

BIODIVERSITY BY THE BOTTLE: FYNBOS SHRUBLANDS, WETLANDS AND THE SOUTH AFRICAN WINE INDUSTRY

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South African vineyards are taking pioneering action to protect the flora and fauna of the Cape Floral Region (CFR), one of the world's great centres of terrestrial biodiversity. Over the last 10 years, biodiversity conservation has become well-established in the sector, driven by industry-wide initiatives and innovation by individual estates.

The Cape Floral Region (CFR) covers 78,555 square kilometres of the country, representing 0.05% of the earth's land area, but it contains roughly 3% of the world's plant species. This means that the CFR is one of the world's richest areas for plants, compared to any similar sized area, leading to it be named as one of the 'hottest' of the Global Biodiversity hotspots. Some 69% of its estimated 9,600 plant species occur nowhere else on Earth, and so far 18% have been assessed as threatened.

Nevertheless, the Region faces severe threats, especially habitat loss (including urban and agricultural expansion), invasive alien plant species, and habitat degradation (through fragmentation, overgrazing and inappropriate fire frequencies). Wetlands across this sensitive area have also undergone large-scale degradation, due to pollution and water abstraction, as well as land use change. Many ephemeral wetlands have been lost even before they could be properly identified and understood.

The CFR is also home to 95% of South Africa's wine production, around 100,000ha. Wine production is not, by area, the Region's most significant activity. However, on-farm conservation measures are considered key to protecting its outstanding plant diversity and density, including endemic species.

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Industry-wide initiatives have driven the response to these threats, particularly through sustainability certifications, marketing mechanisms that emphasise biodiversity, and 10 years of support from the Biodiversity and Wine Initiative (BWI). This partnership between the wine industry and conservation bodies, including WWF South Africa, has been well documented, and illustrates how a combined, systematic effort for an important commodity in the country

can work towards sustainability. However, it will only be briefly touched on in this case study, to highlight the wider context of wine production involvement with biodiversity conservation.

Other approaches are being led by individual farms, which are taking innovative conservation action to bring new biodiversity assets to the wine estates. This is the case with the Vergenoegd Wine Estate (VWE), which is working with partners such as NNC Environmental Services (Pty) Ltd and BirdLife South Africa (national BirdLife International's Partner in the country), to create wetland habitats on wine farms in the Western Cape.

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In 1998, the South African wine industry established the Integrated Production of Wine (IPW) scheme, a voluntary, industry-wide, technical system of sustainable wine production, which includes certification of the sustainably produced products. This scheme included the production of good practice guidelines for managing soil, water, pests, nutrition and, from 2005, biodiversity, with the launch of the Biodiversity and Wine Initiative.

The BWI was established as a voluntary membership model. It aimed to minimise the further loss of threatened natural habitat within the Cape Winelands, and integrate guidelines on the management of biodiversity within the industry's existing farm management practices.

From its creation in 2005 to the present day, the BWI has provided free advisory support to wine producers. It encourages them to surpass the IPW criteria, including committing land to conservation and developing environmental management plans.

With BWI support, nearly 90% of South African wine producers embedded environmental practices into their business, and one third of the industry put environmental management plans in place. Producers set aside nearly 144,000ha of conservation-worthy land, well in excess of the industry's vineyard footprint of almost 100,000ha. Some of this land is protected through the innovative Biodiversity Stewardship Programme, which allows full, legal proclamation of protected areas on private land.



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Biodiversity has been highly valued by some individual wine farmers in South Africa, as well as by the wine industry at a larger scale. The Vergenoed Wine Estate, for example, IPW-certified, and a member of the BWI, applied biological control to plagues of pests. It used a herd of 800 non-native runner ducks to control snails and insect pests, thus demonstrating a conservation-centred approach to farming.

However, the Estate wanted to go further. In 2014, it helped establish a partnership which set up a three-year pilot project – the Vergenoed Water Bird Habitat (WBH) and Water Conservation Project. The project was designed, and is being developed, by a partnership of organizations, including BirdLife South Africa and NCC Environmental Services (Pty) Ltd. It secured initial pilot-phase funding from the Table Mountain Fund.

The aim is to recreate wetlands in the VWE and other wine farms across the region, attracting birds by the installation of floating islands on farm dams. The islands are built with locally indigenous wetland plants, to provide feeding, breeding and roosting habitat for birds. At the same time, these islands can work as water filters, and should contribute to improved water quality.

The project initiative is also producing a guideline document with examples of how private landowners can rehabilitate existing water bodies on their property (such as a regular irrigation dam or effluent treatment dam) using floating islands and wetland landscaping to create the perfect habitat for all kinds of indigenous waterbirds. Targeted waterbird species include the threatened African Marsh Harrier and Maccua Duck, and endemic Cape Shoveler.

Thus far, five other wine producers have come on board with the pilot project, which is also training local community members to build the floating islands and conduct bird monitoring, thus adding social gains to the project outcomes. A new plant nursery and floating island hub has been established on another pilot farm site, and this will help further expand the reach of this pilot project.

Initial results from the biodiversity monitoring at the pilot sites have been encouraging, with the floating islands acting as small ecological refugia within the agricultural landscape. Ultimately, it is expected that other wine producers will take up the challenge to rehabilitate their own irrigation dams, allowing the creation of large-scale corridors for bird movement in the future.

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The combination of the exceptional and endemic biodiversity of the CFR, the eagerness of wine producers to promote the conservation stories associated with their wines, and consumer interest in eco-friendly wine, have all helped create the conditions for the widespread uptake of conservation action by South Africa's wine producers.

Wine producers place great value on the sustainability certifications and logos of the IPW, as these create marketing advantages by increasing product differentiation – particularly important within this industry. Other innovative conservation actions are helping wine producers create a niche that enhances their distinctive brand. The 'Duck Parade' of 800 runner ducks draws in visitors to Vergenoed, and the support of this Estate for indigenous waterbirds further differentiate its brand for wine tours and sales.

More information at:

- www.vergenoegd.co.za/our-biodiversity-project/
- www.ncc-group.co.za/case-studies/table-mountain-fund-tmf-vergenoegd-waterbird-habitat-and-water-conservation-project
- www.ipw.co.za/
- www.wwf.org.za/what_we_do/sustainable_agriculture_/conservation_and_wine/
- www.swsa.co.za

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Vergenoed Water Bird Habitat
and Water Conservation Project

