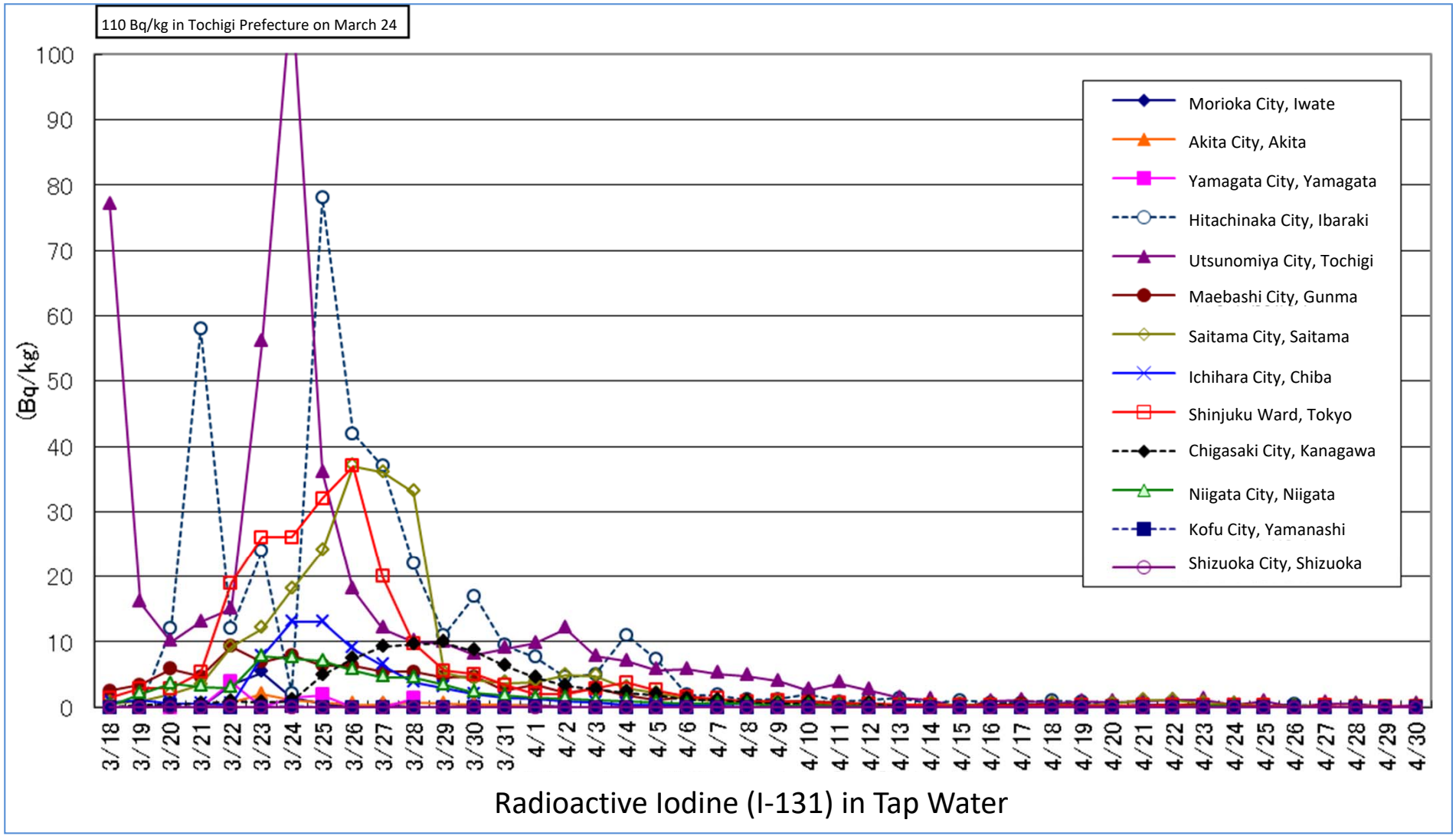
Radiation Monitoring of Clean Water

Radioactive Iodine (I-131) (the Tokyo Metropolis and 12 Prefectures)



