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NEWSLETTER

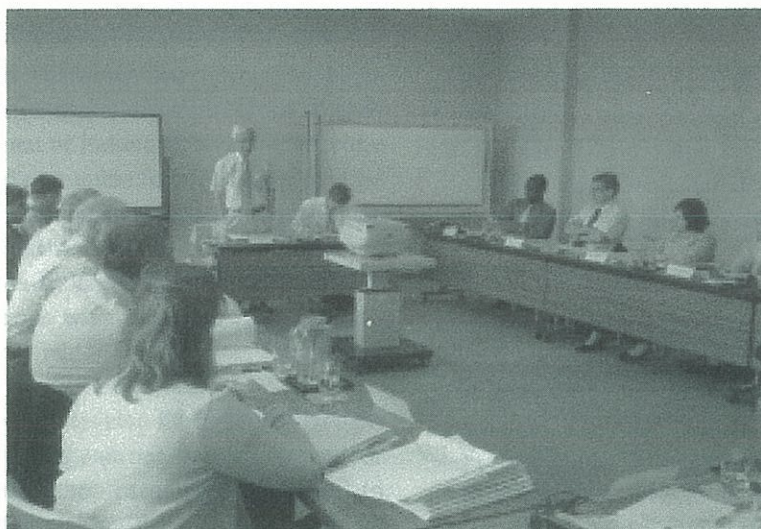
INTERNATIONAL LAKE ENVIRONMENT COMMITTEE FOUNDATION

— For Better Lake Management —

This Newsletter is also available in Japanese.

Toward a World Lake Vision

The story is an old one: lakes are important, yet face many stresses that impair their use. Ironically, it is the very value of lakes that draws people to live, work and play in their watersheds. These changes in population and land-use inevitably lead to stresses that have impacts on the lakes themselves, thereby decreasing the values that drew people in the first place. As Aitken Clark of Living Lakes says about lakes, "We are loving them to death." Something must be done.



Hard at work in Shiga

That "something" was the focus of a recent workshop hosted by ILEC entitled "The Future of World Lakes: Principles for Action." The workshop, which ran for three days (4-6 September) at ILEC headquarters, drew 22 people from around the world to discuss the project tentatively known as the "World Lake Vision."

The past few years have been a time of intense introspection at ILEC. We were founded in 1986 with the mandate to promote the sustainable man-

agement of the world's lakes and reservoirs. To carry out that mandate, ILEC has organized many World Lake Conferences (with the 9th one being held in November 2001), compiled a databook of the world's lakes, designed guideline books on lake management, continues to publish a scientific journal, and conducted training courses for young lake managers.

In spite of these efforts, most lakes around the world remain unsustainably managed. ILEC's approach to

date has lacked a way of communicating the principles of sustainable lake management to top-level decision makers. A "vision" is one effective way to do this. Promoting the development of a World Lake Vision will be an additional step on the road to reaching our goal of the sustainable management of the world's lakes and reservoirs. Details of the workshop and its output, along with a call for comments, can be found on the next page.

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Output of 'Toward a World Lake Vision' Workshop

The following is a summary of the main conclusions of the workshop held at ILEC in early September 2001.

Why is a Vision needed?

Rafik Hirji of the World Bank made clear from the start that although lakes are of immense value to humankind, we (those concerned with lake management) have not been effective in making these values clear to decision makers and the general public. Tom Ballatore of ILEC lamented the marginalization of lake issues in the World Water Vision (WWV) and argued that the WWV as it stands will not be an adequate guide for lake management. It was agreed early that a global-scale vision is the next necessary step to promote sustainable lake management.

What is meant by Vision?

A vision embodies a long-term set of goals and a plan for how to get there. It can exist merely in someone's head (my plans for my family) or be a formal written document (World Water Vision and Framework for Action). Visions can have different scopes. For lakes, two different scales are important. First, there are individual lake visions, like Lake Biwa's "Mother Lake 21." This type of vision sets out a long-term man-

agement plan for a given lake. Second, there can be an over-arching, global-scale vision for all lakes. ILEC is tentatively calling this vision the "World Lake Vision." It will be a written document that outlines principles for sustainable lake management and raises the profile of lakes on the international agenda. It will serve as a guide for the creation of individual lake visions, yet at the same time, it will be informed by existing individual lake visions. An outline of the document is given below.

Who is the Vision for?

