

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

Other proposals

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION**A. PROPOSAL**

It is proposed that *Protea odorata* be transferred from Appendix I to Appendix II in accordance with precautionary measure B.2.a) as specified in Annex 4 of Resolution 9.24.

B. PROPONENT

The Republic of South Africa

C. SUPPORTING STATEMENT1. Taxonomy

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| 1.1 Class | Dicotyledonae |
| 1.2 Order | Proteales |
| 1.3 Family | Proteaceae |
| 1.4 Genus and species | <i>Protea odorata</i> Thunb. 1800 (Rourke 1980) |
| 1.5 Synonyms | <i>Leucadendron odoratum</i> (Thunb.) R.Br.
<i>Protea mucronifolia</i> Salisb. var. <i>gueinzii</i>
Meisn. (Rourke 1980) |
| 1.6 Common names | Swartland sugarbush (Rebelo 1995) |
| 1.7 Code number | |

2. Biological Parameters

2.1 Distribution

The species is known today from only two sites on the west coast lowlands of the Western Cape Province of South Africa. These sites are approximately 28 km apart and together are 70 ha in size (Pool *et al.* 1992). The plants, however, are now confined to only a couple of square metres at each site. The species occurs in a vegetation type known as West Coast Renosterveld which has become severely reduced and fragmented (see below). Within this vegetation type it occupies a particular ecotonal habitat between sandy soils and saline, seasonally waterlogged clay soils (Rourke 1980; Rebelo 1995).

2.2 Habitat availability

The West Coast Renosterveld vegetation type in which this species occurs, has been severely reduced and highly fragmented by agricultural activities. By 1988 West Coast Renosterveld had been reduced to three per cent of its former area and today only small fragments remain, mainly on untillable hill tops and rocky sites (McDowell and Moll 1992; Low and Jones 1995). The former area has all been transformed into farmlands, mainly for wheat and pasture. The few remaining sites on the flats are all either heavily overgrazed or densely invaded by the invasive Australian *Acacia saligna* or Port Jackson (Low and Jones 1995).

2.3 Population status

A census was conducted by C. Hilton-Taylor between February and November 1996 of all the sites where the species was known to have occurred. Only two populations could be found, one comprising three plants and the other a single young plant. Two of the former sites had been burnt in recent years and as this species is a seed regenerator, it may be too soon to determine if any seedlings will emerge. However, a careful search of these areas did not reveal any trace of seedlings.

2.4 Population trends

Until recently five populations were known to exist and these have been monitored since the late 1980s:

- The Klapmuts population (unknown size) was wiped out in the 1970s by the construction of an extensive roadwork development (Rourke 1980; McDowell 1987).
- At Joostenbergkloof, the most southerly population, six plants were recorded in 1975, by 1986 only one remained, but after a fire in 1987 a number of seedlings established themselves. In 1994 only seven plants remained and by 1996 these were reduced to three because of brush-cutting and ploughing activities of the owner (McDowell 1987; Beaumont 1995; Hilton-Taylor 1996a).
- The Kalabaskraal population (a subpopulation of the one at Groenrivier) numbered some 110 plants in 1968, by 1989 this had been reduced to 17 and in 1996 no plants could be found. There is a possibility that seedlings may exist, but none were found in a recent search (McDowell 1987; Pool *et al.* 1992).
- A small population of 20 plants was discovered in the Riverlands Nature Reserve in 1978, however, this was severely reduced by frequent fires and sheep browsing before the reserve was proclaimed (McDowell 1987; Pool *et al.* 1992). In November 1989 only three old plants remained and all were killed in subsequent fires (Pool *et al.* 1992). No seedlings could be found in 1996.
- The population at Groenrivier was one of the largest known, numbering over 1000 plants in the 1970s (McDowell 1987). By the late 1980s it had declined to 600 plants and in the early 1990s to less than 100 plants (Pool *et al.* 1992). During the 1996 survey conducted by C. Hilton-Taylor only one young plant was found.

