

The Environment in Osaka of fiscal 2001

The problem of heavy environmental pollution caused by industries has been reduced.

The problem of sulfur dioxide (SO₂) in the air and cyanide and cadmium in the rivers and the Osaka-Bay have been greatly reduced by decreasing the concentration of such chemical materials to meet environmental quality standards.

There still remain problems with environmental pollution caused by daily life and business activities in urban areas.



A river in Osaka

The amount of nitrogen dioxide (NO₂) and suspended particulate matter (SPM) in the air are caused mainly by car exhaust. The amount of biochemical oxygen demand (BOD) and chemical oxygen demand (COD) in rivers and the Osaka Bay are caused mainly by domestic wastewater and therefore, environmental quality standards have not yet been met in some areas.

There still remain several other environmental problems that need to be resolved in the Osaka region.

There remain several problems that need to be resolved such as the unsuitable disposal of wastes or illegal dumping, global warming, and the heat-island phenomenon in urban areas. Furthermore, there is also the influence of dioxins and environmental hormones on humans and on ecology.

To Improve the Environment in Osaka

To improve the environment in Osaka and to make Osaka a more comfortable place to live, several environmental issues need to be improved one at a time.

Osaka Prefecture established

“The Comprehensive Plan for the Environment in Osaka for the 21st Century”

A new comprehensive environmental plan introduced in March, 2002.

The keyword of the plan:

Construction of an Environmentally Advanced City, Aiming to Establish a Recycling-based Society

Directions for the future

- Solving pendent problems which remain in the 21st century (we call them a “**Negative heritage on the environment**”)
- Aiming to “**Establishing a recycling-based society**”
- Promoting partnerships among residents, corporations, Environmental NGOs · NPOs and the Osaka Prefectural Government



Main Subjects

- **Recycling of Resources:** reduction of wastes, recycling, proper disposal of wastes, etc.
- **Water Recycle:** the quality and the quantity of water in rivers and the Osaka Bay, providing an area for people to come in contact with water, etc.
- **Global Environment:** global warming caused by greenhouse gases, etc.
- **Traffic Environment:** air pollution caused by vehicles, etc.
- **Hazardous Chemical Substances:**
emission and self-management of dioxins, etc.
- **Preservation, Restoration and the Creation of a Natural Environment:**
creation of attractive areas where cities and nature can co-exist, etc

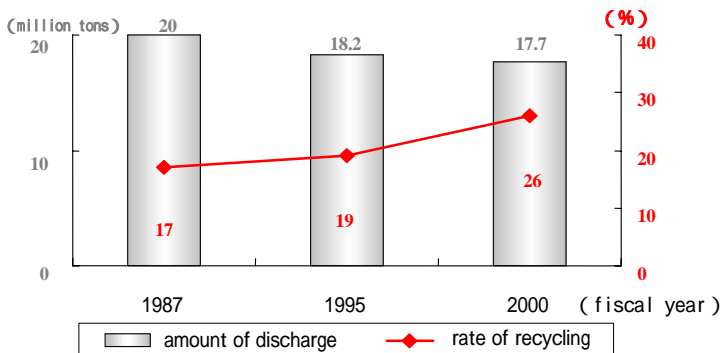
Recycling of Resources

Industrial Waste

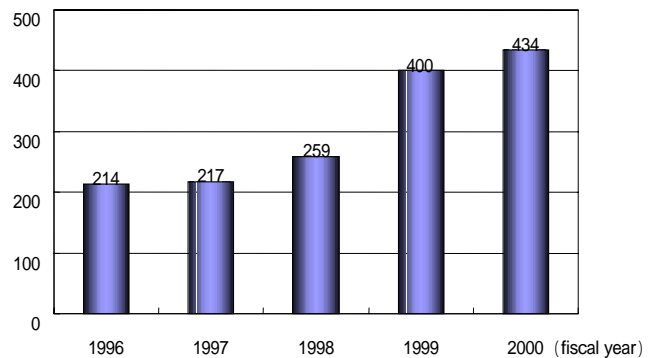
The amount of discharged industrial waste is decreasing every year and the rate of recycling appears to be increasing.

However, 17.7 million tons of industrial waste was discharged in the Osaka region in 2001, among which 1.47 million tons of industrial waste was reclaimed and disposed of in the final waste disposal site, and therefore further decreasing the capacity of the site by this amount.