Radioactive Iodine (I-131) in Tap Water

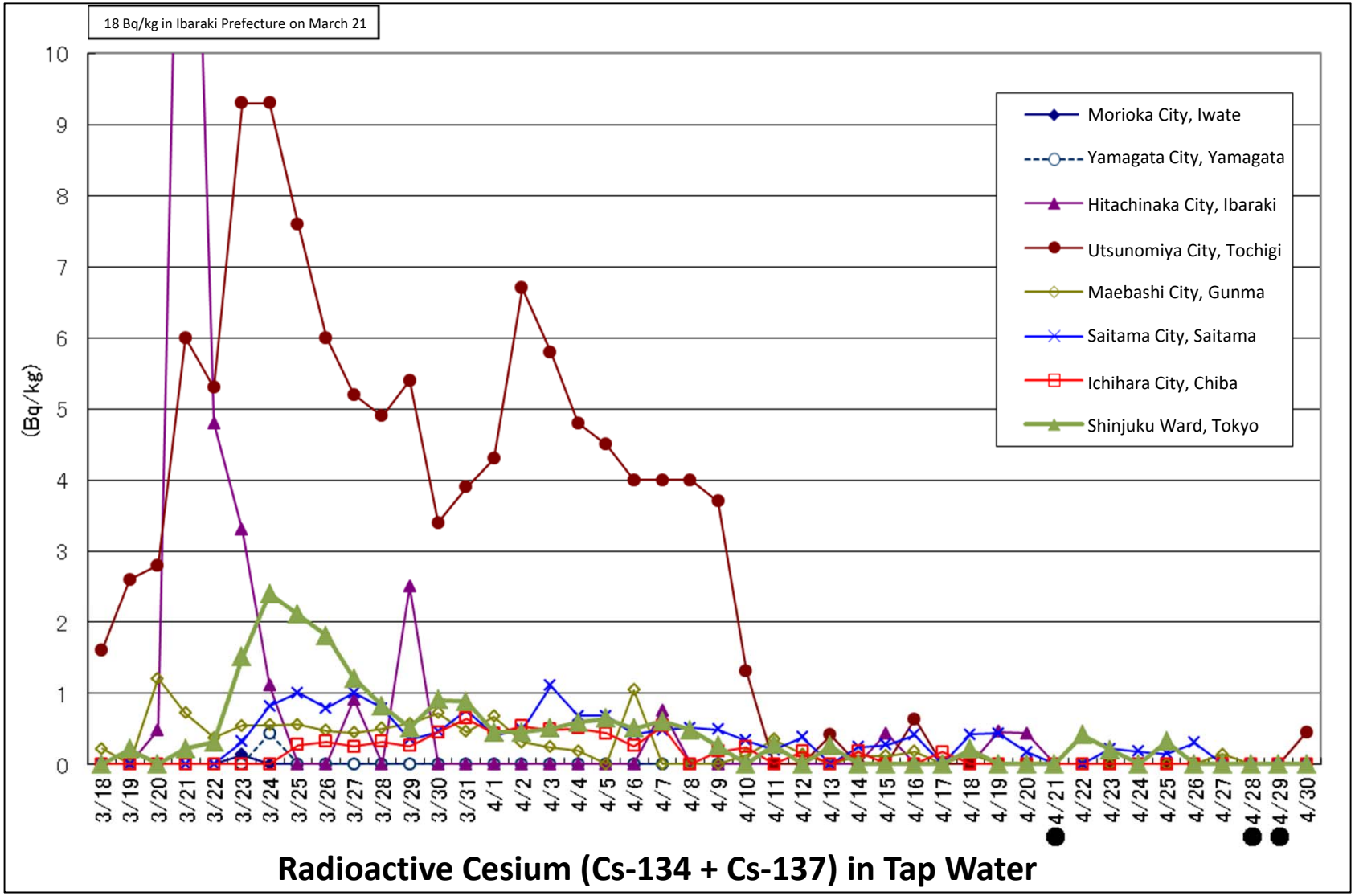
Bq/kg: becquerels per kilogram

* In the figure above, values below the detection lower limit are treated as 0 for convenience.
* Only prefectures where radioactive iodine was detected in the measurement are indicated in the figure.

