



CEN INTEGRATED ENVIRONMENTAL MANAGEMENT UNIT
Environmental and Rural Development Specialist

Dale Stock – 24G application for clearing of vegetation, activities in the regulated area of a watercourse, abstraction of surface and groundwater, composting, and irrigation of pivots on a grass farm ‘Grass Galore’ in Theesecombe

- **Public Participation Report –**

12 July 2021

Contents

Introduction.....	3
Overview of the Activities.....	3
Ptn 95 of Cragga Kamma 23:.....	3
Clearing Vegetation to establish Grass Pivots	3
Water Abstraction and Irrigation.....	4
Ptn 243 and 244 of Farm Kragga Kamma 23.....	5
Ptn 62 and Ptn 5:.....	6
The Public Participation Process	21
Identifying Stakeholders	21
Notification Methods.....	21
Media and Site Notices	23
Feedback from Stakeholders, and Response.....	25
Responses to issues:	29
Impact of damming and abstraction of surface water, abstraction of groundwater on the aquifer, borehole users, and the Lake (and other downstream aquatic areas):.....	29
Impact of making and applying compost.....	32
Flooding of 63 Butterfield Road.....	32
Way Forward	37
Appendix 1: Plant Species List	38
Appendix 2: Aquatic Biodiversity Study	42
Appendix 3: Groundwater Study.....	43
Appendix 4: Odour Assessment	44

Introduction

Dale Stock operates a grass farm ('Grass Galore'), with pivots, composting areas, and water storage and abstraction infrastructure for irrigation on Portions 5, 62, 95, 243 and 244 of the Farm Cragga Kama No. 23 in the Theesecombe area, Nelson Mandela Bay Municipality. The following activities have been done on the properties without obtaining the necessary approvals in terms of the National Environmental Management Act (NEMA) and EIA Regulations, the NEM: Waste Act, and the National Water Act (NWA) – clearing vegetation to establish grass pivots and other grass growing areas, making and applying compost, modifying/upgrading existing dams, abstracting surface water and groundwater from dams and a borehole, and irrigating grass lawns. Consequently, Dale Stock is in non-compliance with environmental legislation, and needs to apply to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), and Department of Water and Sanitation (DWS) for rectification of the unlawful activities.

CEN Integrated Environmental Management Unit (CEN) are the Environmental Assessment Practitioners (EAP) for the project, and are handling the required application processes in terms of the EIA Regulations and the Waste Management Act. Karissa Nel is managing the Water Use Authorisation application in terms of the NWA.

Public Participation is a key component of the impact assessment process. This report presents the process that has been followed, and correspondence received to date; and serves to provide feedback to stakeholders who have registered and submitted comments.

Overview of the Activities

Refer to Figure 1 and Figure 2, which are aerial images showing the location of the properties and activities included in the application.

Ptn 95 of Cragga Kamma 23:

Clearing Vegetation to establish Grass Pivots

- In the period between 2017 and 2018, vegetation was cleared to establish 2 pivots for lawns. The pivot sizes are 8.5 and 6.5 ha each.
- A history of Google Earth images were checked, and it appears that vegetation cover in the disturbed area was a combination of alien trees and low-growing vegetation. During the vegetation survey in October 2020, undisturbed areas surrounding the pivots were inspected to determine the likely vegetation type and composition of the area that was cleared. It is likely that vegetation cleared for the eastern Pivot was predominantly alien vegetation, while that of the western Pivot was mostly indigenous grassy fynbos. A remnant band of indigenous grassy fynbos runs in a N-S direction between the 2 pivots, and includes a mix of indigenous grasses, restios, sedges, and low shrubs.

Vegetation to the west and south of the pivots is representative of grassy fynbos. A vegetation survey has been done, and a plant species list is given in Appendix 1.

- Desktop information for the area disturbed for the establishment of Pivots shows that:
 - The area is part of a Critical Biodiversity Area network, and the vegetation type is classified as Colleen Glen Grassy Fynbos (critically endangered). There are no ecological process areas that traverse the Pivots (NMBM Bioregional Plan, 2015).
 - The western and south-western edge of the western Pivot is within the 100 m buffer of a watercourse, and partly within an area classified as a 'Freshwater Ecological Support Area' in the East Cape Biodiversity Conservation Plan (2019). There are numerous wetlands (some of which are dams) within 500 m of the Pivots. An aquatic biodiversity assessment has been done to ground-truth and verify the desktop data, which delineated and classified the riparian and wetland areas, and recommended buffers. The report is attached as Appendix 2, and an aquatic map is given in Figure 6).

