

CHAPTER 1

INTRODUCTION

1.1 Motivation for Study

The Waterberg Area, Limpopo Province, is a relatively unknown destination to many people and has been described as South Africa's best-kept secret. The rugged beauty of the area, together with its diversity in plant and animal life, has led to the development of several exciting ecotourism destinations, such as the Marakele National Park, Lapalala Wilderness, Entabeni Game Reserve and many more [Northern Province Tourism Board (NPTB), 1999]. Perhaps no other activity has grown over the past decades with the same speed and global dispersal as tourism. The various types of tourism that have arisen over the past few decades, including ecotourism, nature-based-, alternative- and small-scale tourism are indicative of this higher level of awareness (Godde *et al.* 2000). Considering the huge increase in the amount of international tourists visiting South Africa since 1994 (Figure 1.1), the development of ecotourist destinations within the malaria-free Waterberg area might prove to be economically beneficial to reserve owners and managers. In fact, many cattle farmers in the area are converting to game ranching activities and they earn foreign currency mostly through ecotourism and trophy hunting (Van der Waal & Dekker, 2000).

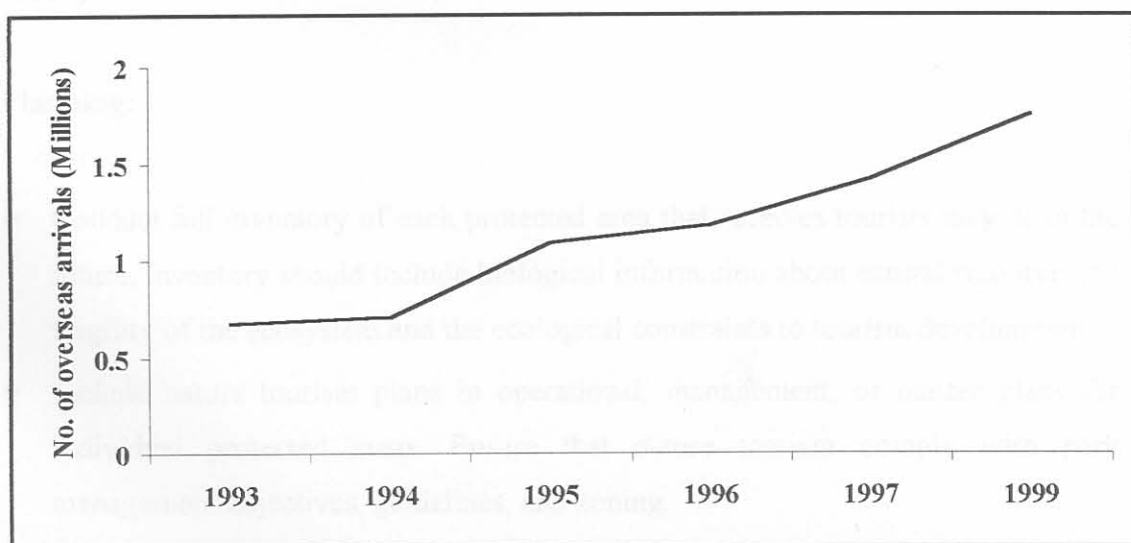


Figure 1.1 International Tourist Arrivals to South Africa from 1994 to 1999.

The Waterberg Nature Conservancy was formed in 1982. The Conservancy comprising private landowners from a variety of backgrounds and nationalities, carried out a variety of activities that are important to landowners, such as security, fire protection, improvement of staff housing, better wages, wildlife related matters, alien plant eradication, representation to the Government and community outreach programs (Walker, 2000). On the 23rd of March 2001, this 150 000 ha area was proclaimed a biosphere reserve according to UNESCO's Man and the Biosphere Program (UNESCO, 1971).

The newly proclaimed reserve is still in a relatively growing phase and the importance for ecotourist destinations in the Biosphere Reserve to have a proper ecological and tourism management plan in place cannot be underestimated. Boo (1991) states that a comprehensive framework for planning ecotourism needs to be put in place on ecotourist destinations, to both maximize the potential benefits and minimize the potential costs for people and the environment. Therefore, some recommendations need to be formulated and shared with reserve managers of ecotourist destinations on how tourist activities could be promoted to realize the full potential of tourism within the Waterberg Biosphere Reserve. Several of these recommendations were made to people involved, e. g. ministries, tour operators, local conservation organizations and international development and conservation organizations. Some recommendations of relevance to reserve and park managers include the following as stated by Boo (1991):

Planning:

- Conduct full inventory of each protected area that receives tourists now or in the future. Inventory should include biological information about natural resource, the fragility of the ecosystem and the ecological constraints to tourism development
- Include nature tourism plans in operational, management, or master plans for individual protected areas. Ensure that nature tourism comply with park management objectives, guidelines, and zoning.

