr-12	fat greenling	1150
11-Apr-12	Fukushima	08-Apr-12	fat greenling	270
11-Apr-12	Fukushima	06-Apr-12	stone flounder	110
11-Apr-12	Fukushima	06-Apr-12	brown hakeling	120
11-Apr-12	Fukushima	08-Apr-12	fox jacopever	410
11-Apr-12	Fukushima	08-Apr-12	black rockfish	160
11-Apr-12	Fukushima	02-Apr-12	sea raven	110
11-Apr-12	Fukushima	06-Apr-12	ocellate spot skate	410
11-Apr-12	Fukushima	02-Apr-12	cherry salmon	130
11-Apr-12	Fukushima	02-Apr-12	sea bass	120
11-Apr-12	Fukushima	09-Apr-12	sea bass	540
11-Apr-12	Fukushima	02-Apr-12	olive flounder	130
11-Apr-12	Fukushima	09-Apr-12	olive flounder	130
11-Apr-12	Fukushima	09-Apr-12	conger eel	360
11-Apr-12	Fukushima	06-Apr-12	marbled flounder	240
11-Apr-12	Fukushima	09-Apr-12	marbled flounder	230
11-Apr-12	Fukushima	08-Apr-12	Pacific cod	100
11-Apr-12	Fukushima	07-Apr-12	white spotted char	110
11-Apr-12	Fukushima	03-Apr-12	white spotted char	140
11-Apr-12	Fukushima	03-Apr-12	white spotted char	170
11-Apr-12	Fukushima	06-Apr-12	spinach	520
12-Apr-12	Iwate	09-Apr-12	log-grown shiitake	300
12-Apr-12	Iwate	09-Apr-12	log-grown shiitake	110
12-Apr-12	Ibaraki	09-Apr-12	log-grown shiitake	810
12-Apr-12	Ibaraki	09-Apr-12	log-grown shiitake	410
12-Apr-12	Ibaraki	-	bamboo shoots	140
12-Apr-12	Ibaraki	-	bamboo shoots	140
12-Apr-12	Ibaraki	-	bamboo shoots	130

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
12-Apr-12	Ibaraki	-	bamboo shoots	140
12-Apr-12	Ibaraki	-	bamboo shoots	110
12-Apr-12	Ibaraki	-	bamboo shoots	200
12-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	260
12-Apr-12	Tochigi	10-Apr-12	log-grown shiitake	120
12-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	160
12-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	170
12-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	180
12-Apr-12	Tochigi	09-Apr-12	log-grown shiitake	240
13-Apr-12	Miyagi	08-Apr-12	sea bass	250
13-Apr-12	Ibaraki	12-Apr-12	ostrich fern	110
13-Apr-12	Tochigi	12-Apr-12	log-grown shiitake	460
13-Apr-12	Fukushima	10-Apr-12	hana wasabi	1500
13-Apr-12	Fukushima	10-Apr-12	Japanese butterbur scape	230
13-Apr-12	Fukushima	11-Apr-12	Japanese butterbur scape	490
13-Apr-12	Fukushima	10-Apr-12	Japanese butterbur scape	130
13-Apr-12	Fukushima	11-Apr-12	bamboo shoots	310
13-Apr-12	Fukushima	11-Apr-12	bamboo shoots	400
13-Apr-12	Fukushima	12-Apr-12	bamboo shoots	290
13-Apr-12	Fukushima	11-Apr-12	bamboo shoots	150
14-Apr-12	Miyagi	13-Apr-12	yacon tea (powder)	18260
14-Apr-12	Miyagi	13-Apr-12	yacon tea (powder)	20290
14-Apr-12	Miyagi	13-Apr-12	yacon tea (powder)	16210
14-Apr-12	Miyagi	13-Apr-12	yacon tea (powder)	14970
14-Apr-12	Ibaraki	08-Apr-12	sea bass	120
14-Apr-12	Ibaraki	06-Apr-12	nibe croaker	110
14-Apr-12	Ibaraki	06-Apr-12	olive flounder	160
14-Apr-12	Ibaraki	09-Apr-12	channel catfish	180
14-Apr-12	Ibaraki	10-Apr-12	silver crucian carp	130
14-Apr-12	Ibaraki	09-Apr-12	silver crucian carp	110
17-Apr-12	Ibaraki	10-Apr-12	channel catfish	160
17-Apr-12	Ibaraki	10-Apr-12	Japanese eel	180
17-Apr-12	Chiba	-	shiitake	110
17-Apr-12	Chiba	-	shiitake	190
17-Apr-12	Chiba	-	bamboo shoots	110
18-Apr-12	Miyagi	17-Apr-12	log-grown shiitake	190
18-Apr-12	Ibaraki	17,18-April-12	bamboo shoots	160
18-Apr-12	Ibaraki	17,18-April-12	bamboo shoots	260