The World Lake Vision (WLV) is intended for two broad audiences. First, we hope those responsible for the management of individual lakes will use the WLV as a guide for creating individual lake visions. Second, we hope to raise the profile of lakes on the international agenda by targeting international organizations with projects in the environmental field.

Who will develop it?

There was a strong call on the part of the workshop participants for ILEC to continue taking the lead in creation of the World Lake Vision. For a vision to have legitimacy it must be widely shared; hence, participation is the key. Ultimately, the WLV will be made by

everyone who contributes to the process. The drafting and editing will be done by ILEC. A call for contributions is made at the end of this article.

When?

The process leading to the World Lake Vision is expected to culminate at the 3rd World Water Forum to be held in Kyoto in March 2003. Along the way, inputs will be gathered at various international events such as the World Lake Conference (November 2001, Japan), Dublin+10 (December 2001, Bonn), Rio+10 (August 2002, South Africa), and the Stockholm Water Symposium (August 2002, Stockholm). An electronic forum is being developed to gather inputs from now until 2003.

A Call for Comments

If you've read this far, then surely you will want to have some input in the World Lake Vision process. You can start by pointing your browser to ILEC's home page at www.ilec.or.jp. There, you will find a draft of the WLV, a position paper, and the minutes of the September workshop. Also, there are links to various electronic fora dealing with the WLV. Feel free to send comments directly to ILEC by e-mail to tom@ilec.or.jp

Proposed Outline of the World Lake Vision

1. **Visionary Statement:** Aitken Clark of Living Lakes argued that the WLV needs a statement that grabs people's imagination.
2. **Values of Lakes:** Rafik Hirji noted that we must have a way to show developing countries the value of their lakes, and the value lost by poor management. Tom Ballatore suggested we get quotes from people around the world illustrating the value of lakes.
3. **Stresses on Lakes and their causes:** Much has been written about the problems facing lakes. We must also highlight the root causes of these problems.
4. **Principles for lake management:** Bjorn Guterstam of GWP called for the WLV to establish some "universal" principles such as "Nutrients are a resource, not pollutants." Lisa Borre of Lake Net stressed the need for participation. Proactive approaches, along with good governance were also mentioned.
5. **Cases of implementation of principles:** The principles given above will be illustrated through case studies.
6. **Action plan:** A vision without a plan is a mirage.

Overall, we expect the vision to become a 50 to 100 page document written in easy-to-understand English designed to communicate both the importance of lakes and principles of sustainable lake management to a broad audience.

BIWAKO 2001 - The 9th World Lake Conference

by Professor S.E. Jorgensen,
Chairman of the Scientific
Committee of ILEC

The ninth World Lake Conference takes place in November 2001 in Otsu, where the first conference was held in August 1984. The International Lake Environment Committee (ILEC), was formed in February 1986 as a result of a joint effort between the Shiga Prefectural government and UNEP. Since 1986 ILEC has been the organisation behind the conferences.

Each World Lake Conference has been unique with the focus on different issues and as a consequence attracting different audiences. While the three conferences in Europe (Hungary, Italy and Denmark) were more scientific and management oriented, the two World Lake Conferences in Japan (Biwako 1984 and

Kasumigaura 1995) have focused more on the roles of NGOs and public awareness (as will the forthcoming 9th conference). Several sessions in the program of the 9th conference are devoted to public awareness, socio-economic issues of lake management and interactions with NGOs. It is important that we have conferences with a different content, because lake management is more than just a "cold" science of management and technology, it is also deals with issues such as how do we get the entire population at a lake shore interested so as to contribute to a better water quality and a better protection of the lake environment?

Unfortunately, we have only a few successful stories about appropriate lake management, but they are all characterised by a massive simultaneous use of many tools and many instruments which again requires that the

entire population in the drainage area understand the issues at least on a certain level and work together on a solution. The spectrum of disciplines to be used for proper lake management is so wide, that it is hardly possible to focus to the same extent on all the disciplines at all the World Lake Conferences. It is, however important that we at different conferences have occasion to discuss different topics of importance for lake management.

