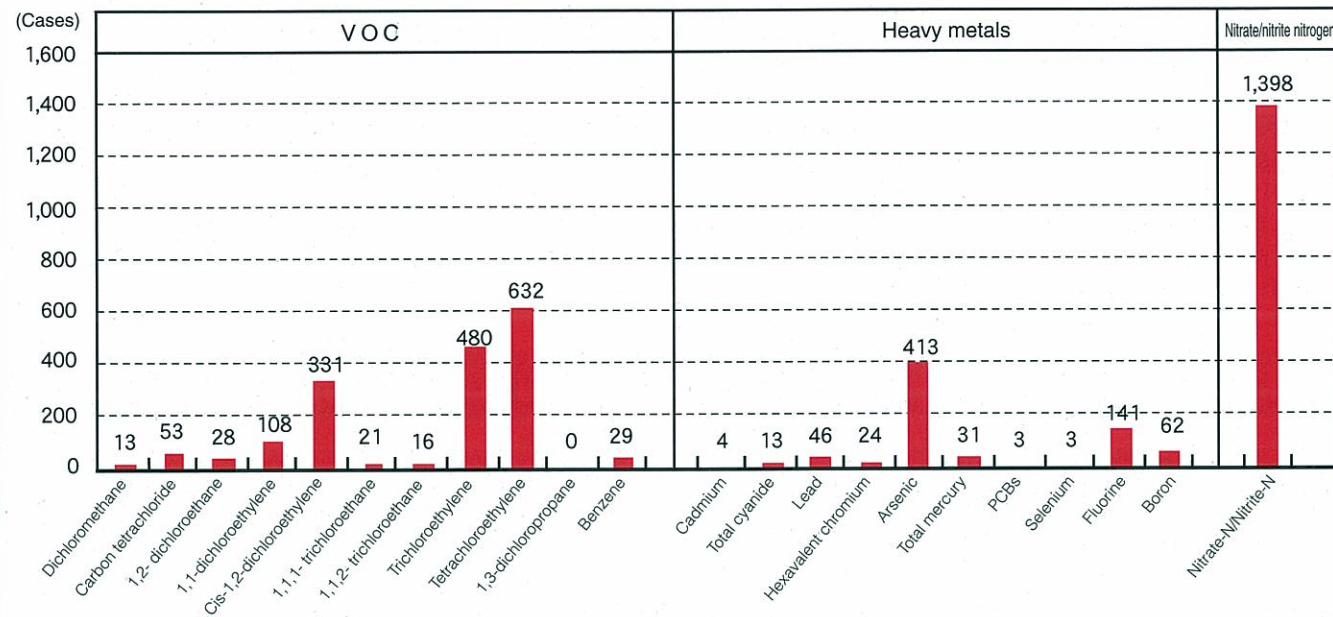


<Reference> State of Achievement of Environmental Standards - 3

Figure 2 Number of non-conformances by item



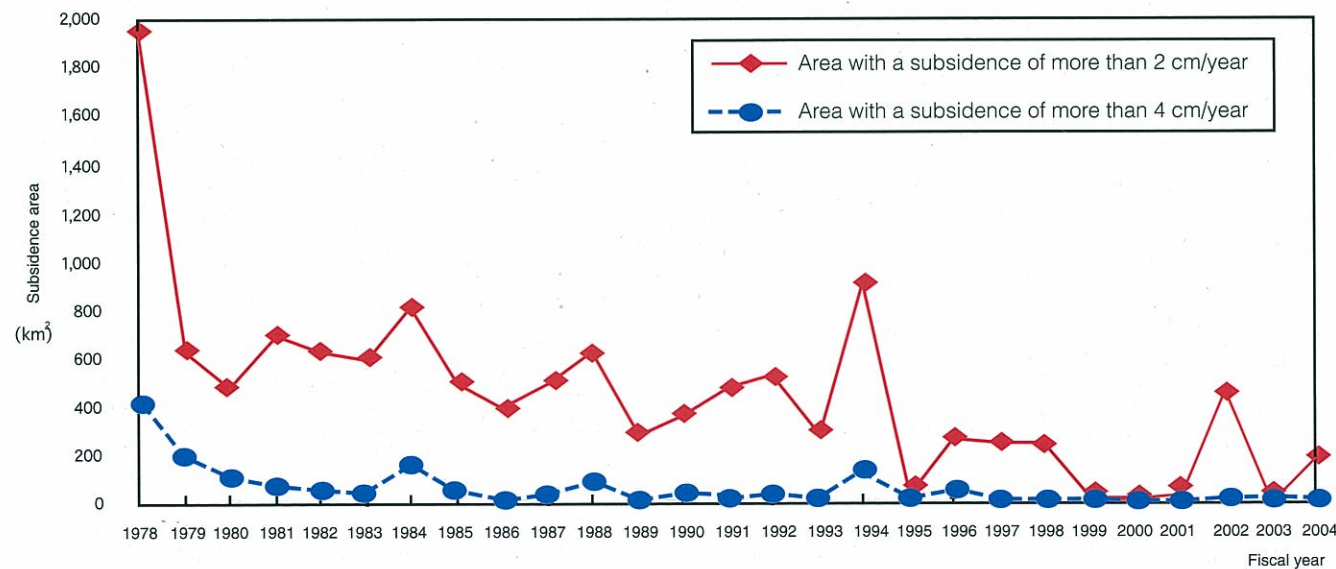
Note: The number of wells that does not meet the environmental quality standards as of the end of fiscal 2004

