



NEWSLETTER

– Save Water, Save Lakes –

International Lake Environment Committee Foundation

This newsletter is also available in Japanese.

Message from New President

Kazuhiko Takemoto



I am honored to take over Professor Hironori Hamanaka as the President, the International Lake Environment Committee Foundation (ILEC) in June 2017. In the recent years, ILEC has strategically advanced its activities, such as promoting the Integrated Lake Basin Management (ILBM), which is a conceptual framework for the environmental protection and management to be applied to lake basins in various countries. In 2005, the ILBM was first proposed to the world in the 11th World Lake Conference in Nairobi. In 2011, ILEC concluded a Memorandum of Understanding (MOU) with the Division of Early Warning and Assessment of the UN Environment. This empowered us to further address challenges in improving world's lake environment. In the national context in Japan, ILEC was designated as a Public Interest Incorporated Foundation in 2013 by the Cabinet Office of Japan, which guaranteed us with more robust organization of the Foundation.

I would like to draw your attention to the fact that the environmental conditions of lakes around the world have continued to deteriorate due to overexploitation resulting from human activities within and outside of their basins, and due to

climate change.

Only slightly less than one

percent of all the water resources on earth is the freshwater that is readily available for human use, with approximately ninety percent of this portion belonging to lakes and their basins. In other words, deterioration of lake environment can heavily affect water resources.

In September 2015, the United Nations General Assembly adopted the “2030 Agenda for Sustainable Development” including Sustainable Development Goals (SDGs), in particular SDG6 on clean water and sanitation and SDG15 on biodiversity and ecosystem services. I believe that ILEC is expected to contribute to achieving SDGs.

ILEC is committed to continue its support for addressing environmental conservation of lakes around the world, disseminating ILBM, and, in collaboration with the UN Environment, taking a leading role in promoting activities in the field of lake environment. I thank you for your continued support to our Foundation toward achieving our common goals.

IN
THIS
ISSUE

- Message from New President
- Retirement Message from Former President
- Special Events Commemorating the 30th Anniversary of ILEC
- Letter from Scientific Committee (Australia)
- ILEC TWAP Lakes Portal Is Launched
- ILBM South American Workshop in Brazil
- Report from a Former JICA Training Participant (Zimbabwe)

- Biwa Kids Ambassadors: Activity Report for FY 2017
- Our Activities Overview (FY2017)
- WLC17 Pre-Conference in Tsukuba
- Board Members Reorganized
- WLC17 CALL for Your Participation & 2nd Announcement
- Thank You for Your Support!

Retirement Message from Former President

Hironori Hamanaka

It has been my great honor to serve as President of ILEC for twelve years since 2005. During my services, I got to be part of organizations in the six World Lake Conferences, from 11th held in Nairobi to 16th in Bali. It was my pleasure to witness how the Integrated Lake Basin Management (ILBM) we proposed during the 11th World Lake Conference as a concept to enhance conservation and sustainable use of resources of lakes and their basins, was later developed as the ILBM Platform Process in several countries in Asia and Africa, and ILBM-driven initiatives evolved into various projects. Furthermore, ILBM got recognized by international organizations which eventually led to the conclusion of a Memorandum of Understanding (MOU) with the Division of Early Warning and Assessment of UN Environment for our mutual cooperation in the lake basin management. This MOU later helped both of us advance various collaborations in the Transboundary Waters Assessment Programme and other activities. Another notable moment for me was when “the 2030 Agenda for Sustainable Development” was adopted at the United Nations Summit in September 2015, which included “Sustainable

Development Goals (SDGs)” as the action guidelines to be achieved by 2030, and that “ensuring availability and sustainable management of water and sanitation for all” was established as the 6th Goal (SDG6) among the 17 SDGs. Dr. Kazuhiko Takemoto, Director of the Institute for the Advanced Study of Sustainability, the United Nations University (UNU-IAS), who has been committed to promoting the SDGs for years, is succeeding my role at ILEC. I believe that his inauguration to this Foundation has a significant meaning for ILEC to further drive its activities forward.



