



NEWSLETTER

INTERNATIONAL LAKE ENVIRONMENT COMMITTEE
— For Better Lake Management —

No.1 MAY 1986

This Newsletter is also available in Japanese.

FROM THE SHORE OF LAKE BIWA

Humankind appeared on the earth originally as a component of natural ecosystems. Unlike the other creatures, however, they began to seek ways to escape from the constraints of the natural systems for their prosperity, longevity and safety by establishing and living in a system as independently from the natural systems as possible. The development of agricultural, medical, industrial and other technologies enabled them to establish of a unique system which we may call the civilization system. With the endless increase of human population that followed, humankind have continued to destroy natural ecosystems and replace those with their own.

If such destruction of natural systems goes beyond a certain limit, however, both local and global environments would become seriously unstable to the extent that might threaten the existence of the civilization system itself on this planet, as indicated by the frequent occurrence of various kinds of environmental problem. This limit is apparently drawing near. The explosive expansion of human activities and the rapid technological progress in recent years thus necessitates a radical change in the course of our civilization.

The progress of human civilization can no longer be equated to the spatial expansion of human systems as has so far been the case. Instead of further expanding the civilization system at the sacrifice of the nature, the course of technological development should be mainly oriented toward greater internal utilization or upgrading of the existing civilization system, thereby saving enough space for the natural systems to survive. This is, I believe, one of the most important lessons we have learned from the experience of dealing with environmental problems in the latter half of the 20th century. In the future world, the natural systems and the highly developed civilization system will preferably thrive physically more or less independently but functionally interdependently. Their special allocation has to be optimized at local, regional and global levels.

This principle of separation between the natural and the human systems is however, hardly applicable so far as lakes are concerned. The lake is usually a complete entity difficult to divide into subsystems. The human activities on and in the lake coexist with the lake ecosystem in one and the same space. The lake water is



Prof. T. Kira

the key medium that sustains lacustrine ecosystems and at the same time is the valuable resource for human consumption as irrigation water, industrial water, energy source and above all city water for densely populated areas around the lake. There

are no other ways than to manage the lake so as to allow the coexistence of both the natural and the human systems.

Two thousand five hundred participants of the Shiga Conference '84 on Conservation and Management of World Lake Environment, held at Otsu on the shore of Lake Biwa, shared a feeling of encroaching crisis of environmental deterioration in lakes of the world, with Dr. Mostafa K. Tolba, Executive Director, UNEP, who emphasized the above viewpoint in his keynote address at the conference. He also appealed for the creation of an international organization to take initiatives in establishing the rational management of lakes and their drainage basins.

The International Lake Environment Committee (ILEC), organized by 16 members from 13 countries and inaugurated on February 21st of this year, is the direct response to Dr. Tolba's appeal which was also repeated in the resolution adopted by Shiga Conference '84. The scope of the ILEC is therefore not only scientific but also technical and managerial, and its activity is oriented to both general principles and specific cases. The first year's activity is expected to include

- * Drafting the guidelines for rational lake management,
 - * Co-sponsoring a workshop on environmentally sound economic development with emphasis on the use of lake resources, and
 - * Compilation of natural and socio-economic data on world lake environments,
- as stated elsewhere in this newsletter.

In announcing the creation and inauguration of the ILEC, I would like to extend the Committee's sincerest thanks to the Government of Shiga Prefecture, Japan, for the financial support to the ILEC during its preparatory stage and the first fiscal year; to the United Nations Environment Programme (UNEP), Environmental Agency and Ministry of Foreign Affairs of the Japanese Government,

the United Nations Centre for Regional Development (UNCRD), and other international and national organizations for valuable assistance and advice; and to Promoters of the ILEC and all the other persons concerned for their effort in putting the Committee on the right track.

Otsu, Shiga, Japan
April 1986

Tatuo Kira
Chairperson



Governor M. Takemura meets Dr. M.K. Tolba at the headquarters of UNEP in Nairobi on May 14, 1985.

ADDRESS BY HON. MASAYOSHI TAKEMURA, GOVERNOR OF THE SHIGA PREFECTURE, AT THE PREPARATORY MEETING OF ILEC

Your Excellent Scientists;

Thank you very much for participating in the Preparatory Meeting of the International Lake Environment Committee here today, in response to my proposal. It is a great pleasure and honor for me, having proposed the committee, to experience generous cooperation of all of you, internationally esteemed experts on water problems, who so kindly recognized the significance of the committee and readily agreed to take time out of your busy schedules to act as promoters; I extend my heartiest welcome to you all.

