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Managing a globally unique nexus of acid mine drainage, karst, and world heritage site

National Cave and Karst Research Institute

Biography

Born in 1973. Caver and member of the Bambuí Speleological Research Group since 1991, one of most active South American caving clubs. Co-founder of Instituto do Carste in 2007. Graduated in architecture in 1997, with a master's degree in architecture design technology (2005) and a doctorate in physical geography (2011), both with emphasis in protected area management. Working since 1998 with protected areas and cave management, cave mapping and monitoring, educational activities, environmental licensing and protected areas infrastructure planning.

MANAGING A GLOBALLY UNIQUE NEXUS OF ACID MINE DRAINAGE, KARST AND WORLD HERITAGE SITE

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Abstract
The Cradle of Humankind World Heritage Site (COH WHS), South Africa, is located downstream of the actively decanting West Rand Goldfield (a.k.a. the Western Basin). It is therefore the only UNESCO-protected karst landscape in the world that is under threat from acid mine drainage (AMD). The perceived threat has generated wide and considerable concern for the preservation of the fossil sites. This perception has been fuelled by a poor understanding of the surface and groundwater resources of the WHS which, in turn, has precipitated often alarmist reporting in the media, some even hinting at the possible delisting of the site by UNESCO. These circumstances have presented significant challenges to management efforts directed at protecting the aquatic environment and outstanding universal value of the site. Not the least of these challenges has been gaining the support of direct stakeholders (e.g. landowners and local authorities) and interested and affected parties (e.g. non-governmental organisations, environmental lobbies, the media). Contrary to popular expectation, the mining industry has collaborated freely and copiously in its provision of mine water data and information, in stark contrast to an embargo placed on municipal wastewater quality data and information by a local authority. Against this background, the poster describes the challenge of informing the perception of typically non-scientific interested and affected parties regarding the impact and risk to the environment and its inhabitants, with a credible scientific understanding of the magnitude of this impact and the natural resilience that characterises the affected environment.

Biography
Peter Mills has been involved in wildlife and conservation management for over 30 years. During this time he has gained experience in all aspects of conservation practice that includes research, reserve management, impact assessments, cultural resource management and environmental education. He is currently the environmental manager for the Cradle of Humankind World Heritage Site (COH WHS) in South Africa. His principle responsibilities comprise elements of both cultural and natural resource management. The latter focuses especially on water resources as a key ecological component of the WHS, on which he reports to the Inter-Governmental Task Team on AMD. In his spare time he lectures at the South African Wildlife College on various aspects of conservation biology. Apart from terrestrial conservation, Peter has a keen interest in water and aquatic conservation and is the current chairman of the Yellowfish Working Group which focuses on the sustainable use of rivers in South Africa.