

# Eliminating Negative Reputation Impact

～ Reconstruction from Nuclear Disaster &  
the History of Safety and Revitalization of Fukushima ～

April, 2016

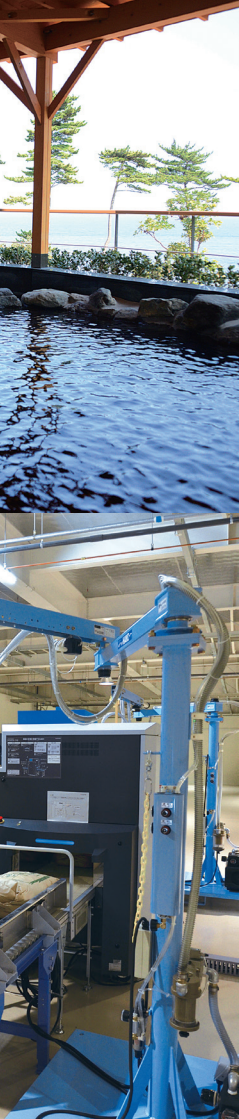


Reconstruction Agency

New Stage towards Reconstruction & Revitalization







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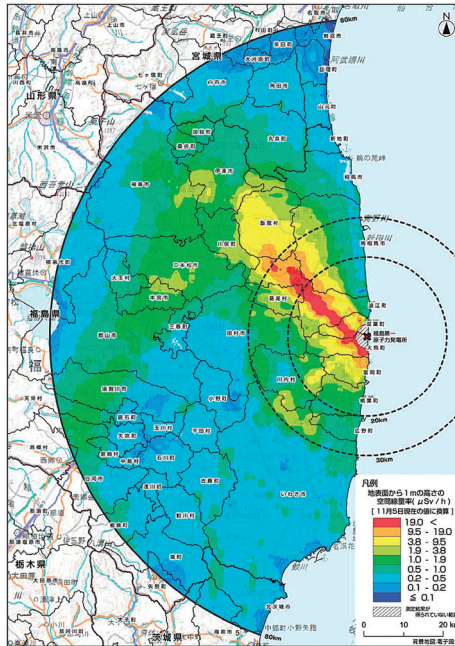
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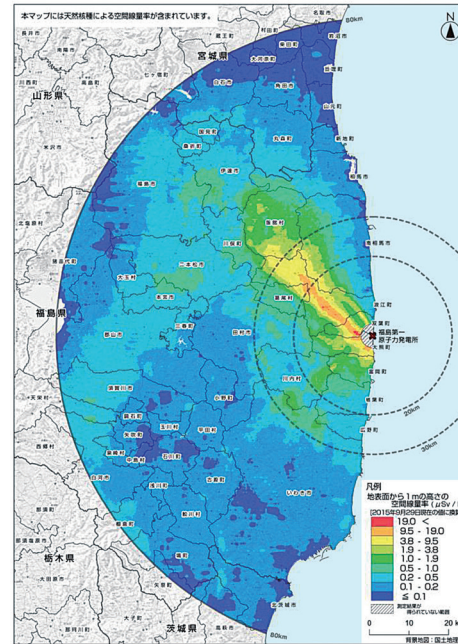
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# Changes in Air Dose Rate

- The average air dose rate at 1m in height from the ground surface at a distance of 80km from Fukushima Daiichi Nuclear Power Station nuclear power plant decreased by about 65% compared to levels in November 2011.