Water Abstraction and Irrigation

- Water is abstracted from an in-stream dam (part of the Seaview Stream) on Ptn 95 (referred to as the Pivot Dam / Dam 3), and is pumped to a storage dam on Ptn 62 (Dam 1). Dam 1 is a storage dam, and is filled with water from Dam 3, borehole water, and rainwater harvesting. The Pivot dam was established many years ago by the landowner (Gwen Hornigold). The dam broke in 2011, and was rebuilt in 2012. Mr Stock upgraded the dam in 2017 by strengthening the wall, clearing out silt, and removing alien vegetation at the edges of the inlet to prevent damage. Rock and soil material was placed in the drainage area downstream of the dam, to change the flow path around the dam wall to alleviate erosion during high flow conditions. Water is pumped from this dam for the Hornigold's use, as well as for irrigation purposes by Mr Stock (from 2017).
- A raft and solar energy, pipes, and a pump house were installed to transfer water to the farm dam on Ptn 62
- Rainfall is the primary source of irrigation for the grass lawns, and the decision on when and how much to irrigate using water from the dam is implemented based on rainfall periods and volume. Irrigation using dam water is only done in the middle of a dry period. Soil moisture retention is optimised by composting, to reduce irrigation demand. When grass is harvested, a water tanker is used to irrigate small areas as it is not economically viable to use the Pivot irrigation on small areas/sections only. Over-irrigating at the grass farm is not a desirable option for Mr Stock, as it is economically inefficient (i.e. irrigating costs money, and with increased irrigation more mowing will be needed which also carries a cost), and causes waterlogged conditions which are not conducive to truck movement.
- The exact amount of water abstracted from the dam is not known, and is pumped only when needed to augment water levels in Dam 1. Mr Stock explained he does not let the water level in Dam 3 drop below one-third of its

capacity. To get a more accurate figure of the volume of water abstracted (or needed) from Dam 3, the overall water demand of the Grass Farm and domestic activities on the farm can be subtracted from the overall supply (from dams, a borehole, and rainwater harvesting) (extracted from Nel, 2021):

Water Availability	
Rainwater harvesting (assuming an average of 680 mm ³ of rainfall per year on 1,764 m ² roof area)	1 199.52 m ³ /a (~100 m ³ /month)
Groundwater from the borehole (currently pumped at 500 L/h or 0.14 L/s) (note that the Groundwater Investigation now recommends 0.1 L/s pump rate for 24 hours)	262.06 m ³ /month (currently using ±366.88 m ³ /month)
Surface water pumped from Dam 3 to Dam 1 (<i>refer to the calculation below</i>)	As needed (down to 1/3 of dam capacity)
Water Demand	
Four toilets on the Butterfield Road property ⁴	20 m ³ /month
Washing vehicles and machinery	5 m ³ /month
Production of concrete products and washing of relevant equipment	2.5 m ³ /month
Irrigation of grass pastures	800 m ³ /month (current use)
Total monthly demand	827.5 m³/month (current demand)
Calculated abstraction from Dam 3	465.44 (current demand)

Groundwater abstraction volumes are reduced in the table to that which has been recommended in the groundwater study (i.e. 262.06 m³/month), done as part of this assessment (refer to Appendix 3). The calculated abstraction from Dam 3 for current needs is 465.44 m³/month¹.

Compost is spread on Pivots, when required.

Ptn 243 and 244 of Farm Kragga Kamma 23

- In 2016, ~3.3 ha of vegetation was cleared to establish grass lawns for Grass Galore. Irrigation lines were laid, but subsequently Mr Stock determined the area unfeasible for this use. Irrigation stopped in 2017, and the area was subsequently used for grazing of domestic animals.
- From an inspection of a chronology of Google Earth aerial images, it appears as if vegetation cover prior to clearing was predominantly alien trees. During the vegetation survey in October 2020, the surrounding area was inspected, and it is confirmed that there would have been little indigenous vegetation, and mostly tall alien trees on the farms.

¹ At the current borehole pump rate, approximately 360.62 m³/month is abstracted from Dam 3.

- Desktop information for the area established as grass lawns (and subsequently grazing area) shows that:
 - The area is not part of a Critical Biodiversity Area network or ecological support area in the NMBM's Bioregional Plan (2015). Pre-transformation vegetation type would have been Colleen Glen Grassy Fynbos (critically endangered) but disturbance and modification to the Farms occurred as early as 2004).
 - The northern tip of Ptn 243 is part of a Freshwater Ecological Support Area' in the East Cape Biodiversity Conservation Plan (2019). There are no watercourses or wetlands mapped on the Farms; however a natural wetland is mapped within 500 m of the site, to the south.

Ptn 62 and Ptn 5:

- Bedding litter from horse stables; tree bark and kraal manure are used to make compost. Material is stockpiled in a row on Ptn 5 of Farm Kragga Kamma 23. Piles are made using a front-end loader, and are manually turned for aeration. Approximately 150 m³ of compost is made per month in the process. A machine is used at the warehouses on Ptn 62 to chip bark and separate out finer materials to optimise the composting process. When ready, compost is applied on grass lawn areas on Ptn 243 and 244, and on Ptn 95.
- A farm dam has been on Ptn 62 for more than 80 years, and has been used for operations at Mr Stock's Grass Farm since 2014. The dam is the main storage area for water for irrigation purposes, but is also used for other purposes (e.g. washing of vehicles and machinery and production of concrete products).
- The dam does not have its own catchment, and receives water from runoff from roofs of structures, water pumped from the dam on Ptn 95, and groundwater abstracted from a nearby borehole on the property
- Borehole:
 - The borehole was sunk in 1987.
 - Current abstraction rate: 800 – 1000 litres per hour (estimated), pumped 24/7
 - Groundwater is pumped into the farm dam on Ptn 62, and used for irrigation and domestic purposes.

A geohydrological investigation has been done by SRK Consulting (see Appendix 3) to determine the impact of groundwater abstraction, and recommend sustainable abstraction rates and volumes. The study also addressed the potential impact of making and applying compost on groundwater quality. Based on the recommendations of the pump tests done on the borehole, the abstraction rate must change from 366.88 m³ per month to 262.06 m³ per month.