Of the hundreds of thousands of lakes around the world, those deeply related in any case to human activities are now confronted with increasing impairment of their natural balances. And every possible effort for the improvement is continuously being made independently at individual lakes. However, as causes vary widely, problems emerge in different forms from lake to lake; therefore no single path leads to a common solution. Such diversity of problems, I presume, has thus far precluded those engaged in lake management from gathering together to discuss solutions internationally, interdisciplinarily or even domestically. Although this may be the case, I nevertheless believe that there surely are universal rules in overcoming lake environmental issues, and that new approaches to the healthy coexistence of man and water can be found.

Our Prefecture, Shiga, has in its central area Japan's

largest lake, Biwa, which comprises one-sixth the entire prefectural area. Lake Biwa has long been deeply connected with the people living around it: in direct use for fishery and transportation and as a vital water resource for drinking, agriculture and industry. Moreover, the fact that we residing here share a large water space at the center of the Omi Basin, geographical name for the entire Shiga prefectural area, has played an important role in creating our spiritual identity. Furthermore, the lake supplies water for drinking and other domestic uses to 13 million residents of Kyoto, Osaka and Kobe, located downstream, as well as for industrial, agricultural and power-generating purposes.

Lake Biwa, though not very large by global standards, is thus one of the world's most noteworthy lakes in the light of the served population and its importance as a water resource. The Lake Biwa has also suffered increasingly from eutrophication and various other environmental evils.

Against these environmental phenomena, we have attempted every possible countermeasure available to us. Our experiences in this regard, however, have made us realize that, however hard the government may try, however far scientific research may advance, independent efforts in each field alone can never attain complete resolution of environmental problems.

To prevent the eutrophication of Lake Biwa, the Shiga Prefectural Government enacted in 1979 the Ordinance to regulate nitrogen and phosphorus, the substances suspected of playing key roles in lake eutrophication. In establishing this ordinance, we of the Shiga Prefectural Government were greatly influenced by the residents' grass-roots anti-synthetic-detergent movement, which was unsophisticated, yet therefore touched the very core of the issue. As a lesson learned through this experience, we came to believe that the way to restore and preserve the lake environment resided in the provision of a place where experts in various fields can earnestly work together in mutual interdisciplinary cooperation at the very heart of the problems. This recognition led to our hosting Shiga Conference '84 on Conservation and Management of World Lake Environment to which were invited leaders and researchers from many international institutions, governments and citizen organizations world over. Approved and supported not only by the UNEP, the United Nations University and the Japanese Government but also by Shiga Prefecture's sister affiliates, namely, the State of Michigan, the United States, the State of Rio Grande do Sul, Brazil, and the province of Hunan, China, the Conference was a great success, and brought a wealth of significant results.

In the keynote address at the Conference, Dr. Tolba, Executive Director of UNEP, contended that identification of appropriate lake control measures via international agreement is an essential future task of UNEP itself, to effect environmentally wholesome water resource control. Based on this view, he proposed the establishment of an international committee to embody the intention of that Conference. In response, Conference participants unanimously proposed in the Lake Biwa Declaration the

establishment of an international information exchange organization to pass the conclusions of the Conference on to coming generations and to support concrete steps to save lakes.

It is from my responsibility as the host of Shiga Conference '84 as well as from my belief concerning the essentials of resolving lake environmental problems that I thus propose the establishment of the International Lake Environment Committee to realize Dr. Tolba's proposal, as supported in the Lake Biwa Declaration. Around Lake Biwa, some developmental projects named "The Lake Biwa Comprehensive Development Project" are currently underway to achieve effective, appropriate use of water resource. We believe that these projects should not aim merely at exploiting such resources; the ultimate objective is to improve the living standard of residents in the vicinity and downstream; to this end, comprehensive environmental conservation measures, including lake water quality preservation, are essential. Fully expecting that this policy of ours will become predominant in future lake environmental control worldwide, I believe that the establishment of an international committee here on the shore of Lake Biwa will be of great significance in approaching lake problems from the global point of view. It is my sincere hope that the Committee will soon come to tender, as the foremost authoritative international organization in this subject, appropriate advice for solving the environmental problems of individual lakes worldwide. I earnestly hope that the appropriate character and tasks to be assumed, by this Committee will be fully discussed at this Meeting, from your scientific and expert standpoints.