November 2011



September 2015

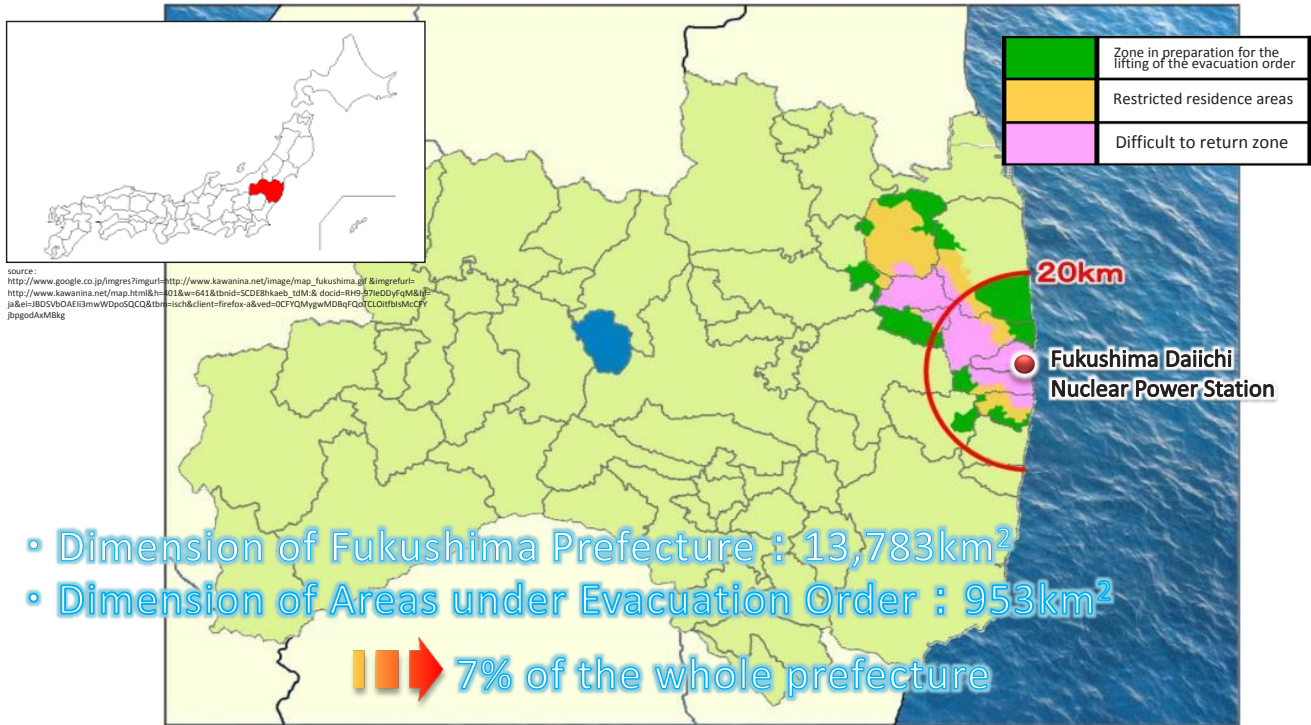
Source: The Secretariat of the Nuclear Regulation Authority  
: Aircraft monitoring of areas near Fukushima Daiichi Nuclear Power Station (10<sup>th</sup>)

**Most recent data:** <http://radioactivity.nsr.go.jp/en/>



# Reconstruction and Recovery of Fukushima: Status of the Areas under Evacuation Orders ①

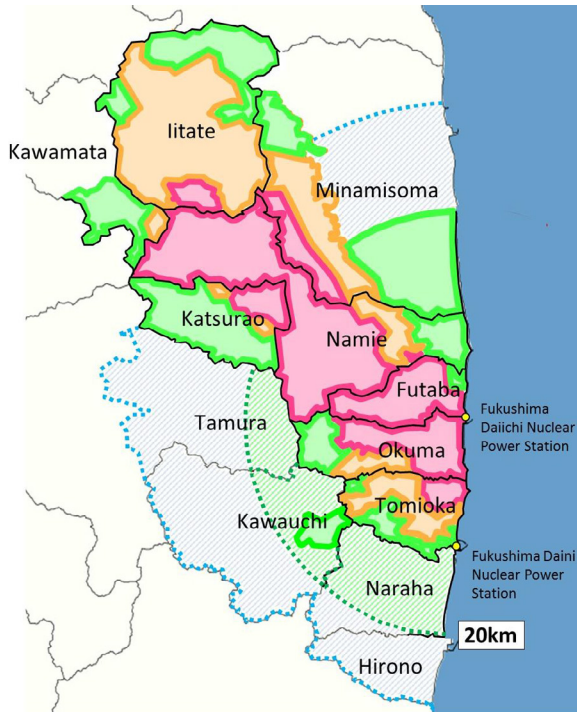
- Dimension of areas under evacuation order is 7% of the whole prefecture. People in 93% of the prefecture can live a normal life.



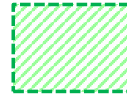
Source: Created by the Reconstruction Agency based on materials from Fukushima Prefecture and the Support Team for Residents Affected by Nuclear Incidents

# Reconstruction and Recovery of Fukushima: Status of the Areas under Evacuation Orders ②

- Successive lifting of evacuation orders after the disaster.



