June 16, 2015 **Fukushima Report**

William Neal, General Manager NBWD:

On March 11, 2011 at 5:46 am JST a 9.0 magnitude undersea megathrust earthquake occurred off the cost of Japan. 43 miles east of the Oshika Peninsula of Tohoku and 30 miles deep the earth erupted in a spasm so violent its roar could be heard in space and when its six minutes of mayhem was spent, the Island of Honshu was now 8 feet farther to the west, the earth was shifted 10 inches on its axis and tsunami waves up to 133 feet high had traveled as far as 10 miles inland.

One year later the Japanese government confirmed the destruction. 15,891 died, 6,152 injured, and 2,584 missing. 228,863 still living in temporary housing. 127,290 buildings totally lost, 272,788 buildings severely damaged, and 747,989 building partially damaged.

In six minutes of early morning unbelievable terror, while winter refused to yield, the Island nation of Japan was quite literally changed and the people of Japan who survived will be forever mindful of the power of the earth and sea.

On March 12, 2011, after suffering extensive damage from the tsunami waves the day before, the workers at the Fukushima Daiichi Nuclear Power Plant could no longer contain the disaster. They allowed the release radioactive material into the sea and groundwater and it continued for weeks. The exact amount of contamination released into the environment is not known but it is conservatively estimated to be 40% of the contamination released by Chernobyl.

Of concern to many people who live on the west coast of the United States and Canada is the contamination that entered the Pacific Ocean, especially iodine-131, caesium-134, and caesium-137. Following are a collection of reputable reports related to Fukushima contamination and the environment in Washington and other west coast areas. In addition, I invite you to watch a 6 minute video created by the Woods Hole Oceanographic Institution and the Aquarium of the Pacific for NOAA's Science on a Sphere (SOS) system. (https://vimeo.com/122642785).

Fukushima - Frequently Asked Questions

The Department of Health continues to work with local and federal partners to monitor for radioactive contamination from the damaged nuclear reactors in Fukushima, Japan. So far, nothing has been found in Washington that poses a health risk.

What is the health risk from being exposed to radiation from Fukushima?

The level of radiation from samples collected in Washington has consistently been very low, far below levels that cause a health risk. The World Health Organization reports there are no health risks from Fukushima radiation releases for people living outside Japan.

Could fish caught off the Pacific coast have radioactive contamination from the damaged nuclear reactors in Fukushima?

So far, studies show that no fish or shellfish off the Pacific coast have radioactive contamination that would pose a risk to people who eat them. The state Department of Health has tested a limited amount of fish and shellfish to look for radioactivity from nuclear power plants. All test results were far below levels that would pose a threat to peoples' health.

If there's another big earthquake in Japan, will we have to evacuate our West Coast due to radioactivity?

Earthquakes in the Pacific Ocean and Pacific Rim countries are always a potential threat, mainly because of possible tsunamis. In Washington, a tsunami could lead to evacuating people and animals from coastal areas to avoid risk from surging waves; however, the need for such an evacuation would not be due to radioactivity, even if there's another nuclear accident in Japan

With a predicted "plume" of radioactive water coming our way, is the Pacific Ocean being tested for radiation from the Fukushima nuclear plant?

Organizations collecting and analyzing water samples from the Pacific Ocean to check for radiation from the Fukushima nuclear plant:

- Alaska Department of Health and Social Services
- California Department of Public Health
- Oregon Public Health
- Woods Hole Oceanographic Institution

Washington Department of Health regularly tests seawater from Puget Sound near Bremerton and Bangor for radioactivity. We are currently testing water for radiation from the Fukushima nuclear plant, and results will be posted when ready.

What about the 'melting starfish?' Isn't that happening because of radiation?

Cases of "sea star wasting syndrome" have been reported on the Pacific and Atlantic coasts for at least a decade, which predates the Fukushima nuclear disaster. There's been no evidence that radiation is a cause, although the actual cause is unknown. The University of California-Santa Cruz is leading a study on this issue. Surveys in Washington are coordinated by Western Washington University. More information is available at www.seastarwasting.org.

Are Washington beaches safe for beachcombers and clammers?

We've tested shellfish collected from Pacific beaches in Washington for radiation and found extremely low levels, which is normal. There are natural radiation levels in the ocean and in beaches. However, nothing that would cause harm.

Can I use a Geiger counter to detect radiation from Fukushima?

The short answer is "no," and here's why: Geiger counters cannot determine whether the source of radiation is man-made or natural. News reports about high count rates detected by a person using a Geiger counter on a beach near San Francisco were unlikely to indicate radioactive material from Fukushima. The California Department of Public Health (PDF) tested the same beach in January 2014 and found that elevated radiation is due to naturally occurring thorium-bearing minerals in beach sand, and not material from Fukushima. These minerals are common, and often elevated, in some beach sands.

Other Questions?

If you have questions about radiation, call 360-236-3300 or contact RadiationInfo@doh.wa.gov.

Fukushima and Radioactivity in Washington

In 2011, a devastating tsunami damaged several nuclear reactors at a power plant in Fukushima, Japan. Since then, there have been reports in national and international news about contaminated water leaking into the ocean at Fukushima.

Although we don't have a way to directly monitor what's happening in Japan, we can share information that we do track in our state. Projected radiation levels from material coming from Fukushima are expected to pose no public health risk here.

What we are doing

- Air and rainwater monitoring
- Fish and shellfish testing
- Seawater testing
- Tsunami debris testing

Fukushima 2011-Rainwater

The following is archived information that was originally published on this website in 2011.

Important information about this page.

The Department of Health posted daily results of environmental monitoring in March and April 2011 in response to the nuclear events following the earthquake and tsunami in Japan. All detections of radioactive material were far below any public health risk. The data posted online included monitoring conducted by the state health department in addition to the federal monitoring that is always taking place. In May, when amounts of radioactive material were lower than detection levels with standard monitoring, the additional state sampling and daily data posting were stopped. Daily federal monitoring has concluded, but the historical data for that period is available on the Environmental Protection Agency's RadNet website.

Rainwater samples (testing for Iodine-131)

Date	Iodine-131 in pCi/L*
4/29/2011	1.0
4/26/2011	2.6
4/19/2011	3.4
4/16/2011	3.5
4/11/2011	1.8
4/7/2011	8.9
4/4/2011	15.4
4/1/2011	5.9
3/31/2011	25.4
3/28/2011	58.2

Radiation monitoring in rainwater

The Washington State Department of Health is collecting and testing rainwater for the presence of radioactive materials after the nuclear power plant emergency in Japan. The earthquake and tsunami on March 11 damaged the reactors and caused radioactive iodine (iodine 131) to be released to the air.

