

New Measures for Environmental Conservation and Restoration in the Seto Inland Sea

Yoshiaki Asano

Water Quality Bureau, Environment Agency Government of Japan

Tel.+81-3-5521 8319 Fax.+81-3-3593 1438 E-mail: YOSHIAKI_ASANO@eanet.go.jp

Abstract

The Seto Inland Sea is the largest semi-enclosed sea in Japan and blessed with scenic beauty and abundant fishery resources. The sea has been suffering from the environmental deterioration, such as frequent occurrences of red tide, in particular during the high economic growth period in Japan between 1960 and 1975. Although the various measures of the Environment Agency of the Government of Japan have resulted in the great improvement of the environmental situation concerning the occurrences of red tide, the area of reclamation and so on, problems of current measures have been identified: achievement of environmental quality standards of water has not been improving very much recently; valuable natural environments such as seaweed beds, tidal flats and natural seashores were reduced.

Therefore, the Seto Inland Sea Environmental Conservation Council has submitted to the Environment Agency the advice of the new measures for environmental conservation and restoration of the Sea. The Environment Agency is going to take new measures based on this approach which consists of the three key words "Strengthening of Conservation Measures", "Development of Measures to Restore Favorable Environments Damaged" and "Promoting Wide-Ranging Cooperation and Participation."

Introduction

During the high economic growth period in Japan between 1960 and 1975, many parts of shallow sea area around the Seto Inland Sea were reclaimed causing environmental deterioration of the Sea, such as frequent occurrences of red tide. Under such circumstances, the Law Concerning Special Measures for the Environmental Conservation of the Seto Inland Sea was enacted in 1973 and the following measures have been implemented: establishment of the Basic Plan for the Environmental

Conservation of the Sea, control of total pollution loads of COD, guidance for the reduction of phosphorus and nitrogen, integration of environmental consideration into land reclamation projects. As a result, the environmental situation of the Sea has improved: the frequency of occurrences of red tide reduced to 40%, the area of reclamation reduced to one quarter. Outline of the Law Concerning Special Measures for the Environmental Conservation of the Seto Inland Sea is shown in Appendix;

At the same time, problems of current measures have been identified: achievement of environmental quality standards of water has not been improving very much recently; valuable natural environments such as seaweed beds, tidal flats and natural seashores were reduced by 1,300 ha, 800 ha and 110 km respectively between 1978 and 1991. As the above outline shows, the implementation of various measures in the quarter-century since the Seto Inland Sea Law was enacted has shown limited results in reducing the burden on the environment caused by human activities. However, many problems still remain to be resolved, such as the accumulated burden on the environment due to past development and the like and measures to deal with new environmental problems.

Unified and comprehensive measures must be taken to deal with new environmental problems and to preserve the Seto Inland Sea as a place in which human beings coexist with nature with regard to lifestyle, industry and so on, with consideration given to the unique geographical, natural and socioeconomic conditions in each water region. This will require measures, based on new environmental trends, to deal appropriately with the many problems we currently face. This approach consists of the three key words "Strengthening of Conservation Measures", "Development of Measures to Restore Favorable Environments Damaged" and "Promoting Wide-Ranging Cooperation and Participation."

1. Basic Direction of the Future Policy Measures

1) Strengthening of Conservation Measures

To ensure a suitable environment for the Seto Inland Sea and to ensure that this environment is passed on to future generations, what is needed first of all is to preserve to the greatest extent possible the remaining natural environment and prevent additional burdens being placed on the environment, and to promote the circulation of substances and thereby further reduce the environmental burden caused by human beings. For this purpose, conservation measures (primarily made up of restrictions) must be improved and more sewers and other facilities designed to reduce the environmental burden must be constructed. These measures should include improvement of water quality through further efforts to reduce various polluting substances and comprehensive study of development efforts from an early stage in project planning to avoid or reduce their environmental impact.

2) Development of Measures to Restore Favorable Environments Damaged

With only conservation measures composed mainly of restrictions, it will be difficult to succeed in the physical and ecological restoration of the natural coastline that has already disappeared due to development and the like, consisting of seaweed

beds, tidal flats and other shallow areas and natural beaches that offer beautiful scenery and places for contact with nature. To secure the diverse environments suited to the Seto Inland Sea, measures to restore lost environments and conduct active environmental maintenance are needed to ensure that the Seto Inland Sea is passed on to future generations. Examples of effective methods include the use of appropriate technologies for creating seaweed beds, tidal flats and beaches, and environmental maintenance efforts to bring out the purifying capabilities of nature and restore and preserve healthy water circulation, based on past and present environments and those desired in the future.