This coming October 2018, the World Lake Conference, which triggered the establishment of ILEC, is celebrating its 17th edition in Ibaraki Prefecture, Japan. I wish a successful organization of the 17th World Lake Conference, as well as further fruitful years to come for ILEC, under the direction of my successor, Dr. Takemoto. Finally, I would like to extend my sincere gratitude to the Members of ILEC Boards, Scientific Committee, as well as Governors and Officials of Shiga Prefectural Government, who have supported our activities over the last twelve years.

Special Events Commemorating the 30th Anniversary of ILEC

The International Lake Environment Committee Foundation (ILEC) was established in 1986 by Shiga Prefectural Government. One of its objectives was to support continued organization of the World Lake Conference to succeed the 1984's Shiga Conference on Conservation and Management of World Lake Environment, held in Otsu, Japan. ILEC conducted two projects commemorating its 30th anniversary over the last year. The first one was organized as a special exhibition titled “Living with Lakes; from Lake Biwa to the World, toward the Future!” during March 4 through April 9, 2017 in Lake Biwa Museum in Kusatsu, Japan. The exhibition was aimed at raising awareness of the importance of lakes and the need of conservation, especially



among the lake users in Shiga Prefecture, by introducing them to ILEC's world-wide activities in addressing global crisis of lakes and their basins' environment, showcased over a series of panels, videos and some visual attractions. During the 35 days, approximately 11,500 visitors came to the exhibition.

The second one was a public symposium held on January 27, 2018, also in Lake Biwa Museum. The symposium was held on the occasion of the General Meeting of ILEC Scientific Committee, which seven Members attended from different parts of the world. Under the theme of “Global Efforts for Conservation and Sustainable Use of Lakes and Rivers,” the symposium had three presentations from South and South East Asia (including two by Scientific Committee Members), and three from Shiga Prefecture. Following which a panel discussion on the theme of “Diverse Linkages among People, beyond Borders” was held. Despite that it was one of the coldest winter days on the shore of snowy Lake Biwa, in total 130 audience came and also contributed their valuable opinions from the floor. We thank once again to all these people and organizations took part in our anniversary events.

Sensitivity and Resilience of Lakes and Wetlands in Drylands

Colin Maxwell FINLAYSON

Director, Institute for Land, Water and Society
Charles Sturt University

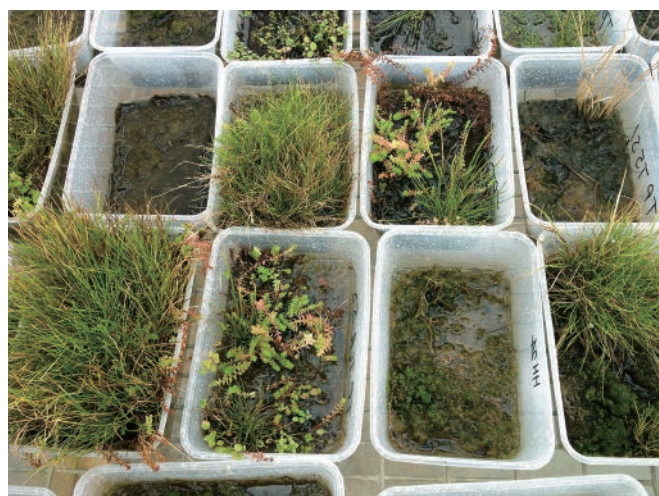


The concepts of sensitivity and resilience of lakes and wetland ecosystems have been much discussed. The Ramsar Convention on Wetlands has considered these concepts and adopted the IPCC definition of vulnerability to encompass both the sensitivity of the system, and its adaptive capacity or resilience. In this sense it has equated resilience with adaptive capacity. Further, vulnerability is determined at specific spatial and temporal scales and is dynamic. A lake or wetland may be vulnerable to a specific pressure at a particular time, but not vulnerable at other times. To complicate matters, the present condition may not be a good indicator of vulnerability at other times. These definitional and conceptual issues are important, and deserve critical attention, but should not delay our consideration of the changes that are occurring in lakes and wetlands in drylands where they are already known to be vulnerable to a number of pressures, including to climate changes. With this in mind we have been considering the extent of variability that characterises lakes and wetlands and look at these from a contemporary and historical timescale, and in particular how plant species may respond through propagules stored in sediment seedbanks.