An odour assessment has been done by Safetech (see Appendix 4) to determine whether compost rows, and applying compost, creates an odour nuisance to surrounding residents. The study showed that odour from composting does not create a nuisance impact, when compared to international guideline limits for Hydrogen Sulphide, Ammonia and Total Volatile Organic Compounds.

The specialist studies provide recommendations for farming operations to prevent and / or manage environmental impacts. These have all been incorporated in an Environmental Management Programme to guide Mr Stock's operations going forward.



FIGURE 1: AERIAL IMAGE SHOWING THE PROPERTIES INCLUDED IN THIS APPLICATION.

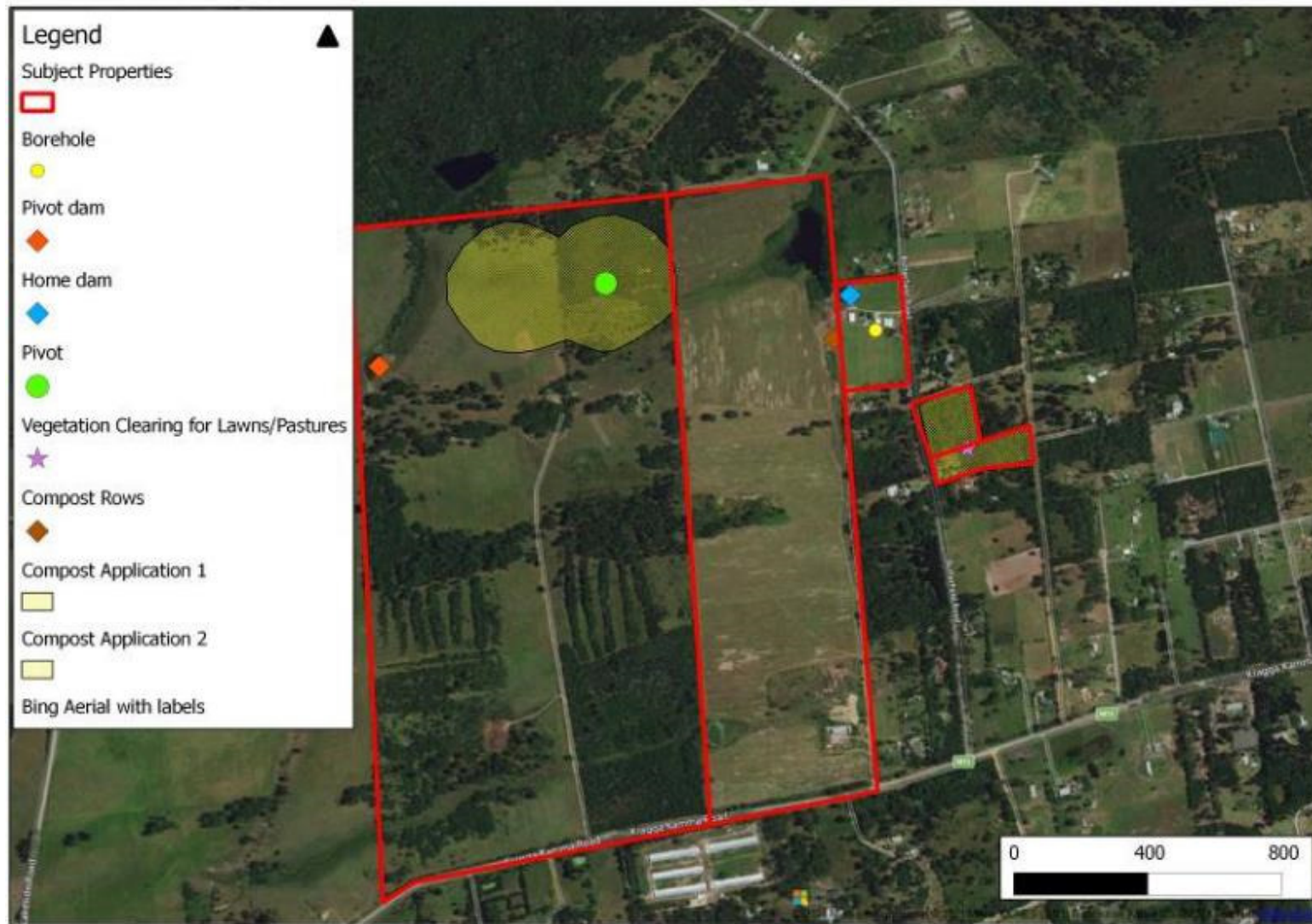


FIGURE 2: OVERVIEW OF ACTIVITIES THAT HAVE BEEN UNDERTAKEN ON THE PROPERTIES.



PLATE 1: PHOTOGRAPH OF THE STRIP OF INDIGENOUS VEGETATION BETWEEN THE 2 PIVOTS. TALL ALIEN TREES TO THE NORTH ARE VISIBLE IN THE BACKGROUND.



PLATE 2: GRASSY FYNBOS VEGETATION WEST OF THE WESTERN PIVOT.



PLATE 3: GRASSY FYNBOS VEGETATION SOUTH OF THE EASTERN PIVOT.



PLATE 4: VEGETATION NORTH OF THE PIVOTS IS PREDOMINANTLY ALIEN VEGETATION.



PLATE 5: A VIEW OF THE PIVOT DAM / DAM 3 ON PTN 95, WITH A FLOATING RAFT AND PUMPHOUSE.