State health department testing showed very low levels of I-131 in rainwater, as expected. The amounts detected are far below any public health concern. Iodine levels have decreased sharply and are expected to drop below detection limits in the next few weeks. Sampling will continue until the iodine is no longer detected in rainwater. This data table shows iodine levels measured in picocuries per liter (pCi/L) of rainwater.

To verify the rainwater detection, several samples from cistern drinking water supplies in the state were tested. Cistern systems collect rainwater for drinking. Our test results showed even lower traces of radioactive iodine in the cistern than in our rainwater samples — 12, 11, 10, and 7 picocuries per liter — confirming radioactive iodine from Japan is not a health threat in the water.

***Measures are in picocuries per liter (pCi/L).**

Rainwater samples are collected in the Seattle area.

Washington State Department of Health

Seawater Testing - Fukushima Disaster

The Department of Health is currently testing water for radiation from the Fukushima nuclear plant, and results will be posted when ready.

We routinely test Puget Sound water in the area surrounding U.S. Navy facilities at Bremerton and Bangor for radioactivity; these tests are done twice each year. No radioactivity related to Fukushima has been detected.

- Seawater testing 2013-2015 results

Other organizations that monitor seawater for radioactivity

- Oregon Public Health
- Woods Hole Oceanographic Institution

Washington State Department of Health

Seawater Testing - Fukushima Disaster

The Department of Health routinely tests Puget Sound water in the area surrounding U.S. Navy facilities at Bremerton and Bangor. Water is measured for radioactivity, including cesium-134 (Cs-134), cesium-137 (Cs-137), and iodine-131 (I-131). Below are test results from 2013, 2014, and beginning of 2015. All test results show there is no health risk.

*Not Detected

Sample Type	Location	Collect Date	Cs-134	Cs-137	I-131
Puget Sound	Bangor	1/14/2015	ND*	ND*	ND*
Puget Sound	Bremerton	1/8/2015	ND*	ND*	ND*
Puget Sound	Bremerton	7/14/2014	ND*	ND*	ND*
Puget Sound	Bangor	7/10/2014	ND*	ND*	ND*
Puget Sound	Bangor	4/15/2014	ND*	ND*	ND*
Puget Sound	Bremerton	4/2/2014	ND*	ND*	ND*
Puget Sound	Bangor	1/22/2014	ND*	ND*	ND*
Puget Sound	Bremerton	1/14/2014	ND*	ND*	ND*
Puget Sound	Bangor	7/18/2013	ND*	ND*	ND*
Puget Sound	Bremerton	7/10/2013	ND*	ND*	ND*
Puget Sound	Bremerton	1/15/2013	ND*	ND*	ND*
Puget Sound	Bangor	1/8/2013	ND*	ND*	ND*

Water Monitoring

Oregon Public Health reports no health risk from trace radiation from Japan

- Water monitoring data

The Oregon Public Health Division and the Environmental Protection Agency continue to track levels of radiation linked to the tsunami and nuclear power plant event in Japan. There is no public health risk due to the trace levels of radiation from Japan.

Even before the 2011 Japan Event occurred, the Oregon Public Health Division has had an ongoing environmental sampling program in place. Radiation Protection Services (RPS) evaluates water at a standard environmental sampling frequency. Rain water is collected and analyzed once a month, and drinking water is collected and analyzed once a quarter.

The analysis has continually shown normal background levels of radiation. The radiation levels would have to be hundreds of thousands of times higher before Oregonians need to take any protective actions, according to the U.S. Environmental Protection Agency. In a typical day, Americans receive doses of radiation from natural sources like rocks, bricks and the sun.

Beginning in April 2012, in light of the potential landfall of Japan Tsunami marine debris along the Oregon coast, OPH and RPS began enhanced sampling activity of surf water, sand from the high tide line and drinking water from three locations along the Oregon coast.

In March 2013, RPS performed a scientific review of 12 months worth of data collected from the samples. The review of the data continues to show that it is highly unlikely that Japan tsunami marine debris presents a radiation public health risk.

Based on the review of the data collected to date, effective April 2013, RPS has changed it sampling protocol to quarterly. RPS will continue to work with the Beach Rangers and the Department of Parks and Recreation to collect samples and will continue to post the results on our website. If RPS does identify an increase of activity from any of the collected samples, it will increase the sampling frequency to ensure the safety of our beaches and the health of the citizens of the state of Oregon.

Additional Information

- Japan Tsunami Marine Debris Information

More Information

Archived 2011 Japan Radiation Event

Bulletins & Newsletters

Japan Tsunami Marine Debris

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FDA Response to the Fukushima Dai-ichi Nuclear Power Facility Incident

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March 2014 Update

To date, FDA has no evidence that radionuclides from the Fukushima incident are present in the U.S. food supply at levels that would pose a public health concern. This is true for both FDA-regulated food products imported from Japan and U.S. domestic food products, including seafood caught off the coast of the United States. Consequently, FDA is not advising consumers to alter their consumption of specific foods imported from Japan or domestically produced foods, including seafood. FDA continues to closely monitor the situation at and around the Fukushima Dai-ichi facility, as it has since the start of the incident and will coordinate with other Federal and state agencies as necessary, standing ready to take action if needed, to ensure the safety of food in the U.S. marketplace.

Import Alert # 99-33[1] [2], which instructs FDA field personnel to detain foods shipments from Japan if the food is likely to contain radionuclide contamination, remains active. In addition, FDA tests for radionuclides as part of its routine surveillance, through the toxic elements in food and foodware monitoring program and through its Total Diet Study[3].

On top of the information obtained from its testing of imported and domestic foods, FDA stays current on radiation monitoring efforts by other U.S. Government agencies, including the environmental radiation monitoring program (RadNet[4]) conducted by the Environmental Protection Agency (EPA). Additionally, the Agency consults on a formal and informal basis with experts from government, academia and the private sector on radiation safety issues. FDA scientists also keep abreast of scientific publications and reports from both private and public scientific institutions, including oceanographic research institutions. For example, a study published in 2012 in the Proceedings of the National Academy of Sciences (PNAS) reported finding very low levels of Cesium in Pacific Bluefin tuna caught by recreational fisherman off the coast of California in August 2011. FDA reviewed this study and determined that the levels of cesium were roughly 300 times lower than levels that would prompt FDA to investigate further to determine if there were a health concern.

FDA also closely monitors information and data from a number of foreign governments and international organizations. This includes monitoring;

- the Japanese government's food sample testing program
- the import sample testing programs of nations geographically close to Japan that import significant amounts of food from Japan
- Fukushima Dai-ichi incident related activities of international organizations such as the International Atomic Energy Agency (IAEA).

FDA continues to pay close attention to the situation at the Fukushima Dai-ichi facility and to use data, and information from the variety of sources described above, including the results of its own testing and surveillance efforts to ensure that any FDA-regulated food with harmful levels of radiation as a result of the Fukushima incident is kept out of the U.S. market.