Development

- Create effective trail systems and interpretive programs for parks and reserves
- Provide necessary training for park personnel
- Collect baseline data on natural and cultural resources before and during promotion of tourism
- Conduct environmental impact studies and establish tolerable levels of visitation
- Develop guidelines for tourists to follow while in the park.

Management

- Evaluate the effectiveness of interpretative materials and adjust them if necessary
- Monitor guide training programs to make sure they are keeping up with tourist demand.

This study forms the basis in providing guidelines to reserve managers, guides and tourists for most of the above-mentioned recommendations, especially through tourist activities like game drives, nature trails and bird watching safaris. Preston & Fuggle (1988) have already shown how tourists visiting nature areas have a committed interest in nature, and took advantage of interpretive facilities and programs available. The study could therefore provide the basis for tourism promotion in the Waterberg Biosphere Reserve over the long term.

Bredenkamp & Brown (2001) emphasized the study of plant communities, as fundamental units of ecosystems, and therefore being the basis for environmental planning and management plans. Information on vegetation may be required to solve an ecological problem: for biological conservation and management purposes; as an input to environmental impact statements; to monitor management practices or to provide the basis for prediction of possible future changes (Kent & Coker, 1996). Despite the wealth of phytosociological research conducted on smaller properties and reserves within the Waterberg Biosphere Reserve (Westfall, 1981; Furniss, 1998; Newberry, 1998; Van Staden, in prep.), no attempt has ever been made to synthesize existing knowledge of vegetation by means of a phytosociological classification of the

area. The procedure will produce identification of the major plant communities within the Waterberg Biosphere Reserve. This could provide the basis for a broad-scale environmental management plan for the Biosphere Reserve.

Gertenbach (1983) and Van Staden (in prep.) identified landscapes as management units within large national parks and conservation areas. Gertenbach (1983) defined a landscape as an area with a recurrent pattern of plant communities with their associated fauna and specific geomorphology, climate, soil and vegetation pattern. These landscapes were classified as ecozones in a tourism booklet of the Kruger National Park (Jacana, 1997), which provide tourists with useful information regarding trees, birds and mammals to be seen in certain habitats with certain characteristics (e. g. soil, geology, climate). The identification and possible presentation of similar ecozones and other useful information on the mammals, birds and trees of the Waterberg Biosphere Reserve will provide tourists with useful and interesting facts on the ecosystems within the Biosphere Reserve and might greatly enhance their experience. It will also increase the awareness of tourists towards sensitive ecosystems, especially regarding rare plant-, mammal- and bird species, and thereby contribute to fulfill conservation management practices to maintain sensitive ecosystems in their pristine condition.

1.2 Objectives of study

The primary objective of this study is to identify the major plant communities as ecosystems of the Waterberg Biosphere Reserve, and to emphasize the importance of vegetation ecology as a tool for the planning and promotion of tourist activities on ecotourist destinations within the Waterberg Biosphere Reserve.

The secondary objectives of this project are to:

- Identify the main ecozones (homogenous landscapes) within the Waterberg Biosphere Reserve and indicate the plant communities as fundamental units within the ecozone on a catena (landscape section drawing)

- Create an ecozone map of the Waterberg Biosphere Reserve as basis for an environmental management plan
- Indicate the potential of each plant community for the main tourist attractions in the Waterberg Biosphere Reserve (game viewing, bird-watching and tree identification)
- Identify future research projects concerning tourism and vegetation impacts

1.3 Scope and Structuring of dissertation

As stated earlier very little vegetation research has been carried out on large areas in the Savanna Biome, southern Africa. The many local, individual phytosociological studies conducted in the Waterberg area, Limpopo Province, provided sufficient data for an overview classification of the major plant communities of the Waterberg Biosphere Reserve, similar to the studies conducted by Winterbach (1998) and Du Plessis (2000). The main theme throughout the dissertation remained the use of different aspects of vegetation ecology as a tool for promoting ecotourism within the Biosphere Reserve, and not to compile a formal syntaxonomy of the vegetation.

Chapter 2 provides a review of different aspects of tourism, conservation, natural resource management, sustainable development, southern African savannas and biosphere reserves. All these aspects are interlinked in a way by the fact that biosphere reserves play an integral part in sustainable development, conservation, ecotourism and natural resource management (Walker, 2000). Considering the fact that the Waterberg Biosphere Reserve is situated in one of the most remote areas of the Savanna biome of southern Africa, the importance of such a conservation area, where humans and nature still co-exist in harmony, cannot be underestimated. The area and its environmental characteristics such as geology, soils, climate, geomorphology and broad vegetation patterns are described within Chapter 3.