3) Promoting Wide-Ranging Cooperation and Participation

The Seto Inland Sea is home to many people and is used in diverse ways. To preserve the existing natural environment and reduce the environmental burden and at the same time restore the environments that have been lost, relevant parties must deepen their understanding of the Seto Inland Sea environment and actively work to implement a variety of measures. This will require many wider and closer contacts than ever before and the systematic promotion of such activities.

For this reason, a strengthening of the so-called "three liaisons" of inter-regional, inter-entity and inter-generational contacts is crucial. The first involves increased "lateral cooperation" between the prefectures, cities and towns bordering the Seto Inland Sea as well as "vertical cooperation" of river basin prefectures, cities and towns. The second involves increased cooperation between the national government, local public organizations, companies, residents, researchers and other principal entities involved in environmental management. Obtaining the understanding and cooperation of residents is particularly important. The third involves increased cooperation on environmental management spanning generations. To achieve this, it will be necessary to promote environmental education and study.

2. Gist of Future Main Policy Measures

1) Strengthening of Conservation Measures

i) Promotion of Comprehensive Measures for Water Quality Conservation

To reduce the environmental burden caused by human activities, further efforts are needed to reduce the COD pollution load and comprehensive efforts to decrease the nitrogen and phosphorous loads that affect the increase in plankton and cause COD to be produced internally and result in "red tides." Immediate study is needed to create a framework for accomplishing these goals and implement measures.

The problem of new harmful chemical substances is exacerbated by the lack of sufficient data for use in studying administrative measures. Technologies must be developed to reduce the burden on the environment and other efforts made based on various studies and research including the status of pollution, identification of the mechanism by which it occurs, the effect on the human body and the environment, and so on.

ii) Control of Land Reclamation

Land reclamation has the potential to adversely affect water quality, change the habitats and living environments of organisms and other ecosystems, alter the natural scenic beauty, reduce the areas in which people can come in contact with the ocean, diminish fishing grounds and cause many other types of environmental change. We must recognize that oceans that are filled in can never be restored to their former state. The accumulation of reclaimed land, etc., even after the Seto Inland Sea Law went into effect has tended to cause a deterioration of the seaweed beds, tidal flats and other Seto Inland Sea environments. Accordingly, there is a need for wide-ranging study of measures to limit land reclamation.

There is still a strong desire to reclaim land from the Seto Inland Sea, both as distribution centers and as places to dispose of excess earth from land regions and dredging. Consequently, to limit land reclamation it will be necessary to limit the removal of this earth, study measures for effective use, and so on. There is also a strong desire to reclaim land for waste disposal, so we must work to both limit the production of and reduce the quantity of such wastes and encourage recycling.

When land reclamation is unavoidable, measures must be taken to limit the deterioration of the environment to the greatest extent possible. For this reason, adequate study must be made from an early stage of project planning to avoid or reduce the environmental impact. In the event that environmental impact remains, a study of suitable compensatory measures must be made. In studying ways to avoid or reduce environmental impact, it must be recognized that, in general, shallow depths in particular have high a productivity with regard to living organisms and play a crucial role in purifying seawater, providing a habitat for fish, shellfish and creatures that live on the ocean floor, and so on.

iii) Countermeasures to Other Problems

Although studies are currently underway, we still do not have an adequate understanding of the effect of the excavation of sand from the ocean floor on water quality, bottom quality, ecosystems and other aspects of the environment. For this reason, studies of the environmental impact of the excavation of sand from the ocean floor must be pursued, and measures that take into consideration water quality, bottom quality, seafloor topography, ecosystems and various other environmental aspects must also be studied. Research and development efforts to derive substitutes for ocean floor sand, aggregate that can be used in place of sand and so on must also be promoted in order to reduce the dependence on sand from the ocean floor.

2) Development of Measures to Restore Favorable Environments Damaged

i) Basic Approach

(a) Targeted Regions

From the standpoint of restoring lost environments, these measures

should be promoted in areas whose natural environment has been lost due to development and other factors.

(b) Organization for Implementation

The ocean regions in the Seto Inland Sea are publicly owned, and up to now environmental management efforts have been conducted mainly by the national government and local public organizations. While the national government and local public organizations should continue to play a leading role in restoring the good environments that have been lost, companies, it is important to coordinate these efforts with residents and private sector organizations.