Areas in which evacuation orders were lifted within one year after the disaster.



Areas in which evacuation orders were lifted between 2012 and 2015



**Zone in preparation for the lifting of the evacuation order:**

Of the areas under evacuation orders, areas that have been confirmed to have a clear annual concentrated radiation dose of less than 20 mSv from air dose rates (confirmed based on radiation dose as of March 2012).



**Restricted residence area:**

Of the areas under evacuation orders, areas that have been confirmed to have potential an annual cumulative radiation dose estimated from the air dose rate exceeding 20 mSv (confirmed based on radiation dose as of March 2012).



**Difficult to return zone:**

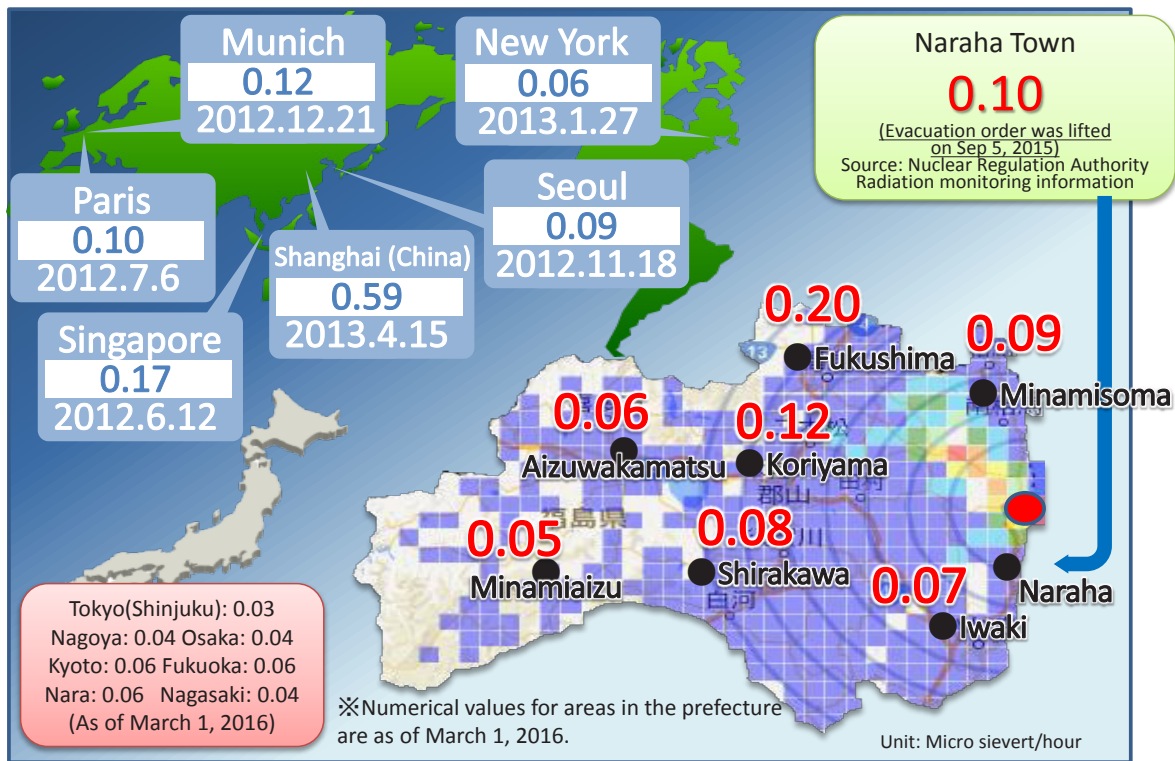
Areas where the annual cumulative radiation dose estimated from the air dose rate may not fall below 20 mSv even six years after the nuclear accident. Areas where the annual cumulative radiation dose estimated from the air dose rate exceeds 50 mSv as of March 2012.