Source: Results of FY2004 Morning Survey of Groundwater Quality, Ministry of the Environment.

Trends in ground subsidence area

Although the area of ground subsidence is decreasing as a whole, it is far from being stabilized. Particularly, drought could result in rapid ground subsidence, as occurred in fiscal 1994.

Trends in total area of ground subsidence



Source: Overview of Ground Subsidence in Japan in fiscal 2004, Ministry of the Environment

<Reference> Uniform Effluent Standards

Health items

Type of Toxin	Permissible Limit
cadmium and its compounds	0.1mg/L
cyanide compounds	1mg/L
organic phosphorus compounds (parathion, methyl parathion, methyl demeton and EPN only)	1mg/L
lead and its compounds	0.1mg/L
sexivalent chrome compounds	0.5mg/L
arsenic and its compounds	0.1mg/L
total mercury	0.005mg/L
alkyl mercury compounds	Not detectable
PCBs	0.003mg/L
trichloroethylene	0.3mg/L
tetrachloroethylene	0.1mg/L
dichloromethane	0.2mg/L
carbon tetrachloride	0.02mg/L
1,2-dichloro ethane	0.04mg/L
1,1-dichloro ethylene	0.2mg/L
cis-1,2-dichloro ethylene	0.4mg/L
1,1,1-trichloro ethane	3mg/L
1,1,2-trichloro ethane	0.06mg/L
1,3-dichloropropane	0.02mg/L
thiram	0.06mg/L
simazine	0.03mg/L
thiobencarb	0.2mg/L
benzene	0.1mg/L
selenium and its compounds	0.1mg/L
boron and its compounds	Non-Coastal Regions: 10 mg/L, Coastal Regions: 230 mg/L
fluoride and its compounds	Non-Coastal Regions: 8 mg/L, Coastal Regions: 15 mg/L
ammonia, ammonium compounds, nitrate and nitrite compounds	(*)100mg/L

(*) total of ammonia-N multiplied by 0.4, nitrite-N, and nitrate-N.

Remark "Not detectable" means that what the substances is measured by the method specified by the Ministry of the Environment, the amount is less than the quantitative limit defined by that method.

Living environment items

Living environment items	Nitrate/nitrite nitrogen
hydrogen ion activity (pH)	Non-Coastal Regions: 5.8-8.6, Coastal Regions: 5.0-9.0
biochemical oxygen demand (BOD)	160mg/L (Daily average: 120 mg/L)
chemical oxygen demand (COD)	160mg/L (Daily average: 120 mg/L)
suspended solids (SS)	200mg/L (Daily average: 150 mg/L)
n-hexane extracts (mineral oil)	5mg/L
n-hexane extracts (animal and vegetable fats)	30mg/L
phenols	5mg/L
copper	3mg/L
zinc	5mg/L
dissolved iron	10mg/L
dissolved manganese	10mg/L
chromium	2mg/L
number of coliform groups	Daily average: 3000/cm ³
nitrogen content	120mg/L (Daily average: 60 mg/L)
phosphorus content	16mg/L (Daily average: 8 mg/L)

- Remarks
1. The effluent standards listed in this table apply to the effluents of factories or commercial facilities which discharge 50m³ or more of effluent per day on average.
 2. The effluent standards for biochemical oxygen demand (BOD) apply exclusively to the effluents discharged in public waters other than the seas and lakes; the effluent standards for chemical oxygen demand (COD) apply exclusively to the effluents discharged in sea and lake areas.
 3. The effluent standards for nitrogen content only apply to lakes and reservoirs designated by the Ministry of the Environment as being susceptible to lake plankton blooms due to nitrogen, sea areas designated by Ministry of the Environment as being susceptible marine phytoplankton blooms due to nitrogen, and effluents discharged into public water areas.
 4. The effluent standards for phosphorus content only apply to lakes and reservoirs designated by the Ministry of the Environment as being susceptible to lake plankton blooms due to phosphorus, sea areas designated by Ministry of the Environment as being susceptible marine phytoplankton blooms due to phosphorus, and effluents discharged into public water areas.