The 10th conference will probably take place in Chicago, and it will probably be more oriented towards science and its application in management. The 11th conference will probably take place in Kenya where the focus very much will be how we can support the developing countries in their effort to protect their aquatic resources. The 9th conference will of course

also present several interesting scientific papers, but Lake Biwa will be the natural focus for many activities. Let me, however, mention that a presentation named Lake Watch 25 will present a review of the trends in water quality and ecological conditions of 25 lakes (including Lake Biwa). What can we learn from the successes and the failures? The idea is to see the 25 lakes at this conference in contrast to Lake Biwa. However, all the lakes tell the general story: the more you do for lake environment the better result you will see. You have, however, to use all the available tools as mentioned above simultaneously to be certain on the success of your lake management. It is in this context that public awareness is so important. We are therefore looking forward to a very interesting 9th World Lake Conference.

UNEP-IETC/Shiga Prefectural Government/ILEC Joint Symposium - Support to 9th International Conference on the Conservation and Management of Lakes

Dates: 8th and 9th November 2001

Venue: Lake Biwa Museum

The program for the Joint Symposium, which will be held along with the 9th World Lake Conference, has been set. On the first day, a keynote speech will be given by Ms. Lisa Borre, Director of LakeNet (USA), following case studies on the theme of "Lessons from successful partnership cases in lake management and how to utilize the lessons", by representatives of citizens and local governments worldwide. The Citizen Forum for Conservation of the Aquatic Environment around Lake Biwa (usually referred to as the Lake Biwa Citizen Forum)", will present their case study on using powder soap instead of synthetic detergent. Ms. Kato Tokiko, UNEP Special Envoy, will make a guest appearance on the first day as well.

On the second day, case studies by representatives of three international NGO groups will be discussed on the theme of "International framework to support partnerships in lake management". Those three presenters from international NGOs will be ICLEI, LakeNet and Living Lakes. It will be followed by a group discussion on the theme of "Toward Global Citizens Alliance for Lake Management".

Admission to the Symposium is free of charge, but seating is limited to 200.

For more information, please contact to:

Mr. Satoru Matsumoto

Secretariat of the Joint Symposium c/o ILEC

E-mail: jspalm@mail.ilec.or.jp

Photo exhibition supporting the 9th World Lake Conference



Lake Mendota/USA

How has the lifestyle of people living around lakes changed?

~ Photographs taken “Now and then” reveal the transitions of world lakes during the past 100 years ~

“Now and then” is an exhibition of photos taken during the past 100 years, the theme of which is the lifestyle of people living around lakes and their watersheds, revealing the different transitions of lake environments in the

world. The objective of this exhibition is to consider how we should interact with aquatic environments in the future, based on comparisons of the same location “now” and “then”. This project is a collaborative undertaking between ILEC and the Lake Biwa Museum, with sponsorship of the Nippon Foundation.

Exhibited photographs were provided with cooperation of the Lake Biwa Museum; The National Museum of

Natural History, Paris; the Lake Geneva Museum, Switzerland; the Wisconsin State Historical Society, USA; and the University of Malawi.

The schedule and venues of the exhibition are as follows. We sincerely welcome your visit.

Tokyo: October 2nd to October 28th 2001

GINZA Gallery (between Ginza station, Marunouchi Line and Hibiya station, Hibiya Line)

Shiga Bank, Tokyo Branch office

Osaka: November 1st to November 7th 2001

Sonezaki, underground passage open place (Kitashinchi station, JR Tozai Line)

Shiga: November 13th to 18th 2001

Otsu SEIBU Shopping Center 6th Floor

UNU Workshop

Lakes and Reservoirs as Important Elements of International Water Systems

9th International Conference on the Conservation and Management of Lakes

Convention Hall OHMI, Otsu Prince Hotel, Otsu, Japan

14 November 2001

United Nations University

The objective of this UNU self-organized workshop is to contribute to the World Lake Vision focusing on international aspects of lake system management as an integrated system. The UNU may make best use of previous experience and knowledge in international water system managements as well as taking responsibility for the international water system part of the World Lake Vision development. The fact, that many large lake systems in the world are shared by two countries or more, does not seem to be widely appreciated while many argue about the ways and means of managing international river systems, much less people are aware of the nature of lakes as international water systems. Lakes have been seen mainly from such viewpoints as water quality, wetland ecosystems, fauna, flora, and catchments management.