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Questions about Food Safety

What systems does FDA have in place to protect the U.S. food supply?

The U.S. enjoys one of the world's safest food supplies. FDA has systems in place to help assure that our food supply is wholesome, safe to eat, and produced under sanitary conditions.

FDA has a team of more than 900 investigators and 450 analysts in the Foods program who conduct inspections and collect and analyze product samples. FDA oversees the importation of the full range of regulated products, including food and animal feed, among other responsibilities.

Altogether, FDA electronically screens all import entries and performs multiple analyses on about 31,000 import product samples annually. Durin Fiscal Year (FY) 2010, the Agency performed more than 175,000 food and feed field exams and conducted more than 350 foreign food and feed inspections.

FDA works to inspect the right imports—those that may pose a significant public health threat – by carrying out targeted risk-based analyses of imports at the points of entry.

If unsafe products reach our ports, FDA's imports entry reviews, inspections, and sampling at the border help prevent these products from entering our food supply. FDA also works cooperatively with U.S. Customs and Border Protection and other agencies to help identify shipments that may pose a threat. If radiation levels in any food reach the FDA intervention level, FDA will take action to remove the food from distribution We will continue to keep you updated about this situation. For more information about milk and other food screening, please visit **www.usa.gov/japan2011**[5].

What is FDA doing to ensure the safety of products imported from Japan?

FDA continues surveillance at U.S. borders including radiation screening of shipments. On March 22, 2011, FDA issued an import alert, regarding the importation of all milk and milk products and fresh vegetables and fruits produced or manufactured from the four Japanese prefectures of Fukushima, Ibaraki, Tochigi and Gunma (Import Alert 99-33: Detention Without Physical Examination of Products from Japan Due to Radionuclide Contamination).

Revisions to this Import Alert dated March 23, April 12, April 14, April 20, April 21, May 9, June 13, July 6, and October 21, 2011, February 1, 2012, July 25, 2012 and September 9, 2013, provided updates to the products and/or prefectures subject to detention without physical examination. The import alert currently reflects the areas of concern in fourteen prefectures: Fukushima, Aomori, Chiba, Gumna, Ibaraki, Iwate, Miyagi, Nagano, Niigata, Saitama Shizuoka, Tochigi, Yamagata and Yamanashi and currently includes other products of concern, including meat and seafood products.

http://www.accessdata.fda.gov/cms_ia/importalert_621.html[6]

FDA may adjust this strategy based on additional information received from monitoring results in Japan. FDA may also further evaluate this strategy if the Government of Japan makes changes to its list of prohibited exports. FDA and the Government of Japan will continue to work to ensure products from the affected prefectures do not pose a health risk to U.S. consumers.

FDA's import tracking system has been programmed to automatically flag all shipments of FDA-regulated products from Japan, and the Agency maintains a registry of Japanese companies that prepare, pack, manufacture, or hold food for intended consumption in the U.S. The Agency will be paying special attention to shipments from those companies in the affected area.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (the Bioterrorism Act) requires shippers to submit, and FDA to receive prior notice of a shipment before the arrival of any shipments of FDA-regulated food/feed products. FDA's Division of Food Defense and Targeting (DFDT), (Formally known as the Prior Notice Center (PNC)), enables the agency to stop these products upon arrival at the U.S. border or before they are distributed in U.S. commerce if a credible threat is identified for any shipment.

United States Customs and Border Protection (CBP) agents routinely use radiation detection equipment to screen food imports, cargo, and travelers. This screening helps identify and resolve potential safety or security risks. FDA continues to work with CBP to identify shipments of FDA-regulated products originating from Japan before they arrive so that these shipments can be better targeted for examination. FDA's import staff will review each shipment of regulated goods originating from Japan and determine if it should be refused, examined and sampled or released.

What products come to the U.S. from Japan?

FDA-regulated products imported from Japan include human and animal foods, medical devices and radiation emitting products, cosmetics, animal and human drugs and biologics, dietary supplements, and animal feeds. Foods imported from Japan make up less than 4 percent of foods imported from all sources. (Food products from Canada and Mexico each make up about 29 percent of all imported foods.) Almost 60 percent of all products imported from Japan are foods. The most common food products imported include seafood, snack foods and processed fruits and vegetables.

What specific tests is FDA using?

FDA has procedures and laboratory techniques for measuring radionuclide levels in food, and can also utilize the **Food Emergency Response Network (FERN)**[7]. FERN integrates the nation's food-testing laboratories at the local, state, and federal levels into a network that is able to respond to emergencies involving biological, chemical, or radiological contamination of food. FDA is working with Customs and Border Protection (CPB) to share resources and techniques for measuring contamination. FDA has the ability to measure contamination in products and issued guidance in 1998 regarding safe levels.

For those food and feed imports from the areas in proximity to the reactor but not covered by the import alert, FDA will:

- Conduct a field examination, including time/temperature changes, water damage.
- Collect a sample for radionuclide analysis at FDA laboratories.

For food and feed imports from Japan that originate outside the area of concern, FDA will:

- Collect a sample for any radiation pager reading significantly above background.
- As additional surveillance and as resources allow, collect other samples for radionuclide analysis as resources permit, for readings of 0 or the radionuclide pager.

Click here for FDA's methodology used in radionuclide analysis[8]

What does FDA look for when it tests food for radioactive contamination?

When FDA tests food for radioactive contamination, it measures how much radiation is released by radioactive materials that are not expected to be naturally present.

Radioactive materials are substances that release high energy particles or electromagnetic radiation. These high energy particles or electromagnetic radiation are emitted by unstable atoms as they go through transition to a more stable state. The energy that is released from radioactive materials is called radiation. Radioactive materials can be natural (for example, some rocks in the earth are radioactive) or man-made.

What are the principal radionuclides involved in a nuclear reactor accident?

Iodine-131 (I-131), Cesium-134 (Cs-134) and Cesium-137 (Cs-137) are the radionuclides of greatest concern to the food supply following a nuclear power plant accident. Along with those three radionuclides, FDA also monitors others as needed – among them, Strontium-90, Ruthenium-103 (Ru-103) and Ruthenium-106 (Ru-106).

Since the Fukushima nuclear accident, FDA has screened incoming food items for these radionuclides and others as needed. FDA also continually evaluates data and information from the accident and adjusts monitoring activities as needed.

What are the standards FDA uses to determine the amounts of specific radioactive materials in foods and whether they may cause a safety concern?

FDA uses **Derived Intervention Levels (PDF)**[9] (DILs) to help determine whether food presents a safety concern. The criteria used to set DILs include:

- the percentage of potentially contaminated foods in a person's diet

- the amount of food typically eaten
- the length of time that a person may be expected to eat contaminated food
- the potential exposure to contaminated foods of different members of the population, including infants and children.

