

**Note for the International Low Carbon Conference  
Nanchang, November 2014  
Marion Hammerl, President of Global Nature Fund**

Lakes and wetlands belong to the most valuable and most endangered ecosystems of our planet. They continue to be lost as a consequence of human actions, despite the fact that they provide a wide range of ecosystem services that contribute to human well-being. This negative development is even accelerated because of the impacts of climate change.

The IPCC Report 2014 on Climate Change underlines the dramatic consequences of global warming for our freshwater resources: For each degree of global warming, approximately 7% of the global population will be exposed to a decrease of renewable water resources of at least 20%.

We are not speaking about a negative development in the future! Climate change effects are noted today in lakes and wetlands all over the world, for example:

Displacement of cold-water species. As air temperatures rise, water temperatures do also—particularly in shallow stretches of rivers and surface waters of lakes.

Dead zones. In a warming climate, a warmer upper layer in deep lakes slows down air exchange—a process that normally adds oxygen to the water. This, in turn, often creates large "dead zones"—areas depleted of oxygen and unable to support life. Persistent dead zones can produce toxic algal blooms, foul-smelling drinking water, and massive fish kills.

Effects on reproduction. Earlier snowmelt, rising amounts of precipitation that falls as rain rather than snow, and more severe and frequent flooding—all linked to global warming—may affect the reproduction of aquatic species. Some salmon populations have declined, for example, as more intense spring floods have washed away salmon eggs laid in stream beds.

Disease. The more intense precipitation that accompanies a warming world makes river and lake flooding more likely. This flooding—combined with sewer system overflows and other problems stemming from inadequate sanitation infrastructure—can lead to disease outbreaks from water-borne bacteria.

Carbon sequestration: Many wetlands sequester & store significant carbon. Degrading wetlands releases carbon and degraded wetlands store less carbon! Long-lasting degradation and loss of wetlands cause the release of large amounts of stored carbon and thus exacerbate the rate of climate change.

Loss of ecosystem services: Many lakes and wetlands deliver services that are extremely important for climate change adaptation – by acting as natural infrastructure to reduce risks from severe water-related events such as storms, flooding, drought, coastline erosion, and the intrusion of saltwater into freshwater systems.

China belongs to those countries suffering a dramatic water crisis. China has 22% of the world's population but only 6 % of its fresh water. Overuse has caused thousands of rivers to disappear and many of the lakes in China are contaminated or eutrophicated.

Jiangxi Province is very lucky to have Poyang Lake and so many rivers. These water resources are of highest value for the province and the most important natural capital.

Only healthy lakes can deliver the irreplaceable ecosystem services! But there is still far too little attention paid to the proper restoration of lakes and wetlands. With an increasingly extreme and unpredictable climate, wise water and wetland management is even more required – but also even more challenging.

Wise water and lake management needs to include activities to reduce CO<sup>2</sup> and other greenhouse gas emissions. All climate mitigation actions contribute directly and indirectly to lake protection!

The international Living Lakes Network was created in 1998 by Global Nature Fund. Today, 103 lakes and wetlands are represented in the network. Poyang Lake is a Living Lake since 12 years and one of the most valuable. There is still a long way to go in Jiangxi Province to achieve a truly sustainable development and a sound protection of the lake. The international lake community is looking at Poyang Lake and hopes that Jiangxi Province will be a real positive example which is desperately needed in China and worldwide.

In the name of the International Living Lakes Network, I wish us all a very successful International Low Carbon Conference with positive impacts far beyond the conference.

## **Curriculum Vitae**

Marion Hammerl is an Economist and worked more than 15 years in marketing and promotion in the industry sector. From 1985 to 1997 she was living and working in Spain and co-founder of various Spanish environmental organizations – one of them the Fundación Global Nature España, a national wide active NGO. Since 1997 she is President of Fundación Global Nature (honorary position).

Since 1998 she is the Managing Director of Lake Constance Foundation and coordinator of numerous EU-supported projects. Within other items, Marion Hammerl is specialized in sustainable tourism development, land use planning, sustainability management for local authorities, environmental management systems, management of water resources and biodiversity.

She is one of the co-founders of the Global Nature Fund (GNF) and the international Living Lakes Network. Since summer 2002 she is the President of GNF (honorary position).