RIVERSYMPOSIUM
BRISBANE, AUSTRALIA

11TH INTERNATIONAL RIVER*SYMPOSIUM*
CASE STUDIES

Mersey – the river that changed the world

The Mersey played a key role in the development of global trade and the industrial revolution. By the nineteen eighties it was severely polluted and famously described as "a disgrace to a civilised society". By 1999 its transformation was recognised worldwide through the accolade of the inaugural international Thiess River*prize* being awarded to the Mersey Basin Campaign. This case study will draw out the critical success factors and the challenges for the next twenty five years in delivering sustainable development in the Mersey Basin.

Presented by Walter Menzies, The Mersey Basin Organisation (UK), on Monday 1 September from 4.00pm (Room PTR).

The Nature Conservancy and the Paraguay-Paraná Basin conservation

The Paraguay-Paraná river basin drains a million square miles of Brazil, Argentina, Paraguay, Bolivia and Uruguay, making it the second-largest basin in South America after the Amazon. The Nature Conservancy (TNC) is leading an ambitious basin-wide conservation Program for the Paraguay-Paraná, starting with classification and mapping of freshwater ecological systems. The classification is a surrogate for freshwater biodiversity and is an essential source of information in the decision making instances of watershed management and freshwater conservation. In Mato Grosso State, Brazil, 200,000 hectares of the Pantanal's headwaters are being preserved. TNC, the State government and ranchers, are mapping degraded sites and implementing ecological corridors associated with best management practices programs to control soil erosion in agricultural lands. In the Piracicaba watershed, São Paulo State, an innovative payment for environmental services scheme was implemented to restore 100,000 hectares of headwaters that provide drinking water for 9 million people of São Paulo megalopolis. TNC and partners are developing decision support tools to help decision makers evaluate scenarios of land use changes and freshwater habitat improvement at watershed level. TNC's contribution for the Paraguay-Paraná conservation is to engage communities, decision makers, private sector and test concepts on-the-ground allied with the most up to date scientific knowledge.

Presented by Glauco Freitas, The Nature Conservancy and the Paraguay-Parana conservation (Brazil), on Tuesday 2 September from 8.30am (Room PTR).

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Reconciling economic, social and environmental water needs in Pangani Basin, Tanzania

The Pangani Basin in Tanzania generates nationally important agricultural and hydro-electric power outputs and hosts nationally and globally important biodiversity. These goods and services from the basin depend on adequate water supplies. Pangani Basin, however, is water-stressed and the current demand for water is not met. Expected climate change projections exacerbate the situation. Pangani Basin Water Office (PBWO) with technical support from the International Union for the Conservation of Nature (IUCN), and mentoring from the Southern Waters – Anchor Consortium, is piloting an Integrated Flow Assessment (IFA) in Pangani River Basin as part of the Tanzania Water Sector Development Program. The IFA considers economic, social and environmental water needs in the basin as well as the trade-offs among these sectors under different water allocation regimes and expected climate projections. The various phases of the initiative, from planning, selection of methods, evolution from an environmental flow assessment to an integrated flow assessment, data collection and preliminary results from the 10 scenarios developed to date will be presented. Special consideration is given to climate variability. The way forward, with respect to additional modelling, stakeholder consultation and development of an Integrated Water Resources Management plan will be outlined.

Presented by Hazma Sadiki, Pangani Basin Water Board (Tanzania) on Wednesday 3 September from 4.00pm (Room PTR).

Dnieper/Pripyat River Basin: consequences and lessons of the most severe man-made nuclear accident

The Dnieper is one of Europe's great rivers, ranking third in terms of basin area after the Volga and the Danube. The Dnieper River Basin is located on the territory of three climatic zones and within the frontier limits of three countries, sharing the Basin, Republic of Belarus, Russian Federation and Ukraine, and has the significant economic, social as well as ecological importance. Within the Dnieper River Basin 7 nuclear power plants and other numerous industrial enterprises are located, which are the sources of radionuclides and other pollutants. As a result of the accident at the Chernobyl NPP in 1986 the Dnieper and its main tributary, the Pripyat River, has undergone intensive radioactive contamination. Despite 22 years since the accident, some territories of catchment area (especially 30-km Exclusion Zone around the destroyed unit of the Chernobyl NPP) still remains an open source of radionuclides into the river systems. The paper describes: (1) main sources and dynamics of radioactive contamination within the Dnieper/Pripyat River Basin during the early stage and the post-accident period of the Chernobyl disaster; (2) migration processes of radionuclides beyond the Exclusion Zone and their distribution downstream the water reservoirs of the Dnieper Hydro-Cascade and in the main components of aquatic ecosystems; (3) analysis of effectiveness of implementation of the water-protection measures within the Dnieper/Pripyat hydro system; (4) effects of long-term irradiation on aquatic biota; (5) redistribution of radionuclides and self-rehabilitation processes in contaminated aquatic ecosystems.

Presented by Dr Dmitri Gudkov, Institute of Hydrobiology (Ukraine),The legacy of Chernobyl, on Wednesday 3 September from 4.00pm (Room PTR).