CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

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DRAFT PROPOSAL FOR AMENDMENT OF APPENDICES I AND II: *PROTEA ODORATA*

The attached document has been submitted by South Africa[*].

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DRAFT PROPOSAL FOR AMENDMENT OF APPENDICES I AND II: *PROTEA ODORATA*

A. PROPOSAL

It is proposed that *Protea odorata* be delisted from Appendix II following downlisting from Appendix I to Appendix II in 1997 in accordance with precautionary measure B.2.a) as specified in Annex 4 of Resolution Conf. 9.24.

B. PROPONENT

The Republic of South Africa

C. SUPPORTING STATEMENT

1. Taxonomy

1.1 Class: Dicotyledonae

1.2 Order: Proteales

1.3 Family: Proteaceae

1.4 Genus and species: *Protea odorata* Thunb. 1800 (Rourke 1980)

1.5 Synonyms: *Leucadendron odoratum* (Thunb.) R.Br., *Protea mucroni/olia* Salisb. var. *gueinzii* Meisn. (Rourke 1980)

1.6 Common names: Swartland sugarbush (Rebelo 1995)

1.7 Code number

2. Biological Parameters

2.1 Distribution

Data from the Protea Atlas Project shows that the population of *P. odorata* occurs within an area of 50 km^2 but occupies an area of only 9 km^2. They occur effectively in a single location and population size is estimated to be 27 plants. 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 untill able 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. However, population data from the Protea Atlas Project (2000) provided population estimates of 27 plants. Populations experience fire-related fluctuations, but the overall population size is estimated to have declined by > 70% due to land clearing. Based on its limited area of occurrence and

ongoing decline, its proposed IUCN status is Critically Endangered A2c, B1a(ii)b(i,ii,iii,v)c(iv), B2a(ii)b(i,ii,iii,v)c(iv), C1, C2a(i,ii) and D (Rebelo et al. in prep).

2.4 Population trends

Originally known from five populations, but plants have only been observed in one population since 2000. Because plants are serotinous, lack of reproductive plants means that the seedbanks are also extinct in the four populations where plants have not been recorded.

Riverlands: A subpopulation of 20 plants was destroyed between 1979 and 1982 by fires, sheep grazing and Acacia shading (Hall, 1982a). Three plants existed in 1989 and an ad hoc reintroduction of 10 plants into Riverlands failed in 1990 (Hilton-Taylor & Pool, 1996). In 1996 two old skeletons of P. odorata from the previous fire cycle were seen, but no live plants.

Groenrivier: More than 1000 plants were recorded in the 1970s, but by 1982 the largest subpopulation had 410 plants in 3 ha and was severely grazed and trampled and only contained 50 seedheads (Hall, 1982a). Later in 1982 only 350 plants were counted, but 20 more plants were found between the railroad and the N7 east of the N7 (Hall, 1982b). Two dense stands were fenced by the UCT Botany Club and cleared of aliens in 1985 (A- south: , B- north). The presence of a fungal pathogen Botryosphaerium was noted, but apparently only affected damaged plants (McDowell, 1987). In 1986, about 600 plants were recorded but these stands burned in 1986 and <100 plants were recorded in 1987. In 1989, after another fire, there were no plants left and intensive surveys in 1993, 1994, 1995, 1999, 2000 found no plants anywhere.

Kalabaskraal: This subpopulation comprised 110 plants in 1968 but subsequently declined. 17 plants were recorded in 1989 as a result of seeds sown after a 1977 fire (Pool et al, 1992). This site was proclaimed as a nature reserve in 1996, specifically to protect P. odorata (Hilton-Taylor, 1996b) but was sold by the Malmesbury municipality in 1984 (Hall & Veldhuis, 1985). Only one seedling was recorded in 1996 and no plants have been found since 1997. Another subpopulation of 3 plants in the Kalabaskraal village was destroyed in 1983 by garbage dumping.

Herbarium records indicate a population along the N1 national road at Klapmuts. This habitat was destroyed by roadworks for the N1 during 1954 (Jardine, 1999) and no plants have been recorded there since then.

Joostenbergkloof: Six plants were recorded in 1975. An initial count in 1998 revealed 22 plants (Forshaw, 1998a) and additional surveys increased this number to 34 plants (Forshaw, 1999). This declined to 27 plants in 2002.

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 only one of the five originally 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)*. Roadworks at one site destroyed a population and the invasion of a füngal 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.

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. Seeds and seedlings were originally included in the Fynbos genebank at Elsenberg (Dept of Agriculture) (Hilton Taylor & Pool, 1996) and seeds were collected for propagation at Kirstenbosch but none of these collections survived.

3.2 Legal international trade

There is no record in the UNEP/WCMC CITES trade database of any trade in *P. odorata* and only one record of a single trade event in 1986 of a *Protea* sp.

3.3 Illegal trade

It is highly unlikely for any such trade to have occurred. The species is not highly sought after for horticulture.

3.4 Actual or potential trade impacts

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

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 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.

4.1.2 International

The species was listed on CITES Appendix I from 1975 to 1997 and has been listed on CITES Appendix II since 1997.

4.2 Species management

4.2.1 Population monitoring

The populations have been monitored by the former National Botanical Institute and 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. Currently, the South African National Biodiversity Institute and CREW (Custodians for the Rescue of Endangered Wildflowers) are 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. The single site where the species now occurs is privately owned, and there is very little likelihood that it will be purchased for conservation. 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 a proclaimed provincial nature reserve and active measures are being taken by Cape Nature to remove all alien vegetation from the reserve and to restore it to its former pristine state. 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. Unfortunately, a series of fires and continued invasion by the acacias has resulted in the extinction of the plants in these areas.

4.2.3 Management measures

Horticulturists at Kirstenbosch National Botanical Garden developed a successful method to germinate the species and to grow it from cuttings. Plants established from seeds obtained from Joostenberg Hill are being propagated and it is intended to introduce them into the Durbanville and Briers Low Nature Reserves, the only suitable areas under conservation. 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. The downlisting to Appendix II in 1997 was a precautionary measure as specified in Annex 4 of Resolution 9.24. There is 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.

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