Change in the amount of discharged industrial waste and the rate of recycling



Number of illegal disposal of industrial waste (Number of complaints)

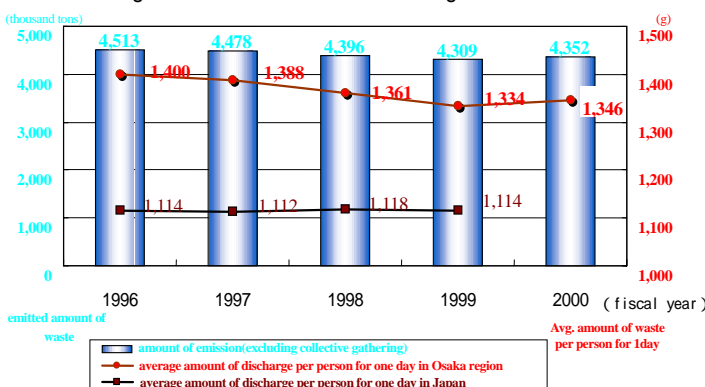


Furthermore, unsuitable disposal of industrial waste, such as illegal dumping or leaving appears to be increasing. The way the crimes are being committing are becoming worse and are being exercised in extremely short periods of time. They especially occur during the night, early in the morning or on holidays, when supervision by the administration is not as strict.

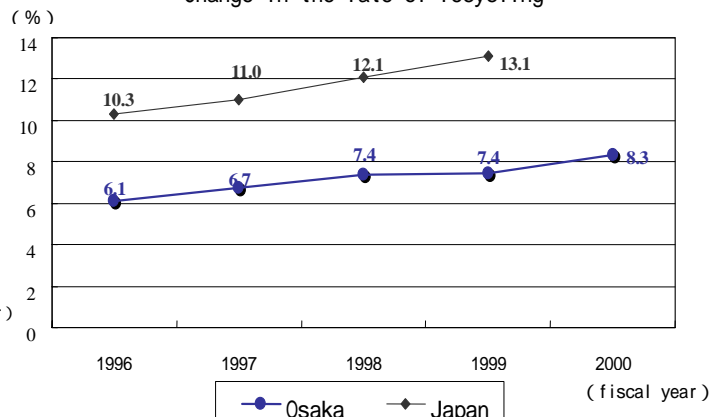
Domestic Waste

The amount of discharged domestic waste (all waste except industrial waste, e.g. home, office, etc.) is decreasing year by year. However, the average amount of discharged waste per person for a day is 1.3 kg in the Osaka Region, which is more than that of Japan, 1.1 kg. The amount of recycling tends to be increasing and is 8.3% in the Osaka region, but the rate is still much lower than that of Japan's average percentage of (13.1%).

Change in the amount of discharged domestic waste



Change in the rate of recycling



Measures taken by Osaka prefecture during fiscal 2001

- 》 Established the “Waste Management Plan in Osaka Prefecture.”
- 》 Promoted recycling based on the “Recycling Law” for containers and packaging, foods, electric appliances and constructions.”
- 》 Made efforts to recycle and made effective use of sludge from sewage treatment plants, sludge from drinking water treatment plants, by-products from construction and pruned branches.
- 》 “Eco-Shop” (promotion of the reduction of wastes and recycling) increased their number of shops and their awareness.



“Eco Shop” is the nickname for the shops that work to reduce wastes and promote recycling. The number of shops registered at the end of March, 2002 was 1,747.

- 》 Promoted an intensive supervising patrol for illegal disposal of wastes.
- 》 Made efforts to decrease illegal disposals by means of arresting corporations exercising illegal leaving or burning waste, and ordering them to remove of such wastes.



A supervising patrol car departs to prevent illegal disposals of industrial waste

< Countermeasures to manage industrial and domestic waste >

Based on the “Waste Management Plan in Osaka Pref,” the “Reduction,” “Reuse” and “Recycle” (3R in all) are to be promoted to reduce the amount of the final waste disposal by half.

The “Osaka Eco-Area Plan” is to be established, which will utilize the former final waste disposal site, arrange recycling facilities by mainly private enterprises and create a “Symbiotic Forest” where people can come in contact with nature.

