Phase 1 of the Wine and Conservation Project complete

By Sue Matthews

The first phase of the Wine and Conservation Project, undertaken by the Botanical Society's Cape Conservation Unit in conjunction with UCT's Percy Fitzpatrick Institute and the Western Cape's Chief Directorate of Agriculture (Elsenburg), has culminated in the submission of a report to Conservation International, which funded the project.

The last decade has seen a boom in wine exports to foreign countries, which created concern amongst the conservation sector that some of the Cape Floristic Region's most vulnerable natural habitat might be targeted for vineyard expansion. Agriculture and forestry have already transformed more than 30 per cent of natural habitat in the region's lowland areas, much of it rare renosterveld vegetation. The wine industry has long been one of the main agricultural sectors, and dates back to 1655, when Jan van Riebeeck, the first governor of the Cape, planted a vineyard in the company gardens of the Dutch East India Company. With its Mediterranean climate of warm, dry summers and good winter rainfall, the region proved to be ideal for growing grapes. During the previous century the area under vine expanded rapidly, and today South Africa is the world's seventh largest producer of wine, with an output in 2000 of 837 million litres. About 90 per cent of this production occurs within the Cape Floristic Region, which is internationally recognized as a biodiversity hotspot.

The Wine and Conservation Project was initiated to assess the potential impact of the wine industry's growth on the biodiversity of the Cape Floristic Region. Phase 1 comprised a fact-finding study to collect baseline information on the potential expansion of the wine industry, quantify the extent of rare habitat that would be threatened by such expansion, identify stakeholders in the wine and conservation sectors, and explore opportunities for encouraging conservation-friendly practices in the wine industry.

A desk-top study of wine industry trends revealed that the area under vine increased by almost 15 per cent between 1990 and 2000. This expansion appeared to be driven by the export opportunities created by the lifting of trade sanctions against South Africa following the demise of apartheid. Fortunately, however, much of the expansion took place on old agricultural fields, rather than on virgin ground. At the same time, many local vineyards - historically dominated by white wine varieties – were uprooted and replanted to red varieties to meet the international market demand for red wine. The impact on biodiversity was therefore not as severe as the export boom might suggest.

One alarming trend, however, is the insidious creep of vineyards from valley floors up the adjacent mountain slopes. Responding to increasingly sophisticated consumer tastes for high-quality wines, winegrowers have started focussing on noble cultivars, and have expanded their vineyards into the foothills, where soils and micro-climates are more suitable for these varieties. The desk-top study therefore indicated that virgin land above existing vineyards may be under threat of encroachment. Increased wine-farming activity is also occurring at the edges of the Cape Winelands, with the newly developed Overberg district at the south-eastern extreme considered to be the most likely area for vineyard expansion.

Despite these trends, strong competition with other wine-producing countries means that the future of the South African wine industry is uncertain, and demands a level of caution that does not encourage large-scale vineyard expansion. What's more, the legislative reform process undertaken by the post-apartheid government has resulted in stronger legislation governing the cultivation of virgin ground than in the past, lending a degree of much-needed protection to the Cape Floristic Region's biodiversity.

In addition to the desk-top study, a GIS-based modelling approach was used to predict areas of vineyard expansion, and quantify the extent of rare habitat that would be threatened by such expansion. Information on the location of existing wine cellars and vineyards, together with their environmental profile, was used to model and map areas potentially suitable for vineyard expansion, and these were then overlaid with the most vulnerable habitats of the Cape Floristic Region, as identified by the CAPE programme.

The model outputs indicated that Breede Fynbos/Renosterveld Mosaic is the habitat type likely to require the most urgent conservation attention. An estimated 77 per cent of its total area was predicted to be highly suited to wine cultivation. Should expansion of vineyards occur on all suitable land, the fragments of remaining natural vegetation would be reduced to such an extent that the habitat would be virtually eradicated. A mitigating factor, however, is that most of affected area falls within the Worcester wine-growing region, where cultivation is currently dominated by white varieties. It is therefore likely that, prior to any large-scale encroachment onto virgin ground, many of the vineyards on the Breede River floodplain would be uprooted and replanted with red varieties. Nevertheless, should the valley slopes be planted with noble cultivars, the vegetation mosaic there would be highly vulnerable.

The development of a stakeholders' database in the wine and conservation sectors was a key component of the Wine and Conservation Project, ensuring that proactive interventions to prevent future biodiversity loss could be directed at appropriate target groups. Several opportunities for intervention were identified, including:

- Communicating the study findings to wine industry stakeholders and regulatory authorities, highlighting the areas where potential conflict could arise and emphasizing how this could be proactively avoided
- Exploring opportunities for offering economic incentives, such as 'soft loans' and 'tax breaks', to farmers incorporating conservation principles into wine production
- Investigating the feasibility of introducing a 'conservation wine' ecolabel
- Amending the existing Integrated Production of Wine (IPW) certification scheme to include biodiversity criteria
- Demonstrating the benefits of conservation to the wine industry through two pilot projects, one in a traditional wine-growing area on an established farm and the other in a new wine-growing area on a relatively 'young' farm
- Tightening up regulatory policy to prevent further ploughing of virgin lands in priority habitats
- Conducting more detailed research and monitoring in areas identified as being the most likely candidates for vineyard expansion.

These recommendations will be considered for implementation in Phase 2 of the Wine and Conservation Project.

If you would like to find out more about this project or obtain a copy of the Wine report, please contact Wendy Paisley at paisley@nbict.nbi.ac.za or Tel 021 7972284.