

'Lake Management – Challenges in a Changing World'

The Chapala Statement: A call for action

'Despite an increasing appreciation of the importance of lakes to human well-being and advances in our knowledge of the way lake ecosystems function, lakes throughout the world continue to be degraded at unprecedented rates. The first step to reverse this decline and protect lakes that are still in a pristine condition is to develop and agree management plans to which all stakeholders have a genuine input. Governments and statutory authorities are urged to prioritise the development of these plans so that local people and private and public bodies can implement such plans with a shared responsibility'.

This was the consensus reached by the 60 members and associates of the Living Lakes Network, representing 35 of the 70 lakes of the Living Lakes Network, who discussed the importance of lake management planning at the Network's 13th conference 'Lake Management – in a Changing World' at Lake Chapala in Mexico, on 22 and 23 March 2010, hosted by Sociedad Amigos del Lago de Chapala, Fundacion de la Cuenca Lerma Lago Chapala-Santiago, Universidad de Guadalajara and The Global Nature Fund (GNF), Germany.

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The participants at the conference debated issues of lake management in a series of thematic workshops, the conclusions of which inform this Statement and call for action. Accordingly, the conference participants urge governments, the private sector, academic institutions, non-government organisations and all citizens to make commitments and take action now to manage lakes within a framework of sustainable development and for governments to meet their international obligations as signatories to the Ramsar Convention on Wetlands of International importance.

Responding to the conference themes the participants noted that:

**Water quality:** The fundamental basis of a management plan should be to agree standards of water quality and quantity that are acceptable to all water users and that guarantee sustained biodiversity. The use of industrial and green filter treatment plants should be extended and their efficiency monitored. Data collected by accredited laboratories must be available in the public domain. However, in all cases, the focus should be on preventing pollution and over-abstraction of water rather than on taking technological action to ameliorate already degraded water quality and quantity. Industry should operate on the 'polluter pays' principle. Normally, local authorities are responsible for wastewater treatment; they need more skills and financial resources in order to operate and maintain treatment plants properly. Moreover, private households need to recognise the importance of sound wastewater treatment and be willing to pay for this important service.

**Lake shores and wetlands:** Lake shores and their associated wetlands must be included in lake management plans. These habitats are critical to the viability of lake ecosystems, and, since they form the interface between the lake itself and its users, they must be given special consideration in lake planning and management.

**Fauna:** Management procedures must recognise the complex relationships between a lake's fauna, flora and human interaction. Protection zones may be necessary, but protected areas should be developed incorporating local knowledge and with the full commitment of local lake users.

**Flora:** Natural flora and catchment forests are sometimes neglected in management planning, yet vegetation is fundamental to the bio-chemical and bio-physical functioning of lake systems. Invasive plant species are increasing

and exacerbating lake degradation, especially by reducing oxygen levels in the water. Biological treatment of such invasive plants is encouraged, but since these plants thrive on polluted water the improvement of water quality should be prioritised.

**Agriculture:** Unsustainable agricultural practices pose the greatest threat to the viability of lakes. Irrigation, with unacceptable water wastage, is widespread, and fertile lakeside land is often drained. Nitrate and pesticide run-off is severe in many countries, resulting in reduced water quality, and endangering human health. A strong dialogue with governmental and, increasingly, private agricultural sectors is fundamental to management processes. Local farming practices can also be influenced through judicious, direct dialogue, and more encouragement should be given to organic practices.

**Fisheries:** In almost every lake fish populations have declined, with significant losses of endemic species. Most lake fishers have suffered a loss of livelihood. Fishers are often the poorer members of the community, and the formation and strengthening of fishery associations so that fishers are actively included in lake management is encouraged.

**Tourism:** Well managed tourism can be an economic asset that can 'keep a lake alive'. In preparing a management plan, local people must share in the development of the local tourism industry, which very often is planned by outsiders. Financial returns from tourism should contribute to maintaining lake ecosystems and provide reasonable benefits to local communities. At present this is rarely the case. Tourism development must be based on ecological zoning in order to protect sensitive locations and reserves for fauna and flora, to guarantee an appropriate inter-linkage of the different tourism activities, and to maintain a high quality tourism destination.

**Industry and urbanisation:** Both industry and people in urban areas rely on water stored in lakes. However, in many instances over-abstraction of water and/or pollution in watersheds upstream and downstream of lakes has resulted in serious health issues for millions of people and can also have negative impacts on industry itself. Although water management regulations are often in place there is widespread abuse of these laws, and powerful businesses may use their influence to exploit weaker legal systems. There needs to be a re-commitment to 'sustainable development' and far more use of new eco-technologies.

