

Best Practice Guideline: sustainable utilisation of natural resources

preamble

Some farming enterprises are based entirely on living resources. In order to supplement income many landowners have now begun utilising various living resources. This document focuses on the wise utilisation of these resources through understanding the autecology of the species and the ecology of the vegetation they inhabit.

First do no harm!

Remediation is costly – both ecologically and financially.

wildflower harvesting

Wildflowers and thatch harvesting are established industries in the Cape Floristic Region and a booklet has been funded by the Critical Ecosystems Partnership Fund, to guide users in the sustainable utilisation of these resources, see www.cepf.net Further to the best harvesting practices advocated in the booklet there are broader ecological concerns that need to be addressed.

Do not introduce extra-limital species and cultivars or hybrids into natural vegetation. We should not create genetic instability and jeopardise the evolutionary outcome of existing species. Plants have evolved mechanisms to help prevent hybridisation with those species that closely co-occur but not those naturally geographically separate. Given the ease with which Proteaceae and Ericaceae hybridise it would be prudent to apply the precautionary principle.

Wildflower orchards should be pollinator-proof or at least established away from natural vegetation – genetic contamination of wild populations is a reality. Further to this is the impact on pollinators – an orchard of flowers is a far more attractive option than scattered individual plants and could result in reduced pollination of wild plants.

Manage the vegetation for the overall functioning and biodiversity of the ecosystem rather than for the benefit of currently commercially popular species. The economic benefits are greater and one is also in a better position to deal with a change in consumer preference.

thatch

Wild harvesting of dekriet *Thamnocortus insignis* and wyfieriet *T. erectus* is an established industry on the Agulhas Plain with many farmers relying on this resource to augment cash flow.

Utilise only existing stands of restios. Do not brushcut natural vegetation to produce pure stands. Consider establishing dekriet and wyfieriet stands on old marginal farmlands to not only alleviate pressure off wild populations but also as a way of preventing loss through wildfire. The harvesting cycle for dekriet is five to eight years and wyfieriet every seven to eight years. This ensures maximum yield as well as the overall health of the population.

grazing & browsing

Livestock production in many parts of the Western Cape relies heavily on natural rangelands. Mismanagement of this resource is clearly evident in many parts as an altered species composition, reduced cover and erosion. Not only is this a threat to biodiversity but also to long-term financial viability of livestock production.

Effective management of natural rangelands requires an understanding of cause and effect in an ecosystem. For example, continuous selective grazing with no rest leads to an increase in unpalatable species due to these not being eaten and therefore being able to reproduce and eventually dominate.

Vegetation has evolved with indigenous grazers and browsers and it is best to emulate their foraging habits. Under natural conditions, one would encounter a high concentration of animals of mixed feeding habits (bulk, selective and concentrate feeders) exerting high pressure on the vegetation and when the quantity of forage decreased they moved off. The veld then had a period in which to recover and because all plants had been utilised equally the composition was not altered.

Where vegetation type permits a combination of bulk grazers (cattle) and selective grazers (sheep) should be accommodated at a ratio of one animal unit (AU) bulk grazer: five mature sheep. Experiments have shown that besides better utilisation of forage, the production (increase in body mass) for sheep was double and for cattle an increase of 14% on average.

Rangelands must be divided into camps in order to manage forage utilisation. These camps should be based on landscape features and vegetation. Slopes and flat plains should be separate camps as should wetlands and river courses be fenced separately from the surrounding areas. The reason is that animals will feed in areas that are more accessible as well as those having higher production. This leads to over-utilisation and inevitable degradation. Veld must not be grazed continuously but given a rest period. There are two types of resting – seeding rest and vigour restoration. Resting during seeding is a short rest period whereas resting for the restoration of vigour is for a full year in arid areas and for the duration of winter in higher rainfall areas. Rotational grazing is the only way to implement resting and also to ensure proper utilisation of forage. At least one third of the camps should be fully rested during the year.

There are two types of rotational grazing systems: High Production Grazing (**HPG**) and High Utilisation Grazing (**HUG**). **HPG** is a short intense utilisation system whereby all preferred species are consumed to a stage that will allow rapid re-growth and high production. **HUG** relies on concentrating high numbers of livestock into a camp until they have utilised all available forage without killing the plants. **HPG** is a good system for high production grasslands (such as the rooigras grasslands of the southern Cape) where the species composition and density are known. **HUG** is a better system for arid rangelands that are easily degraded by selective grazing.