2.5 Geographic trends

The past distribution of this species is poorly known, but historical records indicate that it was probably limited to a distribution area of 30 km² on the

lowlands between the towns of Paarl and Malmesbury in the Western Cape Province of South Africa (Rourke 1980; Vogts 1982; Rebelo 1995). How much of the former range it actually occupied is difficult to estimate because of its particular habitat requirements, but it was certainly fairly common at the sites where it once occurred. It now only occurs at two of the five known sites and occupies just a couple of square metres in total.

2.6 Role of the species in the ecosystem

Protea odorata does not appear to be a keystone species but it is an important indicator of what has happened and is still happening to the highly threatened West Coast Renosterveld vegetation. It acts as a 'standard bearer' in that it coexists with many lesser known species many of which are also highly threatened by habitat loss (McDowell 1987; Pool *et al.* 1992; Hilton-Taylor 1996b).

2.7 Threats

The main threats have been the loss of habitat to agriculture (wheat and grazing lands) while the remaining remnants have been invaded by the alien Port Jackson (*Acacia saligna*) from Australia, which replaces most of the indigenous species. Roadworks at one site destroyed a population and the invasion of a fungal pathogen at another site (probably because of increased disturbance) killed many plants (McDowell 1987). Brush-cutting of the vegetation to improve cattle grazing has also had a negative impact. This species is a seed regenerator and therefore requires fire at intervals (every 10-15 years) to ensure recruitment and regeneration, however, many of the remnants have been burnt at far more frequent intervals, either accidentally or intentionally, to create grazing for cattle. As a result, the emerging seedlings have not had given sufficient time to flower and produce seed between fires to ensure continued recruitment. The two remaining populations occur on sites which have been earmarked for further agricultural development. Most of the Joostenbergkloof site was in fact illegally ploughed for planting oats in June/July 1996 (Hilton-Taylor 1996a; Hilton-Taylor and Patterson-Jones 1996).

3. Utilization and Trade

3.1 National utilization

As the species has fairly nondescript and very small flowers, it has not attracted much attention from the horticultural or cut-flower trade. A commercial wild flower farmer at Kaimansgat Nursery grew approximately ten plants from seed in the early 1980s, but as there was no demand for the species as a cut-flower, he abandoned the plants. Only two of these plants still survive and they are becoming senescent (C. Hilton-Taylor pers. obs.). A few plants are grown in the Kirstenbosch National Botanical Garden. Conditions in this garden, however, are not suitable for the propagation and long-term survival of this species.

3.2 Legal international trade

No trade recorded.

3.3 Illegal trade

It is highly unlikely for any such trade to have occurred.

3.4 Actual or potential trade impacts

As there is no demand for the species, there is no potential for trade.

3.5 Artificial propagation for commercial purposes

No plants are known to be in cultivation outside of South Africa.

4. Conservation and Management

4.1 Legal status

4.1.1 National

At present because of its CITES Appendix I listing, this species is listed as 'Endangered Flora' in terms of the Cape Nature and Environmental Conservation Ordinance 19 of 1974. In terms of this Ordinance, no person may without a permit possess, sell, donate, receive as a donation, pick, or import into, export from, or transport through the province, any 'Endangered Flora'. If downlisted to Appendix II and even if removed from CITES completely, this species would then fall into the category of 'Protected Flora' and would still be subject to strict controls including the need for permits to pick or sell. In addition, written permission is also required from the owner of the land concerned. The Nature Conservation Ordinance described above, will be redrafted soon and this species will probably continue to be listed as 'Endangered Flora' or 'Specially Protected Flora'.

4.1.2 International

The species has been listed on CITES Appendix I since 1st July 1975.

4.2 Species management

4.2.1 Population monitoring

The populations have been monitored by the National Botanical Institute, Western Cape Nature Conservation Department, Botany Department of the University of Cape Town, the Search and Rescue Group of the Botanical Society of South Africa, by members of the Protea Atlas project and by the Wildlife Society's 'Friends of Riverlands' group. Only the National Botanical Institute and the Search and Rescue Group are now actively involved in the monitoring. These two groups are liaising closely with the conservation authorities to implement an action plan to save the species from extinction.

