



# National laws and policies can enable or confound adaptive governance: Examples from South African national parks



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## ABSTRACT

There is growing appreciation that protected areas, like all social-ecological systems (SES), are inherently complex and face an unpredictable future under the influence of global environmental change. Adaptive management is the accepted approach for managing complex SES to ensure their resilience, but unless it is supported by a governance system that is itself adaptive it has little chance of success. Scholars have identified certain principles conducive to adaptive governance. Environmental legislation, an important component of the governance system, is often misaligned with these principles. In this paper we assess adaptive governance principles with regard to legislation governing South Africa's national parks. This assessment indicates that, to enable adaptive governance and adaptive management, legislation should (1) be co-produced by policy-makers, policy implementers and users of protected area ecosystem services; (2) commit and empower management agencies to apply the principles of adaptive governance and adaptive management, particularly in the collaborative development of management plans; (3) commit agencies to review management plans and allow flexibility to adapt plans; (4) ensure that the temporal and spatial scales of the governance system match those of the SES being managed; (5) anticipate change and avoid assumptions of system stability and predictability; and (6) provide for flexible financing mechanisms, so that funds can be prioritised and timed to meet the unpredictable demands of complex systems.

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## 1. Introduction

Environmental governance encompasses the systems of institutions, including rules, laws, regulations, policies and social norms, and organizations involved in governing environmental resource use and/or protection (Chaffin et al., 2014). The complexity and unpredictability inherent in social-ecological systems (SES), compounded by global environmental change, has increasingly raised questions around the adequacy of environmental governance (Cliquet et al., 2009; Craig 2010; Garmestani and Benson, 2013; Garmestani et al., 2013; Ruhl, 1997). Adaptive management is widely applied to manage complex natural systems (e.g. Westgate et al., 2013), but its effectiveness depends on the governance system within which it takes place. Unless the governance system is itself adaptive then adaptive management has little chance of achieving either legitimacy or

success (Chaffin et al., 2014; Walker, 2012). The concept adaptive governance, initially formulated by Dietz et al. (2003), has emerged as a form of environmental governance suitable for complex, unpredictable SES subject to rapid environmental change. There is a growing literature on principles or conditions conducive to adaptive governance (e.g. Biggs et al., 2012; Chaffin et al., 2014; Folke et al., 2005; Lockwood et al., 2012; Olsson et al., 2006).

A number of studies question the adequacy of environmental legislation to deal with complexity and change in accordance with the principles of adaptive governance. Legislation is often founded on unrealistic assumptions of predictability and stability (Doremus, 2001; Green and Garmestani, 2012; Ruhl, 1997, 2011). Such assumptions are pervasive in legislation and policy governing biodiversity conservation, resulting in “stationarity”, a focus on static goals of preserving species and ecosystems as they are, rather than providing flexibility to deal with unpredictable changes that will inevitably follow from global environmental change (Cliquet et al., 2009; Craig, 2010; Lockwood et al., 2012; McDonald et al., 2016). Adaptive governance scholarship shows the need for law

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reform to provide agencies with the flexibility to deal with change, to learn, revise and adapt objectives, while maintaining accountability for actions and performance (Cliquet et al., 2009; Craig 2010; Lockwood et al., 2012; Ruhl, 1997, 2011).

In this paper we examine adaptive governance principles with regard to legislation governing South Africa's national parks. We base the assessment on three principles which feature widely in the literature on adaptive governance and which fit the context of protected area legislation. These are: (1) broadening and diversifying participation at multiple, interconnected levels; (2) encouraging experimentation, sharing of information, learning and adapting through monitoring and review; and (3) avoiding assumptions of stability and predictability, accepting complexity and change, understanding of SES as complex adaptive systems.

In the following sections we review the rationale underlying these principles described in the literature. We then explore the interrelationships between the principles and two examples of protected area legislation, identify challenges relating to the various principles, and outline how these principles should ideally manifest in legislation. We conclude by describing ways in which the legislation enabled or confounded adaptive governance, and suggest guidelines to the drafting of legislation that can enhance adaptive governance.

## 2. Application context

We examine two statutes pertaining to protected areas: the now-repealed National Parks Act of 1976 and the National Environmental Management: Protected Areas Act, which replaced the National Parks Act in 2003. The former Act was exclusive to national parks, whereas the latter also applies to other categories of protected areas. We consider both Acts only from the perspective of national parks managed by SANParks ([www.sanparks.org](http://www.sanparks.org)), the agency responsible for managing the national park system (19 parks) that constitutes more than four million hectares (~3% of the area of South Africa). We use SANParks' experience of implementing the Acts to indicate the extent to which they enhanced or confounded adaptive governance principles.