As there are a wide range of pressures on these ecosystems that have continued to impact on the ecological processes that shape their ecological character, the questions we are addressing are; “how vulnerable are these lakes and wetlands to such pressures, and how well can we interpret such change?” In other words, “how much do we know about them and do we have sufficient information on changes in ecological state, on species composition and their variability, on their nutrient and salinity dynamics, productivity and seasonal, annual and decadal successional change?”

We tend to have more information on some of the vertebrate

populations that inhabit these ecosystems, for at least some of their life cycles, but possibly not enough information about how those that are most prevalent in the dry periods shape the conditions of the ecosystems. Hence, how do we contend with the dryness when looking at these lakes and wetlands? This extends further to how do the plants that characterise the wet phase survive the dry, or otherwise establish when it is wet, and does the loss of dry phase vegetation have an effect? Then we have the switching that can occur between saline and fresh water conditions, and the organisms that thrive in the water and the sediments, under such conditions. With such information we can better determine if these systems are sensitive and also where their inherent resilience comes from. This is being addressed through the development of conceptual models that help to explain these patterns and their interactions and provide a basis for establishing plausible scenarios for managing lakes and wetlands in drylands.



seedbank germination experiment

ILEC TWAP Lakes Portal Is Launched

The Transboundary Waters Assessment Programme (TWAP) is an international project funded by the Global Environment Facility (GEF) to conduct a global-scale assessment of transboundary water systems for the purpose of ranking them, in regard to their degree of vulnerability to human impacts. The portion of the TWAP dealing with lakes and reservoirs was conducted by the International Lake Environment Committee Foundation (ILEC). ILEC developed the assessment methodologies during 2009-2011 and carried out this project in collaboration with the UN Environment, the Research Center for Sustainability and Environment of Shiga University, Japan and the Meadows Center for Water and the Environment of Texas State University, USA. The final report was published in May, 2016. Lately, ILEC launched the portal site in August 2017 that shows the assessment methodologies, data maps, assessment results and important findings obtained through the project activities.

ILEC TWAP Lakes Portal



URL: <http://ilec.lakes-sys.com/>

ILBM South American Workshop in Brazil

During July 28-29, 2017, a two day workshop of the Integrated Lake Basin



Management (ILBM), targeting researchers, students, and government officials in South America, was organized in Rio de Janeiro, Brazil. Prof. Walter Rast of Texas State University, USA (ILEC Scientific Committee Chair) gave his keynote lecture to the enthusiastic participants gathered from five countries; Argentina, Brazil, Chile, Colombia,

and Uruguay. It was followed by a series of case study reports from each country, including the one from our past JICA Training Participant, Dr. Marcelo Luiz de Souza of National Water Agency (ANA), Brazil. The workshop successfully closed, with several strategies and suggestions made for enhancing capacity building, networking, and generating



Report from a Former JICA Training Participant

Lightone Takawira Marufu (Zimbabwe)

I currently work as Aquatic Ecologist and

Lecturer at Biological Sciences Department, University of Zimbabwe. I was one of the nine participants that went through the JICA facilitated Integrated Lake Basin Management (ILBM) training course at ILEC in 2015. The course was practical and provided hands-on approaches that could be used as part of resolving some of the problems in lakes. I am happy to report on some of the practical aspects that we are applying at our Department to help manage Lake Chivero following the training. Lake Chivero is the main supplier of industrial and domestic water for Harare, the capital city of Zimbabwe, and other surrounding towns which include Ruwa, Norton, and Chitungwiza. The lake also serves as a recreational facility for speed boats, bird watching, and game viewing, etc., and has a thriving fish industry for locals. Despite its importance, the lake



The author explaining the problem of wetlands being used as dumping sites by some industries.

is hyper-eutrophic owing to point and non-point pollution sources within its catchment area. Furthermore, the lake is located downstream of its catchment causing all activities within its catchment to ultimately affect its water quality.

Here are some of the activities I would like to report to you:

Research and Monitoring: Despite challenges of funding, over the past two years we have had four undergraduate students undertaking projects in rivers that feed into Lake Chivero, namely Marimba River and Mukuvisi River. We have also had three students working on various wetlands within the lake's catchment. At our department, we have also had an MSc student and a PhD student working on important aspects in the lake such as the use of GIS in monitoring the sediment quality and quantity in the lake.