Interim Report on Measures for Radioactive Materials in Tap Water
Prepared based on the reference material for the Ministry of Health, Labour and Welfare (MHLW)'s Study Meeting on Measures for Radioactive Materials in Tap Water (June 2011)

Radiation Monitoring of Clean Water

Radioactive Cesium (Cs-134 + Cs-137) (the Tokyo Metropolis and 7 Prefectures)



Radioactive Cesium (Cs-134 + Cs-137) in Tap Water

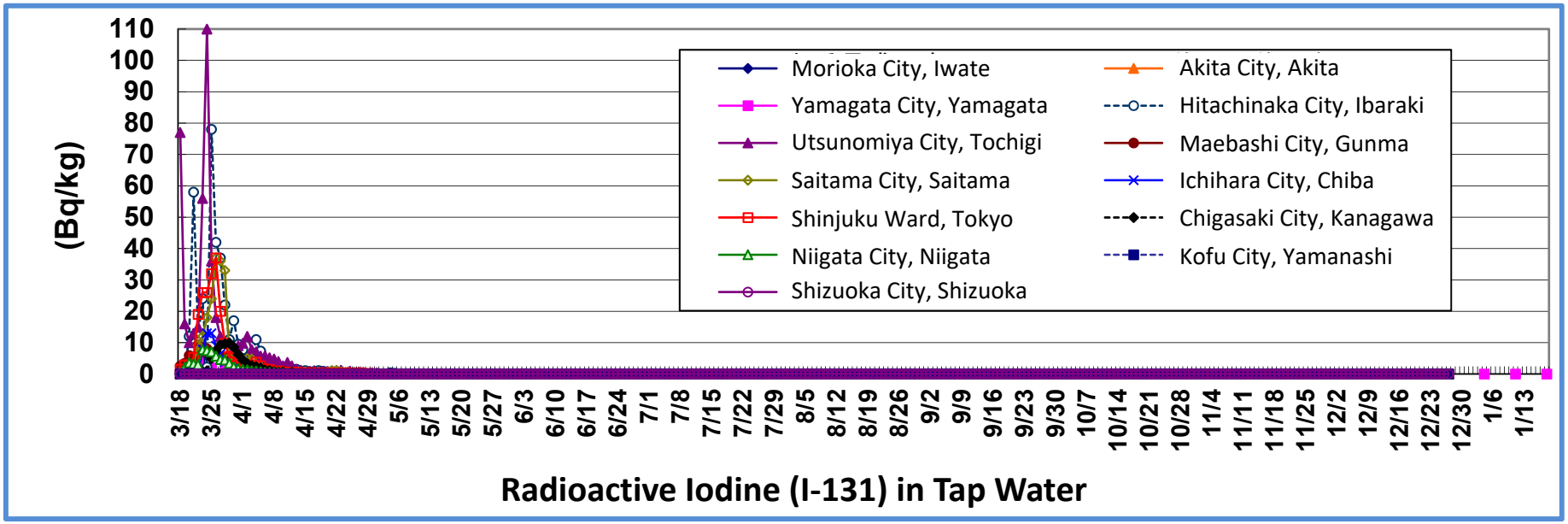
* In the figure above, values below the detection lower limit are treated as 0 for convenience.
* Only prefectures where radioactive cesium was detected in the measurement are indicated in the figure.
* ● is marked on dates when the readings were ND (not detected; below the detection lower limit).

Bq/kg:becquerels per kilogram

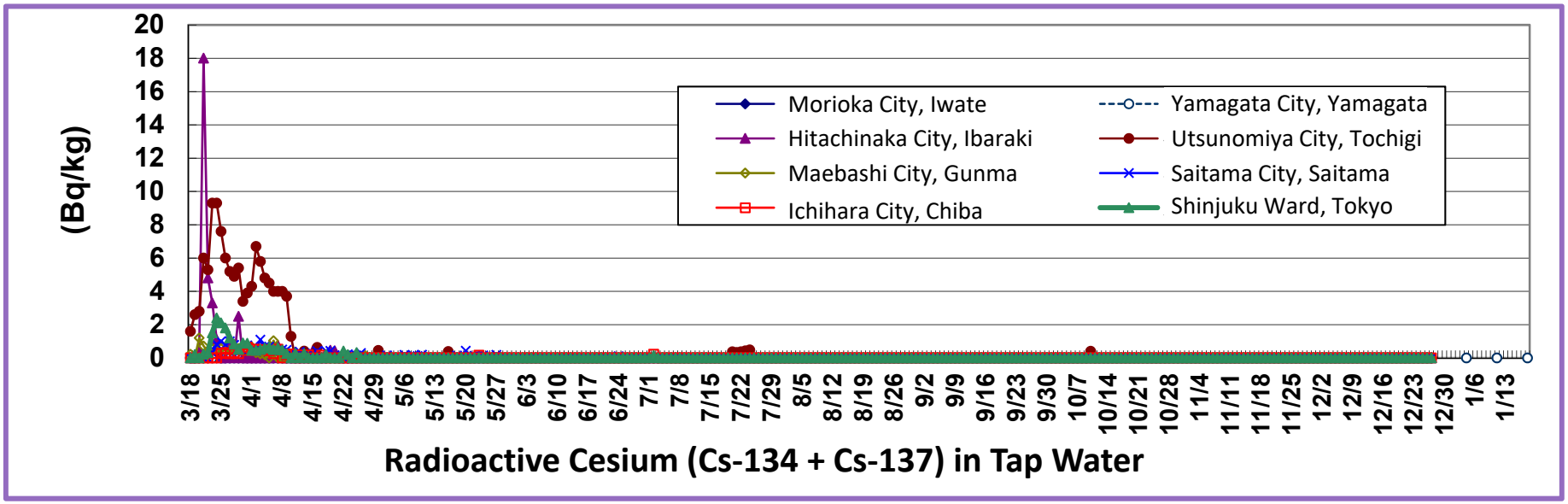
Interim Report on Measures for Radioactive Materials in Tap Water
Prepared based on the reference material for the Ministry of Health, Labour and Welfare (MHLW)'s Study Meeting on Measures for Radioactive Materials in Tap Water (June 2011)