PLATE 6: PHOTO SHOWING MATERIAL THAT WAS PLACED DOWNSTREAM OF THE DAM WALL.



FIGURE 3: VEGETATION CLEARING TO ESTABLISH PIVOTS ON PTN 95 OF KRAGGA KAMMA 23, USING GOOGLE EARTH IMAGES.



FIGURE 4: AREA DISTURBED TO ESTABLISH PIVOTS (RED OUTLINE, USING OCTOBER 2020 AERIAL IMAGE), OVERLAIN ON A MARCH 2016 (PRE-DISTURBANCE) GOOGLE EARTH IMAGE.

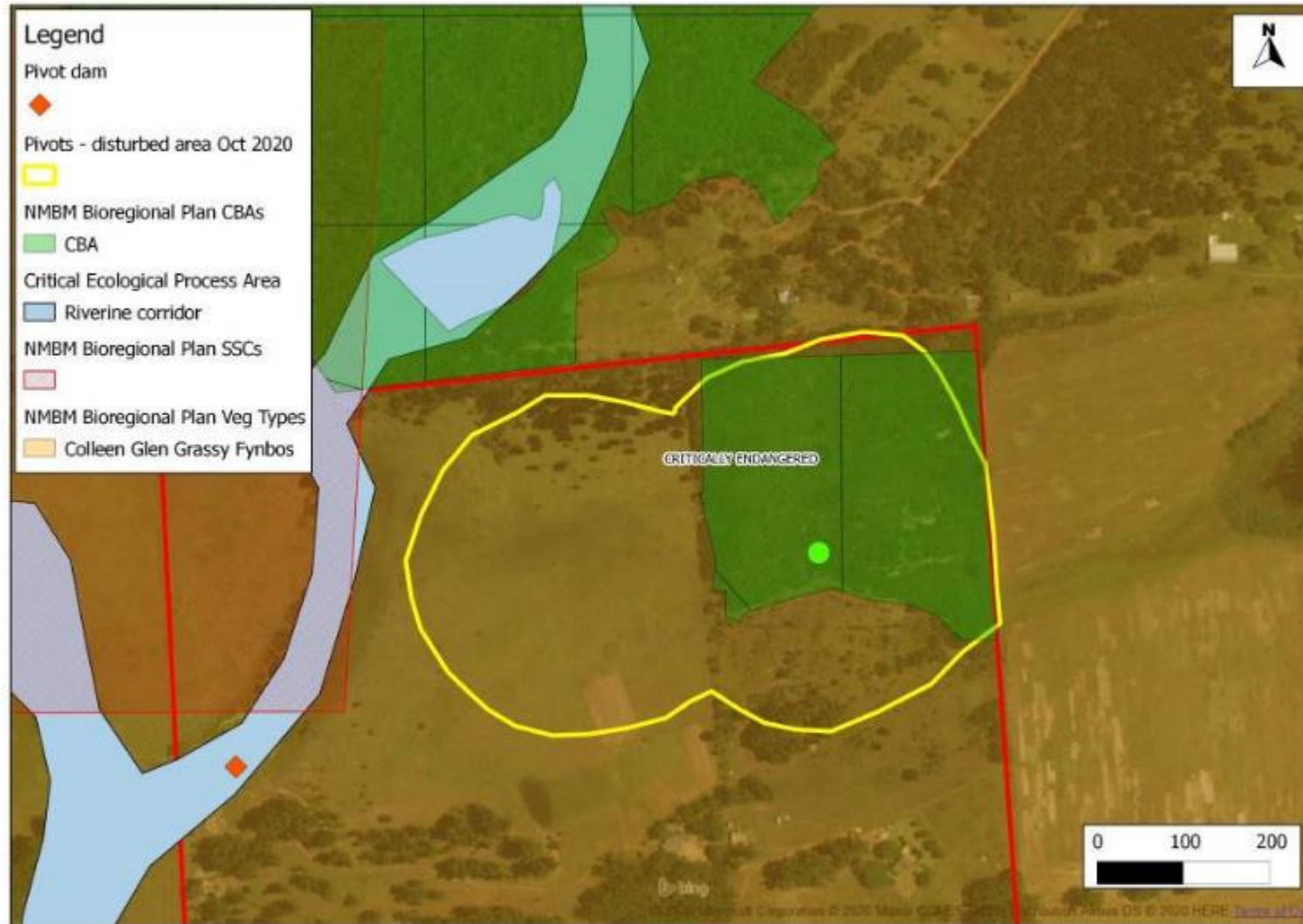


FIGURE 5: THE AREA DISTURBED FOR ESTABLISHING THE PIVOTS IS WITHIN A CRITICAL BIODIVERSITY AREA, AND THE VEGETATION TYPE IS COLLEEN GLEN GRASSY FYNBOS (CRITICALLY ENDANGERED) (NMBM BIOREGIONAL PLAN, 2015)