<Reference> History of Water Administration

- (1) While the causes of water pollution are thought to have existed before the era of industrial modernization (i.e., before the Meiji Era), the "Ashio Copper Mine Mineral Pollution," which occurred in the early years of the Meiji Era, was the first incident where a number of local residents living in the river basin were poisoned by industrial pollution. Following this incident, pollution spread across the country in concert with the advance of industrialization, mainly caused by both an increase and diversification of pollution load.
- (2) In the industrial recovery period following World War II, water pollution became a serious problem primarily in large cities, with unfortunate incidents such as the "Minamata Disease" emerging around 1955. Municipalities, therefore, began to take control measures, including the institution of local regulations. At the same time, the government instituted the Water Quality Control Law and the Industrial Wastewater Control Law (the two old laws governing water quality) in 1958. These two laws, however, failed to meet the requirements of environmental conservation, as they were intended for specific areas and did not contain clearly defined regulatory measures.



Water pollution in Tagonoura, Fuji City.

- (3) In 1960's, pollution problems became more serious and widespread as a result of rapid economic growth. In fact, incidents such as the "Agano River Organic Mercury Poisoning" (known as the second Minamata Disease) and the "Itai-Itai Disease" took place in succession. With this as a backdrop, the Basic Law for Environmental Pollution Control was instituted in 1967 to implement pollution control measures in a comprehensive manner. In 1970, moreover, the so-called "Pollution Diet" was held to establish a legal framework for the prevention of pollution, and the Water Pollution Control Law replaced the two old laws governing water quality. Furthermore, in 1971, the Environment Agency was established to integrate the management of water administration, with the focus on environmental conservation.
- (4) In the Seto Inland Sea, meanwhile, the increased population and industrial concentration resulted in serious water pollution and the frequent occurrence of red tides. In 1973, therefore, the Law concerning Special Measures for Conservation of the Environment of the Seto Inland Sea was instituted, followed by its upgrading to a permanent law in 1978 and the institution of a variety of special measures. In order to address persistent organic pollution, moreover, total pollutant load control was adopted in 1978 in addition

to concentration control, both of which have been implemented in the Seto Inland Sea, Tokyo Bay and Ise Bay. Regarding water quality in lakes and reservoirs, which did not show significant improvement, the Law Concerning Special Measures for Conservation of Lake Water Quality was instituted in 1984 to control the quality of lake water.

- (5) A closer look at the recent water pollution problems reveals two challenges: the water quality of enclosed water areas such as basins, inland seas and lakes, and pollution caused by toxic organic chemicals. To address these problems, a series of measures have been taken – e.g., revisions of the Water Pollution Control Law to conserve groundwater, tightening of domestic wastewater control and eutrophication control in seas, expansion of health items in the environmental standards, and institution of the Law Concerning Special Measures against Dioxins. In 2005, moreover, the Law Concerning Special Measures for Conservation of Lake Water Quality was revised, with additional measures adopted to control non-pointed-source effluent and conserve the lakefront environment.



Mass mortality of yellowtails due to red tides (1975)

- (6) The move to institute a law for soil pollution control gained momentum in 2002 in response to changes taking place in society with respect to soil pollution. This was prompted by an increase in soil contamination incidents and the growing awareness of the need to set up rules for soil pollution control, with more soil pollution control measures implemented. The Cabinet, therefore, discussed a framework for soil pollution control measures and subsequently adopted a relevant bill in February 2002, which culminated in the Soil Contamination Countermeasures Law in May 2002. This law took effect on February 15, 2003.
- (7) The conservation of a healthy water environment involves the conservation of the quality/quantity of water, aquatic life, waterfront areas, etc. as well as the conservation of an environmentally healthy water cycle in each basin, including the soil and ground environment, which is closely related to the water environment. Based on this increasingly widespread recognition, the ministries and agencies concerned established Water Environmental Standards for the conservation of aquatic life in 2003, the first of its kind in Japan, while making concerted efforts to conserve the quantity of water and improve access to water resources. Japan's approaches to addressing water environment problems, as mentioned above, have a long history. The conservation of a healthy water environment remains a critical issue, and hence the approaches outlined in this report should be promoted further.