19:00-19:20 Opening and Keynote Address

Prof. Motoyuki Suzuki, Vice-Rector, United Nations University, Tokyo, Japan

19:20-19:30 Introduction to the workshop and speakers

Prof. Yutaka Takahasi, United Nations University, Tokyo, Japan

19:30-19:50 Sustainable Water Resources in South America: The La Plata and Amazon Basins

Prof. Jose Galizia Tundisi, International Institute of Ecology, Sao Carlos SP, Brazil

19:50-20:10 Emerging Issues in Sustainable Water Resources Management in Africa

Prof. Chris H.D. Magadza, Lake Kariba Research Institute, Harare, Zimbabwe

20:10-20:30 The Caspian Sea as an International Lake System

Prof. Genady N. Golubev, Moscow State University, Moscow, Russia

20:30-20:50 Institutional Aspects of International Water Management - Lessons from Mekong River Basin

Prof. Mikiyasu Nakayama, Tokyo University of Agriculture and Technology, Tokyo, Japan

20:50-21:10 River Danube: Needs for Integrated River Basin Management

Dr. Libor Jansky, United Nations University, Tokyo, Japan

21:10-21:40 Panel Discussion (Moderator: Prof. Yutaka Takahasi)

21:40 Closing Remarks

The 6th Living Lakes Conference



The 6th Living Lakes Conference took place on the subject “Water Quality and Traditions in Lake Areas” at Lake Baikal in Russia from July 30 to August 3, 2001. More than 160 experts, scientists, politicians, and representatives of nature conservation organizations from the 19 global partner lakes met at the conference, which consisted of speeches and panel discus-

sions, excursions, and a closed meeting. The Living Lakes conference was opened by Ms. Gila Altmann, the German Deputy Minister for the Environment and Dr. Michael Semjenov, Chairman of the Buryatian parliament. Living Lakes Partners as well as other participants exchanged opinions on appropriate measures and projects to protect the water quality of

Lake Baikal and other case studies of Living Lakes Partners. Dr. Shinji Ide, Associate Professor of the University of Shiga Prefecture reported on the water quality of Lake Biwa in a panel discussion focused on Water Quality and Nature Conservation in Lake Regions. During the excursion, they visited a pulp and paper mill along the Selenga River, which flows into Lake Baikal. This factory was once suspected to be a pollution source, but now it seems that no polluted water is drained into the river. In the closed meeting, some lake representatives made presentations on their lakes, and Laguna de Bay was unanimously approved to be a new member of the Living Lakes.

The next Living Lakes Conference will be held at Mar Chiquita, Argentina in spring of 2002.



Virtual Reality Exhibition Explaining Environmental Issues of World Lakes and Reservoirs

The ILEC Booth at the Lake Biwa Museum was updated in April with the help of sponsorship from the Nippon Foundation. The new exhibit explains the six major problems of lakes and reservoirs (eutrophication, contamination with toxic chemicals, acidification, accelerated siltation, decline of water levels and extinction of indigenous ecosystem and biota) using three-dimensional images.

One common problem in trying to explain environmental issues of lakes and reservoirs is keeping explanations non-technical so that ordinary people, young or old, can understand the significance of the problems easily. The new ILEC exhibit appears to have overcome that hurdle and is proving to be very popular with visitors.

Place: BIWAKO Museum 1st Floor, ILEC Booth
Open between 9:30am and 5:00pm



Lakes of the World

Lake Victoria (Kenya, Tanzania & Uganda)

by Victor Muhandiki



Lake Victoria, with a surface area of 68,800 km² is the world's second largest body of fresh water in terms of surface area, and the largest in Africa. The lake is shared by the three East African countries of Kenya (6%), Uganda (45%), and Tanzania (49%). The catchment area of the lake is 184,000 km² and lies in five countries, namely, Burundi, Kenya, Rwanda, Tanzania, and Uganda. Lake Victoria touches the equator in its northern reaches, and is relatively shallow, reaching a maximum depth of about 84 m, and an average depth of about 40 m. The lake has a long and convoluted shoreline, enclosing innumerable small, shallow bays and inlets, many of which include swamps and wetlands which differ a great deal from one another and from the lake itself. Because the lake is shallow, its volume is substantially less than that of other East African lakes with much smaller surface area. For example, the volume of Lake Victoria

is only 15 percent that of Lake Tanganyika, even though the latter has less than half the surface area of Lake Victoria.

Lake Victoria is of great socio-economic importance both locally and globally. Over 20 million people residing in the basin derive their livelihood entirely from the lake and its catchment. The lake is a major source of fish protein for both local communities and also for export. Additionally, cichlids from the lake are exported as ornamental fish for aquaria worldwide. Lake Victoria also provides a source of water for domestic use, agricultural irrigation, and hydroelectric power generation. The lake is also one of the sources of the Nile, a river that is an important water source for Sudan and Egypt; the Nile is the sole outlet of the lake. Lake Victoria is also an important means of transport between the three riparian countries.