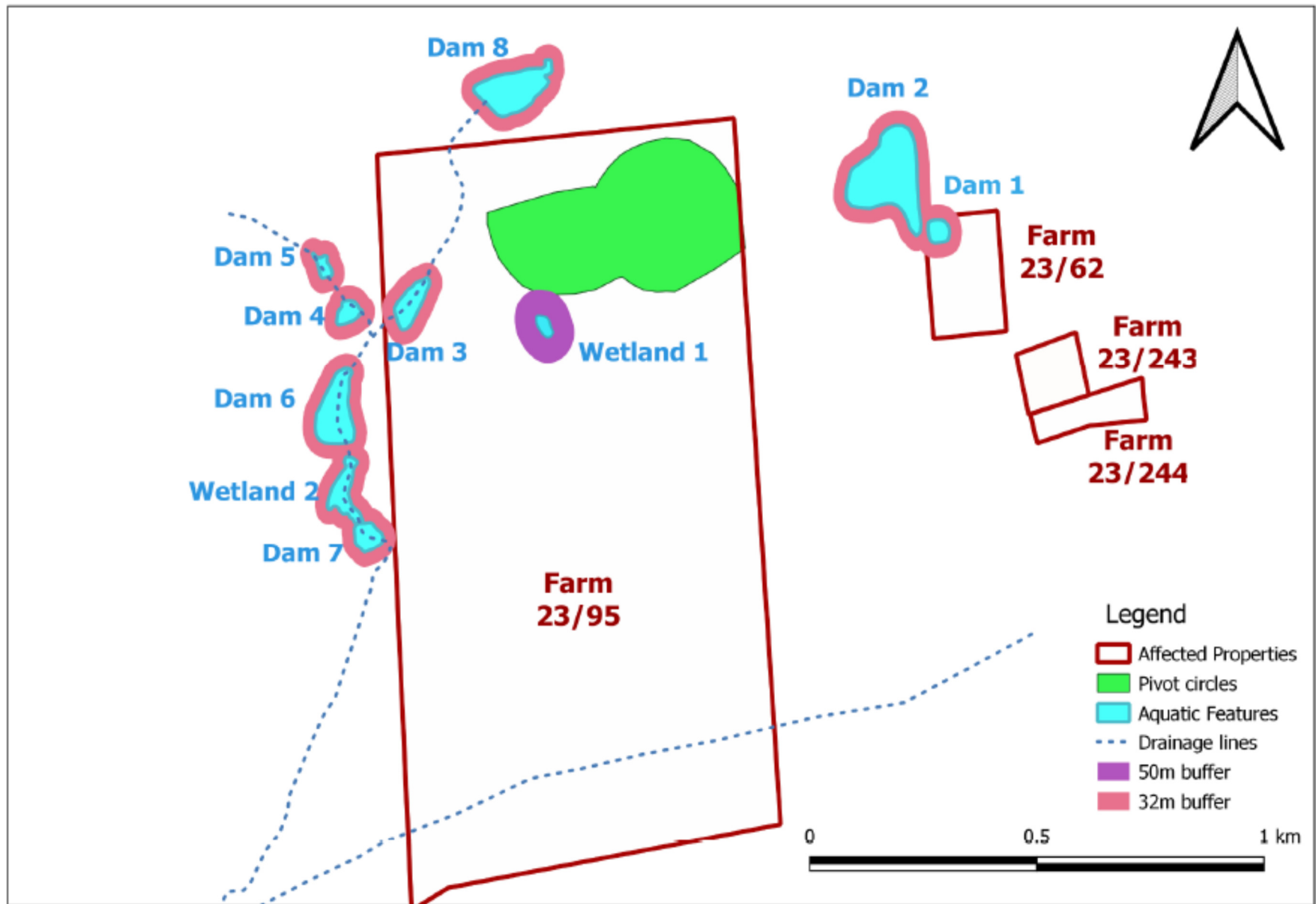


FIGURE 6: MAP OF DELINEATED AQUATIC ENVIRONMENTS (NEL, 2021).



FIGURE 7: VEGETATION CLEARING TO ESTABLISH GRASS LAWNS (NOW USED FOR GRAZING ANIMALS) ON PTN 243 AND 244 OF KRAGGA KAMMA 23, USING GOOGLE EARTH IMAGES.



FIGURE 8: AREA DISTURBED TO ESTABLISH GRASS LAWNS (RED OUTLINE, USING OCTOBER 2020 AERIAL IMAGE), OVERLAIN ON A JANUARY 2016 (PRE-DISTURBANCE) GOOGLE EARTH IMAGE



FIGURE 9: VEGETATION CLEARING ON PTN 243 AND 244 DID NOT TAKE PLACE WITHIN IS WITHIN A CRITICAL BIODIVERSITY AREA OR ECOLOGICAL PROCESS AREA. THE PRE-TRANSFORMATION VEGETATION TYPE IS DESCRIBED COLLEEN GLEN GRASSY FYNBOS (CRITICALLY ENDANGERED), BUT THIS WAS MODIFIED AS EARLY AS 2004 (NMBM BIOREGIONAL PLAN, 2015).



PLATE 7: PHOTOGRAPH OF THE GRASS AREAS ON PTN 243 AND 244.



PLATE 8: PHOTOGRAPHS OF THE COMPOST PILES AND PROCESSING AREA ON PTN 5 AND PTN 62.

The Public Participation Process

Identifying Stakeholders

Spatial cadastral data for properties within a 1 km radius of the subject sites were checked, and a list generated (see Figure 10). Owner contact details were obtained via registered information on 'WinDeed' as well as contacts collected during previous studies done in the area, including those that are outside of the 1 km buffer (e.g. Royalston Estate). A stakeholder database was compiled, comprising landowners, state departments, the Ward Councillor, and community groups/associations. Notices were compiled, explaining the assessment and application process, and inviting stakeholders to participate in the process. Notices were sent in the form of Background Information Documents, and were placed in the legal section of the *Herald* and *Die Burger*. Two site notices were also erected in the area.