The classification of the major plant communities is presented in Chapter 4 and includes a description of the correlating environmental factors. Plant communities form specific vegetation patterns in a landscape with specific geomorphology, geology, soils and climate (Gertenbach, 1983). These patterns are identified as

functional management units, namely ecozones. Each ecozone represents an aesthetic valuable area of the Waterberg Biosphere Reserve, and possibly also to the tourism industry. Mountainous areas are desired destinations for many tourists worldwide, offering a place of rest, solitude, adventure, recreation and scenic beauty (Godde *et al.* 2000). However, the value of certain natural resources forming the main theme of ecotourist activities on ecotourist destinations is realised in Chapters 6, 7 and 8. Chapter 6 includes a description of the different trees and shrubs occurring in the plant communities and the value they represent to the tourism industry through their many interesting characteristics (medicinal properties, food source, uses and flowering display). Chapter 7 includes a classification of the major habitat types of the larger mammals occurring on the many game reserves in the Waterberg Biosphere Reserve. The habitat types are represented as combined plant communities (Chapter 4) and the possible values these habitat types may have for game viewing and other tourist activities are discussed. The same principle is used in Chapter 8 where specific birds that occur within the Biosphere reserve were selected and classified by their habitat preferences.

The scope and structuring of the dissertation is presented in figure 1.2



Figure 1.2 Scope and Structure of Dissertation

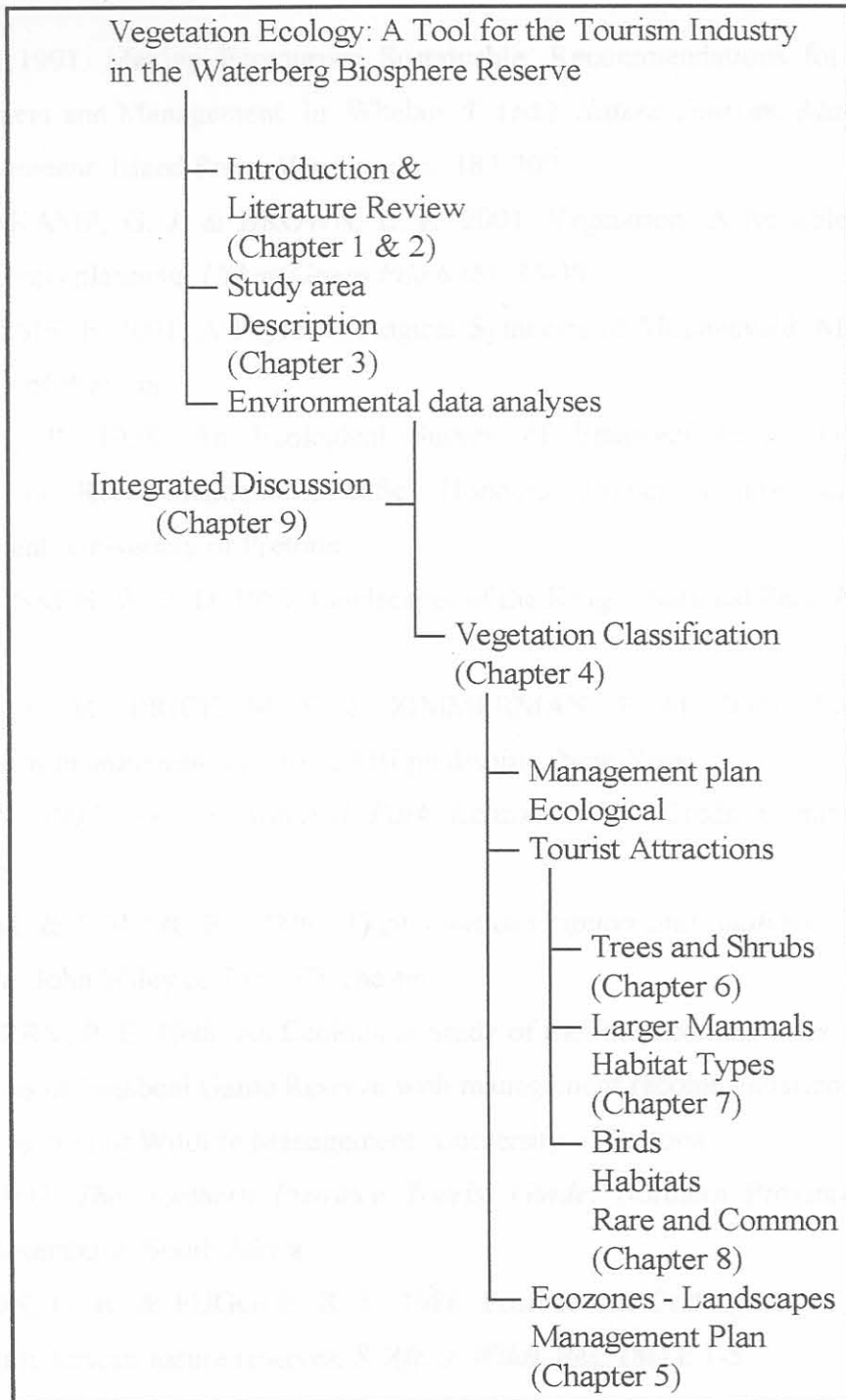


Figure 1.2 Scope and Structuring of Dissertation

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