Environment of Rivers

The concentration of BOD, which indicates the degree of pollution in the rivers, has decreased. It is reported that the fish called "Ginbuna" and "Motugo" have returned to Neyu River,

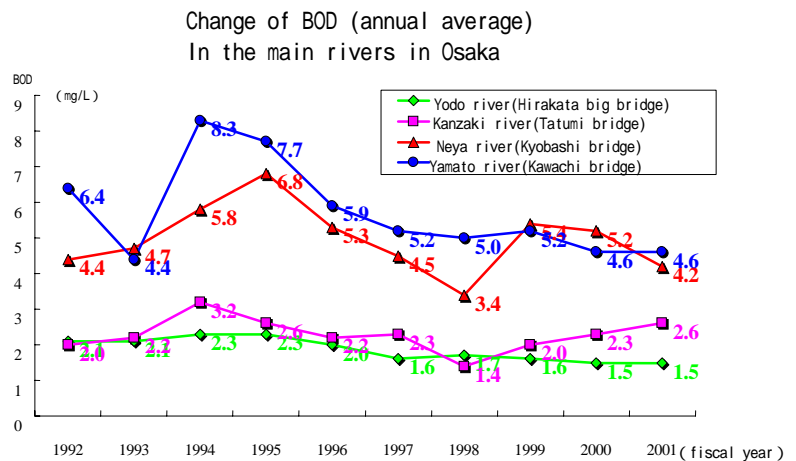
which is said to be the dirtiest river in Osaka City.

(according to the report explaining the habitat for fish by Osaka city)

The rate of achievement of the BOD environmental quality standard was 51% in 2001.



yurikamome in the Yamato river



Environment of the Osaka Bay

The concentration of COD which indicates the degree of pollution of the sea (Osaka-Bay), has not improved yet, and the rate of achievement of the COD environmental quality standard was 47% in 2001. The main cause for the pollution was due to the delay in taking measures on improving domestic wastewater and from the accumulation of colloidal sediment at the bottom of the sea.

Measures taken by Osaka prefecture during fiscal 2001

- 》 Advanced the treatment of sewerage water disposal and utilized it for sprinkling and purifying waterways.
- 》 Made efforts to increase and promote sewerage and combined household waste water treatment facilities.
- 》 Cleaned the water of the Nishiyoke river, Higashiyoke river and Oto river.
- 》 Practiced cleaning activities in cooperation with city or town offices, resident councils, NPOs and others at Ai River, Amano River, Ishikawa River, etc.

< Countermeasures for domestic wastewater >

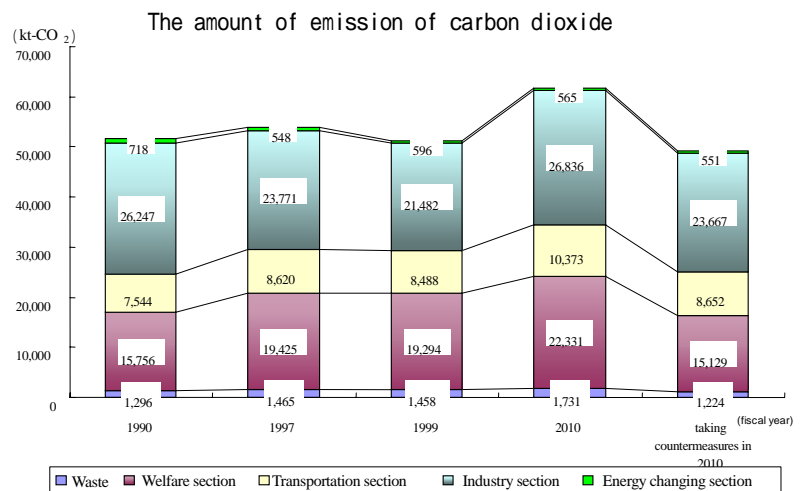
The rate of sewage treatment in 2001 was 81.2%, and failed to achieve the goal set for 100% in the former plan. Therefore, the new action plan that is to be established, will comply with the condition of local areas in order to treat 100% of domestic wastewater by 2010.

Amount of CO₂ Emissions

The amount of carbon dioxide (CO₂) emissions in 1999 has decreased in the industrial section, because the operation of power stations and steel industries have decreased. The amount

has decreased by 0.8% since 1990, the basis year of the Kyoto Protocol. However, the amount of emission of

CO₂ in the transportation and welfare section has been increasing and the focus is on how to reduce the amount of CO₂ emissions in these sections in order to keep in line with the regulation of the Kyoto Protocol.



Measures taken by Osaka prefecture during fiscal 2001

- » Promoted energy saving by ESCO business (at the Osaka medical center and the research institute for maternal and child health).
- » Established photovoltaic power systems at the Murano water treatment and Ai-river central sewerage treatment plant and at the Agricultural, Food and Environmental Science Research Center of Osaka prefecture.