Radiation Monitoring of Clean Water

Results of Long-term Radiation Monitoring of Tap Water



Radioactive Iodine (I-131) in Tap Water

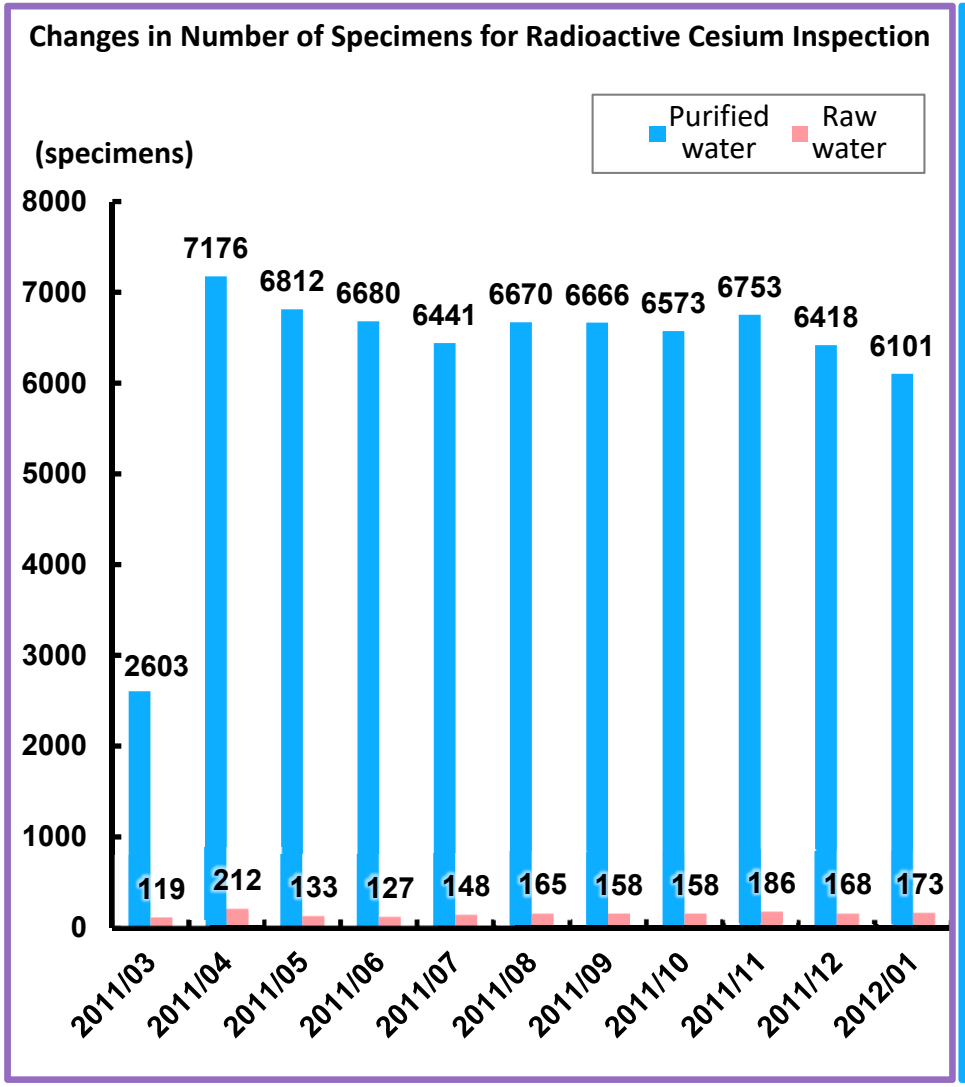


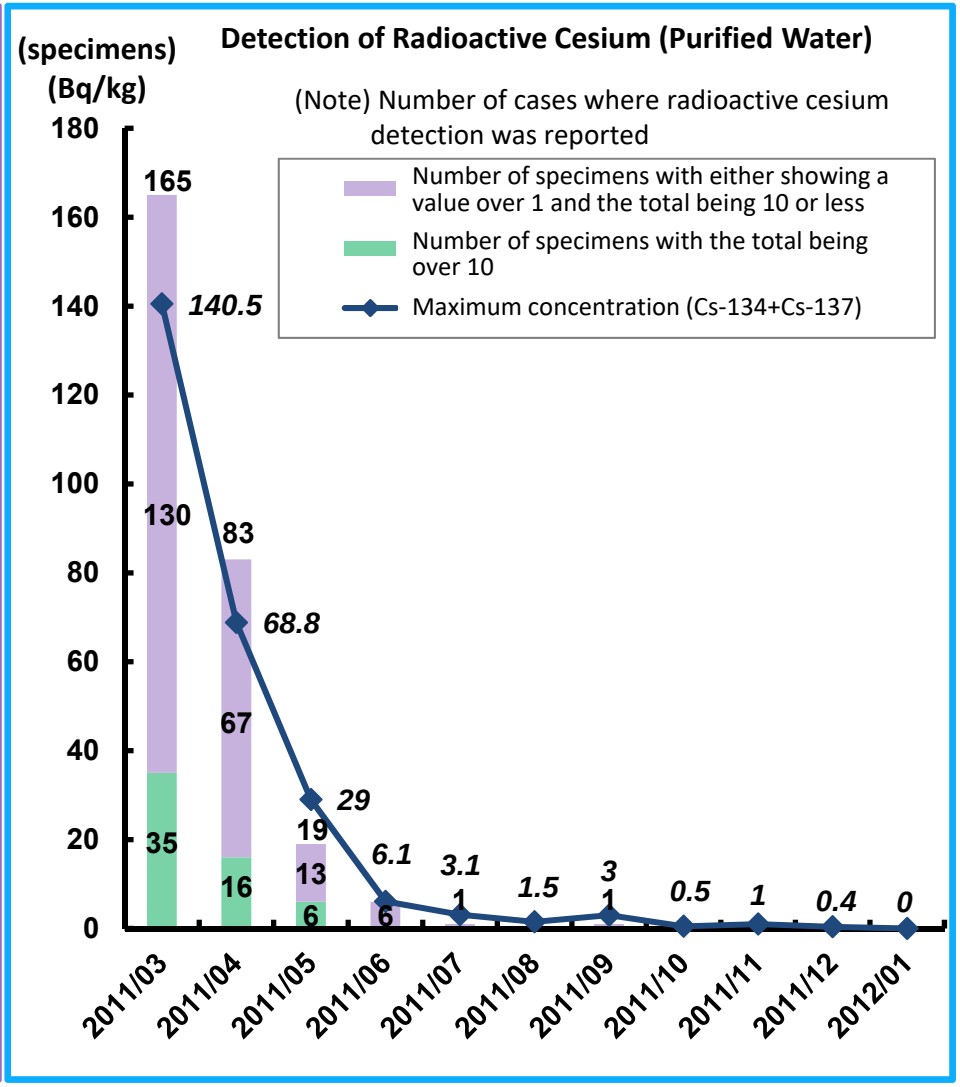
Radioactive Cesium (Cs-134 + Cs-137) in Tap Water