Year	Incident
1891	The Ashio incident was discussed in the Diet.
1897	A committee was set up to investigate the "Ashio Copper Mine Mineral Pollution".
1948	Agricultural Chemicals Regulation Law was enacted.
1949	The Mine Safety Law was enacted. The Tokyo Pollution Control Ordinances were enacted.
1956	Minamata Health Care Center reported a strange disease. Law Concerning Groundwater Control for Industrial Use was enacted.
1958	Water Quality Control Law and the Factory Effluent Control Law were enacted. The Sewerage Law was enacted.
1961	Stinking fish were found in the sea of Mizushima. Law Concerning Groundwater Control for Domestic Use was enacted.
1965	The Special Committee of Pollution Control was set up in both the Upper House and the Lower House. The second Minamata Disease occurred along Agano River (Niigata).
1967	Basic Law for Environmental Pollution Control was enacted.
1970	The Pollution Control Committee was set up. Environmental Quality Standards for water Pollution were decided by the Cabinet. The Basic Law for Environmental Pollution Control was revised by the so-called "Pollution Diet". Water Pollution Control Law was enacted. Agricultural Land Soil Pollution Prevention Law was enacted.
1971	Environment Agency was established. The Central Council for Environmental Pollution Control was set up.
1972	The frequent occurrence of red tides in the Seto Inland Sea caused serious damage to the coastal fishery. The Water Pollution Control Law was revised (with no-fault liability for compensation adopted).
1973	Interim Law for Conservation of the Environment of the Seto Inland Sea was enacted.
1978	Basic Plan for Conservation of the Environment of the Seto Inland Sea was decided by the Cabinet. Law Concerning Special Measures for Conservation of the Environment of the Seto Inland Sea was enacted. The Water Pollution Control Law was revised (total pollutant load control was adopted).
1979	A Basic Policy for Areawide Total Pollutant Load Control was adopted in Tokyo Bay, Ise Bay and the Seto Inland Sea.
1980	Households, etc. were encouraged to reduce the use of phosphate detergents.
1981	Prefectural plans were developed to conserve the environment of the Seto Inland Sea.
1984	The Law Concerning Special Measures for Conservation of Lake Water was enacted.

Year	Incident
1985	Nitrogen and phosphorus control standards relating to lakes and reservoirs were established. Outlines of Measures for Preventing Ground Subsidence were set in the Chikugo, Saga and Nobi Plains.
1987	The second Basic Policy for Areawide Total Pollutant Load Control was adopted.
1989	Standards were set for trichloroethylene and tetrachloroethylene. The Water Pollution Control Law was revised (with measures to prevent groundwater pollution adopted).
1990	Water Pollution Control Law was revised (measures against domestic effluents tightened).
1991	The third Basic Policy for Areawide Total Pollutant Load Control was adopted. The Outline of Measures for Preventing Ground Subsidence in the northern Kanto Plain was set. Environmental standards for soil pollution were set.
1993	New items were added to the health items of Environmental Quality Standards for Water Pollution. The Basic Environment Law was enacted.
1994	Law Concerning Special Measures for Water Quality Conservation at Water Resources Area in Order to Prevent the Specified Difficulties in Water Utilization was enacted. New items were added to soil environmental standards.
1996	Water Pollution Control Law was revised (with additional measures to prevent groundwater pollution and deal with accidental oil pollution adopted). The fourth Basic Policy for Areawide Total Pollutant Load Control was adopted.
1997	Environmental standards were set for groundwater pollution.
1998	New items were added to the health items of Environmental Quality Standards for Water Pollution.
1999	The Law Concerning Special Measures Against Dioxins was enacted. Guidelines were set for the surveys and measures for soil and groundwater pollution.
2000	Basic Plan for Conservation of the Environment of the Seto Inland Sea was revised (with conservation measures for seaweed beds and tidal flat adopted).
2001	Ministry of the Environment was established. The fifth Basic Policy for Areawide Total Pollutant Load Control was adopted.
2002	Soil Contamination Countermeasures Law was enacted. Law Concerning Special Measures for the Rejuvenation of the Ariake Sea and Yatsushiro Sea was enacted.
2003	Ariake Sea and the Yatsushiro Sea Comprehensive Investigation and Evaluation Committee was set up. New items were added to the living environment items of Environmental Quality Standards for Water Pollution (environmental standards for the conservation of aquatic life).
2005	The Law Concerning Special Measures for Conservation of Lake Water was revised (with measures to control effluent and conserve the lakefront environment adopted). The third environment basic plan was developed (Secure an Environmentally Sound Water Cycles).