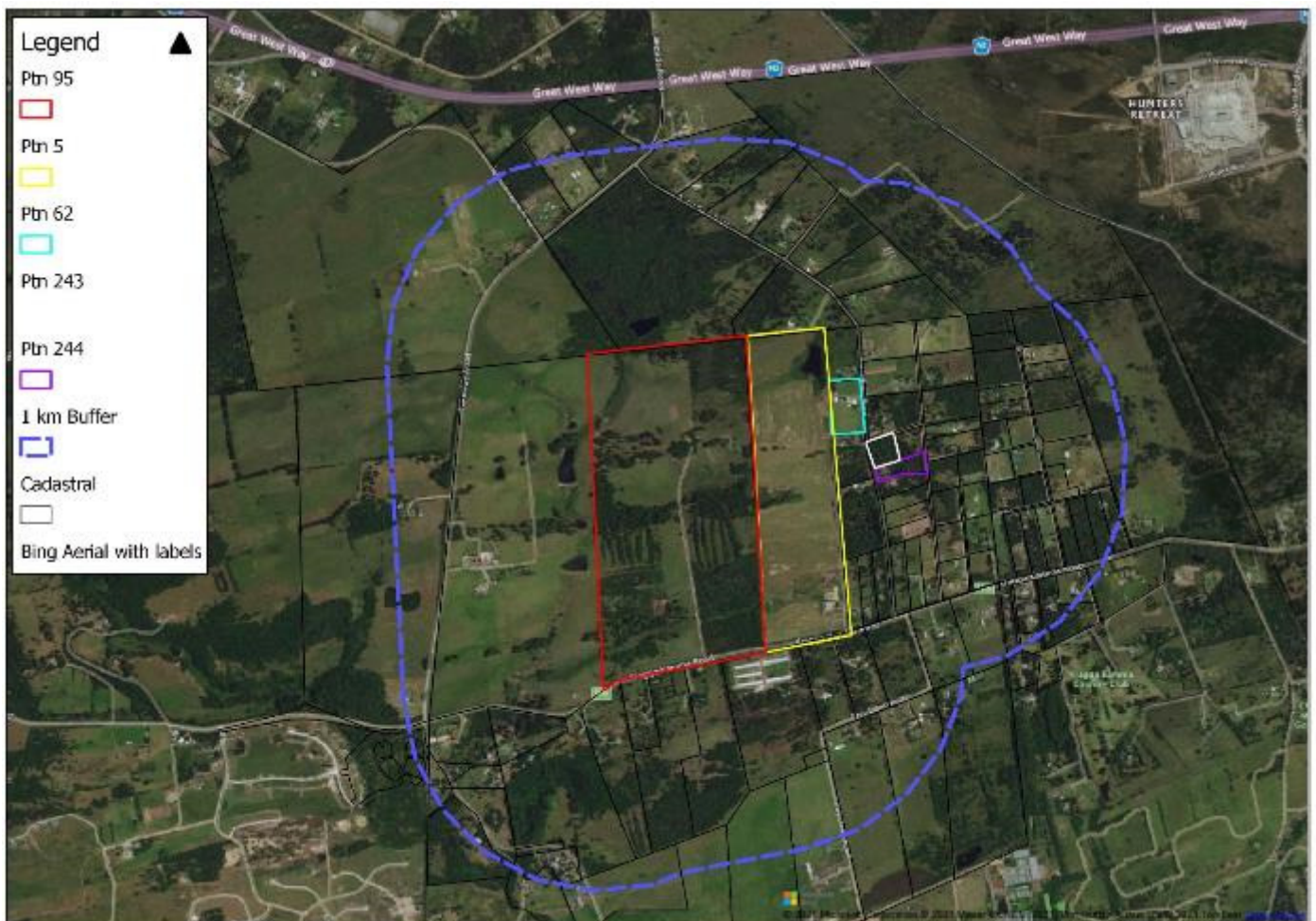


FIGURE 10: PUBLIC PARTICIPATION MAP - CADASTRAL INFORMATION FOR PROPERTIES WITHIN A 1 KM RADIUS OF PTN 5, 62, 95, 243 AND 244 OF FARM CRAGGA KAMA NO. 23.

Notification Methods

A Background Information Document was compiled, providing an overview of the project and the application process, and inviting stakeholders to register and submit comments. BIDs were either emailed or posted, depending on the available contact information for various stakeholders.

Two notices were placed in the media:

1. The Herald –7 September 2020
2. Die Burger - 7 September 2020

Size A2 site notices were placed at 2 locations in the area – one at the entrance to Grass Galore along Butterfield Road, and the other at the southern entrance to Ptn 95 along Kragga Kamma Road.

Notices indicated that comments should be submitted within 30 days of being notified. However, the process has been active until the date of writing this public participation report, and all comments received to date have been considered.

