

# The Ecological Reserve: Towards a common understanding for river management in South Africa

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## Abstract

The legal requirement for an Ecological Reserve established in South Africa's water law is commonly regarded by stakeholders as being in direct competition with the needs of humans. This has resulted in much debate and varying interpretations of the meaning and purpose of the Ecological Reserve. However, the requirement for water that is allocated to sustain ecosystem functions is directly aligned with options for human use arising from rivers to deliver a suite of ecosystem goods and services to society. In this paper, we propose a conceptual approach to support a more constructive debate around the role and function of the Reserve in the sustainable use and protection of a suite of benefits to society. The approach proposes that debate be structured around managing for a dynamic ecological state in rivers that would in turn achieve the desired (albeit dynamic) mix of goods and services to a wide range of stakeholders. These stakeholders come from widely differing socio-economic backgrounds, and their needs may be either for the direct use of water and associated resources located within the macro channels of rivers, or for their use in supporting social and economic activity remote from the river. The paper shows how goods and services concepts can provide an approach that contributes to developing a shared understanding that facilitates decisions on water allocations. The implication is that when water allocations can be evaluated comparatively it creates greater awareness of each other's needs and interdependencies and value is attached to a greater diversity of benefits and costs. This in turn allows for opportunities to achieve more equitable recognition and allocation of the resources associated with rivers. The approach assists in making the conceptual link between goods and services that arise from constructed production systems, and those that arise from natural production systems (i.e. ecosystems). Off-site as well as on-site use of river goods and services (the latter being catered for by the Ecological Reserve) can in this way be brought into debate in a way that promotes wider appreciation of society's diverse uses of river resources. In doing so it promotes interest-based participation as intended by legislation.

**Keywords:** Ecological Reserve, ecosystem services, water allocation, policy interpretation

## Introduction

With a water law that is globally regarded as highly progressive and enabling (Postel and Richter, 2003), a vision of equity, efficiency and sustainability in the allocation and use of river resources (defined in this paper as river goods and services) seems within reach for South Africa. Prior to current legislation, water was the only formally recognised resource associated with rivers and water was allocated according to a rights-based system, to which only a few had access. In contrast, current policy defines rivers (entire river ecosystems) as the resource and promotes participative decision-making, where allocations should be driven by interest-based negotiations rather than rights (Dent, 2001). This is expected to lead to more equitable outcomes for resource sharing. But engaging in a negotiation-driven process requires a fundamental shift in mindset and practice based on mutual understanding of each other's resource-related needs and preferences and that these are dynamic over space and time (Van Wilgen et al., 2003; Breen et al., 2003).

Eight years have passed since the promulgation of the Water Act (Republic of South Africa, 1998). Its implementation, and

in particular the development of a new decision-making process for resource allocation, has faced many obstacles. This is not surprising, since the objectives of legislation are ambitious and the changes required to achieve them are largely unprecedented. It has become clear that progressive new policy, new knowledge generated by science and wide commitment and energy for change, are not necessarily sufficient to achieve equity, efficiency and sustainability in the allocation and use of water resources.

Contributing to the challenge is the water law's premise that there is willingness to move away from rights-based bargaining to interest-based bargaining. Since the change requires those that previously held ownership rights to relinquish them and to share rights of use of the resource with others, it is assumed that people will voluntarily engage in negotiation for equitable sharing. But the historical situation has left a legacy of disparity in understandings and unfamiliarity with negotiations between those who have and those who do not, the strong and the weak, the informed and the uninformed, the heard and the unheard. Without the development of an interest-based, consensus-seeking approach to negotiations for resource sharing, tensions and conflict will hinder attainment of the policy intent of the Water Act of 1998.

In this paper, we consider the difficulties experienced in achieving a shared appreciation of the intent of allocating water to sustain river ecosystems (the Ecological Reserve), and how

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