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
18-Apr-12	Ibaraki	17,18-April-12	bamboo shoots	190
18-Apr-12	Fukushima	15-Apr-12	fat greenling	190
18-Apr-12	Fukushima	16-Apr-12	stone flounder	220
18-Apr-12	Fukushima	16-Apr-12	ocellate spot skate	160
18-Apr-12	Fukushima	15-Apr-12	rockfish	530
18-Apr-12	Fukushima	15-Apr-12	sea bass	180
18-Apr-12	Fukushima	16-Apr-12	sea bass	240
18-Apr-12	Fukushima	16-Apr-12	slime flounder	250
18-Apr-12	Fukushima	16-Apr-12	olive flounder	210
18-Apr-12	Fukushima	16-Apr-12	little mouth flounder	150
18-Apr-12	Fukushima	15-Apr-12	marbled flounder	160
18-Apr-12	Fukushima	16-Apr-12	marbled flounder	220
18-Apr-12	Fukushima	16-Apr-12	spotted halibut	160
18-Apr-12	Fukushima	08-Apr-12	northern sea urchin	270
18-Apr-12	Fukushima	10-Apr-12	fat greenling	200
18-Apr-12	Fukushima	10-Apr-12	stone flounder	180
18-Apr-12	Fukushima	15-Apr-12	goldeye rockfish	570
18-Apr-12	Fukushima	10-Apr-12	brown hakeling	460
18-Apr-12	Fukushima	10-Apr-12	sea raven	510
18-Apr-12	Fukushima	10-Apr-12	ocellate spot skate	130
18-Apr-12	Fukushima	10-Apr-12	rockfish	280
18-Apr-12	Fukushima	13-Apr-12	rockfish	130
18-Apr-12	Fukushima	15-Apr-12	rockfish	460
18-Apr-12	Fukushima	13-Apr-12	sea bass	170
18-Apr-12	Fukushima	10-Apr-12	slime flounder	170
18-Apr-12	Fukushima	10-Apr-12	olive flounder	170
18-Apr-12	Fukushima	13-Apr-12	olive flounder	130
18-Apr-12	Fukushima	10-Apr-12	marbled flounder	110
18-Apr-12	Fukushima	09-Apr-12	white spotted char	150
18-Apr-12	Fukushima	11-Apr-12	Japanese dace	190
18-Apr-12	Fukushima	11-Apr-12	Japanese dace	250
18-Apr-12	Fukushima	15-Apr-12	kokanee	200
18-Apr-12	Fukushima	02-Apr-12	land-locked salmon	1400
18-Apr-12	Fukushima	16-Apr-12	land-locked salmon	390
19-Apr-12	Iwate	18-Apr-12	log-grown shiitake	140
19-Apr-12	Iwate	18-Apr-12	log-grown shiitake	450
19-Apr-12	Iwate	18-Apr-12	log-grown shiitake	310
19-Apr-12	Miyagi	14-Apr-12	white spotted char	200

Date Reported	Prefecture	Date Sampled	Food Product	Cs-137 + Cs-134 (Bq/kg)
19-Apr-12	Miyagi	15-Apr-12	land-locked salmon	270
19-Apr-12	Miyagi	14-Apr-12	Japanese dace	410
19-Apr-12	Miyagi	18-Apr-12	log-grown shiitake	680
19-Apr-12	Ibaraki	16-Apr-12	channel catfish	150
20-Apr-12	Miyagi	18-Apr-12	sea bass	160
20-Apr-12	Miyagi	17-Apr-12	panther puffer	150
20-Apr-12	Ibaraki	17-Apr-12	channel catfish	210
20-Apr-12	Ibaraki	17-Apr-12	silver crucian carp	130
20-Apr-12	Tochigi	18-Apr-12	*Pteridium aquilinum* (common bracken)	110
20-Apr-12	Tochigi	19-Apr-12	rainbow trout	150
20-Apr-12	Tochigi	18-Apr-12	kokanee	170
20-Apr-12	Tochigi	18-Apr-12	brown trout	160
20-Apr-12	Gunma	01-Apr-12	land-locked salmon	260
20-Apr-12	Fukushima	18-Apr-12	bamboo shoots	1300
20-Apr-12	Fukushima	19-Apr-12	deep fried stone moroko	130
21-Apr-12	Ibaraki	13 to 20-Apr-12	dried shiitake	1300
21-Apr-12	Ibaraki	13 to 20-Apr-12	dried shiitake	560
21-Apr-12	Ibaraki	13 to 20-Apr-12	dried shiitake	1400
21-Apr-12	Ibaraki	13 to 20-Apr-12	dried shiitake	2200
21-Apr-12	Ibaraki	13 to 20-Apr-12	dried shiitake	1600

