Use of Landscape-level River Signatures in Conservation Planning: a South African Case Study

Dirk Roux[1], *Ferdy de Moor*[2], *Jim Cambray*[2], *and Helen Barber-James*[2]

[1]***CSIR***; [2]***Albany Museum***

ABSTRACT

A strategy for assigning priorities in biodiversity conservation was developed for the rivers of the proposed Greater Addo Elephant National Park (GAENP) in South Africa. Due to the limited availability of biological information on the freshwater ecosystems of this area, a desktop approach, supplemented by aerial and land surveys, was used to devise a new river classification typology. This typology incorporated landscape attributes as surrogates for biodiversity patterns, resulting in defined physical "signatures" for each river type. Riverine biodiversity is considered to be conserved by including rivers of each type as defined by the respective signatures. Where options existed, and two or more rivers shared the same signature, a simple procedure was used to assign priorities to "similar" rivers for conservation. This procedure considered the extent of transformation, degree of inclusion within the park, irreplaceability or uniqueness, and geomorphological diversity of each river. The outcome of the study was that 18 of the 31 rivers within the GAENP must be conserved to achieve representation of all of the biodiversity patterns identified. It is concluded that, given further development and testing, the river signature concept holds promise for elevating the river focus in general conservation planning exercises.