In general, DILs apply to all foods. FDA does not have different DILs for different types of food, though DILs may be adjusted based on, for example, whether a food must be rehydrated before being ready to eat.

For more information about the DILs, please see the following links:

- **CPG Sec. 560.750 Radionuclides in Imported Foods - Levels of Concern**[10]
- **Accidental Radioactive Contamination of Human Food and Animal Feeds: Recommendations for State and Local Agencies (PDF)**[11]

What has FDA's screening and testing shown so far?

As of March 10, 2014, FDA has tested 1,345 import and domestic samples specifically to monitor for Fukushima contamination. Two hundred and twenty-five of these were seafood or seafood products. Of the 1,345 samples, two were found to contain detectable levels of Cesium, but the levels were well below the established Derived Intervention Level (DIL) and posed no public health concern. They were:

- Ginger Powder (sample no. 686901, collected April 2011)
- Green Tea Bag (sample no. 827430, collected August 2013)

FDA radionuclide in food analysis results (PDF - 3.24 MB)[12]

During this time, routine monitoring of the domestic U.S. food supply was also conducted and included roughly 1,500 samples of many food products, including six containing seafood or fish. No contamination was detected during this routine monitoring. Information about this monitoring program can be found at: http://www.fda.gov/downloads/Food/ComplianceEnforcement/UCM073281.pdf[13]

How will water contaminated with radioactive materials affect seafood safety?

FDA does not anticipate any public health effect on seafood safety. This is due to a number of factors:

- **Little or no harvesting of fish is taking place in the area around the reactor.** The initial earthquake and tsunami caused significan damage to fishing vessels and dock areas prior to the release of radiation. Additionally, many of the remaining ocean-worthy vessels are being used for recovery missions. Because of this, fishing is not a priority at this time.
- **Water acts as both a shield and a diluent.** Airborne radioactive particles settle on the surface of the water. The volume of water between particles and fish absorbs radiation, "shielding" the fish. In the case of a direct release into the sea, the amount of water in the ocean rapidly dilutes and disperses the radiation to negligible levels.
- **Some radioactive isotopes rapidly decay.** The half life of I-131 is about eight days. That means that the level of radiation drops by half every eight days. This process is called "radioactive decay." This drop in the level of radiation means that the level does not stay constant through the lifetime of the fish. While Cesium isotopes have longer half-lives (Cs-134 has a half-life of about two years, Cs-137 a longer half-life of about 30 years), the radionuclides also undergo biological excretion and do not continue to build up in fish forever.
- **FDA and Customs and Border Protection (CBP) are screening all imported food from Japan.** Fish harvested in Japan undergo th same screening for radiation when they arrive in the U.S. as other food products from Japan. This means that whole shipping containers are screened by CBP. FDA field staff also conduct field examinations. They carry hand-held equipment that detects radiation. If the detectors indicate radiation above background levels, FDA samples and tests the shipment to determine the amount of radiation.

What about fish that swim from the reactor site into U.S. fishing waters?

Japan to U.S. waters would take several days under the best of circumstances. Vessels fishing in waters far off U.S. shores must also travel several days to return to port. It is unlikely that a fish exposed to significant levels of radionuclides near the reactor could travel to U.S. waters and be caught and harvested. If this improbable trip did occur, the level of short-lived radionuclides such as I-131 would drop significantly through natural radioactive decay during the time needed to make the journey. At this time, Japanese tests have detected longer-lived radionuclides such as Cs-137 in only a few samples and at levels below FDA DILs. FDA's testing of fish imported from Japan has not detected the presence of Cs-137.

In the unlikely scenario that pollutants could affect fish that have traveled to the U.S., FDA will work with the National Oceanic and Atmospheric Administration (NOAA)to test seafood caught in those areas. Together FDA and NOAA will also inspect facilities that process and sell seafood fron those areas.

Where would the seafood be analyzed?

FDA's Winchester Engineering and Analytical Center (WEAC) will conduct any needed sample analysis. WEAC can also reach out to the Food Emergency Response Network (FERN) laboratories that are able to perform this analytical testing for assistance if needed.

Is FDA looking at products that might have traveled through Japan at the time of the explosion?

FDA will be examining both food products labeled as having originated in Japan or having passed through Japan in transit. The same is true for raw ingredients.

Are there dairy products that come from Japan?

Foods imported from Japan constitute less than 4 percent of foods imported from all sources. Dairy products make up only one-tenth of one percent of all FDA-regulated products imported from Japan. Most dairy products in the U.S. market are produced domestically.

The U.S. Environmental Protection Agency (EPA) has reported low levels of radionuclides in milk in the U.S. Is this a cause for concern?

At this time, there is no radiation safety risk related to milk produced in the U.S.
EPA monitors milk for radiation under its RADNET program, and has reported extremely low levels of I-131 and Cesium in some milk samples. These results are expected and are far below FDA's Derived Intervention Levels. Even for a person who drinks a lot of milk, it would be virtually impossible to consume enough milk to approach the level of concern.
As federal and state agencies test milk samples, low levels of I-131 may be found in different samples, and the levels may vary slightly. However these low levels are not expected to cause adverse health effects, even for the developing fetus, babies, or children.
At this time, there is no public health threat in the U.S. related to radiation exposure. FDA, together with other agencies, is carefully monitoring any possibility for distribution of radiation to the United States. At this time, theoretical models do not indicate that significant amounts of radiation will reach the U.S. Please see **www.epa.gov**[14] for more information about monitoring efforts.

What will FDA do if grass or feed crop in the US does become contaminated?

FDA's response will depend on the nature of the risk determined to exist. If the grass or feed crop in the U.S. becomes contaminated, FDA will evaluate the risk based on:
A. the extent/type of contamination in terms of radionuclides and their levels
B. the area contaminated and whether it is used for food production
C. if used for food production, what types of foods or crops produced and whether those foods or crops would be further processed and if so, what foods would ultimately result from that further processing.

What are other Federal agencies doing to protect the food supply?

Information about the U.S. Government's comprehensive efforts to protect the food supply can be found in this joint fact sheet[15] from the U.S. Department of Agriculture (USDA) and the National Oceanic and Atmospheric Administration (NOAA).
Additionally FDA continues to work with its fellow member of the Federal Advisory Team for Environment Food and Health, including EPA, USDA and CDC. The Advisory Team is a radiological emergency response group of technical experts tasked with providing protective action recommendations to state and local governments on behalf of its member agencies.

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Questions about Medical Products

What is the FDA doing to ensure the safety of drugs coming from Japan?

FDA's screening procedures will remain vigilant and will be augmented with screening of all Japanese shipments entering the United States. The agency has established special procedures to evaluate drugs originating from the ten prefectures in closest proximity to the Fukushima Daiichi nuclear plant.