In closing, I would again like to express my heartfelt gratitude for your participation in the Preparatory Meeting of the International Lake Environment Committee. Thank you.

Masayoshi Takemura

ILEC IN BRIEF

PROGRESS LEADING TO THE ESTABLISHMENT OF ILEC

August 28-31, 1984

"Shiga Conference '84 on Conservation and Management of World Lake Environment (LECS '84)" was held on the shore of Lake Biwa, the largest and the oldest lake in Japan, under the sponsorship of Shiga Prefectural Government (one of the 47 autonomous districts of Japan) and the National Institute for Research Advancement (NIRA, a research institute affiliated to the Japanese Government), with some 2,400 participants from across the world. It was the first comprehensive conference dealing with the scientific, socioeconomic, administrative and community-oriented problems of the environment in and around lakes.

In the keynote address of the Conference, Dr. Mostafa K. Tolba, Executive Director of UNEP, suggested the

creation of the International Shiga Committee with its headquarters in Shiga Prefecture to follow up the spirit of the Conference. Hence in "Lake Biwa Declaration", which concluded the results of the conference, the following point was included:

International exchange of information and experience in lake behavior and management is necessary in order to take the effective actions to save lakes. To promote this goal, an international liaison organization should be formed.

May 14, 1985

Mr. Masayoshi Takemura, Governor of Shiga Prefecture, discussed the matter with Dr. Tolba at the headquarters of the UNEP in Nairobi. Mr. Takemura suggested to establish an international committee consisting of members from 10 to 12 countries of the world toward the end of Autumn in 1985.

September, 1985

Governor Takemura requested worldwide eight scientists to serve as the promoters of the Committee.

December 5 and 6, 1985

The Preparatory Meeting of International Lake Environment Committee was held at Lake Biwa Research Institute (LBRI) in Otsu. Participants were:

Prof. T. Goda	Governor, M. Takemura
Prof. G.N. Golubev	Prof. R.A. Vollenweider
Prof. S.E. Jørgensen	Dr. M. Hashimoto
Prof. T. Kira	Dr. G.E. Petts (for Prof.
Prof. H. Löffler	G.F. White)
Prof. J. Overbeck	

They agreed on the following points:

1. It is necessary to create opportunities to exchange information and experience regarding the management and utilization of lakes by, for instance, holding international meetings regularly.
2. An organization must be set up to offer accurate and up-to-date information concerning the environmental situation of the world lakes and to make it available whenever necessary.
3. The organization should also serve as an advisory body to comment to UN organizations etc. on environmentally sound management of lakes and their catchments.

They adopted the "Prospectus on ILEC" and nominated 16 experts as the regular members of ILEC.

February 21 and 22, 1986

The Inaugural Meeting of ILEC was held at Lake Biwa Research Institute (LBRI).

PURPOSE

The committee is expected:

To promote rational management of natural and man-made lakes and their environments consistent with sustainable development policies.

STATUS

ILEC is an international non-governmental organization. The Committee could also act as a scientific advisory body to the work of UNEP in implementation of the programme for the Environmentally Sound Management of Inland Waters (EMINWA).

FUNCTIONS

The committee will catalytically contribute to the following items concerning the management of lakes with emphasis on environmental aspects.

1. Facilitate the exchange of scientific, technical and managerial information, data and experience on environmental aspects of lakes.
2. Advise and assist in developing and overseeing plans of actions for managing natural and man-made lakes and their environments, especially in developing countries.
3. Provide environmental policy guidelines in reconciling economic development and rational use of lake resources.
4. Promote scientific research on management of lakes and their environments.
5. Promote training on technical and managerial aspects of lakes and their environments.
6. Assist in identifying and mobilizing resources from national, bilateral and multilateral sources for improving management of lakes and their environments.
7. Solicit the cooperation and involvement of international, regional and governmental organization, scientific institutions, and non-governmental organizations, to further the objectives of the Committee.
8. Assist in the planning and organization of conferences on lakes and their environments.

ORGANIZATION

The committee has been organized with 16 experts in natural science, social science, planning and policy, selected world-wide.

