The picturesque camel thorn tree *Acacia erioloba* provides a micro-habitat for sociable weavers that construct their nests in the trees, and countless other species, in the arid Kalahari.

What is happening to the camel thorns of Kathu?

*by Elsabé Powell, Department of Tourism, Environment and Conservation, Kimberley*

The Kalahari's, and certainly one of Africa's most famous tree species, the magnificent camel thorn tree *Acacia erioloba*, is widespread throughout southern Angola, Namibia, parts of Botswana, the south-west of Zimbabwe and Mozambique and in the north-west of South Africa. It even pops up in Namaqualand. This was the situation in the year 2005. What will the situation be in the decades to come?

A mystery is being staged in the famous forest of camel thorn trees in Kathu, a sleepy southern Kalahari hamlet, leaving all concerned nature lovers anxious to change the course of a seemingly cruel plot for the better. Kathu's camel thorn trees are dying; yet we do not know why such a terrible fate has struck this declared Natural Heritage Site.

There are only two camel thorn 'forests' in southern Africa: a relatively small forest near the Namibian town of Gobabis and an outstanding forest at Kathu, which is situated on the edge of the Kalahari desert of South Africa. The Kathu forest was declared a Natural Heritage Site in 1998, but there are strong signs that this impressive woodland might soon become just a memory relegated to scientific reports, outdated travel guides and tourist's photographic albums.

Camel thorns are a fully protected species under the National Forests Act of 1941, yet their numbers, and the area covered by them, have continued to decline significantly in parts of South Africa. Commercial firewood collection, pod collection, intense livestock farming, mining operations and the unscrupulous use of herbicides all take their inevitable toll on the trees. As a legally protected species, South Africans are prohibited from collecting, transporting, damaging or destroying any part of the camel thorn tree without a permit from the Department of Water Affairs and Forestry (DWAF). Why have we failed to ensure the longevity of this grand tree species?

In 1991 the camel thorns at Kathu were showing visible signs of distress. Deformed and reduced leaf sizes and irregularity in tree population structures became noticeable. Almost every tree, no matter how small, was covered in layers of red dust, almost certainly originating from the iron ore mining activities in the area. Large numbers of trees were dying.

Twelve years later, this situation is escalating and the reasons for it all remain unresolved. The Kalahari's ecological systems are extremely complex, and the loss of a 'keystone species' like the camel thorn would result in the loss of other vital components of the ecosystem such as soil nutrient cycling, shelter and habitat furnishing for smaller fauna, the provision of shade for soil moisture retention and solar radiation limitation, to name a few. Karien van der Merwe of the University of the Free State investigated three possible contributing factors to the tree's decline: the role of mining operations, inappropriate management strategies that allow over-
Deposition of faeces, urine, carcass remains and nesting material is concentrated beneath the trees, thus improving soil quality and nutrient levels, and reducing nutrient leaching, soil degradation and erosion. A niche habitat is created for many plants like the brandy bush Grewia flava and Lycium. It is however, very difficult to provide guidelines for the sustainable removal of camel thorn wood, as little is known about the role of its dead wood and its role as microhabitat provider in the Kalahari ecosystem.

We are unable to say yet what effect natural phenomena - species life cycles, rainfall, lightning strikes, natural veld fires and global warming - might have on the demise of camel thorn trees in the Kathu area.

The entire life cycle of the camel thorn is one of struggle and toil. First the seeds have to be scarred (by passing through the intestines of an animal for example) as a precondition for germination, then it is water dependent in its journey to establish itself as a juvenile. Should it survive this far, the Kathu trees then have to battle with the impact of overgrazing in an ever more fenced off landscape, erratic rainfall events, mining activities, round-up poisons and pod and wood collection before they reach adulthood.

Hypothetically, if recruitment of camel thorns are water and seed limited, with the eighteen year rainfall oscillations cycles playing an important role, and if human impact can be reduced, then the Kathu forest should show indications of revival from 2009 onwards. Surely we cannot allow the demise of the famous camel thorn tree forest of southern Africa?

Acknowledgements
I would like to express my gratitude for input received to Karien van der Merwe, Johan van Schalkwyk, Jaco Powell, Mark Anderson, Prof. Sue Milton, Colleen Seymour, Dr. Richard Liversage and Gert Bosch. I would also like to thank Kumba Resources for financing the research conducted by Karien van der Merwe.