Committee on Living Environment and Water Supply in March 2012

Radiation Monitoring of Clean Water

Inspections by Water Suppliers





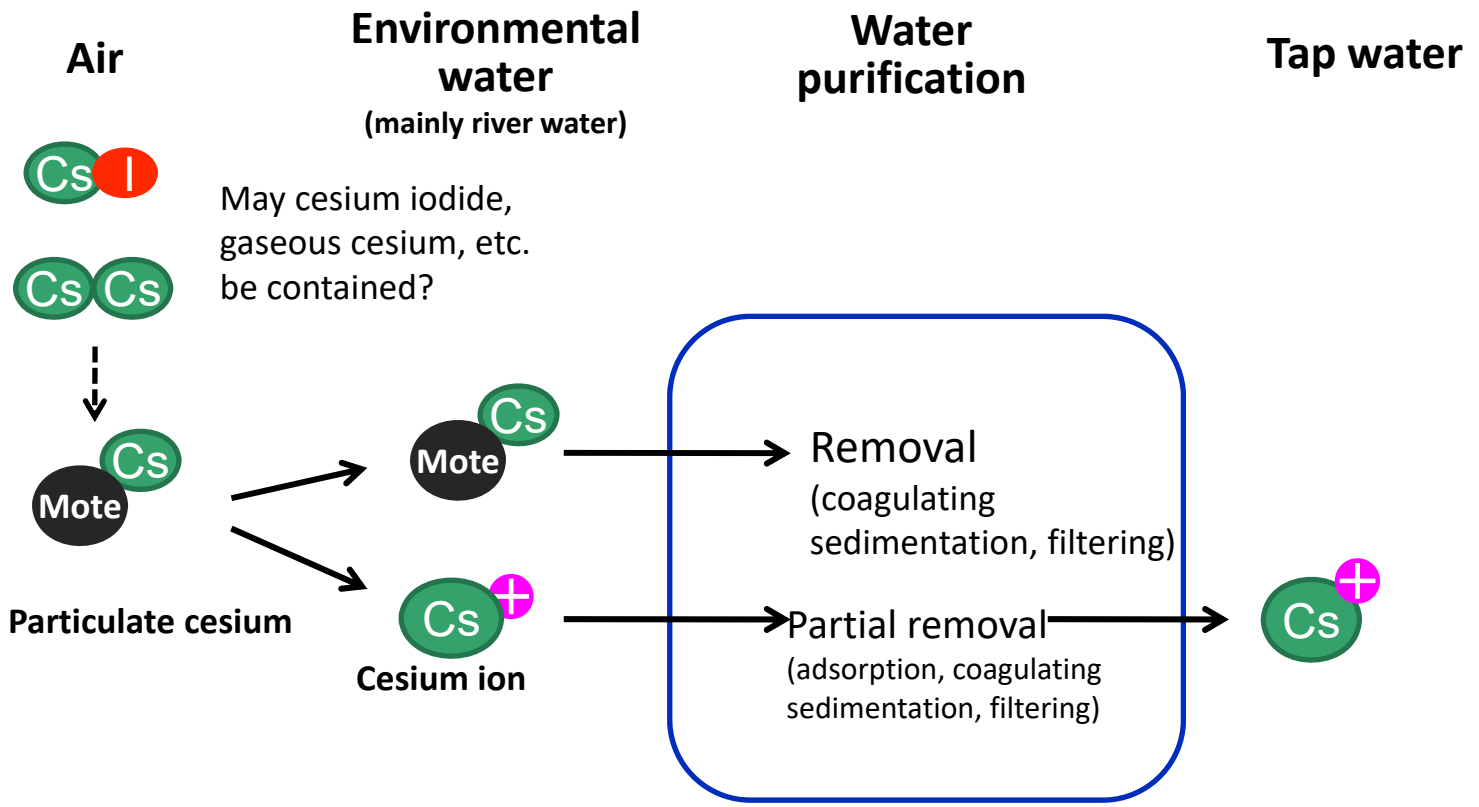
Bq/kg: becquerels per kilogram

12th Health Sciences Council's Committee on Living Environment and Water Supply in March 2012

Radiation Monitoring of Clean Water

Behavior of Radioactive Cesium

Conceptual Diagram of Behavior of Radioactive Cesium



Cesium may exist in such forms as particulate cesium or Cs+ (cation) in environmental water. Generally, cations are easily adsorbed by adsorptive suspensoids with exchange capacity.

