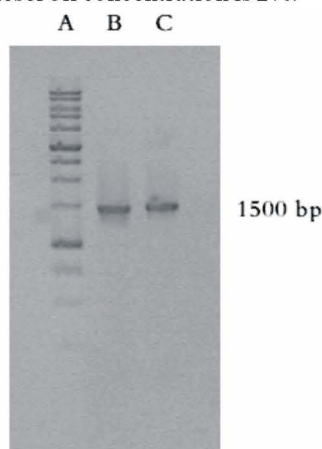


Table.1 Different Colony Numbers and the Degrading Rate along the Domestication

Times of domestication	Different Colony Numbers	Degrading Rate of the Main 14 Kinds of Alkane (%)	Degrading Rate of Aromatic Hydrocarbons (%)
1a	48±6.3	80.8±1.3	17.8±1.6
2 a	42±5.6	90.2±0.9	25.2±0.7
3 a	32±1.3	99.6±2.8	36.7±2.4
4b	12±0	76.3±0.7	25.5±3.4
5 b	8±0	89.5±1.8	27.6±0.6
6 b	4±0	97.6±3.4	33.8±2.1

a: the diesel oil concentration is 1%,  
b: the diesel oil concentration is 2%.



(Lane A: 10 kb DNA Marker; Lane B: 16s rDNA of strain T1; Lane C: 16s rDNA of strain T2)

Fig. 1 Agarose gel electrophoresis analysis of 16s rDNA of strain T1 and T2

### Japanese situation of comprehensive management of enclosed coastal sea~from the case of action plan for restoration of Inner Bays~

Susumu TAKAYAMA

Department of Bioresources, Mie University, 1577  
Kamihama, Tsu, Mie, Japan  
E-mail: takayama@bio.mie-u.ac.jp

February 2006, Ministry of Land and Transport started to manage “the Promotion Committee for Restoration of Ise Bay” and April 2007, it formulated “Action Plan for Restoration of Ise Bay”. The members of this promotion committee are Ministry of Land and Transport, Cabinet, Ministry of Agriculture, Forestry and Fisheries, Ministry of Economy and Industry, Ministry of Environment, Gifu Pref., Aichi Pref., Mie Pref., Nagoya City, Nagoya Port Authority, Yokkaichi Port Authority. Promotion Committee was held totally three times managed by Ministry of Land and Transport (Chubu Branch). The actual work had been charged by liaison conference consisting of officials who was in charge directly

in each administrative organization and several theme committees. One of the theme committees, “Committee on Marine Area”, only includes various sector members, for example NPO members and researchers, but actual plan had been mainly drawn by the administrative side. By the way, the necessity for comprehensive management of enclosed coastal sea has been recognized in worldwide and such kind of system has been gradually adopted in many countries, but we don’t have yet in the proper meaning in Japan, I think. I want to clarify the current situation of “Comprehensive Management of Enclosed Coastal Sea” of Japan, reviewing the action plans for restoration of inner bays like Ise Bay’s case and to find the challenge which we should address in order to realize it.

In 2000, the National Land Agency drew up the guideline for comprehensive management of coastal area. It is well-written guideline based on international standard. Moreover, it is written as the complementing document to the “National Comprehensive Development Plan” which was endorsed by the Cabinet in 1998 so it was anticipated of its effectiveness or any compelling force. But no plan which meets this guideline has been realized in Japan until now. It is difficult to answer why. But if I show one reason, the National Land Agency changed its position by the Central Government Reform in next year (2001). Its affiliation changed from Cabinet to Ministry of Land and Transport. The power of coordination was bumped down a notch. I got this hypothesis when I heard from a unit in the Ministry of Land and Transport which hold jurisdiction over that guideline now. In 2001, “The Urban Restoration Project” sponsored by Cabinet indicated that “to improve urban bay area water quality, please make action plan by various administrative bodies’ collaboration.” Next year “the Promotion Committee for Restoration of Tokyo Bay” started to discuss and accomplished its “Action Plan” one year after. These kinds of action plans have followed by Osaka Bay, Ise Bay

and Hiroshima Bay. in nearly the same style from 2003 to 2007. I want to discuss about the characteristics of these action plans and evaluate to what extent they have comprehensive feature from the viewpoint of “ the guideline for comprehensive management of coastal area” . And I want to analyze why they don’ t reach to the guideline level.

**Research initiative on northwest pacific sea marine environment protection**

Takashi SAKAKIBARA <sup>1\*</sup>, Hiromichi FUJIWARA <sup>1</sup>, Jun ENDO <sup>1</sup> & Osamu FUJIKI <sup>1</sup>

<sup>1</sup> Water Quality Control Department, National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure, Transport and Tourism, 1 Asahi, Tsukuba 305-0804, Japan

\*E-mail: sakakibara-t86et@nilim.go.jp

**Background and Policy**

Along the coast of the seas surrounding Japan, fishery troubles have been caused by drifted refuge, as well as breakout of red tide and Echizen Kurage (jellyfishes) and as the countermeasures against these troubles a great deal of attention is turned on making a maritime basic plan in accordance with the Basic Act on Ocean Policy. To maintain a suitable level of water quality in public, the comprehensive countermeasure for reducing environmental loads is needed in accordance with the program for reducing environmental loads discharged from the land-based areas.

In this research, we grasp current status of water pollution in waters surrounding Japan and the loads discharged from the areas and a simulation model of water pollution is developed to assess the land-based countermeasures of the countries concerned. We further discuss the land-based countermeasures necessary to recover the desired maritime environment in waters surrounding Japan.

**Objectives**

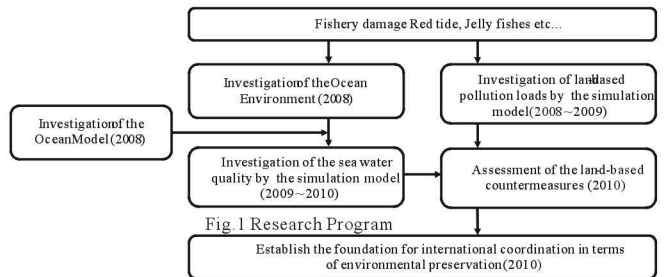
(1) In time of an advance in eutrophication and red tide drifting in waters surrounding Japan, current status of water pollution and pollution loads discharged by land-based areas are investigated.

(2) Using the simulation model of water pollution, the land-based countermeasures of the countries concerned are assessed.

**Results of the Research**

The outcome of this research is expected to establish the foundation for international coordination in terms of environmental

preservation, including the reduction in pollution loads mainly based on the land-based countermeasures such as sewerage construction necessary for recovering the desired maritime environment in waters surrounding Japan.



**The introduction support for Total Pollutant Load Control System (TPLCS) in the countries of the East Asia**

Takeshi OGAWA <sup>1\*</sup>, Munesumi SHINODA & Yutaka SHIBUYA

<sup>1</sup> Office of Environmental Management of Enclosed Coastal Seas, Ministry of the Environment (MOE), Kasumidgaseki 1-2-2, Chiyoda ward, Tokyo, 100-8975 Japan

\* E-mail: mizu-hesasei@env.go.jp

**1. The Preservation from the Enclosed Coastal Seas in Japan**

In Japan, TPLCS of COD<sub>Mn</sub>, T-N and T-P is applied to the large enclosed coastal seas, where the effluent regulations by concentration are insufficient for achieving environmental quality standards.

TPLCS was established in 1979 to achieve environmental quality standards by reducing total land-based load from household, industry and other sectors such as livestock, land and aquaculture, respectively with estimation.

As a result, level of water quality in target seas of Japan has been improved steadily.