FDA will physically examine for radiation all drugs originating from these ten prefectures. Based on the results of those physical examinations, FDA may also test products to determine if they are safe to admit into the U.S. FDA will also physically examine and test all injectable and inhalable drugs regardless of their place of origin within Japan.

Why is FDA paying special attention to injectable and inhalable drugs?

Injectable and inhalable drugs will be subject to physical examination and testing regardless of their place of origin within Japan because these drugs more directly enter into the bloodstream. All other drugs originating from outside of the ten prefectures in closest proximity to the Fukushima Daiichi nuclear plant will be subject to normal processing for examination, sampling, and testing.

How long will FDA maintain this heightened level of scrutiny for drugs coming from Japan?

FDA will adjust the evaluation and testing procedures based upon additional information about conditions in Japan, and the results of testing procedures of drugs originating from Japan.

Hypothetically, if they were needed, what are the FDA-approved products for treatment of internal contamination with radioactive iodine?

There are three FDA-approved potassium iodide (KI) products for use as an adjunct to other public health protective measures in the event that radioactive iodine is released into the environment. The three over-the-counter products are:

- Iosat Tablets (130 mg), Anbex, Inc., Williamsburg, Va., **http://www.anbex.com**[16] [17]
- ThyroSafe Tablets (65 mg), Recipharm AB, Jordbro, Sweden,**http://www.thyrosafe.com**[18] [19]
- ThyroShield Solution (65 mg/mL), Fleming & Company Pharmaceuticals, Fenton, Mo. **http://www.thyroshield.com**[20] [21]

When administered at the recommended dose, KI is effective in reducing the risk of thyroid cancer in people at risk for inhalation or ingestion of radioactive iodine. KI floods the thyroid with non-radioactive iodine and prevents the uptake of the radioactive molecules. Potassium iodide work only to prevent the thyroid from uptaking radioactive iodine. It is not a general radioprotective agent.

Is potassium iodide the only medication available for radiation exposure?

Potassium iodide is the only FDA-approved medication available to treat contamination with radioactive iodine. There are FDA-approved products available that increase the rate of elimination of other radioactive elements. They include:

- **Calcium-DTPA and Zinc DTPA, Hameln Pharmaceuticals.** Approved to treat known or suspected internal contamination with plutonium, americium, or curium to increase the rates of elimination.
- **Radiogardase (Prussian blue insoluble capsules), HEYL Chemisch-Pharmazeutische Fabrik GmbH & Co. KG.** Approved to treat known or suspected internal contamination with radioactive cesium and/or radioactive or non-radioactive thallium to increase their rates of elimination.

We have heard that potassium iodide is in short supply. Is that correct?

FDA daily evaluates the pharmaceutical supply for a wide variety of drugs to assess shortage issues.
Despite the fact that there is no public health event in the U.S. requiring KI, FDA is aware of an increased demand for KI products. FDA is working with these companies to facilitate increased production. FDA can't provide an exact date on when that might happen but it will occur as quickly as possible.
Due to public concern related to the nuclear incident in Japan, there is an increased demand for drugs used to prevent and treat harmful effects caused by radiation exposure or contamination with radioactive materials. At this time, however, the U.S. Government is not recommending that residents of the United States or its territories take potassium iodide, even as a preventative measure. According to the Nuclear Regulatory Commission, all the available information continues to indicate that the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity. Based on this, it is not expected that U.S. citizens will need potassium iodide. Nonetheless, the FDA is working with manufacturers to facilitate increased production of this medicine as quickly as possible.

Does FDA recommend that consumers purchase potassium iodide as a protective step?

No. There is no public health event requiring anyone in the U.S. to take KI because of the ongoing situation in Japan.

With exports from Japan disrupted, is there any possibility that some medical products could be in short supply?

FDA has been contacted by a few companies who receive product from Japan and the Agency is working with them on their supply issues.

Have U.S. manufacturers of potassium iodide been asked to ship any products to Japan?

At this time, the FDA is not aware of any request from Japan to the U.S. manufacturers of FDA -approved potassium iodide. In addition, there is not a public health event requiring anyone in the U.S. to be taking KI because of the ongoing situation in Japan.
Drugs shipped to a foreign country, including as part of a humanitarian relief effort, are considered exports, and therefore, need to meet certain legal requirements under the Federal Food, Drug, and Cosmetic Act (FFDCA). If a drug is approved and is otherwise in compliance with the FFDCA's requirements, there are no additional restrictions by FDA on its exportation. Drugs that are not approved or that otherwise are not in compliance with the FFDCA's requirements may be exported if the exportation meets certain conditions and requirements.

Can a sponsor of an investigational new drug export its product to Japan? Does FDA have to authorize such an export?

The sponsor of an investigational new drug can export its product to Japan. The FDA regulations, found at 21 CFR 312.110(b)[22], outline several ways for the sponsor to export its investigational new drug provided the new drug satisfies the terms listed. For exports most relevant to the current situation, prior FDA authorization is not required for the sponsor to export an investigational new drug under this section of the regulations.

If I see web sites advertising potassium iodide or alternative cures, should I buy the products?

Due to public concern related to the nuclear incident in Japan, there is an increased demand for drugs used to prevent and treat harmful effects caused by radiation exposure or contamination with radioactive materials. One drug, potassium iodide (KI), has been approved by the FDA to prevent thyroid cancer in people internally contaminated with radioactive iodine.
At this time, the U.S. Government is not recommending that residents of the United States or its territories take KI, even as a preventative measure. According to the Nuclear Regulatory Commission, all the available information continues to indicate that Hawaii, Alaska, the U.S. Territories, and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.
The FDA is alerting consumers to be wary of internet sites and other retail outlets promoting products making false claims to prevent or treat effects of radiation or products that are not FDA-approved. These fraudulent products come in all varieties and could include dietary supplements food items, or products purporting to be drugs, devices or vaccines.

Has FDA taken any action on these types of products thus far?

FDA has issued Warning Letters to firms promoting a variety of fraudulent products that claim to prevent or treat the harmful effects of radiation exposure from the nuclear power plant incident in Japan as a consequence of the earthquake and tsunami. The firms that received the letters, along with the radiation protection products they market, are:

- KT Botanicals, LLC: - "Acute Radiation Exposure Support Formula" - **http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm251311.htm**[23]
- Eidon, Inc. - "Liquid Iodine" - **http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm251793.htm**[24]
- Premier Micronutrient Corporation - "Bioshield Radiation® R1", "Bioshield Radiation® R2" - **http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm253423.htm**[25]

How can consumers identify products that may be violative?