(c) Planned Implementation

In implementing measures, it is important to study what kind of environment should be created by these efforts, based on the status of the environment in the past, at present and that desired in the future. As environmental restoration done by creating seaweed beds, tidal flats etc. will take time, these efforts must be done on a planned basis from a medium- and long-term perspective.

(d) Selection of Technologies

In planning concrete measures, suitable technologies must be selected based on land and ocean use, topography, water quality, tidal currents, the habitats of living things in the area and other conditions, and on the status of the development of environmental maintenance technologies. Also promising are the study of design and construction technologies from new perspectives and the confirmation of their effectiveness through demonstration tests. In such cases, sufficient study should be conducted to ensure that the tests are done at an appropriate time and in a location where they will not adversely affect the environment.

(e) Suitable Maintenance

The natural environments that have been created must be appropriately maintained so the environment continues to recover. In addition, as many aspects of the effect of creating natural environments are not yet understood, the status and effect of restoring environments must be studied through appropriate monitoring, etc. and problems resolved, and efforts must be made to develop, improve and accumulate technologies for environmental maintenance.

ii) Concrete Measures

To restore lost environments, concrete measures should be pursued from the following perspectives. During this process, it has been proposed that an effort be made to use land that has become idle in recent years due to socioeconomic changes as places for creating new environments.

(a) Improvement of Natural Purifying Capabilities

To promote improvement of water quality and restore and secure healthy water circulation, efforts must be made not only to reduce the pollution load but also to improve the natural purifying capabilities of the ocean regions. Technologies that might help achieve this goal include the creation of shallow areas and seaweed beds that have a high absorption of nutrient salts and supply oxygen through photosynthesis.

(b) Creation of Environments as Habitats for Living Things

The loss of seaweed beds, tidal flats and other environments where important organisms can live and grow makes it necessary to create such environments that can encourage bio-diversity. Technologies that might help achieve this goal include the creation of seaweed beds where fish and shellfish lay eggs and mature, as well as tidal flats and shallows where the many varieties of ocean floors dwelling creatures, birds, marine plants and other organisms live and grow.

(c) Improvement of Ocean Access

Most urban beachfronts are centers for industry and distribution and thus are places in which residents cannot readily come in contact with the ocean, and so places that provide the opportunity for contact with the ocean should be created in these areas. Technologies that might help achieve this goal include the creation of artificial beaches and tidal flats for swimming and clam-digging and the use of seawalls that permit shoreline access, fishing, going for a stroll and so on.

(d) Improvement of scenic beauty

Scenic beauty that has deteriorated due to development, etc., should be restored based on cultural, historical and other regional characteristics in order to create scenery that is in harmony with the surrounding natural environments. Technologies that might help achieve this goal include the adoption of natural techniques such as the creation of artificial beaches to restore lost beach areas, the planting of pines and other trees to green the coasts, and the use of natural stones, etc. on man-made coastlines.

3. Promotion Measures

1) Institutional Measures

i) Review of Basic Plan for the Seto Inland Sea, Basic Policy for Reclamation and Prefectural Plans for the Seto Inland Sea

The Basic Plan for the Seto Inland Sea (the master plan for the environmental management of the Seto Inland Sea that identifies the basic approach including the objectives for environmental management, measures that should be devised, etc.) and the Basic Policy for Reclamation (which prescribes considerations for the unique nature of the Seto Inland Sea when reclaiming land from the Sea) must be reviewed and studied, based on this

Response, from the standpoint of improving conservation measures and introducing measures to restore lost environments. The prefectural plans must also be reviewed and studied.

ii) Measures to Plan the Preservation and Recovery of Coastal Environments

To secure desirable environments in the coastal regions that are valuable in many different ways, and to ensure that they are passed on to future generations, concrete objectives for the environments that should be preserved and restored should be established and systematically implemented, based on a vision of the coastal environment that is in accordance with regional characteristics. For this purpose, the introduction of concrete action plans to promote the preservation and restoration of coastal environments should be studied, based on the prefectural plans, etc., and with consideration given to coordinating these plans with other relevant plans.

The objectives for these plans should be based on the past status of the environment in relevant regions, etc., and consideration should be given to existing natural environments, the present status of land utilization, etc., historical, cultural and other regional characteristics, the needs of residents, and other factors. Furthermore, the use of clear guidelines should be studied to ensure that the set objectives are easy to understand. In this process, it is necessary to consider the fact that our knowledge of ecosystems, etc. is incomplete and many factors are difficult to quantify, and that some factors are omitted in the process of creating guidelines. Moreover, the knowledge that is accumulated should be reviewed at appropriate intervals and quantified to the greatest degree possible.