Over the past few decades, Lake Victoria has undergone dramatic changes in its water quality and ecology due to anthropogenic activities. Pollution to the lake has increased with rapid population growth in the catchment of the lake, resulting in a deterioration of water quality. Sources of pollution to the lake include: 1) sewage discharges; 2) agricultural runoff; 3) sediments resulting from soil erosion in the catchment area due to deforestation and overgrazing; and 4) effluent from the many industries within the catchment, including food and fish proces-

sors, breweries, tanneries, textile mills, pulp and paper mills. All these factors have resulted in the eutrophication of the lake because of the increase in nutrient supply to the lake. Algal blooms and fish deaths are reported in the lake frequently.

In recent years, the serious state of eutrophication in Lake Victoria has been well demonstrated by the heavy infestation of the lake with water hyacinth, a weed that thrives in eutrophic waters. The weed first appeared in the lake in 1989 and grew, forming massive mats that blow from one region of the lake to another. When one of these masses settles into a bay or port, it paralyzes local villagers who depend on the lake for fishing and transportation. Over the last two years, significant success in the control of the weed has been reported. This has been mainly due to biological control using two weevil species, *Neochetina eichhorniae* and *Neochetina bruchi*. Despite this seemingly major breakthrough, the potential for re-infestation remains high as long as the root cause of eutrophication is not addressed. Also, ecological succession of the water hyacinth by papyrus (*Cyperus papyrus*) and hippograss (*Vossia cuspidator*) due to growth of these plants on dying hyacinth mats has been observed.

Another problem facing the lake is the extinction of native species of fish in the lake due to introduction of two foreign fish species, the Nile perch and Nile tilapia, in the 1950s. According to the "World Resources 2000-2001" report, prior to 1970, Lake Victoria had more than 350 species of fish from the cichlid family. Ninety percent of these were unique to the lake. The introduction of Nile perch and tilapia has caused a collapse in the lake's biodiversity, as most of the native cichlid species have today become extinct. The local fishermen have not been spared either. Many of them have been forced to abandon fishing, their only source of income, due to stiff competition from commercial fishing firms, most of which are foreign owned. It is therefore a big contrast that while tons of perch find their way to diners in foreign

Lake Victoria Data

Elevation (m)	1,134
Surface Area (km ²)	68,800
Volume (km ³)	2,750
Maximum Depth (m)	84
Mean Depth (m)	40
Length of Shoreline (km)	3,440
Residence Time (yr)	23
Catchment Area (km ²)	184,000

countries, generating about US\$400 million in annual export income for the three riparian countries, there is protein malnutrition among people around the lake. Put in other words, the poor, who often depend directly on ecosystems for their livelihoods, are the ones who suffer most when ecosystems are degraded. With the experience of Lake Victoria, one wonders whether, faced with the same challenge to increase fish production as the case was in 1950

for Lake Victoria, we would still make the same decision to introduce foreign species today.

All hope is, however, not lost for the lake. It is encouraging to learn that there are several ongoing projects aimed at addressing the serious issues facing the lake. One such example is the World Bank funded Lake Victoria Environment Management Project (LVEMP). The

three riparian countries are developing common standards, policies and practices to adopt for proper conservation of the lake and its watershed, and good progress seems to have been achieved so far. One important consideration in the management of Lake Victoria is to understand that it took many years for the lake to get into the poor shape it is in, and it is going to take even more time and a lot of resources to reclaim it.

The 11th Biwako Prize for Ecology

Dr. Jotaro Urabe and Dr. Ahyaudin B. Ali have been awarded the 11th Biwako Prize for Ecology. The award presentation ceremony will be held at the Biwako Hotel, Otsu, Shiga, Japan on Saturday 6 October, 2001.

Awardees in 2001 Prize Recipient Profile

Dr. Jotaro Urabe received his Ph.D. from the Faculty of Science, Tokyo Metropolitan University in 1988. He worked as a researcher at the Natural History Museum and Institute, Chiba in 1989 and moved to Tokyo Metropolitan University in 1993 as an assistant professor. He was a guest scientist at the Department of Ecology Evolution and Behavior, University of Minnesota in 1994. Since 1995, he has worked as an associate professor in the Center for Ecological Research, Kyoto University. His research has included work on the physiological ecology of zooplankton and phytoplankton, as well as on food web dynamics of pelagic community in lakes.



