13 January 2021
Open Letter to Ms Barbara Creecy
Minister of Forestry and Fisheries and Environmental Affairs
South Africa

by email *Private Executive Secretary: Buchule Mbuli BMbuli@environment.gov.za*
by email *Chief of Staff: Feroze Shaik FShaik@environment.gov.za*

Recent Artificial Breaching of the Lake St Lucia estuary

1. We write to you as a concerned group of scientists, some of whom have worked in the Lake St Lucia Estuary since the 1970s, with extensive collective experience of estuaries and their functioning both in South Africa and internationally.
2. Our concern arises from the action taken on the 6 January 2021, when the sand barrier separating the Lake St Lucia Estuary from the sea was artificially breached allegedly by the iSimangaliso Authority.
3. This action is contrary to the recommendations which were arrived at and accepted by this same entity, the iSimangaliso Authority, as well as by the Department of Environment, Forestry and Fisheries after a detailed scientific study was conducted. This study used existing and new research by a highly qualified team of scientists during the iSimangaliso Global Environment Facility (GEF) project which ran from November 2014- February 2017. The major recommendation from that project was that natural processes should be allowed to re-establish; the uMfolozi River should be allowed to re-join the Lake St Lucia Estuary, and allowed to fulfil its dual role as a source of fresh water and a driver of mouth inlet dynamics. It specifically recommended that no artificial breaching of the mouth was to take place.
4. The interventions that have just been implemented also fly directly in the face of the recommendations included in the 2016 Reserve Determination Measures study for this system which state that "*Lake St Lucia estuary mouth should not be breached artificially except in emergency or when exceptional circumstances prevail...* and "*This will allow more river flow north through the Narrows towards the Lake during droughts and when breaching occurs naturally it will open up a large mouth with a large tidal flow*." It is our understanding that this environmental flows study report has been signed off by the Department of Water and Sanitation and hence is also legally enforceable. We know of no information nor circumstances preceding this breaching event that could constitute an "*emergency*" or "*exceptional circumstances*".
5. The Lake St Lucia Estuary, as a dominant feature of the iSimangaliso Wetland Park and the largest estuary in South Africa, was central to the declaration of South Africa's first World Heritage Site (WHS). This site met three criteria; exceptional biodiversity, outstanding examples of ecological processes and its superlative natural phenomena and scenic beauty, any one of which would have sufficed for the Park to qualify for WHS status.
6. It is the largest estuary in the country and constitutes 60% of the total estuarine area nationally and 80% of the sub-tropical estuarine area with a critical role as a fish and prawn nursery ground along the east coast. Threats and impairments to its functioning are consequently significant on national and regional scales.

7. Despite its importance, the Lake St Lucia Estuary has been extensively manipulated and many of these changes have adversely impacted its functioning and disrupted natural processes.
8. Transformation of the the flood plain of the uMfolozi and uMsunduzi rivers began early in the 20th century. This floodplain and its rivers form an essential part of the Lake St Lucia Estuary and their wetlands have now been drained, channels dredged, levees constructed to constrain natural channel switching and overflow channels designed to re-direct high flows.
9. Since the 1950s those responsible for the care of the Lake St Lucia Estuary have intervened to solve the problems generated by these changes, ranging from an extensive dredging operation to the diversion of water from the uMfolozi River through a link canal, all of which failed to address the impaired hydrological and ecological functioning of the Lake St Lucia Estuary.
10. In 1952 unquantified perceptions of increases in sediment load in uMfolozi River water entering the estuary resulted in a management decision to completely separate this important catchment from the estuary.
11. This separation policy was maintained by the conservation authorities for the next 60 years. The consequences were that to maintain an open mouth, groynes had to be constructed on the north and south banks of the inlet, while dredgers were required to work permanently in the estuary.
12. The long-term impact of the loss of uMfolozi water from the Lake St Lucia Estuary, combined with a dry cycle which occurs roughly decadely in this area, led to the unprecedented drying up of 90% of the estuary in 2005, with devastating consequences for the estuary's biota.
13. The recognition of the disastrous effects of the historical management of the estuary, coupled with the increased knowledge, understanding and appreciation of the drivers of the system made the policy's failure and broad implications glaringly apparent. A re-consideration of all available and new data was brought to the fore during the iSimangaliso GEF Project.
14. The GEF project consolidated and produced new scientific knowledge, and brought together 28 scientists in a multi-disciplinary team which considered hydrology, hydrodynamics, socio-economics and ecological functioning. The final recommendations from the integration of all of these included allowing the system to function naturally, which meant no artificial breaching.
15. This project recognised the existence of the complex matrix of communities, within and surrounding the Lake St Lucia Estuary, with a variety of interests, some of which were in conflict. These included park neighbours struggling for livelihoods, large scale well established sugar farmers, small scale farmers on the edge of the estuary, tourism operators reliant on fishing charters and businesses relying on the Park's biodiversity to support ecotourism. A very comprehensive stakeholder interaction strategy was followed throughout the project to allow all of these different sectors to learn and engage with the multidisciplinary team and their findings.

16. The iSimangaliso Authority implemented the recommendations of the study, adopting a management approach to restore the Lake St Lucia Estuary by allowing natural processes to resume with minimal intervention. This has beneficial impacts on both the Lake St Lucia Estuary and through this on the whole World Heritage Site.

17. In High court proceedings which culminated in a judgement by the Hon J. Moodley on the 20 May 2016, the management approach was endorsed and the judge found that the natural process of backflooding with a closed mouth is part of the natural dynamic of an estuary and to artificially breach would 'prejudice the environmental advances' that had already been made in restoring the Lake St Lucia Estuary.

18. As pointed out in this judgement the Integrated Coastal Management Act (ICMA) has imposed a statutory imperative on the iSimangaliso Authority to manage the Lake St Lucia Estuary in the '*interests of the whole community*' as defined in the ICMA and not to "*privilege the interests of some over others"*; it was also obliged to protect sensitive coastal systems and to secure the natural functioning of dynamic coastal processes.

19. By breaching the estuary mouth on the 6th January 2021, the iSimangaliso Authority seems to have abandoned its own management strategy and ignored the scientific evidence on which this strategy is based. In addition to committing significant time and effort to the GEF project and outcomes between 2010-2017, the iSimangaliso Park Authority also made a significant financial contribution to the GEF project, initially committing US$12.7 million and then being able to leverage extra funds to extend this to a contributed total of US$49 million to the restoration initiative.

20. The actions taken on the 6th January 2021 are directly contrary to the outcomes envisaged by the this substantial commitment and we hope that the current pathway can be halted and the restoration of this estuary brought back to a scientifically robust and data driven process.

21. As scientists and as citizens, we respectfully request that you as the Minister source and provide an explanation regarding this deviation from scientific, evidence-based management decisions by the iSimangaliso Authority.

Signatories to this letter

Ms Nicolette Forbes
Prof Anthony Forbes
Prof Derek Stretch
Dr Barry Clark
Dr Jane Turpie
Prof Gerrit Basson
Mr Eddie Bosman