4.2.2 Habitat conservation

It is recognised that West Coast Renosterveld is in urgent need of conservation attention (less than 0.5% of the area is conserved) and several plans have been prepared which list important sites for preservation (e.g. Jarman 1986). Unfortunately, most of this land is privately owned and because of its economic potential as agricultural land, is very expensive to purchase for conservation. In addition, because the sites are so fragmented this poses difficult management problems. Both of the sites where the species now only occurs (Groenrivier and

Joostenbergkloof) are privately owned, and there is very little likelihood that they will be purchased for conservation. Efforts are being made to convince the landowners about the importance of the sites and to encourage them to declare parts of their land as 'Natural Heritage' sites, but this has been to no avail so far. In fact the former site has been subdivided and the plots are being sold as small-holdings. The portions where *Protea odorata* occurred have been excluded from the subdivision. The Department of Agriculture have become involved in the Joostenbergkloof site as the owner recently illegally ploughed much of the area to plant oats, destroying three plants of *P. odorata* in the process. A court case is now pending and depending on the outcome, the farmer may be forced to rehabilitate the site. The Department of Agriculture has also agreed not to issue a permit allowing any further transformation of the remaining natural vegetation into agricultural lands. The Riverlands site is now a proclaimed provincial nature reserve and active measures are being taken by Western Cape Nature Conservation to remove all alien vegetation from the reserve and to restore it to its former pristine state. The Kalabaskraal site is a private nature reserve and negotiations are underway to have the area formally proclaimed a nature reserve or at least recognised as a Natural Heritage Site (Pool *et al.* 1992). The threat at all the sites caused by the invasion of Port Jackson is also slowly being reduced by the introduction of a gall rust, *Uromycladium tepperianum*, as a biocontrol agent. This rust results in the production of galls which reduce seed production and general vigour of the plants and eventually causes mortality. At the Groenrivier site, many of the larger trees have died in recent years, however, there is a vast seedbank which keeps producing 1000's of seedlings after each fire, so it will be many years before this invasive plant is under control. Attempts were also made in the late 1980s to protect the populations at Groenrivier by the Botany Club of the University of Cape Town. With the aid of funding from the World Wide Fund for Nature they erected fences around two subpopulations and cleared all the alien acacias from the plots (McDowell 1987). Unfortunately, a series of fires and continued invasion by the acacias has resulted in the demise of the plants in these areas.

4.2.3 Management measures

Horticulturists at Kirstenbosch National Botanical Garden have found a successful method to germinate the species and also to grow it from cuttings. (In the past problems were experienced in propagating this species). At present there are 40 seedlings and cuttings from two genetic sources in propagation at Kirstenbosch. In addition, the Agricultural Research Council at Elsenburg has 55 seedlings from another genetic source, which are being grown as part of their programme to develop a Fynbos genebank. 111 seed heads, with viable seed, were also recently collected from the two remaining cultivated plants at Kaimansgat Nursery. These will be germinated and grown for a reintroduction programme. It is planned to reintroduce the species back into the Riverlands Nature Reserve and possibly into Kalabaskraal, depending on the future status of that site. The reintroductions will be done in conjunction with the conservation authorities and with appropriate follow up measures to help ensure the survival of the plants. An *ad hoc* reintroduction of approximately ten plants into Riverlands was attempted in 1990, but as there was no follow-up, it failed (C. McDowell pers. comm.).

4.3 Control measures

4.3.1 International trade

The only control measure has been the CITES listing, but no such controls are necessary.

4.3.2 Domestic measures

There is adequate domestic legislation to protect the species. No controls on harvesting are necessary as the species is not sought after.

5. Information on Similar Species

There are no species in trade which could be confused with *Protea odorata*.

6. Other Comments

Discussions were held directly with the conservation authority responsible for the protection of this species. In addition the proposal was discussed at a workshop attended by the CITES Management Authorities in South Africa and representatives from TRAFFIC.

7. Additional remarks

The listing of *Protea odorata* on Appendix I was because of an initial misunderstanding by the South African Management Authorities regarding the purpose of CITES. There is absolutely no reason to keep it listed on any CITES Appendix despite it being threatened with imminent extinction (Hilton-Taylor 1996b), as its continued survival is dependent on the conservation of its habitat, not control of trade in the species. If anything, active trade should be encouraged to help enhance the long term survival of this highly endangered species.

8. References

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