Dr. Ahyaudin B. Ali received his Ph.D. from Auburn University, Alabama, U.S.A and became a lecturer at the Universiti Sains Malaysia. After working as an Associate Professor at the University in 1990, he was promoted to the post of professor by the same University in 1998. His research has included work on the ecology of freshwater fish in the Malaysian peninsular, especially with regards to the conservation and management of freshwater fish in the wetland ecosystems. His principal research achievements concern ecological research on rice-fish farming in Malaysia.



<http://www.ilec.or.jp/prize/e-index.html>

The 2nd Environmental Education Course

ILEC will convene the 2nd "Environmental Education Course focused on the Aquatic Environment" in October. The training course is run in conjunction with the Japan International Cooperation Agency (JICA) and Shiga University. There are eight participants from seven countries (Bangladesh, Cambodia, Colombia, Ghana, Indonesia, Laos and Philippines) and they will stay in ILEC accommodation from 30th September to 18th November, joining the 9th World Lakes Conference at the end of the course.

This course is offered with the aim of contributing to the development and enhancement of environmental education of university/college instructors (on the faculty of a higher education system), by eliciting leadership roles through on-site observation and practical examples of methodology, content and ways of considering environmental education centering on aquatic environments.

In addition to the environmental problems on a global scale, each country of the world faces regional problems that must be tackled, including destruction of forests, water pollution and air pollution. It is becoming increasingly clear that the environmental problems of developing countries in particular will necessitate long-term solutions. While administrative measures have been adopted and led to environmental technologies, in order to ensure long-term effects and strengthened resolve of society as a whole, environmental education is vitally important, especially to the children of the next generation. Yet the number and quality of young instructors who can fulfill leadership roles of environmental education at higher level institutions in developing countries are severely limited, making support for their education all the more important. ILEC has proved the importance of this kind of support - from its NGO activities up to the government level - in assisting participants of environmental education training in developing countries.

Forthcoming Events

The 8th International Conference on Salt Lakes

DATES: 23-26 July 2002

VENUE: Zhemchuzhny, Republic of Khakasia, Russia

Worldwide Limnological research on saline lakes involves scientists from a variety of disciplines. Since 1979 a series of international symposia on inland saline waters have served to strengthen and expand the scope of these studies. The eighth International Conference on Salt Lakes to be held July 23-26, 2002 8th the Republic of Khakasia (village Zhemchuzhny) will continue this tradition with a set of talks and special oral and poster sessions focusing on new findings and promising research directions. Session topics will include population dynamics and trophic interactions, microbial processes, the influence of habitat geochemistry on the biogeography of flora and fauna, anthropogenic impacts and conservation of inland saline waters, and future directions and new techniques. The new topic for the forthcoming Conference is: Management of Salt Lakes for Biotechnological and Medical Purposes.

The Institute of Biophysics and the Government of the Republic of Khakassia are hosting the 8th International Conference on Salt Lake Research at the Shira Lake spa in the center of this lake district. The conference will be organized by Prof. Andrei G. Degermendzhy, Director of the Institute of Biophysics, Siberian Branch of Russian Academy of Sciences.

ENQUIRIES

Conference web-site: <http://www.ibp.ru/lakes>

E-mail: saltlake@ibp.ru

New Publications

Lakes & Reservoirs: Research and Management

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ISSN 1320-5331

At the 8th International Conference on the Conservation and Management of Lakes in Copenhagen, Denmark in May 1999, LakeNet organized a workshop for community leaders and practitioners from eight of the 'great lakes' of the world to share their experience in implementing a watershed-based approach. This special issue of **Lakes & Reservoirs** contains the eight case studies presented during the workshop and a synthesis article presented by the workshop organizers.

For details about subscribing to the Journal, please contact Blackwell Science Asia.

www.blackwell-science.com/lre

E-mail: subscriptions@blacksci-asia.com.au

3rd Announcement of the 9th World Lakes Conference

The 3rd Announcement is due to be published at the end of September 2001. It will include details on keynote speakers, panel discussions, oral presentations and posters. The details will include the title of the presentations and the names of those involved as well as the time and location.

For more details please access the following website:

<http://www.biwako2001.com>



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