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Invasive alien species and biodiversity conservation – the anomaly

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Introduction

Many protected areas worldwide are more known for their management focussed on protecting endangered species and other aspects which attract emotional and sympathetic reaction from supporters. However, invasive alien species (IAS) are regarded as the second greatest threat to global biodiversity by scientists worldwide (IUCN, 1997). This second to habitat degradation and fragmentation (i.e. deforestation). As conservation areas are often protected and not subjected to any or large scale fragmentation and degradation, it stands to reason that the number one threat facing the core business of biodiversity conservation is that of Invasive Alien Species. These sentiments are exactly those expressed by the Kruger National Park (KNP), which during a workshop on Biodiversity conservation (1997) rated IAS as the greatest threat to the KNP. Surely a turning point from the past where anti-poaching, fire control, water provision and other aspects were considered the most important duties of a ranger or protected area manager. These are still indisputably important and necessary (and I do not attempt to portray it in any other way). However, if the integrity of the natural system is degraded through the introduction of IAS to such an extent that it creates a significant negative impact on native biodiversity, we should become concerned, as the core business of protected area management will certainly be eroded away.

The problem with invasive species is that they are not intrinsically interesting to most people, often including protected area managers and officers. They do not conjure up stories of excitement or the thrill and reward of catching an armed poacher with ivory in his hands. They do not have long flashing fangs that can shred you and sharp claws to rip. The invasion by alien species is often quite slow, unnoticeable and the impacts most frequently irreversible and immense.

The problems in Kruger National Park:

Currently, the KNP has recorded approximately 363 alien plant species, Indian myna's have been recorded in the park on occasion, three fish species have been recorded as well as other insect pests etc. All of the major rivers, as well as the larger tributaries have been invaded to some extent. Combined clearing efforts between the *Working for Water* programme and the SANParks funding have totalled approximately R35 million since 1997, in the KNP alone. In spite of the amount of funding and the efforts being put in, we are only just managing to keep the levels of invasive plants down to a minimum level; in some areas. Other areas are reporting rapid increases in abundance and distribution. The recent invasion of *Chromolaena odorata* (Chromolaena or triffid weed) into the KNP, which is now found in most rivers in the park, was one of the most rapid plant invasions experienced in the KNP and poses a serious threat to the rivers in the future if follow-up control efforts are not maintained.

Control efforts make use of mechanical / chemical means, biological control and integrated control. Each technique appropriately determined by the particular invasive species and situation. Aquatic weeds are generally well controlled biologically, which further reduces the potential danger posed by working in and on water bodies (see figure 1 & 2. *Pistia stratiotes* invasion on Sunset dam, Lower Sabie, KNP. Under biological control by the weevil, *Neohydronomus affinis*).



Figure 1: Sunset Dam, 5th August 2002



Figure 2: Sunset Dam, 29th January 2002

Summary:

If parks are to succeed into the future, more emphasis and effort will need to be spent on issues relating to biological invasions. The long-term success or failure of any programme will require long-term sustainability, both ecological and economical. Careful integration of the most appropriate methods of control will be needed to ensure that management of invasive species is integrated into protected area management as one of the key issues.