In 1997 SANParks, realizing the inadequacy of the prevailing 'command and control' management style, adopted an approach to planning and management called Strategic Adaptive Management (SAM) (Rogers and Bestbier, 1997), which was subsequently developed and refined through application in practice (Freitag et al., 2014; Rogers and Biggs, 1999; Roux and Foxcroft, 2011). SAM comprises four broad, linked adaptive processes: governance, planning, management and evaluation (Fig. 1). Governance comprises the 'rules of the game' which are co-produced at a range of levels, from national legislation to park policy to local rules shaped by stakeholder norms and values. The park management objectives are co-produced through adaptive planning and documented in park management plans. Management measures, aimed at achieving the objectives, are chosen and implemented. Adaptive evaluation, through monitoring and reflection, informs adaptive review of the preceding steps in the process, including the management measures, the management plans and the governance framework.

Legislation governing national parks underwent revision over the period of development and implementation of SAM. Through SANParks' contributions to the revision process the revised legislation was to some extent influenced by SAM (Freitag et al., 2014). The co-development of legislation and management practice provides an assessment framework for addressing the question: how adaptive is the legislation governing national parks?

In Section 3 we outline the three adaptive governance principles as well as relevant provisions of the legislation.

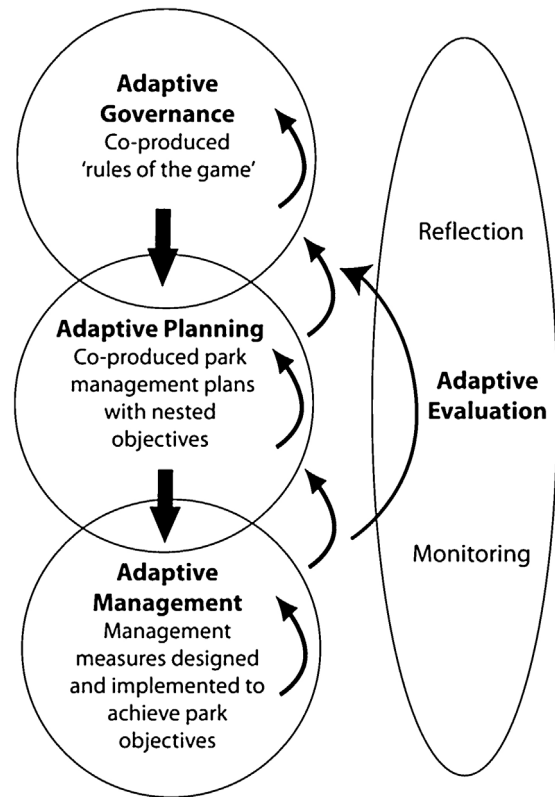


Fig. 1. The four adaptive processes of Strategic Adaptive Management as applied in preparing and implementing park management plans. Straight arrows indicate sequential links, curved arrows indicate feedbacks.

## 3. Interrelationships between the principles of adaptive governance and the protected area legislation

### 3.1. Broadening and diversifying participation at multiple, interconnected levels

Adaptive governance owes its origins partly to the apparent shortcomings of top-down, state control of SES – top-down controllers are not well-placed to access and synthesise the flow of information vital to manage change and complexity (Dietz et al., 2003; Olsson et al., 2007). More appropriate is governance through multi-level, self-regulating institutions comprising multiple social actors who co-produce knowledge on the state of the system in relation to individual and social needs and values (Biggs et al., 2012; Folke et al., 2005; Nel et al., 2015). Sharing of diverse perspectives between different user groups can improve understanding of ecosystem dynamics, and develops trust and reciprocity necessary for collective action. Building bridges across governance structures creates institutional connectivity, enhancing information exchange (Biggs et al., 2012; Folke et al., 2005; Lockwood et al., 2012; Olsson et al., 2007). Thus adaptive governance requires broad participation to create opportunities for inclusive dialogue between managers, policy makers, local communities, interested parties and experts from across a range of disciplines, and to encourage difference and diversity of opinion (Biggs et al., 2012; Cilliers et al., 2013; Dietz et al., 2003).

Governance through multiple, nested units at differing scales, known as polycentric governance, can enhance resilience. Each unit can link with others on common issues, addressing environmental problems at multiple scales, their diversity enabling dynamic responses in the face of rapid change and uncertainty (Biggs et al., 2012; Olsson et al., 2007; Ostrom, 2010). In contrast, single-level, centralized governance units do not have

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