Consumers should be wary of the following:

- claims that a product not approved by FDA can prevent or treat the harmful effects of radiation exposure related to a nuclear incident (i.e., meltdown of a nuclear power plant);
- suggestions that a potassium iodide product will treat conditions other than those for which it is approved, i.e., KI floods the thyroid with non-radioactive iodine and prevents the uptake of the radioactive molecules, which are subsequently excreted in the urine;
- promotions using words such as "scientific breakthrough," "new products," "miraculous cure," "secret ingredient," and "ancient remedy";

- testimonials by consumers or doctors claiming amazing results;
- limited availability and advance payment requirements;
- promises of no-risk, money-back guarantees;
- promises of an "easy" fix; and,
- claims that the product is "natural" or has fewer side effects than approved drugs.
- claims that kelp, seaweed, and other food products contain enough iodine to protect against radioactive iodine. These products contain very little iodine when compared to the approved drug products. There are no foods or dietary supplements approved by FDA for protection against radioactive iodine

Don't be fooled by professional-looking Web sites. Avoid Web sites that fail to list the company's name, physical address, phone number, or othe contact information. For more tips for online buying, visit Buying Medicines and Medical Products Online[26]. To determine if a particular drug is FDA approved, check The Orange Book[27]17 or Drugs@FDA[28].
Consumers and health care professionals are encouraged to report adverse side effects or medication errors from the use of both approved and unapproved radiation exposure products to the FDA's MedWatch Adverse Event Reporting program at **www.fda.gov/MedWatch**[29] or by calling 800-332-1088.

Page Last Updated: 07/30/2014
Note: If you need help accessing information in different file formats, see Instructions for Downloading Viewers and Players.

U.S. Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993
Ph. 1-888-INFO-FDA (1-888-463-6332)
Contact FDA

Links on this page:

1. http://www.accessdata.fda.gov/cms_ia/importalert_621.html
2. http://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/Disclaimers/default.htm
3. /Food/FoodScienceResearch/TotalDietStudy/default.htm
4. http://www.epa.gov/radnet/
5. http://www.usa.gov/japan2011
6. http://www.accessdata.fda.gov/cms_ia/importalert_621.html
7. http://www.fernlab.org/
8. /downloads/ScienceResearch/FieldScience/LaboratoryManual/UCM248262.doc
9. http://www.fda.gov/downloads/NewsEvents/PublicHealthFocus/UCM251056.pdf
10. http://www.fda.gov/ICECI/ComplianceManuals/CompliancePolicyGuidanceManual/UCM074576
11. http://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM094513.pdf
12. /downloads/NewsEvents/PublicHealthFocus/UCM290179.pdf
13. /downloads/Food/ComplianceEnforcement/UCM073281.pdf
14. http://www.epa.gov
15. http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm248257.htm
16. http://www.anbex.com
17. http://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/Disclaimers/default.htm
18. http://www.thyrosafe.com
19. http://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/Disclaimers/default.htm
20. http://www.thyroshield.com
21. http://www.fda.gov/AboutFDA/AboutThisWebsite/WebsitePolicies/Disclaimers/default.htm
22. http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm
23. http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm251311.htm
24. http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/ucm251793.htm
25. /ICECI/EnforcementActions/WarningLetters/2011/ucm253423.htm
26. http://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/BuyingMedicinesOvertheInternet/ucm202675.htm

27. http://www.accessdata.fda.gov/scripts/cder/ob/default.cfm
28. http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm
29. http://www.fda.gov/Safety/MedWatch/ucm2005699.htm

U.S. Seafood Safe and Unaffected by Radiation Contamination from Japanese Nuclear Power Plant Incident; U.S. Monitoring Control Strategy Explained

Based on both the information currently available about radiation contamination from the Japanese nuclear power plant incident and on the control measures in place and monitoring efforts by the U.S. Environmental Protection Agency (EPA), the U.S. Food and Drug Administration (FDA) and the National Oceanic and Atmospheric Administration (NOAA) have high confidence in the safety of seafood products in the U.S. marketplace or exported U.S. seafood products.

The U.S. government's measures to monitor and control the three potential routes by which seafood contaminated with radionuclides from the Japanese nuclear power plant incident might enter the U.S. food supply are described below.

Monitoring the Risk of Contamination to Migratory Fish

The only Japanese fish with levels of radiation exceeding standards is the Japanese sand lance, which does not migrate away from the Japanese coast.

Juvenile North Pacific albacore tuna (2-5 years old) typically begin an annual transoceanic migration in the spring and early summer in waters off Japan, continue migrating throughout the late summer into inshore waters off the U.S. Pacific coast, and end their migration in the late fall and winter in the western Pacific ocean. Migratory patterns of North American Pacific salmon most commonly do not reach the coastal or offshore waters of Japan. The majority of Alaska salmon spend most of their ocean residence in the Gulf of Alaska.

The migration of tuna and other species of fish from the coast of Japan to U.S. waters would take days or months under the best of circumstances, and vessels fishing beyond U.S. waters must also travel several days to return to port. During that time needed for a fish contaminated by radiation in Japan to migrate, be caught and reach the market, the level of short-lived radionuclides such as I-131 would drop significantly through natural radioactive decay. To date, no significantly elevated radiation levels have been detected in migratory species, including North Pacific albacore.

FDA has not detected any longer-lived radionuclides, such as Cs-137, in any fish imported from Japan. The longer-lived radionuclides found by Japanese tests have been at levels below the FDA threshold known as the Derived Intervention Level (DIL), and these have been detected in only the sand lance samples.

Monitoring Fish in Japanese Waters and Seafood Shipments to the U.S.

FDA is in close contact with Japanese regulatory authorities, who are monitoring fish caught in the prefectures surrounding the damaged nuclear power plant. Currently, they have found only one seafood species, the Japanese sand lance, with levels of radiation exceeding standards. The Japanese sand lance is principally consumed in Japan, with some product normally making its way to the United States through fish meal and as a traditional Asian food item. However, no shipments of the Japanese sand lance have been offered for entry into the U.S. since this incident began.

FDA is performing field examinations for gamma-ray emitting radionuclides on approximately 40% of the seafood products that are being shipped to the United States During the period from March 21, 2011 to April 25, 2011, 3,496 examinations were performed. To date, no field examinations have shown levels above background. FDA is also randomly sampling selected entries and subjecting them to laboratory analysis. To

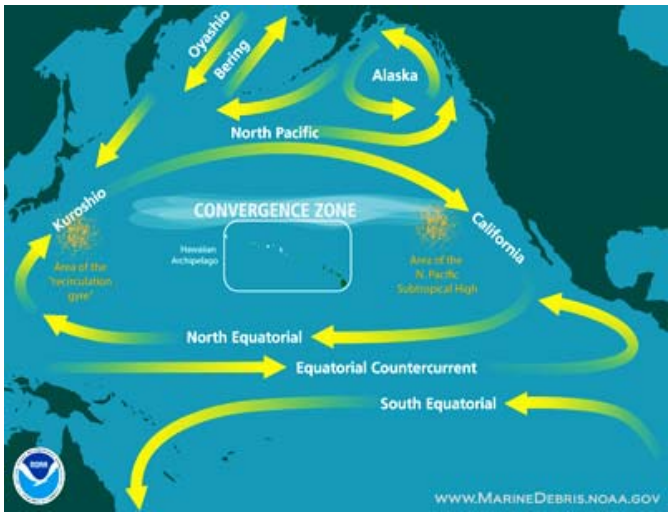
date, no gamma-ray emitting radionuclides of concern have been detected. Seafood imports from Japan represent less than one percent by volume of the seafood consumed in the United States.

