

# The language of intervention: A review of concepts and terminology in wetland ecosystem repair

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## Abstract

As programmes and projects aimed at addressing wetland degradation gain momentum in South Africa, it is critical that related ideas are communicated among and between researchers, practitioners, management agencies, land-owners and the general public in a common language. This paper explores the meaning of 'restoration' and 'rehabilitation'; terms that we suggest are key to understanding and advancing South Africa's efforts to address wetland degradation. In its essence, the paper is a critical review of wetland ecosystem repair concepts and terminology from local and international literature. The major products of the paper are proposed definitions of the terms 'restoration' and 'rehabilitation' in a South African wetland science and management context. Although the terms are often used interchangeably, we argue that their absolute distinction will allow scientists and practitioners to better understand what it is that ecosystem repair interventions aim to achieve. We suggest that the terms be distinguished on the basis of what could be considered their respective ecological starting points, where 'restoration' applies to part of a system or a system in its entirety that has been completely and permanently, but not irreparably altered, and essentially removed from the landscape, and 'rehabilitation' applies to part of a system or a system in its entirety that has not been removed from the landscape through complete and permanent alteration, but is in a degraded state. Thus, 'wetland restoration' is defined as the process of reinstating natural ecological driving forces within part or the whole of a **completely and permanently altered** wetland to recover former or desired ecosystem structure, function, biotic composition and ecosystem services, while 'wetland rehabilitation' is defined as the process of reinstating natural ecological driving forces within part or the whole of a **degraded** wetland to recover former or desired ecosystem structure, function, biotic composition and ecosystem services.

**Keywords:** South African wetland science and management, restoration, rehabilitation

## Introduction

Prolonged debate over the definition of terms is commonplace in science, but it draws criticism from practitioners, who may feel that such debate impedes progress on the ground. However, progress in any field of research depends on clarity and consistency in the use of key terms (SWS, 2000), and the intention of research is to generate understanding and ultimately to advance practical efficacy. Furthermore, the definition of key terms has direct implications for what research and practice in a field intend to achieve (setting objectives), and for the way in which what has been achieved will be measured (setting and monitoring performance standards, SWS, 2001, and judging success or failure, Higgs, 2003). As efforts to address wetland degradation gain momentum in South Africa, it is critical that commonly accepted and understood terms be used to describe associated programmes and projects, in order to ensure fruitful communication among and between researchers, practitioners, management agencies, land-owners and the general public. It is our intention with this paper to stimulate debate over the meaning of two terms in particular, 'restoration' and 'rehabilitation', with a critical review of local and international literature as a point of departure. The paper explores the ecological concepts upon which these terms are founded, and the contexts within which they are used.

The phrase 'ecosystem repair' as used in this paper encompasses both 'restoration' and 'rehabilitation', and is used simply to describe, in a broad sense, efforts to address wetland degradation. We neither suggest that this phrase has particular ecological meaning, nor that it be defined and incorporated into the existing terminology. It merely serves as a substitute for 'restoration' and 'rehabilitation' until we have presented our argument for the absolute distinction of the terms in theoretical and practical communication. There is only a slight etymological distinction between the words 'restoration' and 'rehabilitation'. Both derive from Latin, 'restoration' from *restaurare*; to repair, rebuild or renew, 'rehabilitation' from (re-) *habilitare*; to make fit (again) or (re-) enable. As a consequence, the words have come to share so similar a core meaning that in most circumstances they could be considered effectively synonymous (Wolvaardt, 2006). While there may be little value in making an absolute distinction between the terms in a common use context, we argue that such distinction is necessary in the context of wetland ecosystem repair.

Ecosystem repair is often touted as an heuristic exercise, or a test of ecological understanding (Jordan et al., 1987). In repairing degraded wetlands, scientists and practitioners are afforded an opportunity to both test and further their understanding of how wetlands work. This is only feasible if scientists and practitioners carefully consider what interventions aim to achieve. Using the terms 'restoration' and 'rehabilitation' interchangeably is of no heuristic value to the science or practice of wetland ecosystem repair. Thus, we propose that these terms be used, at least in South Africa, in a more constructive manner:

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