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BRITISH COLUMBIA
The Best Place on Earth

June 4, 2012

Robin Brown
Manager, Ocean Sciences Division
Institute of Ocean Sciences
PO Box 6000, Sidney BC V8L 4B2

Dear Robin:

As discussed British Columbia has considerable concerns about the CFIA/DFO decisions to do no further testing of pacific salmon or other migratory fish that return to British Columbia waters. There remains great public concern about the potential for radiation contamination in these fish species because of the emergency at the Fukishiima Diiachi nuclear power plant in Japan. I have received over a dozen messages from concerned citizens and there are repeated articles in local papers about this perceived risk. One of the more inflammatory articles quoted a US biologist as saying salmon will be unsafe by the winter of 2012.

We are aware that the scientific data show very low levels of radiation in the marine environment and these are mostly in the very near vicinity to the Fukishiima nuclear plant and that testing by DFO of water and by CFIA of a small number of fish last summer revealed no concerns. However recent reports of tuna off the coast of California with elevated Cesium levels has rekindled the concern in the public here. You are aware I am sure that the salmon fishery is a very important industry both financially and culturally in British Columbia and there has been concerns expressed to us from First Nations communities who depend on this industry that these scares may damage the industry. This is along with concerns that the fish are truly safe for consumption. Given this level of concern and potential for disastrous impact on the industry we officially request that CFIA and DFO revisit their decision to not test salmon or tuna returning to British Columbia shores this coming season. While it is unlikely we will detect radiation levels that are of concern it is critical that we can say with confidence that we are monitoring the safety of this important fish source and that people can consume it with confidence there will be no ill effects on health. This will also put us in alignment with our US neighbours where ongoing testing of migratory fish species continues.

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Ministry of Health

Office of the
Provincial Health Officer

4-2, 1515 Blanshard Street
Victoria BC V8W 3C8
Tel: (250) 952-1330
Fax: (250) 952-1362

The initial public outcry after the nuclear emergency in Japan demonstrated how sensitive an issue this is for Canadians and people in British Columbia in particular and we feel it is essential for the federal government who has the jurisdiction over these issues to be proactive in reassuring the public that this is being monitored closely and their health is being protected. We are prepared to be supportive partners in this vital communications initiative and will provide what expertise we can but the resources and expertise for testing reside with you. We hope to hear from you as soon as possible that testing will be continued as this crisis evolves.

Yours truly,

P.R.W. Kendall
OBC, MBBS, MHSc, FRCPC
Provincial Health Officer

pc: Graham Whitmarsh
Deputy Minister
Ministry of Health

Canadian Food Inspection Agency
Agence canadienne d'inspection des aliments

Office of the President
Chief Veterinary Officer
Chief Food Safety Officer

Bureau du Président
Vétérinaire en chef
Chef de la salubrité des aliments

Ottawa, Ontario
K1A 0Y9

Ottawa (Ontario)
K1A 0Y9

CVO 010348

Dr. P.R.W. Kendall
Provincial Health Officer
4-2 1515 Blanshard St.
Victoria, B.C.
V8W 3C8

Dear Dr. Kendall:

We are writing in response to your letter to Robin Brown, Institute of Ocean Sciences, which was forwarded to us as the Government of Canada departments and agencies responsible for the issues you raise in your letter. Thank you for sharing your concerns about the safety of the Canadian food supply following the March 11, 2011 nuclear incident in Japan. We appreciate the opportunity to advise you of our actions surrounding this issue.