I Iodine Cs Cesium ion

Prepared based on the reference material for the 12th Health Sciences Council's Committee on Living Environment and Water Supply in March 2012

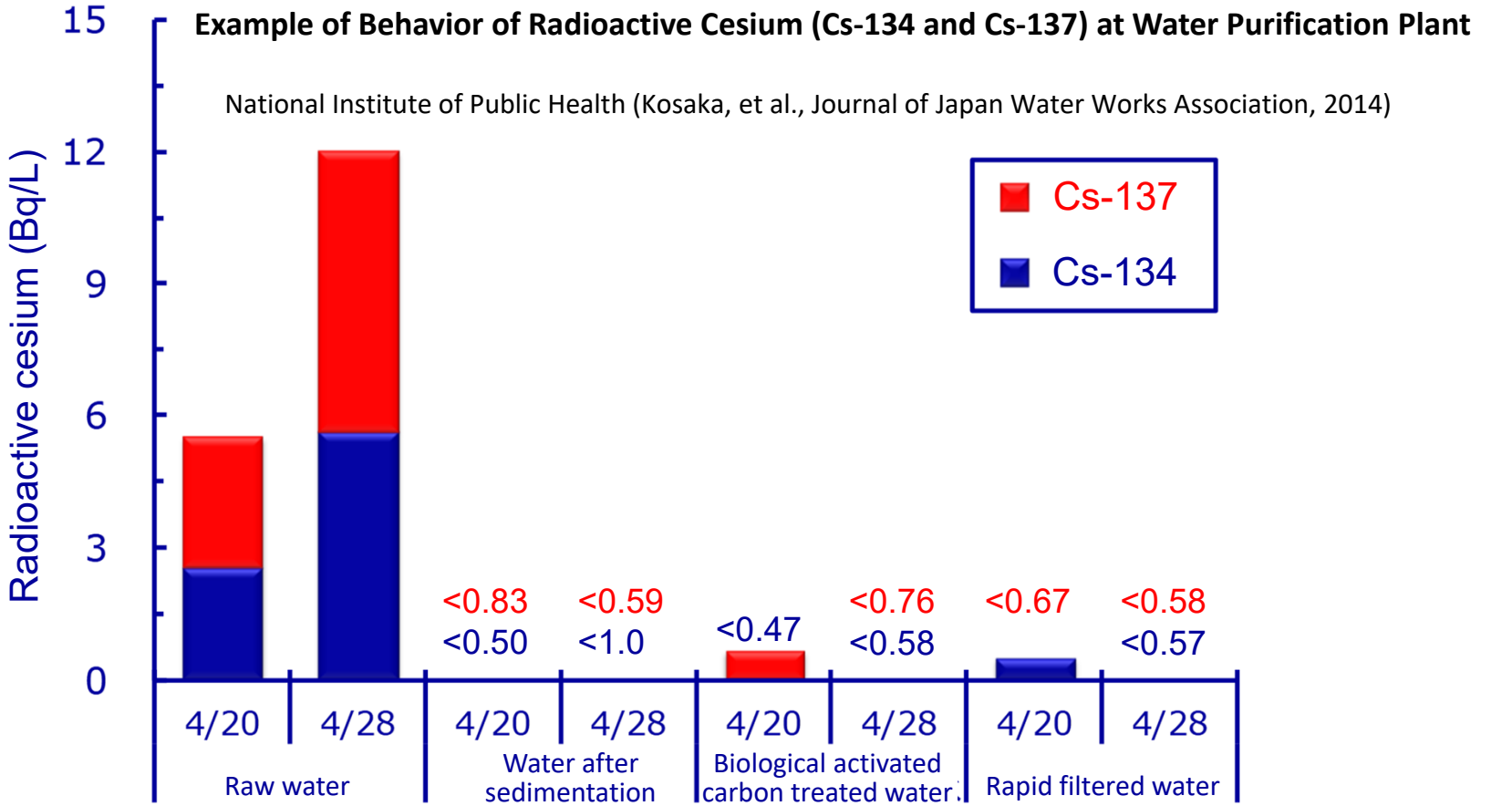
Radiation Monitoring of Clean Water

Control of Radioactive Cesium

Most of the radioactive cesium that reaches sources of tap water is adsorbed into suspensoids such as soil and flows out. Therefore, radioactive cesium can be controlled through strict turbidity management.

Example of Behavior of Radioactive Cesium (Cs-134 and Cs-137) at Water Purification Plant

National Institute of Public Health (Kosaka, et al., Journal of Japan Water Works Association, 2014)



Zeolite, ion exchangers, nanofiltration membranes and reverse osmosis membranes are professionally used for removing radioactive materials, but these cannot be used for ordinary water purification due to high cost, required facilities and inefficiency (in particular, the use of nanofiltration membranes and reverse osmosis membranes is power consuming).