Capacity Building: Besides teaching some ILBM concepts to undergraduate students, my department has developed a MSc program within which the ILBM concept will be taught to future catchment managers, water experts, and aquatic ecologists. We are currently awaiting approval of the program by the university. The department has also managed to run a short course and training program to members of the Harare City Council and other stakeholders on water quality management and monitoring as part of the ILBM initiative.

Awareness: I have had the privilege of being interviewed by the national television network (Zimbabwe Broadcasting Cooperation) on issues affecting Lake Chivero. During the interview, I emphasized importance of concepts like ILBM in managing problems in Lake Chivero, as well as possible methods of dealing with a problematic invasive plant species (water hyacinth).

Finally, we also plan to implement 1) continuous monitoring on rivers that flow into Lake Chivero, 2) monitoring and protection of wetlands within the Lake Chivero Catchment and 3) developing the MSc program to empower future water experts and decision makers on concept of ILBM (already being underway), toward the future.

collaboration activities among the participated countries. Special thanks to our local organizer, Carlos Chagas Filho Biophysics Institute of Brazil Federal University of Rio de Janeiro, especially to Prof. Sandza Azevedo (ILEC Scientific Committee Bureau Member), and to all the participants.



Biwa Kids Ambassadors: Activity Report for FY 2017

Have you heard of the Ramsar Biwa Kids Ambassadors? They are selected primary school children aged between 10 to 12 reside in Shiga Prefecture, home to Lake Biwa. They learn about the lake and its culture in a year-long environmental educational program, and also to participate in an international exchange program. This environmental education project was started by Shiga Prefectural Government back in 2008 in the aim of training young generation to play a leading role in the future's environmental conservation activities. Since the edition of the fiscal year 2015, ILEC has been committed to conduct this program three years in a row. Here is a report from this year's Ambassadors' activities:

In FY 2017, ten Ambassadors learned about the creatures living in Lake Biwa and the culinary culture, through experiencing traditional fishing methods. The highlight of their program was to present in the KODOMO Wetlands Exchange Program in Arao Tideland, which was organized in Kumamoto Prefecture during November 4-5, on the occasion of the 8th Asian Wetland Symposium held in Saga Prefecture, Japan. In preparation for their presentation in Arao, a series of preparatory workshops were organized: On June 24, they cooked crucian carp and *hemibarbus barbus* they caught earlier in the morning by gillnetting in Lake Biwa. The fish were deep fried or boiled with soy source. On July 23, they experienced eri fishing, or a traditional fishing method unique to Lake Biwa, in the morning and learned how invasive species such as largemouth bass, affect the endemic species. They also prepared traditional funa zushi, or



a fermented sushi made with *carassius buergeri grandoculis* (PIC①). This one-day precious activity taught them two traditions of Shiga Prefecture. On October 14, they tried catching seta shijimi, an endemic mussel, by their hands. They learned that the number of seta shijimi has been decreasing each year, and research and other attempts are being carried out, gradually improving this situation. Back on August 23, the Ambassadors met their predecessors at the transgenerational exchange event, which was organized for the first time in the history of this project (PIC②). They got together to cook endemic fish from Lake Biwa, as well as a variety of vegetables locally grown in Shiga Prefecture. All these activities were



summarized in their presentation made in front of five other groups working on the environmental protection in wetlands in Japan during the aforementioned KODOMO Wetlands Exchange Program in Arao Tideland. They made friends from other parts of the country through working together on a poster and field visit to the tideland (PIC③). Finally, in the anniversary symposium of ILEC held in Lake Biwa Museum on January 27, 2018, they reported all these activities in front of the audience came from all parts of the world. ILEC is proud of having another group of Ambassadors who accomplished a series of valuable learning activities, and wishes them every success in the years to come.



