

## **Measures Taken by Kobe City to Reduce the Pollutant Load from Sewerage**

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The sewerage population of Kobe is now 98%, and Kobe City's seven treatment plants process around 550,000 m<sup>3</sup> of wastewater daily, then discharge it into the Seto Inland Sea.

Kobe City has adopted two important measures for improving the quality of treated water. One measure was introducing the operating method called the dummy anaerobic-aerobic method, which makes it possible to remove phosphorous and stabilize the quality of treated water at the same time. Phosphorous, which is a raw material for organic matter and therefore promotes eutrophication, can now be controlled at treatment plants too.

The other measure was a concerted effort to reduce COD. Reducing COD is important for achieving and maintaining water quality that meets COD environmental standards for public water areas in the final effluent destinations. By using an operating method that extends the sludge retention time, we are reducing the COD load of water discharged from treatment plants year after year.

However, the environmental standard achievement rate for the Seto Inland Sea has not been improving, while blooms of red tide are reported 100 times or more a year, and show no signs of abating.

In view of the fact that the load imposed on the Seto Inland Sea is caused mostly by treated wastewater from Kobe's urbanized areas, further efforts are needed to reduce the nitrogen and phosphorous that promote red tide blooms. Kobe City has been seeking ways to remove nitrogen and phosphorous more thoroughly without carrying out the extensive remodeling of existing treatment facilities, by, for instance, changing the operating method. By introducing advanced treatment methods, a certain level of success has already been achieved. The discharge load level of nitrogen has declined considerably. However, in order to remove nutrient salts on a stable and continuous basis, and to meet the increasingly strict regulations on pollutant load, it is necessary to introduce an advanced treatment method designed to remove nutrient salts. An advanced treatment system made up of the coagulant-added anaerobic/anoxic/aerobic method combined with sand filtration is now being used at three treatment plants, including the Port Island plant, as part of our efforts to reduce the load. In addition, the advanced treated water is being used for landscape water, etc. We will continue to seek out and introduce more economical and more appropriate advanced treatment methods for further reducing the pollutant load on the Seto Inland Sea so that we might pass on a clean and beautiful Seto Inland Sea to future generations.