**Health and sanitation:** Lakes are frequently seen as being linked in negative ways to many diseases, such as malaria, schistosomiasis, bilharzia and onchocerciasis (river blindness). Unsustainable wetland management may increase the occurrence of these diseases, and can also introduce others such as diarrhoea, avian influenza, and pollution-related conditions. Conversely, well-managed wetlands can contribute to the reduction or eradication of these illnesses. However, because most drinking water is stored in lakes, it is industrial and agricultural pollution and toxic chemicals latent in fish and other food sources that are a major and increasing root cause of disease and mortality. The scientifically proven contributions that naturally functioning wetland ecosystems make to good health and well-being are rarely recognised by the key ministries and agencies responsible for health, sanitation and water supply. It is therefore particularly important that these ministries are involved in lake management planning since viable lake systems can make a vital contribution to public health.

**Cultural values:** Many indigenous and religious communities place a cultural value on lakes that is hard to incorporate into more formal management agreements. This reverence, together with traditional and/or spiritual aspirations, often protects lakes in their own right and builds community love and respect for the natural world. Cultural values should be a core aspect of lake management planning,

**Indigenous people's rights:** The rights of indigenous people have often been ignored in lake management planning. These rights include access to water for human use as well as for livestock rearing and small-scale irrigation. Fishers often have no formal rights. Indigenous people may lack leaders and a public voice. Management planners have to ensure that minority rights are understood and included in management agreements, recognising that indigenous people's rights are likely to be enshrined in law and in a nation's international obligations.

**Renewable energy:** Biodiversity preservation and climate protection are 'two sides of the same coin'. The need to adapt to climate change has become unavoidable, and management plans must take this into account. However, the overall emphasis should be on a continued worldwide reduction in CO<sub>2</sub>. This means that increasing effort must be put into the use of renewable energy and small-scale, environmentally sensitive systems such as biogas production.

**Stakeholder participation:** Developing lake management plans with the participation of all stakeholders is extremely difficult, but planners should strive for this ideal. Some legitimate stakeholders may be distant from the lake in question, whereas others may depend directly on the lake itself for their livelihoods. Management processes should seek to be inclusive, with particular attention paid to minority and disenfranchised people. Without the genuine participation of those most immediately affected by the quality and volume of a lake's water, management plans are unlikely to be effective. Management plans must describe how stakeholders will be engaged in the implementation of the plans and how they can monitor and report on changes that need to be incorporated into planning systems.

Many useful guidelines are available to management planners. The Ramsar Secretariat, among others, has published a series of practical guidelines on wetland management including best-practice examples for all type of wetlands and challenges.

The conference participants concluded that since the environmental and economic services provided by lakes are critical for human well-being it is essential that all lakes are managed according to sound scientific principles, with local people playing a central in the development and implementation of lake management plans. Members of the Living Lakes network themselves pledge to review the management processes that are in place for their own lakes and additionally to undertake the following actions:

- **Learn from the experiences shared at the 13<sup>th</sup> Living Lakes Conference and take immediate action so that the degradation of Lake Chapala, and the many other lakes whose decline was described at the conference, can be halted and the degradation they are now suffering reversed;**
- **Use the knowledge base and experience of Living Lake members to strengthen and empower younger Living Lake members so that they have proper inputs to management plans for their lakes;**
- **Convey this Statement and other results from the Living Lakes Conference to the Ramsar Scientific and Technical Review Panel, other international conventions committed to the conservation and wise management of lakes, and to local, national and regional planning authorities;**
- **Urge the Government of Mexico to consider and act on the petition on the future of Lake Chapala prepared by The Sociedad Amigos del Lago Chapala and Fundación Cuenca Lerma Chapala Santiago and endorsed by conference delegates;**

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- **Urge the Government of Colombia to consider and act on the petition on the future of Lake Fuquene submitted by Fundación Humedales Columbia and endorsed by conference delegates;**
- **Urge the Government of Turkey to consider and act on the petition on the future of Lake Uluabat submitted by WWF Turkey and Nilüfer Yerel Gündem and endorsed by conference delegates.**

The conference participants expressed their unreserved gratitude to the Global Nature Fund (Germany), Amigos del Lago Chapala, Fundación Cuenca Lerma Chapala Santiago, and the Universidad de Guadalajara for hosting the conference. The venue beside Lake Chapala and the experiences of the field trips were instrumental in facilitating the high level of debate amongst the participants and reinforcing the urgency of the actions needed to protect and restore lakes worldwide.

Chapala, March 2010