In enacting and promoting plans, wide-ranging cooperation is indispensable for ensuring the compatibility of regional plans and the smooth implementation of projects, and an organization must be established for this purpose.

iii) Measures to Deal with Programs, Projects etc.

The restrictions specified in the Seto Inland Sea Law must be reviewed and studied from the standpoint of improving conservation measures. To reduce the burden on the environment, additional efforts must also be made to introduce facilities for processing domestic sewage from sewers, etc. and advanced processing techniques, as well as measures to reduce the load from cultivation, animal husbandry, etc., and projects that are in accordance with the goal of preserving the environment and restoring lost environments. To encourage environmental preservation activities on the part of residents and NGOs, activities to enlighten and educate the general public and programs to honor good deeds that might otherwise go unrecognized should be promoted.

iv) Promotion of Citizen Participation

The understanding and cooperation of residents is indispensable for promoting measures to preserve the environment in the Seto Inland Sea, and this should be promoted from the standpoint of reducing pollution loads,

enhancing the understanding of environmental management and encouraging participation in administrative measures that are enacted.

v) Improvement of Environmental Education and Study

Since current activities by private citizens often result in damage to the natural environment, it is necessary to recognize the importance of coexistence with nature and work for an understanding of the mechanism and importance of nature, and of the relationship between human beings and nature, and to promote education and study of the environment in order to foster a desire to protect nature and a willingness to participate in environmental management activities. For this purpose, facilities should be established to enable contact with, and promote sound use of, the ocean. Programs to promote an understanding of the natural environment of the Seto Inland Sea and its relationship to people's lifestyles, etc., should also be implemented. Since the Seto Inland Sea is rich in materials for environmental study, it would be useful to study the establishment of sites for hands-on environmental study and, based on the results, centers for environmental education and study could also be established.

Studies should also be made of the holding of meetings in natural parks, etc. to observe nature and various measures targeting children (the Children's "Eco-club" Project, the Children's Shoreline Rediscovery Project, and the Child Park Ranger Project), as well as other means of providing opportunities for hands-on study and enhancing understanding of the regional environment, etc., and of training volunteers, etc., who can assist in this type of hands-on study.

2) Promotion of Research and Technology Development

i) To promote information sharing and assist in improving the efficiency of research and strengthening partnerships

As many facets of the Seto Inland Sea environment are still unknown, specialist study/research and technical development should be promoted and a mechanism created to gather research results and data in various fields and to enable these results and data to be effectively used to create concrete measures to preserve and restore the environment.

For this purpose, databases should be created containing information on the environment of the Seto Inland Sea and the results of research, technical development and so on, in order to promote information sharing and make information gathering more efficient, as well as to increase the efficiency of research activities by the various research organizations, etc., working in the Seto Inland Sea regions and help strengthen contacts between these organizations.

ii) To promote field experiments to evaluate the effectiveness of new technologies and facilitate technological improvements.

Measures are also needed to improve the monitoring activities performed to gather environmental data needed to identify environmental

problems and phenomena in the Seto Inland Sea and promote concrete measures, as well as field demonstration tests, etc., performed to check the effectiveness of new technologies and promote technical improvements.

Below are examples of the major research and technical development efforts that should be promoted in order to preserve and restore the environment in the Seto Inland Sea.

- Methods for evaluating the structure, functions, scenic beauty etc., of various ecosystems and development of guidelines for it.
- Techniques for effective environmental monitoring of ecosystems, etc.
- Measures for evaluating and dealing with newly recognized harmful substances.
- Evaluation of the environmental impact of the excavation of sand from the ocean floor.
- Technologies for improving water quality that utilize the natural environment.
- The development of technologies to improve the environment (such as those for creating the seaweed beds and tidal flats that provide habitats for organisms and purify water) and verification of their effectiveness.
- Measures to reuse wastes, etc.

iii) Improvement of Information Access and Dissemination

To actively promote citizen participation, accurate data on the environment must be provided to citizens in an easy-to-understand form. This data is also indispensable for promoting environmental education/study, research and technical development. One of the techniques for accomplishing this goal is to promote the construction of a system with databases containing environmental data on water quality and other attributes of the Seto Inland Sea, data on socioeconomic statuses and projects, data on culture and history, research results and so on, and with Internet web-sites that provide widespread access to this data. PR brochures, mass media organs and the like can also be employed to help publicize the environmental status of the Seto Inland Sea, the status of environmental measures, efforts to reduce pollution loads, efforts to improve current mass-consumption, mass-disposal lifestyles and so on.

iv) Expansion of Wide-ranging Cooperation

The Seto Inland Sea is a large ocean region that affects 13 prefectures and is used in many different ways, and therefore the strengthening of wide-ranging regional cooperation is indispensable in promoting environmental management measures.