The Regular Members and the Secretary-General at present are:

REGULAR MEMBERS

Dr. C.E. Bauer (ARGENTINA)	Chairman, Engineering and Environment Committee, World Federation of Engineering Organizations (WFEO)
Prof. T. Goda (JAPAN)	Faculty of Engineering, Setsunan University, Osaka
Prof. G.N. Golubev (UNEP)	Assistant Executive Director, UNEP, Nairobi
Prof. S.E. Jørgensen (DENMARK)	Royal Danish School of Pharmacy, Copenhagen; Secretary, International Society of Ecological Modelling (ISEM)
Prof. T. Kira (JAPAN)	Director, Lake Biwa Research Institute, Otsu
Prof. Liu, H. (CHINA)	Director, Chinese Research Academy of Environmental Sciences, Beijing
Prof. H. Löffler (AUSTRIA)	Director, Institute of Limnology, Wien; President, International Society of Theoretical and Applied Limnology (SIL)
Dr. F. Máté (HUNGARY)	Senior Scientist, Balaton Limnological Research Institute, Tihany
Dr. K.M. Mavuti (KENYA)	Senior Lecturer, Dept. of Zoology, Nairobi University, Nairobi
Prof. M.G.K. Menon (INDIA)	Member, Planning Commission, New Delhi; F.R.S.
Prof. J. Overbeck (WEST GERMANY)	Director, Dept. of Microbial Ecology, Max-Planck-Institute for Limnology, Plön
Prof. J.G. Tundisi (BRAZIL)	School of Engineering, University of São Paulo, São Carlos
Prof. R.A. Vollenweider (CANADA)	Senior Scientist, Canada Centre for Inland Waters, Burlington
Prof. R.G. Wetzel (U.S.A.)	W.K. Kellogg Biological Station, Michigan State University Hickory Corners; Gen. Secretary-Treasurer, SIL
Prof. G.F. White (U.S.A.)	Institute of Behavioral Science, University of Colorado, Boulder
An expert (U.S.S.R.)	(to be nominated later)



C.E. Bauer



T. Goda



G.N. Golubev



S.E. Jørgensen



T. Kira



Liu, H.



H. Löffler



F. Máté



K.M. Mavuti



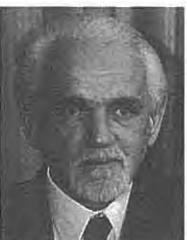
M.G.K. Menon



J. Overbeck



J.G. Tundisi



R.A. Vollenweider



R.G. Wetzel



G.F. White



M. Hashimoto

**SECRETARY—
GENERAL**

Dr. M. Hashimoto
(JAPAN)

Policy Advisor
on Environment,
Shiga Prefectural
Government,
Otsu

Prof. Mitsuru Sakamoto (Japan Limnological Society)
Mr. Kotaro Kusakabe (Japan Environmental Association)
Dr. Akira Kurata (Lake Biwa Research Institute)

**CONGRATULATORY GREETING MESSAGE OF
UNEP TO INAUGURAL MEETING OF ILEC**

Governor Takemura, ladies and gentlemen,

Lakes are the pearls of the earth. And here in Otsu city an exciting new step has been taken which will help to reserve those precious pearls.

It was only a year and a half ago, in August of 1984, that the idea of an international lake environment committee was first mooted. And today we inaugurate the youngest member of the family of professional organizations — high-level international committee to help overcome the most of problems we face in managing the world's lakes. I am confident that the committee will chart a course towards the sustainable development of these priceless ecosystems. The depth of support shown by the international community right from the outset gives us good reason for optimism. Likewise, the extraordinary dedication shown by the Shiga Prefecture, and by Governor Takemura in particular, augurs well for the committee's future work.

We in UNEP and especially myself truly appreciate these efforts and it has been a great honour for us to cooperate with the Shiga Prefecture in the establishment of the International Lake Environment Committee.

We expect that this Committee — which is drawing on a pool of leading experts on lake environment and management from all over the world — will provide a powerful contribution to the improvement of lake environment and to the sustainable development of lake basins. We hope that this Committee will support UNEP's Programme on Environmentally Sound Management of Inland Waters, the EMINWA Programme, which has been commenced in the Zambezi River Basin and will be followed up in the Lake Tanganyika Basin. ILEC is welcomed to contribute to the implementation of these activities. And for our part UNEP is honoured to walk with ILEC in these early days. We hope the Committee will find it feasible to act as an advisory body to UNEP in this area. And we also hope that the environment and the management of natural and man-made lakes in these and other regions will profit from ILEC's growing experience and expertise.