Our Activities Overview (FY2017)

April 11-29 ILEC takes part in the Ha Long Bay Project for Green Growth (Quảng Ninh Province)

May 9 ILEC receives 1,630,000 Japanese yen donation from Kansai Urban Banking Corporation (Otsu)

24 ILEC receives 250,000 Japanese yen donation from Kinki Labour Bank (Otsu)

June 17 Workshop for the Shiga Labour Bank (Kusatsu)

24 Ramsar Biwa-Kids Ambassadors 1st Pre-Workshop (Nagahama)

July 23 Ramsar Biwa-Kids Ambassadors 2nd Pre-Workshop (Moriyama & Yasu)

28-29 ILBM workshop for South America (Rio de Janeiro)

August 4 A JICA commissioned training of integrated wetland management for Olomega Lake and El Jocotal Lagoon (Kusatsu)

23 Transgenerational exchange program for the Biwa-Kids Ambassadors (Kusatsu)

26-31 Study tour to Japan under the JICA commissioned Project for Green Growth Promotion in Ha Long Bay, Vietnam (Otsu, Takashima, Omihachiman & Kusatsu)

27- ILEC, in partnership with UN Environment, exhibits at Stockholm World Water Week (Stockholm, through Sept.1): **[PIC1]**

30 Six delegates from GEF China PA System Program visit ILEC (Kusatsu)

September 1 A JICA commissioned training program, “Integrated Lake, River and Coastal Basin Management for Sustainable Use and Preservation of Water Resource” kicks off (Kusatsu, through Oct. 27)

7 A JICA commissioned project in Myanmar of capacity building for water environment management and environmental impact assessment (Kusatsu)

8-14 ILEC visits a Malaysian river basin environmental education program site (Kuala Selangor): **[PIC2]**

14-16 ILEC participates in the Bridge Project of Japan-Taiwan Industrial Cooperation: Technical Exchange Meeting and Business Matching on Water Environment (Kaohsiung)

October 14 Ramsar Biwa-Kids Ambassadors 3rd Pre-Workshop (Otsu & Kusatsu): **[PIC3]**

16 Seven local high school students and teachers visit the JICA training participants at ILEC (Kusatsu)

17-21 ILEC invites three Quang Ninh Province officials from Vietnam to the Lake Biwa Environmental Business Exhibition etc. (Otsu, Kusatsu, Omihachiman & Nagahama)

November 1-2 Pre-Conference for the 17th World Lake Conference (Tsukuba)

4-5 Ramsar Biwa-Kids Ambassadors participate in the KODOMO Wetlands Exchange Program in Arao Tideland (Arao)

7-11 ILEC presents and exhibits in the 8th Asian Wetland Symposium (Saga)

13-25 ILEC takes part in the Ha Long Bay Project for Green Growth (Quảng Ninh Province)

25 ILBM-ESSVA Workshop, in collaboration with the Wetland International South Asia (Delhi)

27- The Japan-Asia Youth Exchange Program in Science (Otsu & Kusatsu, through Dec. 6)

28-30 ILBM Workshop for Kenya (Nakuru): **[PIC4]**



2018

January 24 ILEC Scientific Committee representatives visit Ibaraki for the preparatory meeting of 17th World Lake Conference (Mito and Tsuchiura):

25-26 ILEC Scientific Committee General Meeting (Kusatsu) **[PIC5]**

27 ILEC 30th Anniversary Symposium (Kusatsu)

February 26- ILEC participates in the Ramsar Pre-COP13 Asia Regional Meeting (Chilaw, through March 2)

27 The Integrated Lentic–Lotic Basin Management (ILLBM) Workshop for West Africa (Dakar, through March 2)

March 4 Ramsar Biwa-Kids Ambassadors report their activities for FY2017 to the Vice-Governor of Shiga Prefecture (Kusatsu)

15 ILEC participates in the regional forum “Rehabilitation Ecology of Rivers and Lakes of Mexico” (Patzcuaro)

18-23 ILEC participates in the 8th World Water Forum and organizes a special session with Shiga Prefectural Government (Brasilia)

WLC17 Pre-Conference in Tsukuba

This coming October 2018, ILEC is co-hosting the 17th World Lake Conference (WLC17) with Ibaraki Prefectural Government. To call for nation-wide participation in Japan, the Government and ILEC co-hosted the WLC17 Pre-Conference in Tsukuba during November 1-2, 2017. On the first day, around 400 people (citizens, researchers and government officials) attended a public symposium, at which a former Olympic marathon runner, Ms. Yuko Arimori, came on stage to address how nature, especially lakes,

attracts runners and how important it is to let children enjoy sports in nature. In the latter half of the symposium, panelists from three lakes in Japan (Biwa, Mikata-Goko, and Kasumigaura) discussed their ongoing challenges in the lake basin management. The discussion continued to the second day's roundtables where experts and government officials from 14 different lakes nationwide gathered to exchange their views and experiences in the theme of Water Quality and Ecosystem Services.