A project page has been added to the EAP's website, where all public documents are posted. The contact details of the EAP are included on all public notices, should further information be required. The page can be accessed at:

<https://environmentcen.co.za/project-items/s24g-dale-stock-theesecombe-nmbm-ec/>

Publication	Publication Date
DBOOS (Die Burger Oos)	07/09/2020

Kennisgewing van 'n Aansoek vir Regstelling van die onwettige aanvang van aktiwiteite geïdentifiseer kragtens die Omgewingsimpakstudieregulasies onder die Wet op Nasionale Omgewingsbestuur, en die Nasionale Waterwet

Dale Stock bedryf 'n graspaas, met spie en vereiste waterberging en -onttrekkingsinfrastruktuur vir besproeiing op Gedeeltes 62, 95, 243 en 244 van die Paas Kragga Kamma Nr. 23 in die Theesecombegebied, Nelson Mandela Bay Munisipaliteit (sentrale koördinate: 33°57'50.92"S 25°26'2.45"E). Die volgende aktiwiteite is op die eiendomme onderneem sonder dat die nodige goedkeuring verkry is kragtens die Wet op Nasionale Omgewingsbestuur en OIS-regulasies, en die Nasionale Waterwet - uitkap van plantegroei en vestiging van spie en weigebiede, wysiging/opgradering van bestaande damme, onttrekking van grondse water vir besproeiing, en grondwater-onttrekking. Dale Stock voer dus nie aan vereistes nie en moet by die Departement van Ekonomiese Ontwikkeling, Omgewingsake en Toerisme, en die Departement van Water en Sanitasie aansoek doen vir die regstelling van die onwettige aktiwiteite.

CEN Integrated Environmental Management Unit is as die onafhanklike omgewingsevaluasiëpraktisyn aangestel om 'n aansoek voor te berei en in te dien by die bevoegde owerhede vir die regstelling van die onwettige aktiwiteite kragtens Artikel 24G gees met Artikels 24(F) en 7 van die Wysigingswet op Nasionale Omgewingsbestuur (Wet nr. 62 van 2008), soos gewysig, en om aansoek te doen vir 'n Watergebruiksmagtiging kragtens die Nasionale Waterwet. Die aansoeksa'n terugwerkende evaluasie van impakte rakende die aktiwiteite, en openbare deelname insluit.

Hierdie is 'n vooraansoek-kennisgewing waardeur Beangesteende en Geïnteresseerde Partye genooi word om aan die proses deel te neem deur te registreer en geskrewe kommentaar aan CEN IEM Unit te rig binne 30 dae van hierdie kennisgewing (d.w.s. teen 9 Oktober 2020) deur van die onderstaande besonderhede gebruik te maak. Verdere kennisgewings sal volg sodra 'n konsepverslag beskikbaar is.

CEN Integrated Environmental Management Unit:
 Dr. Mike Cohen
 Rivenweg 36, Walmer, Port Elizabeth, 6070
 Telefon: 041 581 2983 / Faks: 086 504 2549
 E-pos (verkies): steenbok@aerosat.co.za

The HERALD
 7.9.20

Notice of an Application for Rectification of the unlawful commencement of activities identified in terms of the Environmental Impact Assessment Regulations under the National Environmental Management Act, and the National Water Act

Dale Stock operates a grass farm, with pivots and required water storage and abstraction infrastructure for irrigation on Portions 62, 95, 243 and 244 of Farm Kragga Kamma No. 23 in the Theesecombe area, Nelson Mandela Bay Municipality (central coordinates 33°57'50.92"S 25°26'2.45"E). The following activities have been done on the properties without obtaining the necessary approvals in terms of the National Environmental Management Act and EIA Regulations, and the National Water - clearing vegetation and establishing pivots and grazing areas, modifying/upgrading existing dams, abstracting surface water for irrigation, and groundwater abstraction. Consequently, Dale Stock is in non-compliance and needs to apply to the Department of Economic Development, Environmental Affairs and Tourism, and Department of Water and Sanitation for rectification of the unlawful activities.

CEN Integrated Environmental Management Unit has been appointed as the independent environmental assessment practitioner to prepare and submit an application to the competent authorities for rectification of the unlawful activities in terms of Section 24 G read together with sections 24 (F) and 7 of the National Environmental Management Amendment Act (Act No 62 of 2008) as amended, and to apply for a Water Use Authorisation in terms of the National Water Act. The application will include a retrospective assessment of impacts associated with the activities, and public participation.

This is a pre-application notice whereby Interested and Affected Parties are invited to participate in the process by registering and submitting written comment to CEN IEM Unit within 30 days of this notice (i.e. by 9 October 2020) to the details below. Further notices will follow once a draft report is available.

CEN Integrated Environmental Management Unit:
 Dr Mike Cohen
 36 River Road, Walmer, Port Elizabeth, 6070
 Tel: (041) 581 2983
 Fax: 086 504 2549
 E-mail (preferred): steenbok@aerosat.co.za



Feedback from Stakeholders, and Response

Table 1 includes comments submitted by stakeholders. A response from the EAP is given below the table.

