

ENVIRONMENT

Case study



Biodiversity assessment in South Africa

As part of its commitment to the conservation of biodiversity in the areas of its operations, where mining operations may have an impact on plants, animals and ecosystems, AngloGold Ashanti has embarked on a biodiversity assessment at its South African operations. The assessment, which is being carried out in two phases, aims to determine the range of biodiversity at the West Wits and Vaal River operations and to establish a conservation programme, especially for rare and endangered species.

Phase 1 of the assessment started in 2005 and consisted of a desktop study, using a number of resources to hand – aerial photography, source documents, red data lists, national and provincial databases, and information from the South African National Biodiversity Institute (SANBI), (established under the National Environmental Management: Biodiversity Act 10 of 2004). The conceptual phase examined what biodiversity types are likely to exist in specific biodiversity management units, which were previously identified at each of the operations based on the dominant vegetation and fauna.

Phase 2 of the programme, which started in 2006, is verification of the data collated in Phase 1. This is being carried out by biologists who make regular field trips to identify fauna and flora species at the biodiversity management units.

“Certain climatic conditions are necessary to carry out some of the biodiversity surveys, for example, some fauna become more active in warm, wet weather,” says Tembeka Dambuza, biodiversity co-ordinator for environmental management at AngloGold Ashanti’s South African operations. As a result, seasonal studies are being carried out over a period of a year from mid-2006 to mid-2007.

A soil study was completed during 2006 to determine the soil types which influence the variety of flora and fauna prevalent in the area. Vegetation and flora studies, which are still in progress, began at the same time to identify as many vegetation and plant species as possible in a given location and within a set time frame. More than 20 plant species were identified during a period of an hour, in surroundings which range from a rocky outcrop, to a river bank to a pan. It was during routine induction of the botanists at the West Wits operations that an unidentified plant was spotted. Team members preserved a sample and forwarded it to the National Herbarium, the fourth largest herbarium in the southern hemisphere and part of SANBI, for identification. The species has been classified as the *Ebracteola wilmaniae* (L. Bolus) species, belonging to the Mesembryanthemum genus. Although not yet categorised as threatened, the species is viewed as rare.

Other finds have been of common varieties – for example, *Gazania* was found at Vaal River and West Wits and the red-hot poker at West Wits. Although the red-hot poker is not on the red data list, its population has shown a severe decline in recent years as a result of its collection and habitat destruction. With the large populations found at West Wits, a programme to propagate the species may form part of the future biodiversity management programme.

In October 2006 the aquatic team started surveying flora and fauna in the Vaal River and its tributaries. The red data listed largemouth yellowfish is already part of a conservation programme under AngloGold Ashanti’s current biodiversity management programme, and funding has been provided for a joint study by the universities of Pretoria and Johannesburg on the genetics of the yellowfish (See *Report to Society 2004: Yellowfish project – a partnership with concerned fishermen.*)



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Reports on the team's findings are forwarded to the environmental management department based at the Vaal River operation. Once Phase 2 is complete, a comprehensive biodiversity picture of the two operations will emerge, providing an important tool in mapping the way forward. Each business unit will be responsible for managing its own biodiversity programme, based on the findings of the study.

"We want to be proactive in dealing with biodiversity issues, and with the information that comes out of the assessment, we will be better placed to implement rigorous management and monitoring programmes," says Dambuza, who sees the study as a vehicle to lead AngloGold Ashanti into a wide range of other projects, chief of which would be public environmental awareness. With a background in environmental sciences and education, she is passionate about sharing information. Equally important, Dambuza says, are public opinions and perceptions on biodiversity: for example, vegetation that has no intrinsic value to AngloGold Ashanti may be of medicinal value to a villager or a traditional herbalist. In this respect, it would be useful to apply a value rating after examining ecological, cultural, scientific and aesthetic aspects.

It is hoped that the biodiversity assessment methodology may have broader application within the company, forming a possible blueprint for a systematic programme of processes and procedures at other AngloGold Ashanti operations, and replacing a current piecemeal approach to biodiversity management.