(a) Cooperation in River Basins

From the standpoint of restoring and ensuring a healthy water

circulation, it is important to strengthen cooperation between entities connected with individual river basins in matters such as appropriate maintenance of forests and agricultural lands, maintenance and restoration of the natural purifying capabilities of rivers, lakes etc., treatment of ground water and reuse of treated waste water, and so on. Working to establish cooperation within the river basins themselves is also important for promoting citizen participation and improving environmental education and study.

(b) Cooperation Between Local Public Organizations

The Governors and Mayors' Conference on the Environmental Protection of the Seto Inland Sea and other organizations are currently working to forge cooperation between local public organizations, based on a recognition that the Seto Inland Sea is a single entity common to all. This cooperation must be strengthened through such means as creating opportunities to express views regarding the environmental management efforts of each local public organization.

v) Roles of and Liaison between Entities

The Seto Inland Sea is home to many people and is used in many different ways, and therefore various individual attributes have been formed by the natural and societal characteristics of each region. In enacting and promoting measures for environmental management, coordination of different types of usage based on these regional characteristics is indispensable. Consequently, an appropriate mechanism is needed to ensure wide-ranging coordination of the views of people, companies, etc., in each region and reflect their views in measures. Moreover, to effectively realize future environmental management measures, each principal entity must have a proper understanding of the current status of the Seto Inland Sea and make autonomous and active efforts, based on the duties specified in the Basic Environment Law. The roles of each of the principal entities are described below.

(a) National Government

- Review the Basic Plan for the Seto Inland Sea and Basic Policy for Reclamation and study the establishment of guidelines for the purpose of enacting plans to preserve and restore coastal environments; promote the establishment of restrictions, company support measures and other programs, criteria etc. needed to implement measures.
- Study the framework for supporting research and technical development.
- Study plans for promoting company and citizen involvement.

(b) Local public organizations

- Review the Prefectural Plan for the Seto Inland Sea.
- Study the implementation of plans to preserve and restore coastal environments; promote individual projects.
- Provide an opportunity, through conducting surveys of marine life, etc., for

promoting environmental education and study on the part of children, students and adults; promote the holding of seminars, symposiums and other events to promote the spread of knowledge.

- Build an organization for cooperation among relevant local public organizations, companies, citizens and private sector organizations.

(c) Companies

- Continue active efforts to reduce pollution loads, prevent the generation of wastes and promote recycling, from the standpoint of improving water quality, limiting land reclamation, etc.
- Since companies tend to hold large plots of land near urban coasts, work to create environments to the greatest extent possible, such as establishing areas where people can come in contact with the sea.

(d) Residents and private sector organizations

- Actively strive to reduce the pollution load from households, prevent the generation of wastes and promote recycling, making sure that the knowledge and experience of women is widely employed, from the standpoint of improving water quality, limiting land reclamation, etc.
- Participate in surveys of marine life and the environment of shoreline habitats, environmental monitoring, etc.
- Provide advice on administrative measures and company measures, based on daily efforts and studies.
- Participate in the enactment of plans to preserve and restore coastal environments.

Conclusion

The new approach to environmental management in the Seto Inland Sea of the Environment Agency has shifted from an initial emphasis on pollution control (improving water quality, controlling harmful substances, etc.) to the much wider goal that includes ensuring bio-diversity, restoring and ensuring healthy water circulation, promoting the circulation of substances, ensuring abundant opportunities for contact with nature and so on.

This approach consists of the three key words "Strengthening of Conservation Measures", "Development of Measures to Restore Favorable Environments Damaged" and "Promoting Wide-Ranging Cooperation and Participation" utilizing the knowledge and technologies.

