14 November 2022

The Board of Directors
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SEED COLLECTION AND RESEEDING OF THREATENED PLANT SPECIES AS PER REQUIREMENTS OF THE EA AND EMPR FOR CULTIVATION ON FARM 2/138 (KONINGSVLEI) AND FARM 1/89 (NIEUWE RUST) NEAR VREDENBURG:

1. INTRODUCTION

The proposed clearance of indigenous vegetation for dryland rooibos tea cultivation on the above mentioned property was authorised by the Department of Environmental Affairs and Development Planning on the 7th of September 2022 (DEA&DP Reference number: 16/3/3/2/F4/23/3054/21).

As per Condition 19 of the Environmental Authorisation the following recommendations provided in the Terrestrial Biodiversity Assessment Report dated 24 January 2022, as compiled by Johlene Krige, as included in the EMPr, must be implemented:

- 19.1. The near threatened species of conservation concern *Manulea altissima* subsp. a*ltissima* found within Site 3 must be translocated through seed harvesting and sowing which should be conducted in consultation with a botanical specialist.

The near threatened *Manulea altissima* subsp. *altissima* was recorded only within Site 3 within small, isolated patches of semi-natural habitat and degraded areas amongst many other annuals, weeds and grasses.

Recommendations for translocation of *Manulea altissima* subsp. *altissima* as per the Terrestrial Biodiversity Assessment Report and EMPr:

- *Manulea altissima* is a small annual or short-lived perennial plant which flowers from July to October. Transplantation of this species will be very difficult due to its short-lived and delicate nature.
- This species should therefore be translocated through seeds.
- Seeds should be harvested during October and sown at natural deep sandy areas at Site 2 directly thereafter.

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2. METHODOLOGY

I was appointed for the seed collection and reseeding on the 20th of October 2022. The search and rescue operation was conducted on the 27th of October 2022. The *Manulea altissima* population was located within Site 3. Plants were in a combined flowering and seeding phase, with about 30% of each flower head comprising seed capsules and the rest comprising fruit bodies and flowers. The presence of flowers made it easy to spot the plants on site.

- Approximately 250 flower heads were collected and bagged (using zip-seal plastic bags). This was as many seed baring plants which could be found on site.
- At 30% in the seeding phase each collected flower head contained about 20 seed capsules. An estimate of 5000 capsules (250 flower heads x 20 capsules) was therefore collected, each containing many tiny black seeds.
- The bagged flower-heads were mixed with sand collected on site to allow even sowing.
- Hands-full of the flower-heads, seed capsules, seeds and sand mix were sown within open, deep sandy areas within Site 2, directly after seed collection.

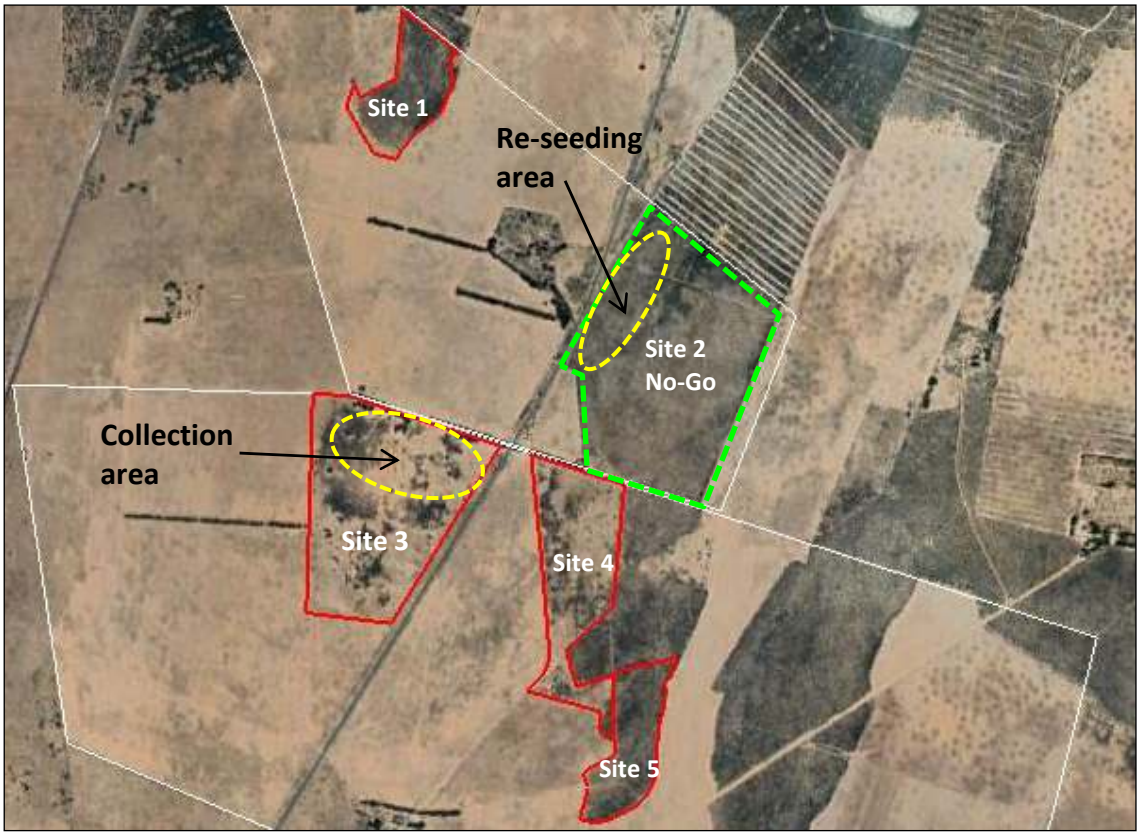

Figure 1. Authorised layout plan showing the location of seed collection (Site 3) and the re-seeding area (Site 2) which is excluded from the authorised layout and considered a No-Go area.

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3. PHOTOS

Plate 1: *Manulea altissima* subsp. *altissima* (NT) recorded within Site 3 during the Botanical Assessment 8 October 2020.

Plate 2: *Manulea altissima* subsp. *altissima* (NT) recorded within Site 3 during the Search and Rescue 27 October 2022.

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Plate 3: *M. altissima* flower heads containing flowers, fruit and seed capsules during time of collection.

Plate 4

Plate 5

Plate 6

Plate 7

Plate 4-8: Flower heads were collected from Site 3 (Plate 4) and bagged using zip-seal plastic bags (Plate 5). During collections the tine seeds expelled from the seed capsules (Plate 6). The collected

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materials were mixed with sand from site to allow even sowing (Plate 7). The flower head, seed capsules, seed and sand mix were sown within open, deep sandy areas within Site 2 (Plate 8).

Plate 8: Location of the re-seeding area within Site 2.

4. CONCLUSION

The botanical specialist is satisfied with the search and rescue operation conducted for *Manulea altissima* subsp. *altissima* (NT) on the property. The number of flower heads (containing seed capsules) is considered to be a representative sample of the population found within Site 3. Watering is not required as the reseeding operation mimics the natural seeding process where seeds are expelled into open sandy areas of the same habitat. Site 2 is considered a No-Go area as per the authorised layout plan. This is also the closest natural area (of the same habitat) to the original site.

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