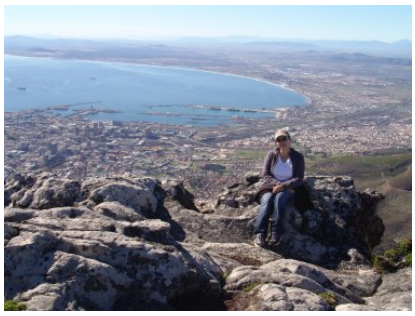
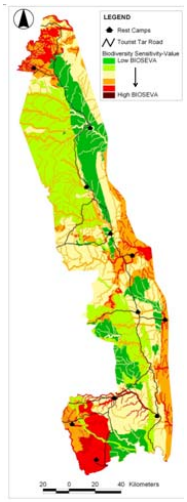
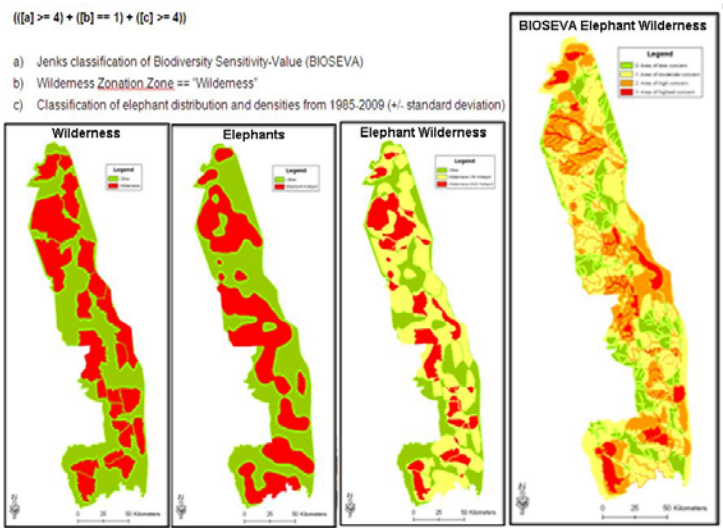


My name is Sandra MacFadyen, a South African conservation ecologist working as a Geographic Information Science (GIS) and Remote Sensing (RS) Analyst for South African National Parks in the Kruger National Park (KNP). I was awarded a fellowship by the Netherlands Fellowship Programme (NFP), to complete the UNIGIS master's degree programme at the Vrije University Amsterdam, the Netherlands in September 2007. I successfully completed the postgraduate certificate course (Introduction to GIS; Spatial Data: Models and Operations; Database Theory I; Geodata Sources and Workshop II: Spatial Analysis) in 2008, the diploma course (Remote Sensing and GIS; GIS and EIA; GIS and Modelling; Applications Development and Workshop III: Organisational Aspects of GIS) in 2009 and was recently awarded my Masters of Science (MSc.) in GIS *Cum Laude* in April 2010.



The topic of my thesis, Identifying Priority Protection Zones within Protected Areas: A Biodiversity Sensitivity-Value Analysis (BIOSEVA) of the Kruger National Park, South Africa, was formed in response to rapidly maturing approaches to conservation and natural resource management as a result of changing perceptions of biodiversity and ecological systems. I aimed to use traditional spatial planning techniques, previously restricted to the initial identification of new protected areas, as a decision-support tool for co-ordinating activity zoning and management planning. Areas of higher priority protection status are identified by zoning graduated levels of biodiversity sensitivity-value and classifying them according to the influence of different land use practices and varying levels of elephant impact.



As a result, 11% of KNP is classified as highly sensitive and valuable, 32% is moderately sensitive and valuable, and the remaining 57% has relatively low values of biodiversity sensitivity and value. Furthermore, 45% of KNP is composed of wilderness and 43% has experienced consistently high concentrations of elephants over the last 25 years. When this is combined with BIOSEVA, 17% of KNP consists of valuable and sensitive wilderness areas; 19% is valuable and sensitive and subjected to persistently high concentrations of elephants. Finally 8% is both valuable and sensitive, within a wilderness area and subjected to persistently high concentrations of elephants. Consequently, the spatial dynamics of biodiversity across KNP may be investigated in more detail and protected areas management may succeed in minimizing impacts and maintaining ecosystem integrity.