Targeting lifting of evacuation orders by March 2017



# Current State of Air Dose Rates within Fukushima: Comparisons with Other Parts of the World

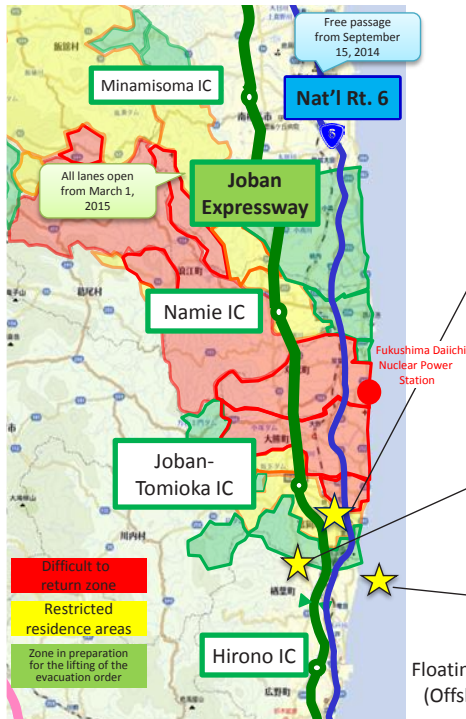
- The air dose rate in Fukushima Prefecture is about the same level as other major cities overseas.



Source: Created by the Reconstruction Agency based on Fukushima Prefecture "Steps for Revitalization in Fukushima (March 11, 2016)"

# Improvement of Transportation Infrastructure in Areas under Evacuation Orders and the Innovation Coast Initiative

- As of September 2014 and March 2015, traffic is permitted in all lanes on National Rt. 6 and the Joban Expressway, respectively.
- Average traffic per day is about 16,000 vehicles on National Rt. 6 and about 10,000 vehicles on the Joban Expressway.
- The Innovation Coast Initiative is in progress in the Hamadori area, with a focus on decommissioning and cutting-edge robot technologies.



## Progress of Innovation Coast Initiative



CLADS (Collaborative Laboratories for Advanced Decommissioning Science) International Joint Research Building (Tomioka Town)  
(To be completed in March 2017)



Naraha Remote Technology Development Center (Naraha Town)  
(Start of full-scale operation in April 2016)



Floating Offshore Wind Farm Demonstration Project (Offshore from Fukushima) (Start of demonstration in November 2013)



Robot development/demonstration base (Future development plans to be facilitated)

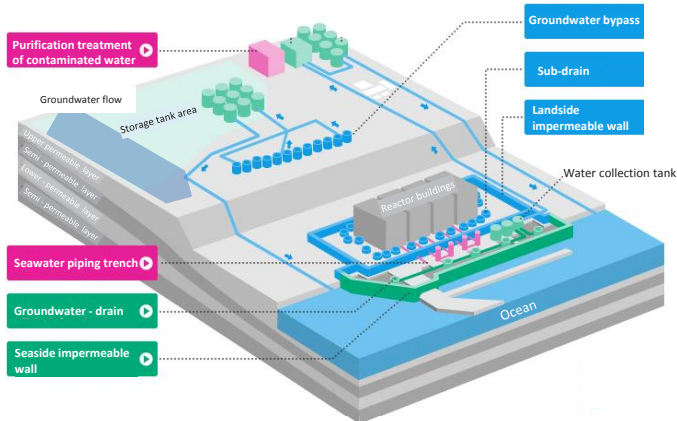


# Contaminated Water Measures at Fukushima Daiichi Nuclear Power Station

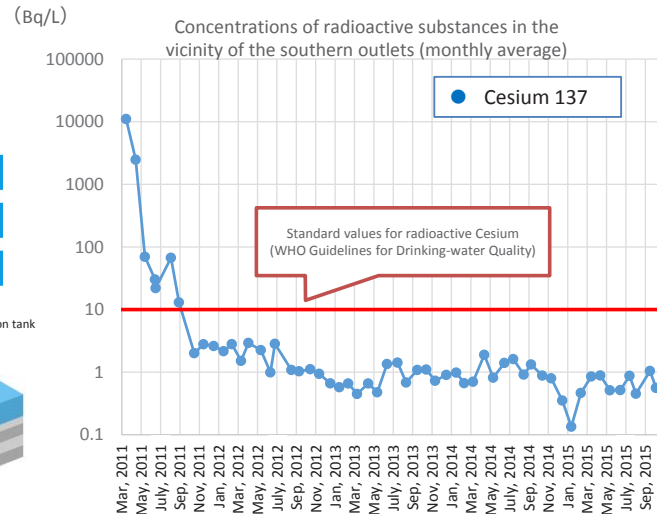
- There has been safe and steady progress of measures for decommissioning and contaminated water.
- Concentrations of radioactive substances outside of the port continue to be sufficiently low even in comparison with global drinking water quality standards (WHO Guidelines for Drinking-water Quality). (IAEA has also recognized that public safety is ensured.)