Facilities for generating photovoltaic power at the Murano filtration plant

- » Practiced the “Purchase of Green Products; NO!! Package Campaign” which encourages people to purchase green products and to bring purchasing bags for oneself. Obtained cooperation from 2,584 supermarkets and department stores in Osaka prefecture.



< Countermeasures for global warming >

Continually making efforts to introduce new energies, to save energy and to promote various voluntary activities in order to reduce greenhouse gases by 9% (1990 to 2010)

Concentration of NO₂

The annual average concentration of NO₂ (Nitrogen Dioxide) has remained at a stable level, but the rate of achievement of environmental quality standards has had a tendency to improve in the last several years. Rate of achievement of environmental quality standards in 2001:

Ambient air pollution monitoring station 96%

Road-side air pollution monitoring station 68%

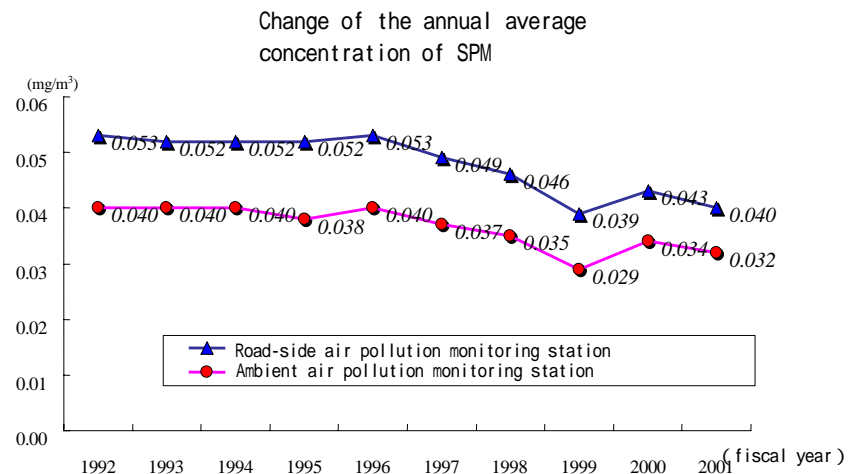
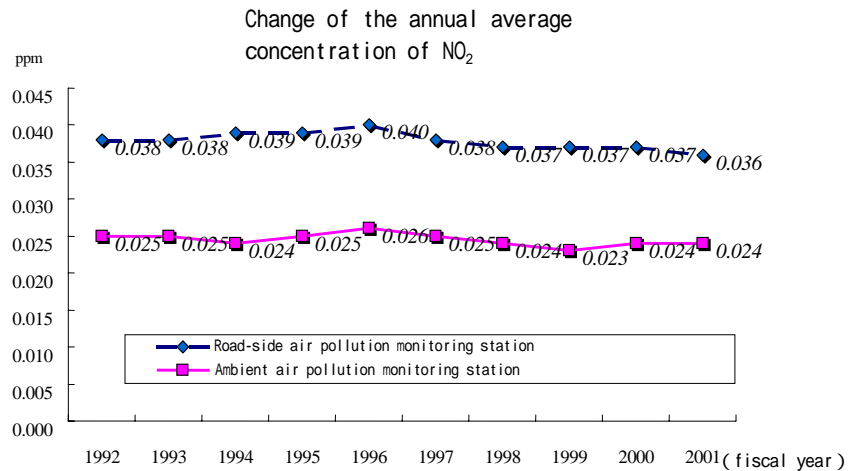
Concentration of SPM

The annual average concentration of SPM (Suspend Particulate Matter) tends to be improving, but the rate of achievement of environmental quality standard was unfavorable, because the high concentrated condition continued for 2days.

Rate of achievement of environmental quality standards in 2001:

Ambient air pollution monitoring station 44%

Road-side air pollution monitoring station 32%



Measures taken by Osaka prefecture during fiscal 2001

- » Made efforts to popularize low-pollution vehicles and low-emission vehicles (LEV-6), by reducing the tax on purchases of those vehicles and arranging fuel supplying facilities and subsidizing freight companies when they changed their vehicles to low-pollution vehicles. And furthermore, took the lead in introducing and using them as business cars at the Osaka Prefectural Government.
- » Introduced one of the Traffic Demand Management (TDM) systems criteria where buses are given priority on Route 170 and began a "Park and Ride" system whereby, fifteen parking lots of large marketing facilities can be used for public parking.