In response to the nuclear incident at the Fukushima Daichi plant, the Government of Canada took several measures to assess and protect the Canadian food supply from potential effects of radiation. The Canadian Food Inspection Agency (CFIA), in coordination with the Canada Border Services Agency (CBSA) and other government and international partners, implemented enhanced import controls on products originating from Japan. These controls required food and animal feed products entering Canada from affected areas in Japan to have acceptable documentation or test results verifying their safety.

Also, during spring 2011, more than 200 food products imported from Japan were tested for radionuclides at Health Canada's laboratory facilities. All test results were below the minimum detectable concentration (MDC) of 2 Bq/Kg, with the exception of one sample of dried bonito (fish). The results from the dried bonito sample were slightly above the MDC, but, as they were well below the Canadian actionable limit of 1000 Bq/Kg, this product was not considered to pose a risk to human health. All results have been posted on the CFIA web site.

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In addition, domestic milk and fish samples collected in B.C. in the three months following the nuclear incident were tested for the presence of radionuclides. The test results were all below Canadian actionable limits. The results of the milk and fish testing can be found on the CFIA website.

Furthermore, in August 2011, and again in February 2012, the CFIA tested domestic migratory fish for the presence of radionuclides. All results were below the Canadian actionable limits and presented no risk to the Canadian public.

Beyond the measures taken in Canada, the Japanese authorities implemented export restrictions from the affected prefectures and began a strict sampling and testing regime to monitor and respond to any food safety risk. This sampling and testing of food, which is ongoing, includes vegetables, dairy products, meat, egg products, grains and fish & seafood products.

Japanese authorities have used the testing information to determine when foods are safe for consumption (including exports). The results have been shared with Japan's international trading partners, including Canada. Furthermore, all Japanese test results are available on their website, at *http://www.mhlw.go.jp/english/topics/2011eq/index.html.*

The CFIA has analyzed the data provided by the Japanese authorities regarding levels of radioactivity in food from different Japanese regions for the period of March 2011 to March 2012 (the year following the incident) and for the period of March 2012 to July 2012. A summary of this analysis is attached for your reference. The analysis has demonstrated that fish & seafood and other food products that exceeded the Japanese actionable levels were localized, as they were limited to Fukushima and a small number of adjoining regions. Most other regions in Japan, only a few kilometres away from Fukushima, have shown food products and fish & seafood test results that are well below the Japanese actionable levels.

With regard to the concerns raised in the California study published by Dr. Daniel Madigan in 2012, the levels of Cesium-137 and -134 reported in the study are well below the Guideline Level (1000 Bq/Kg) as defined by the CODEX Alimentarius Commission (CAC) and adopted by Health Canada. The CAC is the international food standard setting body reporting to the United Nations Food and Agriculture Organization (FAO) and the World Health Organisation (WHO). The levels that were detected are only slightly above those of background radionuclide levels generally detected (as is acknowledged by the authors of the study) and they pose no health risk to consumers.

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The Government of Canada continues to monitor events in Japan and assess any potential impacts on Canada's food supply. Canadian officials continue to collect and assess intelligence from Japanese officials, from regulatory authorities in other jurisdictions importing Japanese food products, and from Canada's mission abroad and international authorities. In addition, Health Canada and Environment Canada continue to monitor levels of radioactivity in the Canadian environment and have not reported significant increases in these levels. Continued monitoring of the food supply is also part of our plans. As such, and as part of the Total Diet Study (TDS)—an ongoing surveillance program designed to estimate dietary exposure to chemical contaminants and nutrients—Health Canada continues to monitor the levels of radionuclides in food sold in Canada.

To support our focus on the British Columbia region for radionuclide level monitoring in food, the Total Diet Study design has been amended to have this year's sampling conducted in Vancouver. Sampling includes food composites from both domestic and imported foods. Further details on the Study can be found on the Health Canada website, under "Canadian Total Diet Study".

Through the actions of the responsible departments and agencies, the Government of Canada is continuing to ensure the safety of the Canadian food supply following the Fukushima nuclear incident. We trust that the aforementioned evidence and the measures taken by Canada address the concerns you have raised. If the Government of Canada should become aware of any new information that changes our current assessment of the situation, we will of course advise the Canadian public of this information and undertake health protection measures as warranted at that time.

Sincerely,

Dr BR Evans

Brian Evans
Chief Veterinary Officer/
Chief Food Safety Officer
Canadian Food Inspection Agency

David Butler-Jones
Chief Public Health Officer

Public Health Agency of Canada

Paul Gully
Senior Medical Advisor
Health Canada

cc: Robin Brown, Manager, Ocean Science Division