It is our firm belief that an initiative of this nature, if seriously followed up by the international community, should make a positive impact on our environment. An exemplary initiative like this one should be supported and widely publicized in the hope that it is emulated in other regions and in other sectors.

Finally I should like again to thank and congratulate the Shiga Prefecture for the preparatory efforts to establish the International Lake Environment Committee, and I wish all success to this new Committee.

Thank you

*Dr. M.K. Tolba
Executive Director*

THE INAUGURAL MEETING OF ILEC

On February 21 and 22, 1986, the Inaugural Meeting of International Lake Environment Committee, and attended by the following ILEC members and observers from international, governmental and local organizations.

REGULAR MEMBERS

Dr. Conrado E. Bauer (ARGENTINA)
Prof. Takeshi Goda (JAPAN)
Prof. Genady N. Golubev (UNEP)
(concurrently as the representative of UNEP)
Prof. Sven E. Jørgensen (DENMARK)
Prof. Tatu Kira (JAPAN)
Prof. Heinz Löffler (AUSTRIA)
(concurrently as the representative of UNESCO and IUCN)
Dr. Kenneth M. Mavuti (KENYA)
Prof. Jurgen Overbeck (WEST GERMANY)
Prof. Jóse G. Tundisi (BRAZIL)
Prof. Richard A. Vollenweider (CANADA)
Prof. Robert G. Wetzel (U.S.A.)
(concurrently as the representative of SIL and Michigan State)
Dr. Sándor Herodek (HUNGARY) (for Dr. Ferenc Máté)
Dr. Zhang, Jiqiang (CHINA) (for Prof. Liu, Hongliang)

**PROMOTERS OTHER THAN
REGULAR MEMBERS**

Mr. Masayoshi Takemura (Governor, Shiga Pref.)
Dr. Michio Hashimoto (Policy Advisor on Environment, Shiga Pref.)

OBSERVERS

Dr. Hidehiko Sazanami (United Nations Centre for Regional Development)
Mr. Hajime Irisawa (National Land Agency)
Mr. Mutsuo Mabuchi (Ministry of Foreign Affairs)
Mr. Kazuyoshi Okazawa (Ministry of Health and Welfare)
Mr. Noriaki Shiojiri (Ministry of Agriculture, Forestry and Fisheries)
Mr. Kiyoshi Shinguhara (Ministry of International Trade and Industry)
Mr. Kenjiro Saito (Ministry of Construction)
Mr. Mitsuo Ohira (Minstry of Home Affairs)
Dr. Koji Muraoka (National Institute for Environment Studies)
Dr. Kazuaki Kawasaki (National Institute for Research Advancement)
Prof. Yasuhiko Tezuka (Ecological Society of Japan)

(Addresses to the Inaugural Meeting of ILEC were also sent from Hon. Shintaro Abe, Minister of Foreign Affairs, Japan, and Hon. Yoshihide Mori, Minister of State and Director General of the Environment Agency, Japan, together with from many other organizations including UNESCO, IUCN and SIL.)

THEMES FOR DISCUSSION

Main items of the agenda were:

1. ILEC Constitution
2. Election of ILEC Bureau Members
3. ILEC Projects and Activities
 - 1) Cooperation with other organizations:
EMINWA Programme (UNEP), GEMS/Water Programme (UNESCO, UNEP, WHO and WMO), etc.
 - 2) Training Programme for Lake Management
 - 3) Collection of Information on Lake Environments
 - 4) Preparation of Guidelines on Comprehensive Lake Management
 - 5) Publications
 - 6) Public Information
4. Fiscal '86 ILEC Budget and Projects
5. Action Plan concerning the next Governing Council of UNEP

EXECUTIVE MEMBERS

The following members were appointed to the first executive members:

Chairperson,	Prof. T. Kira (Japan)
Vice-Chairpersons,	Dr. C.E. Bauer (Argentina)
	Prof. R.A. Vollenweider (Canada)
Treasurer,	Prof. T. Goda (Japan)
Secretary-General,	Dr. M. Hashimoto (Japan)

WORKING GROUPS

The following working groups were organized.