Bq/L: becquerels per liter

12th Health Sciences Council's Committee on Living Environment and Water Supply in March 2012

Radiation Monitoring of Clean Water

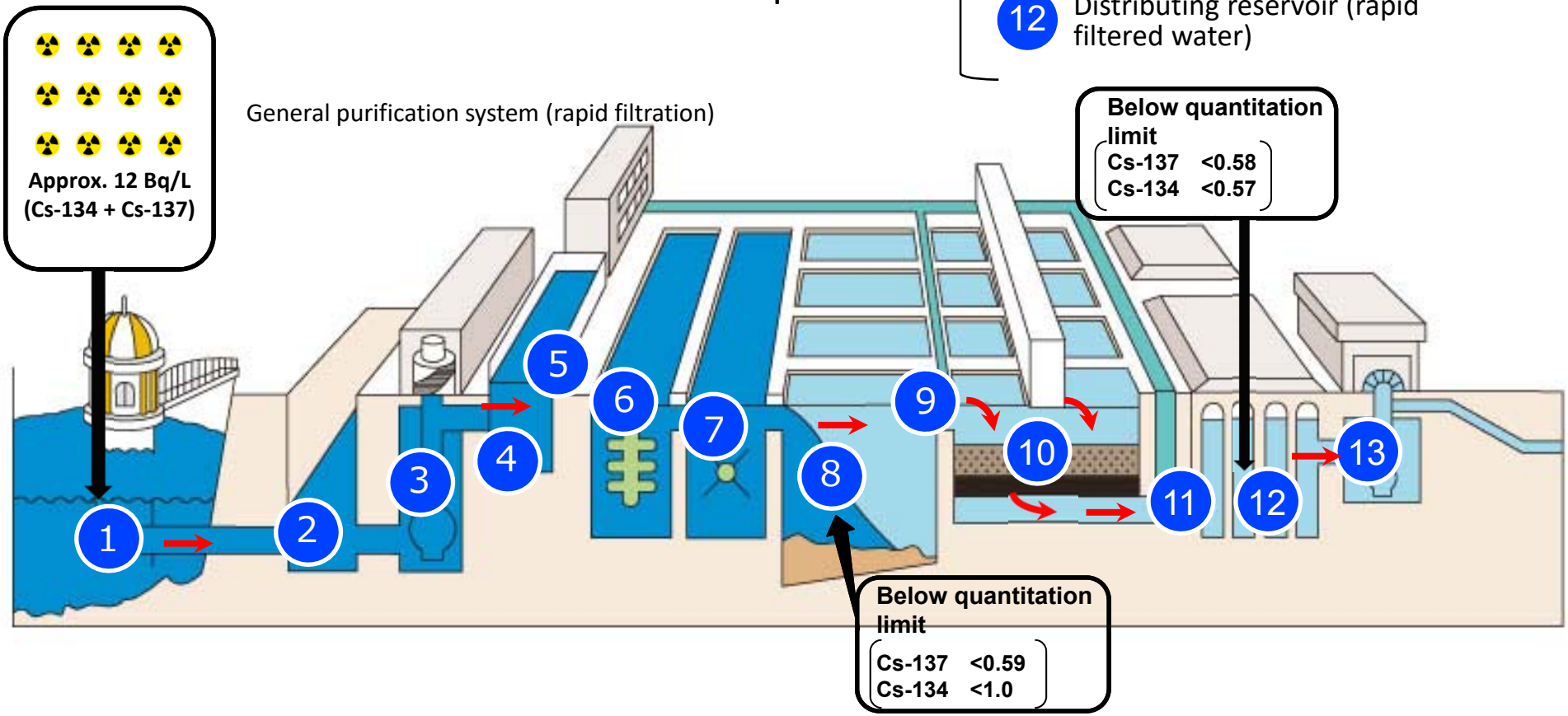
Waterworks System

Changes in Radioactive Cesium Concentrations at Water Purification Plants in Fukushima Prefecture as of April 28, 2011

National Institute of Public Health

Sampling points

1. Intake tower (raw water)
8. Sedimentation pond (water after sedimentation)
12. Distributing reservoir (rapid filtered water)



① Intake tower ② Sand basin ③ Intake pump ④ Receiving well ⑤ Flocculant injection facility ⑥ Chemical mixing basin ⑦ Floc forming basin ⑧ Sedimentation pond ⑨、⑪ Chlorine injection facility ⑩ Filter basin ⑫ Distributing reservoir ⑬ Water pump

Bq/L: becquerels per liter

Prepared based on the reference material for the 12th Health Sciences Council's Committee on Living Environment and Water Supply in March 2012