

13 May 2021

**Attention:** Mr Alex Lansdowne  
Friends of Princessvlei  
Cape Town

Dear Alex

***Comments on recent damage to the rehabilitated shoreline at Princessvlei***

I am writing to summarise briefly my comments on the recent damage to a section of the rehabilitated shoreline of Princessvlei, as evidenced during our site visit on Saturday 8 May 2021.

**Background:**

Rehabilitation of the Princessvlei shoreline has been underway for some years. It is my understanding that the project has been driven largely by the Princessvlei Forum, in partnership with the City of Cape Town (“the City”), with additional funding from various institutions and businesses, including the (international) Society for Ecological Restoration (SER). Rehabilitation has taken the form of seed collection and / or other propagation, planting and maintenance of locally indigenous plant species, including Critically Endangered species such as *Serruria foeniculacea* and species such as *Erica verticillata*, the official conservation status of which is “Extinct in the wild”.

Princessvlei lies within land that is owned and managed by the City. The open water body of the vlei, as well as the stormwater and other channels that enter and leave the wetland are managed by the City’s Catchment Stormwater and River Management (CSRМ) Branch. Such activities are controlled by an approved Maintenance and Management Plan (MMP), intended to allow maintenance and management activities, such as removal of alien and other vegetation from within the vlei, in a manner that does not result in ecological degradation<sup>1</sup>.

**Recent damage to rehabilitated areas**

During the course of last week, the City’s CSRМ branch commenced removal of alien water hyacinth and other wetland plants from within the vlei, using an excavator. Instead of keeping to areas designated in the (Anand 2019 – see footnote 1) MMP for machine access, the excavator moved along the shoreline within the rehabilitated area, affecting an area estimated by you as some 1500 m<sup>2</sup> that had been actively

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<sup>1</sup> Note that I could not access the CSRМ’s approved over-arching MMP for Princessvlei in time for this input. However, the MMP for water hyacinth removal from Princessvlei, as compiled by D. Anand (site manager 2017-2019) was considered. This document includes *inter alia* the following requirements:

1. All officials will be notified by stormwater or parks officials about work planned for Princess Vlei before operations start, this includes the site manager. Operations will be limited to Late Jan to the end of May due to Western Leopard Toad breeding season.
2. A site meeting will be held on the morning before operations commence with the contractor and stormwater officials, a parks representative should be present to ensure compliance or the site manager, best practice would be the ECO. The sites allocated for stockpiling hyacinth and other debris will be shared with the contractor. See map below.
3. Heavy duty vehicles and machinery will remain on the allocated pathways and will not go off path, see path in yellow. The eastern shore is sensitive due to mass rehabilitation of Cape Flats Dune Standveld. These operations are funded and maintained by the Princess Vlei Forum as part of the restoration management plan for the site and an agreement to conserve and protect this habitat has been established via MOA.



rehabilitated, and compacting, crushing and dumping of vegetation on a total shoreline length, estimated by you as some 175m long.

On the basis of my site visit, the main impacts of this activity appeared to be:

- Outright loss of an extensive area of rehabilitated shoreline, as a result of crushing / compaction by the excavator / front end loader and excavation of soils and vegetation – this area included areas in which Critically Endangered *Serruria foeniculacea* had been planted. Damaged specimens of the latter were evident under and in piles of dumped spoil, along with other indigenous vegetation;
- Further loss and disturbance of the rehabilitated shoreline as a result of linear dumping of excavated vegetation and soil in a line along the edge of the shoreline, as the excavator moved along the shore. Such vegetation included *Eichhornia crassipes* (water hyacinth) and *Typha capensis* (bulrush), which had been excavated from the water body itself;
- Compaction of the shoreline, making re-establishment of diverse indigenous plant communities unlikely without intervention, and likely rather to promote invasion by weedy and/or alien species;
- Steepening of the shoreline as a result of excavation into the water body abutting the shoreline – note that in places the shoreline was probably already steep, but excavation has destabilized these areas;
- Destruction of sections of the pedestrian path along the edge of the waterbody through the rehabilitated zones.

The above impacts have resulted in significant loss of an expanse of previously degraded habitat that was previously on a trajectory of major improvement / rehabilitation through sustained, largely volunteer efforts into effecting rehabilitation of important habitats, while improving amenity value in the broader area.