1. Guideline: Jørgensen, Overbeck, Tundisi, Vollenweider, and Liu
2. Data Collection: Kira, Löffler, Vollenweider, and Liu
3. Training Seminar: Jørgensen, Löffler, Mavuti, Overbeck, Wetzel and Liu

HEADQUARTERS

The headquarters of ILEC is currently located at the Office of Shiga Prefectural Government, 4-1-1 Kyomachi, Otsu, Shiga, 520 Japan.

PROJECT PLANS OF ILEC IN FISCAL 1986

1. WORLD LAKES DATA COLLECTION PROJECT

Providing basic data for a number of world lakes will be of great help to those who are engaged in the management of a particular lake as well as in the preparation of general guidelines.

A Data Book of World Lakes was compiled by LBRI and NIRA and published by the Secretariat of LECS'84 two years ago. This project is essentially the continuation and development of this publication, and intends to revise the data on 52 lakes contained in the Data Book, enrich data on as many other lakes as possible, and compile them into a new volume. It aims to cover approximately 250 large lakes in the world and the other some 100 lakes which are important in terms of scientific value, water supply and natural resources in the future.

Not only limnological (physiographic, physical, chemical and hydro-biological) but also socio-economic (including resources utilization, environment control and development plans) data will be collected. Emphasis is also laid on the latest data as well as the past history of environmental change.

2. TRAINING SEMINAR PROJECT

ILEC will take part in a training seminar which constitutes an important part of the workshop plan on Environmental Planning and Management for Local and Regional Development proposed by the United Nations Centre for Regional Development (UNCRD) in Nagoya. This is jointly sponsored by UNEP, UNCRD and ILEC with the cooperation by Environmental Agency, National Land Agency and Ministry of Foreign Affairs of the Japanese Government and Shiga Prefectural Government, and emphasized the environmentally sound management of lake and their resources in the process of regional development resorting to a comprehensive approach.

The project aims at the international training of national training personnel pivotal to a country's training programme. Improved training is thereby expected to become available in each country participating in the Project, resulting in effective manpower development. Emphasis will be laid on the following points in implementing the Project: 1) Practical methods of promoting the conservation of lake environments, 2) Systems, measures and methods for rational management of lakes, 3) Supply of information on approaches to be taken in developing countries and Japan's experiences concerning lake management, and 4) need for training in developing countries and the response to that need.

The seminar will be held in Otsu and Nagoya in the fall of 1986. The participation of several regular members of ILEC is expected.

3. GUIDELINE PROJECT

In cooperation with EMINWA Programme of UNEP, ILEC intends to provide guidelines necessary for drawing up comprehensive management plans of waters in and around lakes. Details of this project will be fixed by the working group of ILEC as soon as possible.

LAKES OF THE WORLD

1. LAKE BIWA

Biwa, the largest lake in Japan, has a surface area of 674Km², a mean depth of 41m (maximum depth 104m), and a water storage of 27.5 billion(10⁹) m³. Its catchment area is delimited by mountain ranges about 1,000m above sea level, and 5.7 times as wide as the lake, almost overlapping the administrative area of Shiga Prefecture that has a population of 1.12 million. The Lake is believed to be some four million years old and is therefore one of the geologically oldest lakes in the world. This is why the lake abounds in endemic species of fish, shellfish and other organisms. The annual input of water to the lake amounts to 5.8 billion m³, while 5.2 billion m³ flows out to Osaka Bay through the Seta River, a tributary of the Yodo River. This abundant and stable mass of water has been a precious source of water for 13 million residents, rice fields and industry in the Yodo watershed including such large cities as Osaka, Kyoto and Kobe.

Eutrophication is the most serious problem facing Lake Biwa in recent years. The lake had been oligotrophic until around 1960, but became rapidly eutrophicated in the 1960's and 1970's due to the industrial and economic development of its catchment area. Recurrent occurrence of "freshwater red tide" or blooms of a flagellate alga and an unpleasant odor persisting in drinking water taken from the lake and its downstream river during summertimes are the warning signs of accelerated eutrophication.

The legal control of waste water discharge, implemented by the Japanese National Government in 1970, slowed down the progress of eutrophication to a considerable extent, but it has by no means been halted.

Besides industrial waste water, there are several factors that may contribute to the increase of nutrient loading to the lake, such as domestic and farm sewage, polluted rainwater, etc. Domestic waste water is becoming more and more important as the source of nutrient loading due to the rapid urbanization and population increase in Shiga Prefecture and the ever-rising standard of living.