## 3 Basic Policies

- “Isolating”** groundwater from contamination source  
→ Control amount of contaminated water by reducing groundwater inflow into building
- “Preventing leakage”** of contaminated water  
→ Reduce outflow of radioactive substances into sea
- “Removing”** the contamination source  
→ Remove radioactive substances from contaminated water in tanks



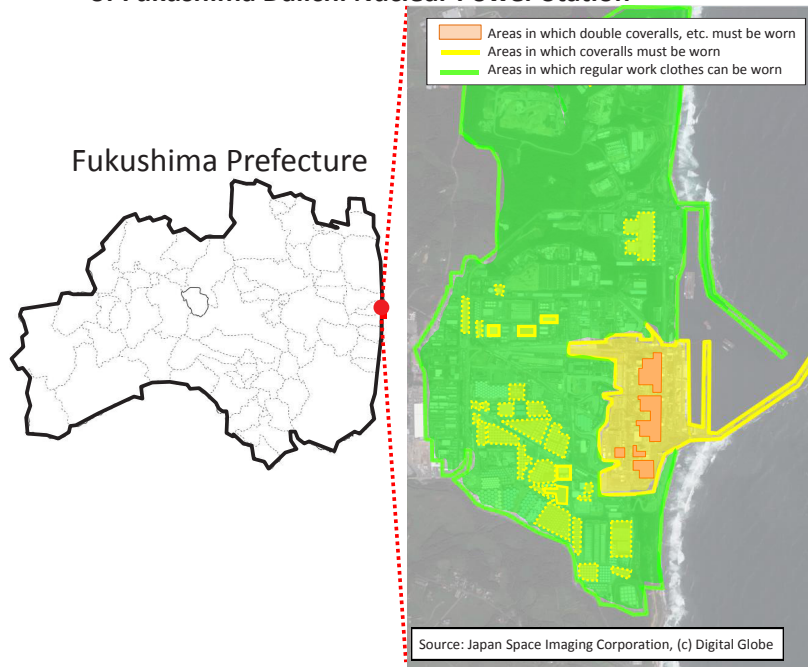
Concentrations of radioactive substances in seawater in the surrounding ocean area (outside the port) have dramatically reduced in the few months immediately after the accident.



# Environmental Improvement at Fukushima Daiichi Nuclear Power Station

- Regular work clothes can be worn in about 90% of areas as a result of decontamination within the premises, etc. (Full-body protective suits and full-face masks are not required.)

**<Area maps by types of work clothes inside the premises of Fukushima Daiichi Nuclear Power Station>**



**<Work scenes in regular work clothes>**





# Adoption of the World's Strictest Level of Standard Limits as Set in Scientific Basis

- Food safety is ensured through a thorough inspection of radioactive substances based on the strictest level of standard limits in the world as set in scientific basis.

(Unit : Bq/kg)

Japan		E U		U.S.		CODEX	
Standard Limits under Food Sanitation Act		Council Regulation (Euratom) 2016/52		CPG Sec. 560.750 Radionuclides in Imported Foods - Levels of Concern		CODEX STAN 193-1995	
Drinking water	10	Liquid food	1,000	Food	1,200	Infant foods	1,000
Milk	50	Dairy produce	1,000			Foods other than infant foods	1,000
Infant foods	50	Infant food	400				
General foods	100	Other food except minor food	1,250				

※Standard Limits in the above table are used to make radiation doses received be below a certain level and are not necessarily the boundaries between safety and danger.

※CODEX: Intergovernmental organization established by Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) to develop international food standards. (Member countries : 187 countries and the EU (as of March 2016))

Source: Created by the Reconstruction Agency based on material from Ministry of Health, Labour and Welfare







# Initiatives for the Safety and Security of Food in Fukushima Prefecture

- Announcement of results of thorough monitoring of agriculture, forestry, and fishery products prior to shipment.
- Significant reduction of products that exceed standard limits (100Bq/kg) in recent years, in comparison to immediately after the disaster.
- Shipments of products that exceed standard limits are restricted. Products on the market are safe.
- The lifting of restrictions on distributions is carried out on the basis of strict criteria.

