

# The impact of water quality on informally-declared heritage sites: a preliminary study

**AT Vos<sup>1\*</sup> (co-author) and S Cawood<sup>2</sup> (co-author)**

<sup>1</sup> Centre for Environmental Management, University of the Free State, PO Box 339, Bloemfontein, 9300, South Africa

<sup>2</sup> Centre for Africa Studies, University of the Free State, PO Box 339, Bloemfontein, 9300, South Africa

## Abstract

The current study is an attempt to gauge the impact of water quality on 2 sacred sites in the eastern Free State, Mautse and Motouleng, which are informally-declared heritage sites, as well as the consequent implications for matters of living heritage as pertaining to the specific sites. The informally-constituted communities at the sacred sites are dependent on freshwater sources where water use, sanitation and waste disposal are unmanaged activities. The sustainability of informally-declared heritage sites may be uncertain due to factors relating to water quality. Water samples were collected for physical, chemical and biological analyses. The latter comprised algal and bacterial analyses which included testing for concentrations of faecal coliforms, where concentrations above 20 cfu/100 ml indicates a significant risk of infectious disease transmission (domestic use) and concentrations above 200 cfu/100 ml points to a significant infection risk for young livestock. Water quality is discussed in terms of human, animal and ecological risk, which may threaten the heritage and the economic subsistence based on the heritage at both sites.

**Keywords:** water quality, heritage, informally-declared heritage sites, faecal coliforms