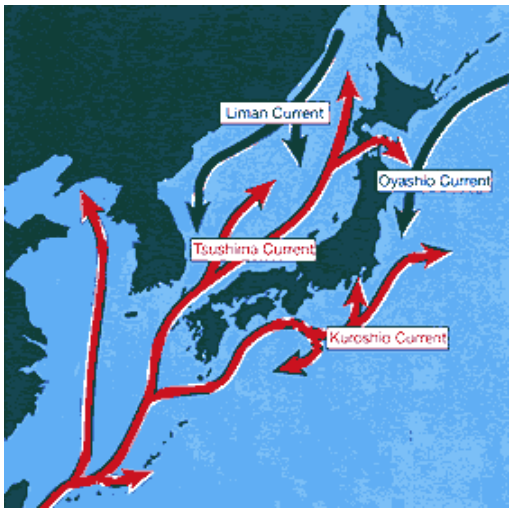
Monitoring U.S. Air and Water for Radiation Contamination

EPA's nationwide radiation monitoring system, RadNet, continuously monitors the nation's air and periodically monitors precipitation for environmental radiation. These instruments have not indicated any radiation levels that warrant concern. The RadNet system consists of both fixed and deployable air monitors[1] located throughout the U.S. and its territories, including at present in Alaska, Hawaii, Guam and Saipan. The detection instruments for airborne contamination are extremely sensitive and serve as an effective early warning for potential airborne contamination from the Japanese incident.

The great quantity of water in the Pacific Ocean rapidly and effectively dilutes radioactive material. Currently, testing of waters approximately 30km (18 miles) off the coast of Japan has shown that the radiation levels have dissipated rapidly, reaching drinking water standards by the 30 km test location. This means that seafood harvested in areas distant from the damaged reactor are unlikely to be affected.

FDA and NOAA do not anticipate contamination of living marine resources in U.S. waters at this time. For this reason, sampling of U.S. harvested seafood is not currently planned. Should radioactive material be deposited into the Kuroshio Current (see images below), FDA and NOAA would be quick to respond to the potential for its transport to U.S. waters. In that event, concentration values in the Kuroshio Current would be compared to known values from previous incidents to assess the potential impact. Radionuclide values are available for seawater, sediment, and various plant and animal species in many regions, including the Japan Sea, the Alaska Aleutian Islands, and Europe. Using the best scientific data available, U.S. federal agencies will continue to revisit whether testing fish for radionuclides would be appropriate.





Left: Simplified overview of dominant ocean currents in the northern Pacific Ocean (http://marinedebris.noaa.gov).
Right: Prevailing currents off Japan (http://www.jamstec.go.jp/jamstec-e/earth/p2/index.html).

To screen for longer term impacts, NOAA's National Ocean Service and, the Environmental Protection Agency are exploring approaches to monitor seawater and sediment in areas along the western U.S. coast, with sampling stations co-located with sites in NOAA's Mussel Watch program. These sites are located in coastal waters from near shore to three miles from the coast.

1. http://www.epa.gov/japan2011/japan-faqs.html#what

Fish and Shellfish Testing - Fukushima Disaster

Testing has shown that no fish or shellfish off the Pacific coast have radioactive contamination that would pose a risk to people who eat them.

Fish and shellfish we tested

In 2012, we began testing fish and shellfish for radiation levels. The fish and shellfish samples were collected from Pacific coast waters. Samples included albacore tuna, steelhead, salmon, and halibut. We also tested an albacore tuna caught in 2009, before the Fukushima disaster. The razor clams and mussels were collected at Pacific beaches in Washington.

We tested for three isotopes: cesium-134, cesium-137, and strontium-90. All three are produced in nuclear power reactors. Cesium-134 has a shorter half-life than the others. If cesium-134 is detected, it most likely would have come from the Fukushima disaster. Cesium-137 and strontium-90 could be from any one of several sources, including Fukushima. All tests found levels of radiation well below what could be a public health risk.

Test results

We found very low levels of cesium-137 in all samples tested including the albacore tuna collected before the Fukushima disaster. One albacore tuna caught in 2012 contained a trace amount of cesium-134. In all cases, the activity is far below a public health concern.

- Washington fish and shellfish testing results, 2012-present

Organizations that monitor seafood safety

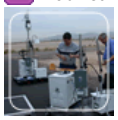
- US Food and Drug Administration response to the Fukushima Dai-ichi nuclear power facility incident
- Fact Sheet - U.S. Seafood Safe and Unaffected by Radiation Contamination from Japanese Nuclear Power Plan Incident; U.S. Monitoring Control Strategy Explained (PDF) - FDA, EPA, NOAA

EPA United States Environmental Protection Agency

Envirofacts

Search Results

RadNet



<< Return

Location: **WA**
Medium: **DRINKING WATER**
Nuclides/Radiation: **Iodine-131**
Units: **Traditional**
Year Date Range : **2011** - **2015**

The following results are based on the temporal changes in radiation level or radionuclides concentration over a specific date range for a specified location and medium, or the nationwide distribution radiation level, or nuclide concentration for a specified date and medium.

Location Average vs. Overall Average Results or Graph it.

RadNet Links

- Overview
- Search
  - Search User's Guide
- Customized Search
  - Customized Search User Guide
- Operator Definition
- Model
- Nuclear Events/RadNet Timeline
- Legal Basis
- Related Links
- Contact Us
- RadNet Home
  - Sampling Programs
  - Sampling Stations

Report an Error

Location	Medium	Sample Date	Procedure Name	Nuclides/Radiation	Result	Combined Standard Uncertainty	MDC	Unit
RICHLAND, WA	DRINKING WATER	24-FEB-11	Iodine-131 in Water	Iodine-131	0.042	0.066	0.22	pCi/L
RICHLAND, WA	DRINKING WATER	28-MAR-11	Iodine-131 in Water	Iodine-131	0.232	0.061	0.19	pCi/L
RICHLAND, WA	DRINKING WATER	13-APR-11	Iodine-131 in Water	Iodine-131	0.02	0.16	0.52	pCi/L
RICHLAND, WA	DRINKING WATER	10-JAN-12	Iodine-131 in Water	Iodine-131	0.21	0.18	0.59	pCi/L
RICHLAND, WA	DRINKING WATER	14-MAY-13	Iodine-131 in Water	Iodine-131	0.063	0.097	0.32	pCi/L
SEATTLE, WA	DRINKING WATER	28-MAR-11	Iodine-131 in Water	Iodine-131	-0.048	0.075	0.25	pCi/L

Total number of records returned from your search: 6

What do these results mean?