## State of monitoring of agricultural, forestry and fishery products produced in Fukushima Prefecture

(April 1, 2015 to February 29, 2016)

※Monitoring for brown rice only was conducted from August 20, 2015 to February 29, 2016.

Classification	Total No. samples	No. of samples exceeding standard limits	Proportion of samples exceeding standard limits
 Brown rice (produced 2015)	Approx.10.44 million	0	0.00%
 Fruits & vegetables	4,531	0	0.00%
 Livestock products	4,233	0	0.00%
 Cultivated mushrooms	723	0	0.00%
 Marine fishery products	7,809	0	0.00%
 Wild edible plants and wild mushrooms	768	7	0.91%

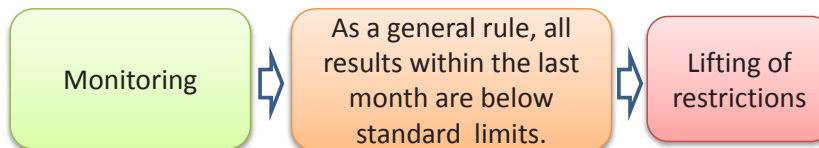
No products were over standard limits

► Safe shipment

► Continued inspections towards the lifting of restrictions

Restrictions of distributions are instructed on each production area for items that are in excess of standard limits

## Flow until Lifting of Restrictions on distributions



### Most recent data:

[http://www.new-fukushima.jp/foreign\\_language\\_potat](http://www.new-fukushima.jp/foreign_language_potat)

(Find the latest information on areas and crops, etc.)

Source: Created by the Reconstruction Agency based on Fukushima Prefecture "Steps for Revitalization in Fukushima (March 11, 2016)" and "Toward a new future of Fukushima" website.



# Initiatives for Inspections of All Bags of Rice in Fukushima Prefecture

- The world's first inspections for radioactive substances have been carried out on all bags of rice since 2012.
- Results in 2015 show that all bags of rice were within the standard limit (100Bq/kg).