Board Members Reorganized

The new Board Members of ILEC as of June 13, 2017 are as follows:

Trustees

Shinji Ide	Professor, School of Environmental Science, University of Shiga Prefecture
Toshio Takasago	Director General, Department of Lake Biwa and the Environment, Shiga Prefectural Government
Reiko Nakamura	Secretary General, Ramsar Center Japan
Machiko Nishino	Professor, Biwako Seikei Sport College
Kazuhiko Matsui	Director of Technical Department, Hiyoshi Corporation
Saburo Matsui	Professor Emeritus, Kyoto University
Shinya Yamaguchi	Sales Department Sub Manager, HORIBA Advanced Techno Corporation

Directors

Kazuhiko Takemoto (President)	Director, Institute for Advanced Study of Sustainability, United Nations University (UNU-IAS); Former Vice-Minister for Global Environment, Ministry of the Environment
Masahisa Nakamura (Vice President)*	Professor by Special Appointment, Research Center for Sustainability and Environment, Shiga University
Kaori Kubo	Professor, Faculty of Education, Shiga University
Toru Shinohara	Director General, Lake Biwa Museum
Yoshihisa Shimizu	Professor, Research Center for Environmental Quality Management, Graduate School of Engineering, Kyoto University
Hirofumi Takagi	Director, Environmental Policy Division, Shiga Prefectural Government
Kenzo Hiroki	Sherpa, The United Nations-World Bank High Level Panel on Water; Former Vice-principal for College of Land, Infrastructure, Transport and Tourism

*Full time**

Auditors

Manabu Hishikari	Certified Public Accountant; Licensed Tax Accountant
Mitsuru Sakurada	Managing Executive Officer, Kansai Urban Banking Corporation

Advisor

Hironori Hamanaka	Special Research Advisor, Institute for Global Environment Strategies (IGES); Former Vice-Minister for Global Environment, Ministry of the Environment; Former President, ILEC
-------------------	---

WLC17 CALL for Your Participation & 2nd Announcement

For more information, visit the Conference Website at www.wlc17ibaraki.jp/en!



The latest program as of February 2018 is available in the 2nd Announcement!



Important Dates

March 30 (Fri.), 2018	: Deadline of primary application for Student Conference presentation
April 20 (Fri.), 2018	: Deadline for Lake Kasumigaura Session presenters
	: Deadline for Technical Session presenters
April 27 (Fri.), 2018	: Deadline for secondary application for Student Conference presentation
May 7 (Mon.), 2018	: Deadline for Workshop application
May 31 (Thu.), 2018	: Deadline to register for Exhibitions
Late June – Early July, 2018	: Notification of acceptance (Student Conference / Kasumigaura Session / Technical Sessions)*1
July 16 (Mon.), 2018	: Early registration closes
September 14 (Fri.), 2018	: Registration closes *2

*1 The date of notification of acceptance may differ from the dates mentioned above.

*2 Please register for excursion and optional tours with conference registration via online system. In case of many applicants, please understand that we might not be able to meet your requirement in some cases.

Thank You for Your Support!

- In 2017, ILEC received sponsorship from the following Supporting Member Organization (90,000 JPY or more)



Your donation could provide funding to our activities on the world lake environmental conservation. Online donation system is also available. If you are interested, please visit our webpage at www.ilec.or.jp/en/advertise.



INTERNATIONAL LAKE ENVIRONMENT COMMITTEE FOUNDATION (ILEC)

—Secretariat—

1091 Oroshimo-cho, Kusatsu-city Shiga 525-0001, JAPAN

Tel:+81-77-568-4567 / Fax:+81-77-568-4568 / E-mail: infoilec@ilec.or.jp

Website: www.ilec.or.jp / Facebook: www.facebook.com/ilec.english

*The latest issue and back issues of this newsletter are also available on our website above.