In 1979, the Prefectural Government enacted the Ordinance for the Prevention of Eutrophication in Lake Biwa which specified stricter control of waste water discharge and, for the first time in Japan, prohibited the use of phosphate-containing synthetic detergents. The phosphorus content of the river water has been thereby reduced considerably. The mean concentration of phosphorus and nitrogen in lake water also slightly improved and have remained fairly stable during the last several years. The National Government and the governments of Shiga and downstream prefectures cooperated in setting up the Lake Biwa Comprehensive Development Project for Lake Biwa in 1972. This 20-year Project consists of, among others, two main operations; increasing water supply from Lake Biwa to downstream areas by 40m³/sec to meet increasing demands; and constructing a large-scale sewerage system with advanced treatment plants in the lake's catchment area for water quality improvement. Big construction works such as the continuous embankment along the shoreline are going on and have caused a controversy on their merits and demerits, particularly their undesirable effect on coastal ecosystems.



(Your contribution to this column is welcome.)

INFORMATION

WORLD CONFERENCE ON LARGE LAKES — MACKINAC '86

WORLD CONFERENCE ON LARGE LAKES — MACKINAC '86 is going to take place on May 28—21, 1986, at Grand Hotel, Mackinac Island, Michigan, U.S.A., attended by estimated 500 scientists, public officials, and business and citizen leaders from the over 40 nations that include 250 of the world's largest lakes. This Conference has the background that the Governor of the State of Michigan has accepted an invitation from the Governor of Shiga Prefecture, Japan, to host the second WORLD CONFERENCE ON LARGE LAKES to build upon the successful results of the SHIGA WORLD LAKE ENVIRONMENT CONFERENCE '84.

Toxic contamination is one of the greatest threats to the world's freshwater lakes - and one of the most difficult types of contamination to control. In many cases, toxic contamination problems can only be prevented or solved through a multi-state or multi-nation approach. Hence, the central theme of this Conference is to promote an international, cooperative effort toward the study, control and management of toxic chemicals in the large lakes of the world. The objectives of this conference are:

1. to define the state of scientific knowledge with respect to toxic substances.
2. to indentify successful preventative, regulatory and management alternatives.
3. to explore and encourage public education and involvement in lake management.

The Conference will open with a major keynote address on the signification of toxic contamination in the large lake environment. Participants will then select from concurrent sessions within the four major topics relating to chemical contaminants in large lakes:

1. Chronic Effects of Contaminants in Large Lakes
2. Toxics in Fishery Management
3. Social, Economic and Legal Considerations Related to Lakes Management
4. Sources and Fate of Chemical Contamination in Large Lakes.

The Conference will conclude with a plenary session to

discuss and summarize the results of the technical presentations and recommend future actions. The Chairperson, the Treasurer and the Secretary-General of ILEC are invited to the Conference.

Sponsor and co-hosts of this conference are:
State of Michigan - James J. Blanchard, Governor
Allied
Center for the Great Lakes
C. S. Mott Foundation
Council of Great Lakes Governors
Dow Chemical Company
Environment Canada
General Moters Corporation
Great Lakes United
International Joint Commission
Joyce Foundation
Kellogg Foundation
Mead
Michigan Sea Grant College Program
Shiga Prefectural Government
U.S. Environmental Protection Agency.

BUREAU MEETING OF ILEC

The 1st Bureau Meeting of ILEC will be held at Canada Centre for Inland Waters in Burlington, on May 22 and 23. All Bureau Members, together with a few staff members of ILEC Secretariat will attend the meeting.

We are glad to send you the first issue of our ILEC Newsletter. The Committee was established with the courtesy of Shiga Prefectural Government, which generously provided the office space and contributed the working expenses for its inauguration. Now, we need your support and cooperation for the continuous development of the Committee.

CALL FOR ARTICLES

Those who wish to contribute to ILEC Newsletter are invited to send manuscripts to the secretariat.



INTERNATIONAL LAKE ENVIRONMENT COMMITTEE

Secretariat
c/o Shiga Prefectural Government, 4-1-1 Kyomachi, Otsu, Shiga 520, Japan
Tel : 0775-25-1076 Tlx : 5464850 ILEC J Fax: 0775-25-1186
Cable: ILEC OTSU