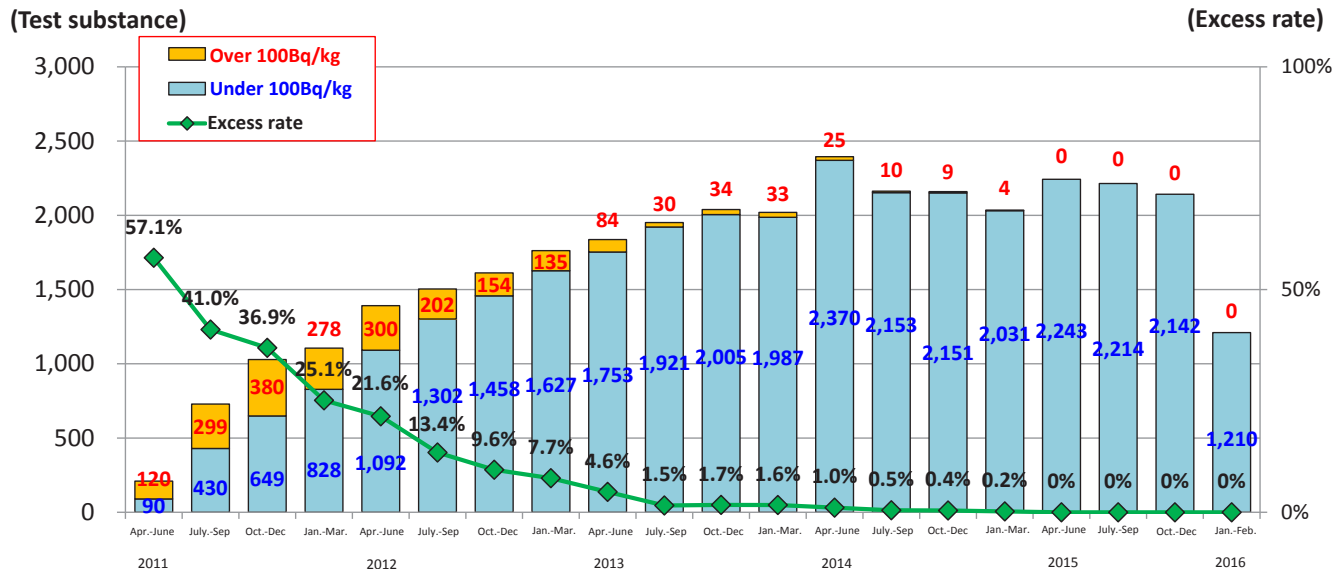


## Evaluation of monitoring, etc. by IAEA (Excerpts from IAEA report (November 2015))

- According to the information provided, although many food restrictions remain in force, it has not been necessary to implement new food restrictions over the reporting period and several such restrictions have been lifted where extensive testing confirms that food collected no longer exceeds the regulatory limit.
- The IAEA continues to acknowledge that systems are in place and are being implemented to prevent food and agricultural products with levels of caesium radionuclides in excess of the national regulatory limits from entering the food supply chain.
- The Joint IAEA / FAO Division understands that the measures taken to monitor and respond to issues regarding radionuclide contamination of food are appropriate, and that the food supply chain is under control.

# Results of Surveys of Marine Fishery Products in Fukushima Prefecture

- Between April and June 2011 immediately after the disaster, the percentage of marine fishery products in Fukushima Prefecture that exceeded the standard limit (100Bq/kg) was 57.1%. This percentage has continued to decline, and has fallen to 0% since April 2015.

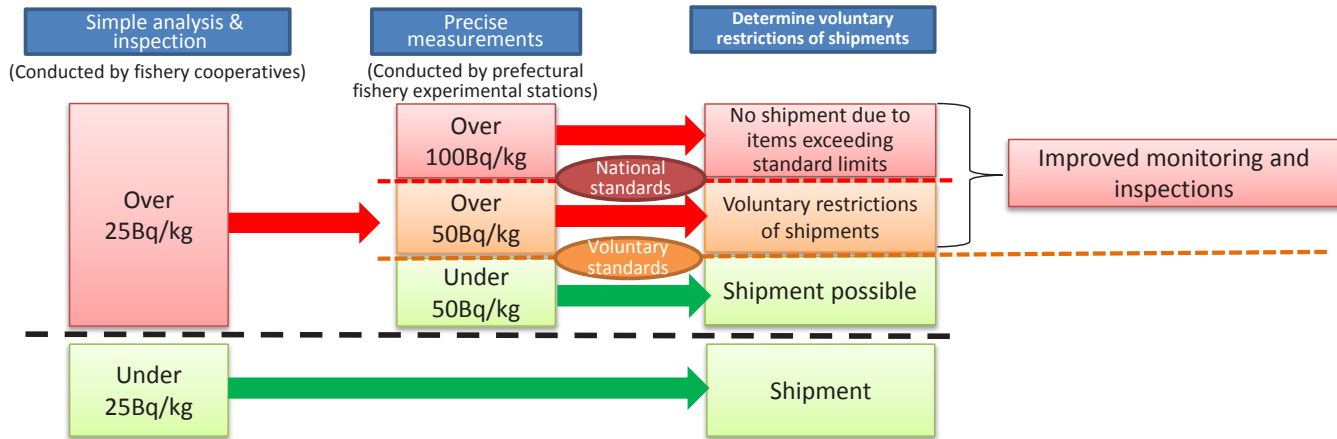


Source: Excerpt from materials created by the Ministry of Agriculture, Forestry and Fisheries

# Voluntary Testing of Marine Fishery Products in Fukushima Prefecture

- Voluntary restrictions of fishing operations and implementation of test operations and sales\* in Fukushima Prefecture.
- Restrictions on distributions are imposed upon items that exceed the standard limit to ensure the safety of marine fishery products reaching consumers.
- Fishery cooperatives give due attention to safety and security by conducting voluntary inspections based on voluntary standard limits (50Bq/kg) that are stricter than national standards.

\*Test operations and sales: As a result of inspections of radioactive substances in marine fishery products during voluntary restrictions since March 2011, operations and sales in ocean areas and fish species that are stably below standard limits are being conducted on a trial basis.



Source: Created by Reconstruction Agency based on Fukushima Prefectural website

## Evaluation of monitoring by the IAEA (Excerpt from IAEA report (February 2014))

Japan adopted a limit of 100 Bq/kg in combined Cs-134 and Cs-137 for food products in 2012, which also applies for marine fishery products, to keep public dose below the international standard level. Accordingly, the comprehensive monitoring system has been developed by Japan, both for seawater and for the products in the food chain. Additionally, Japan has introduced limits for food controls that are based on the international standard level. This systematic approach, together with the distribution restrictions by relevant local governments, ensures the safety of the marine fishery products in the market.





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