To help put these concentrations into context, compare them to (1) EPA's drinking water standard, the MCL of 3 pCi/L; (2) Risk range concentrations of 100 pCi/L to 1 pCi/L; and (3) the average minimum detectable concentration (MDC) for the analytical method used 0.348 pCi/L.

More Information

- Description of Benchmarks
- Radionuclides Drinking Water Rule
- Water Quality Standards
- Radionuclide Fact Sheets
- Risk Assessment Tools
- Health Effects

Location Average vs. Overall Average Results

The Location Average vs. Overall Average Results table compares the average results for a specific location to the average results for all locations monitored for each key radionuclide in the selected medium.

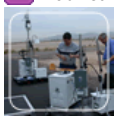
Graph it

Nuclides/Radiation	Location			Overall Average	States in Overall Average
	Minimum	Maximum	Average		
Iodine-131	0	0.232	0.0865	0.169	

Envirofacts

Search Results

RadNet



<< Return

Location: **PORTLAND,OR**
Medium: **DRINKING WATER**
Nuclides/Radiation: **Iodine-131**
Units: **Traditional**
Year Date Range : **2011** - **2015**

The following results are based on the temporal changes in radiation level or radionuclides concentration over a specific date range for a specified location and medium, or the nationwide distribution radiation level, or nuclide concentration for a specified date and medium.

Location Average vs. Overall Average Results or Graph it.

Location	Medium	Sample Date	Procedure Name	Nuclides/Radiation	Result	Combined Standard Uncertainty	MDC	Unit
PORTLAND, OR	DRINKING WATER	25-MAR-11	Iodine-131 in Water	Iodine-131	0.1	0.16	0.54	pCi/L
PORTLAND, OR	DRINKING WATER	13-APR-11	Iodine-131 in Water	Iodine-131	0.056	0.069	0.23	pCi/L
PORTLAND, OR	DRINKING WATER	28-DEC-12	Iodine-131 in Water	Iodine-131	-0.013	0.092	0.31	pCi/L
PORTLAND, OR	DRINKING WATER	23-DEC-14	Iodine-131 in Water	Iodine-131	0	0.35	1.2	pCi/L

RadNet Links

- Overview
- Search
  - Search User's Guide
- Customized Search
  - Customized Search User Guide
- Operator Definition
- Model
- Nuclear Events/RadNet Timeline
- Legal Basis
- Related Links
- Contact Us
- RadNet Home
  - Sampling Programs
  - Sampling Stations

Report an Error

Total number of records returned from your search: 4

What do these results mean?

To help put these concentrations into context, compare them to (1) EPA's drinking water standard, the MCL of 3 pCi/L; (2) Risk range concentrations of 100 pCi/L to 1 pCi/L; and (3) the average minimum detectable concentration (MDC) for the analytical method used 0.57 pCi/L.

More Information

- Description of Benchmarks
- Radionuclides Drinking Water Rule
- Water Quality Standards
- Radionuclide Fact Sheets
- Risk Assessment Tools
- Health Effects

Location Average vs. Overall Average Results

The Location Average vs. Overall Average Results table compares the average results for a specific location to the average results for all locations monitored for each key radionuclide in the selected medium.

Graph it

Nuclides/Radiation	Location			Overall Average	States in Overall Average
	Minimum	Maximum	Average		
Iodine-131	0	0.1	0.0358	0.169	AK, OK, MN, NJ, AL,

Last updated on 5/26/2015

Fukushima 2011-Air Quality

The following is archived information that was originally published on this website in 2011.

Important information about this page.

The Department of Health posted daily results of environmental monitoring in March and April 2011 in response to the nuclear events following the earthquake and tsunami in Japan. All detections of radioactive material were far below any public health risk. The data posted online included monitoring conducted by the state health department in addition to the federal monitoring that is always taking place. In May, when amounts of radioactive material were lower than detection levels with standard monitoring, the additional state sampling and daily data posting were stopped. Daily federal monitoring has concluded, but the historical data for that period is available on the Environmental Protection Agency's RadNet website.

Earthquake in Japan - What does it mean for Washington?

Shortly after the earthquake and tsunami damaged some nuclear reactors in Fukushima, Japan in mid-March, 2011, the Washington State Department of Health began reporting daily readings of the background radiation around the state.

Results from specific state health department monitoring for radioactive iodine from Japan in Washington's air and rainwater were also posted online. Recently, the levels of material from the Japanese reactors detected in our state have been at or below detection levels for standard test methods. None of the readings in any testing in the state were of any health concern for people living in Washington.

As the situation continues to stabilize in Japan and levels of radioactive materials in Washington from those reactors remain so low, the Department of Health has discontinued reporting daily results online.

The state Department of Health continues to monitor radioactive contamination in our environment throughout the state, and the Environmental Protection Agency's (EPA) RadNet samplers continue to take readings as they did before the earthquake. Additional information about EPA monitoring that was conducted following the earthquake, will it at the EPA website.

If the situation in Japan changes significantly the state Department of Health will increase its testing and data reporting, as appropriate. Questions about the state health department's work on this event may be sent to prepare@doh.wa.gov.

Readings from air samples taken around the state:

- Radiation sampling of the air in four Washington cities
- Iodine-131 sampling in the air (Seattle)

EPA & FDA continue to affirm safety from Japanese radiation

Other sources of information on the implications of the Japanese reactor accident:

- U.S. Government links
- American Nuclear Society
- Centers for Disease Control and Prevention (CDC)
- Environmental Protection Agency
- Food and Drug Administration
- International Atomic Energy Agency
- International Radiation Protection Association
- National Academy of Sciences
- Nuclear Energy Agency
- Nuclear Regulatory Commission
- Oregon State Health Authority
- World Health Organization

Air and Rainwater Monitoring

For some time after the Fukushima nuclear reactors were damaged, we posted daily readings of radiation levels around the state. There were elevated levels briefly, though they remained well below levels approaching a health risk. We stopped posting readings when radiation levels were back to the normal levels that are found in Washington. We monitor air continuously for radioactivity, including the area around the Hanford Site and Columbia Generating Station near Richland.

We check daily results from air monitors in Olympia, Richland, Seattle, and Spokane. We also collect air and rainwater samples weekly for the U.S. Environmental Protection Agency (EPA), which are posted on EPA's RadNet website. EPA tests what is collected to look for any radioactivity that would represent a public health risk.

Current air monitoring and rainwater data

- EPA's RadNet site

Archived data collected in 2011 after the Fukushima nuclear reactors were damaged.

- Air monitoring
- Rainwater