Not only was there extensive damage to rehabilitated and unrehabilitated shoreline, but the approach used was not effective in achieving its assumed main objective – that is, removal of alien and other aquatic vegetation covering the water surface in the vicinity of the wetland outlet. The reach of the excavator was such that it achieved removal of only a narrow strip of vegetation from the aquatic area, with most damage and plant removal occurring along the shoreline and upland vlei margins.

From a legal perspective, it is my understanding that the manner in which the maintenance activity was undertaken is very unlikely to have followed the provisos of the City's MMP for this waterbody, and certainly did not follow the requirements outlined in the MMP compiled by Anand (2019) (see footnote 1). Since excavation of in excess of 10 m<sup>3</sup> of sediment from a watercourse in urban areas (e.g. the Princessvlei wetland) is a Listed Activity in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998), unless carried out in terms of an approved MMP, this means that the recent activities would have been in breach of NEMA legislation. They would also be assumed to be in breach of the General Authorisation for maintenance activities, in terms of the National Water Act (NWA) (Act 36 of 1998), since the activities as undertaken would certainly not be considered Low Risk, using the DWS (2016) Risk Assessment Matrix. As such, the General Authorisation allowed for in GN509 (in terms of which it is assumed the MMP was authorized by the Department of Water and Sanitation) would also not be applicable to the works as undertaken last week.

### **Recommendations:**

Drawing on the above, I suggest that it would be reasonable for the City be required to undertake, or have undertaken, the following activities to address the recent wetland damage:

1. No further machine access may be carried out along the rehabilitated shoreline, unless required



in terms of active rehabilitation of damage;

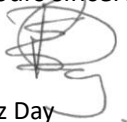
2. Machine access (e.g. using an excavator / digger loader and/or dumper truck) may only be permitted where such work is controlled by an Environmental Control Officer (ECO), located on site throughout the operation;
3. The excavated spoil along the shoreline must be inspected for indigenous, desirable plant material that can be salvaged (if any), following which the spoil must be removed and taken from site. Machine access for this activity may be allowed, provided that access is via areas that have already been severely damaged or where there is access from unrehabilitated areas;
4. Following removal of spoil, compacted areas must be ripped, either manually in less-disturbed areas or by machine in highly disturbed areas;
5. Where the interface between the shoreline and the aquatic zone has been steepened to create a steep bank, these areas (mainly outside of the planted rehabilitated area) should be reshaped so as to create a gradual sloping shoreline, at grades that vary between 1:4 and 1:7. This can be achieved by using the excavator to skim and knock the top edge of the bank out into the wetland, and reshape it up to the existing top of bank;
6. Provision must be made for the sourcing / propagation and planting of appropriate locally indigenous plants throughout the area that has been damaged, including both rehabilitated and planted areas, and areas that were not actively rehabilitated but have nevertheless been left bare / disturbed. The rationale for this is that such areas will now be prone to invasion by alien and/or weedy species;
7. Re-establishment of appropriate locally indigenous plants into disturbed areas should be carried out at the same densities as those achieved by the rehabilitation works to date;
8. Allowance must also be made for weeding / alien clearing of disturbed areas prior to replanting – it is assumed that sourcing of adequate plant material may take some time, by which time disturbed areas may well be vegetated by undesirable species;
9. A Rehabilitation Plan should be compiled, detailing the above measures, and others that are relevant to achieving the objective or returning the damaged areas to their previous condition or better, from an ecological perspective. This plan should include delineation of areas in which machine access is allowed, versus those where rehabilitation activities should be through manual labour.

Finally, it is important that this kind of damage, seemingly caused as a result of ignorance on the part of the implementation team / operator as to the conditions of the MMP and the treatment of sensitive areas in particular, must be avoided in future. The reasons that the clear directions included in the existing MMP for water hyacinth removal (see footnote 1) were not followed should be identified, and the City should indicate how such a situation will be avoided in the future.

Thank you for contacting me with regard to these issues. You are welcome to contact me if you would like to discuss any of these recommendations or comments further.

Note that the above comments have been made in my capacity as an independent aquatic ecologist, registered with SACNASP and with over 24 years' experience in working on rivers and wetlands, specializing in urban areas and Cape Town in particular.

Yours sincerely



Liz Day  
PhD; Pr Nat Sci