Appendix-1 Outline of the Law Concerning Special Measures for the Environmental Conservation of the Seto Inland Sea

Tentative Law (establishment; October 2 in 1973, enforcement; November 11 in 1973)

Permanent Law (establishment; June 13 in 1978, enforcement; June 12 in 1979)

1. Plans for Conservation of Environment of the Seto Inland Sea (Article 3 and 4)

National Basic Plan (Establishment; April in '78, Publishment; May in '78, Amendment; July in '94)

→ Prefectural Plan (Establishment; July in '81, Amendment; December in '87, June in '92 and September in '97)

2. Permission for the Installation of Specified Facilities (Article 5 to 10)

Persons who give the permission--Governors of prefectures or designated cities

Specified Facilities --Industries and Business Places discharging wastewater of more than 50 m3/day

Pre-assessment of environmental impact by the operation of the facilities is required.

3. Reduction of Total Amount of Pollution Load (Article 12-3)

Designated Pollutant; COD(The first control Plan; June in 1979, The second control Plan; January in 1987, The third control Plan; January in 1991, The fourth control Plan; April in 1996)

4. Guideline for Reduction of Specified Substances (Article 12-4)

	Specified Substances	Instruction by Minister of E. A.	Preparation by Governor
First Plan	phosphorus	June in 1979	April-May in 1980
Second Plan	phosphorus	December in 1985	April-May in 1986
Third Plan	phosphorus	December in 1990	April-May in 1991
Fourth Plan	nitrogen & phosphorus	March in 1996	June-July in 1996

5. Countermeasures for Natural Seashore Conservation (Article 12-7,8)

Designation of Natural Seashore Conservation Area

The prefectures concerned designate the area by ordinance. 91 areas are designated at the end of December in 1997.

6. Special Consideration Given to Reclamation (Article 13)

In considering the license for reclamation taken in the Seto Inland Sea, the governor of the prefecture concerned should take into account the peculiarities of the Seto Inland Sea. The basic policy for reclamation proposed by the Seto Inland Sea Conservation Council in May 1974, should be applied.

7. The Others

- 1) Promotion of improvement and construction of sewer systems and solid waste treatment facilities
- 2) Prevention of oil spill by accident
- 3) Promotion of development of technologies for Environmental Conservation
- 4) Relief of fishermen damaged by red tide

Appendix-2 Outline of the Basic Plan for the Conservation of the Environment of the Seto Inland Sea

1. Plan objectives

1) Objectives Regarding Water Quality Maintenance

These objectives are concerned with the achievement and maintenance of the environmental quality standards for water quality, classifying the mechanism of the occurrence of red tide, the removal of toxic sediment as well as the prevention of its adverse effects, the conservation of seaweed beds and tidelands, and the conservation of the natural seashore.

2) Objectives Regarding the Conservation of Natural Beauty

These objectives are concerned with the conservation of the situation of main areas of natural beauty (including national parks, prefectural natural park), the protection and maintenance of greenery, the conservation of the natural seashore, the maintenance of clean sea surface as well as seashore, and the conservation of such cultural properties as historic relics, scenic spots and natural monuments.

2. Basic measures for achieving these objectives

1) Water pollution prevention

These include measures for the enforcement of area-wide total water pollutant load control, the prevention of the occurrence of damage caused by eutrophication (including the reduction of the pollution load of phosphorus), the prevention of oil pollution, and other measures

2) Conservation of natural beauty

This includes the conservation of natural park and other areas, the conservation of areas with a lot of greenery, the conservation of historic relics, scenic spots and natural monuments, the removal of garbage, oil and other such pollutants, and other measures (including the conservation of the natural beauty of the coastline).

3) Conservation of the seaweed beds and tidelands

4) Conservation of the natural seashore (conservation of areas designated as natural seashore reserves)

5) Consideration of environmental conservation regarding reclamation (in accordance to the Basin Policy for Reclamation)

6) Improvement of sewerage and other systems

7) Improvement of waste treatment facilities, and securing location for waste treatment

8) Removal of sludge from the ocean floor and river bottoms

9) Monitoring and surveying water quality

10) Research and investigation on environmental conservation, and technological development

11) Spreading environmental conservation-related ideas, and raising the level of awareness of environment

12) Measures for support by the National Government

<Cf. Nature of the Plan>

This plan clearly points out the basic direction of measures which should be adopted in order to indicate objectives for the conservation of the environment of the Seto Inland Sea, and so that these objectives may be achieved by the national government, regional governments, and others. And in addition to being reflected in the various plans regarding the conservation of the environment of the Seto Inland Sea, this plan should be a guideline in the enforcement of various related measures.