< Countermeasures for exhaust gases >

We would like to formulate the "Total volume of Automobile emitted nitrogen oxides and particulate matters Reduction Plan in Osaka Prefecture" to satisfy environmental quality standards of NO₂ and SPM by the end of fiscal 2010 and to promote the popularization of low-pollution vehicles and LEV-6 and countermeasures of diesel vehicles.

What is the Traffic Demand Management (TDM) system ?

T.D.M. is a system designed to decrease traffic congestion at urban and regional levels by changing traffic movements such as time, route, the selection of traffic means and the way we think about using our cars. Establishing smooth traffic promotes the revitalization of the region and improves the environment.

5

Hazardous Chemical Substance

Measures taken by Osaka prefecture during fiscal 2001

- » Promoted environmental adjustments to clean polluted soil caused by dioxins in Nose town.
- » Gave thorough instructions to maintain emission standards of dioxins which have been tightened in December, 2002.
- » Made efforts to promote self-management by corporations while recognizing the actual amount of their use of chemical substances. This was based on the standards of proper management of chemical substances in Osaka prefecture, before the PRTR Law was taken into effect.

<What is PRTR ? >

Pollutant Release and Transfer Register (PRTR) is a method for accurately assessing, aggregating, and disseminating data on the sources from where diverse hazardous chemicals are released, amounts released to the environment, and amounts transferred off-site from industrial establishments via waste products.

6

Preservation, Restoration & Creation of a Natural Environment

It is said that there is little greenery in Osaka, however the Osaka region is blessed with rich nature, history and culture, since the region is surrounded by three ranges of mountains, called the “Green-Belt bestowed by heaven.” Examples include the Hokusetsu, Kongou-Ikoma and Izumi-Katsuragi mountain ranges.

Precious Creatures living in the Osaka region

More than ten thousand kinds of creatures are thought to live and grow in the Osaka region. The giant salamanders, are known as a “special monument” living in the Hokusetsu mountain range and the “Itasenpara,” a fresh-water fish, also known as a “natural monument” live in the “Wado” pools of the Yodo river.



“Itasenpara,” a fresh-water fish in the Yodo River



“Wando” pools in the Yodo River

The Yodo River has “Wado” pools where various kinds of water creatures live and grow. However, the number of “Wado” pools have decreased to roughly 50 pools, from about 500. Therefore, activities to protect the creatures, such as patrolling for illegal fishing, are exercised regularly.

Space for greenery in urban areas

Because there is little space for greenery in urban areas, adjustment of urban parks are promoted, but the area of parks per resident in Osaka prefecture is only 4.8m², which is about half that of the national average. In addition, the area of urban parks has increased by 860ha in the last ten years, while the area of the forests have decreased by 840ha and agricultural land has decreased by 2,800ha.

Measures taken by Osaka prefecture during fiscal 2001

- » Established Hokusetsu Nature Park according to the Osaka Prefectural Natural Park Regulations.
- » Worked to make improvement in the Makio River and Kinyuujji River that take into consideration ecology.



Preserving business in Shinodayama wetlands

- » Took to preservation measures, such as dredging earth and sand and eliminating dry area plants in the Shinodayama wetlands.
- » Arranged water conformed facilities and etc. for irrigation canals and ponds.
- » Donated 70,000 trees and promoted tree-planting at private and public facilities.

We all act to protect and create nature in Osaka

- » We supported fishermen's activity to create the "Naniwa No Mori Dukuri" based on the idea that a fertile forest results in a plentiful ocean.
- » We carried out preservation activities for rice terraces, which play important roles such as preserving various kinds of ecologies and helps in the adjustment of floods by making use of the "Fund for Preserving rice terraces and the countryside."
- » In order to create a pleasant waterside atmosphere where people can come in contact with water, the Nagese Waterway (used for irrigation purposes), as well as other waterways are being reconstructed to serve as promenades and new water establishments. Tree planting and other preparatory tasks are being carried out.
- » We held the "Nagisa No Gakkou" an activity program to observe living creatures and to clean the beach at the Nagamatsu natural beach preservation area.



Nagase Irrigation Canal



Nagisa No Gakkou

- » Resident council groups, corporations and other groups worked in cooperation with the prefectural government and city, town and village municipalities on the "Adopt Program" for tree planting and the beautification of the region, not only for the roads but for rivers also.



Adopt a Road "Yokoyama"



Adopt a River "Saho river"