TABLE 1: COMMENTS TABLE

<p>Royalston Residents (M Thompson, L Badenhorst, J Krauspe, T Maritz, CJ Barnes, S Ritchie, L Boretti, A Nortje, M Nortje, C Brand, Z de Carvalho-Stone, W Delpont, C and M Ingram, T Henderson, N le Roux, W Cremore, FJ Smith, C and J van Rooyen, H Girling, PD and CM Allday, H Fourie o.b.o the Magalies Trust, R le Roux, L Greenwood, D Bartlett, M Strydom, E Strydom, P and A Pretorius, M Beckley, G Saayman, R le Roux,):</p>
<p>In the best interest of our wildlife population, the preservation of our groundwater, the conservation of the biodiversity of the area, our community's recreational and tourism opportunities, we wish to contest to Mr Stock's retrospective application to the DEDEAT and the DWS.</p>
<p>Royalston Coastal Wildlife Estate in association with East Cape Game Properties (Pty) Ltd</p>
<p>Concerns relate specifically to the abstraction of groundwater and surface water for irrigation purposes.</p> <p>Over the last year, we have hopelessly watched our Lake dry up, leaving countless fish to die slow deaths. Despite the community's best efforts to relocate as many fish as possible, hundreds were lost. Not only is this Lake a beloved landmark for the community, but it is a vital water source for animals at Royalston. We have populations of zebra, duiker, springbuck, porcupine, honey badger, bushbuck, kudu, nyala, hartebeest, fallow deer, wildebeest, impala, giraffe, waterbuck, sable, blesbuck, blue crane which are listed as Vulnerable by the IUCN, and many more. More importantly, and possibly the most heart breaking, is the pair of Fish Eagles, that have lived at the Lake for years. As their food source has dwindled, they have been spending less and less time here. More recently, their almost-adult chick was found dead by one of the Royalston residents. We firmly believe that the Lake has been adversely effected by Mr Stock's illegal activities.</p>
<p>The Lake is also a key marketing feature of our Royalston Lakehouse Chapel and Wedding Venue. Losing the Lake has direct negative financial implications for the Estate.</p>
<p>Therefore in the best interest of our wildlife population, the preservation of our groundwater, the conservation of the biodiversity of the area, our community's recreational and tourism opportunities, and the continued success of our business; we wish to contest to Mr Stock's retrospective application to the DEDEAT and the DWS</p>
<p>April and John Gehle – Ptn 48 of Kragga Kamma 23:</p>
<p>Overlook the Lake, and have water rights at the Lake</p>
<p>Concerns are mostly related to the Lake, and it should be included in maps showing areas that may be affected by the development. Runoff from the wetlands under investigation drains into the Lake to the south-west.</p>
<p>The Lake has over the past 10 years dwindled to a putrid puddle with resulting devastation to the local ecology. The water level has become so low the fish died, and so the Fish Eagles left. Also the bull frog and leopard frog population which was healthy and abundant has become seriously depleted, and so the bird life is also deteriorating.</p>
<p>The dire condition of the Lake can be attributed to the drought conditions, and also the runoff water being prevented and depleted due to unlawful activities conducted by Dale Stock.</p>
<p>The situation can get much worse if the illegality is rectified, and Dale Stock gets permission to continue his activities. The Lake is a historically and environmentally sensitive area, and as such should be legally protected.</p>

Mr Toto van der Merwe
Requested to register as an IAP, and be notified when reports come available.
Garth van Niekerk
<p>Request to be registered as an IAP. I am a resident on the Southern side of Lake Farm. I have only once before in my lifetime witnessed the Lake as dry as what it is now and that was when Grass Master was pumping water from the lake. They were eventually forced to stop using water from the lake.</p> <p>Now Mr. Stock is doing very much the same thing... excepting that by building an illegal dam in the main catchment area that feeds the lake he is preventing water from ever reaching the lake.</p> <p>Even with the good recent rains there has been a minimal trickle of water into the lake. This is as a direct result from people like him and others enlarging existing dams and building new dams.</p> <p>This just cannot be allowed as the lake at Lake Farm has existed for thousands of years and its very existence is threatened by these illegal activities. I strongly oppose any further dams being built in the catchment area of Lake Farm.</p>
Charlotte van Niekerk
<p>Request to be registered as an IAP. I am a registered estate agent with Pam Golding Properties. I met my husband 10 years ago and was amazed at the beautiful setting of his home. One could sit on the deck and view the beautiful lake in all its splendour. Hear the ducks at night and during July the frogs would come down to the lake in their thousands and mate. This would last for a week. I saw my daughter learn to sail on the lake, friends were baptized and everything around our property was centred around the lake. Slowly one could notice that something was radically wrong, the lake started drying up, fish were dying and we had to rescue thousands of fish. Suddenly there was no water for sailing or going for a swim and for months we looked onto a dry lake.</p> <p>Rains came and we would eagerly go look if water was starting to trickle down to the lake, but sadly it never did. More rains came, still nothing. It now has to take a lot of rain before we see any trickle of water coming into the lake from the catchment area.</p> <p>I strongly object to any dams being built or enlarged in the catchment area of lake farm.</p> <p>The Cragga Kamma Portion 23 has various portion numbers and most of them have the rights to using the lake in their title deeds. This is a very strong selling feature. Without the lake having water in it renders this natural attraction useless.</p>
Paul Ruschenbaum
<p>We are very concerned about the fact that this and other dams have been build enlarged in the area feeding the lake at lake farm, I have been living here from 1998 and been through some dry periods but this year we have had a lot of rain and very little water has flown to the lake.</p> <p>We as residents had to clean up when hundreds of fish died at the lake due to the lack of water (see attached photos). We have resident pair of fish eagles that nest at the lake and each year they have managed to raise 2 chick, unfortunately this year we have found one of the young fish eagles dead next to the lake due to eating too much dead rotten fish this can be confirmed by Mr. Barry Kurten from eastern Cape Bird Club.</p> <p>Would appreciate follow-up regarding this matter.</p>
Peter Baxter
The Lake Farm has recently dried up, which resulted in catastrophic loss of fish life. I believe that one of the reasons for the lake drying up is the unlawful construction/enlargement of dams and extraction in the catchment area of the Lake. A second reason

is the extraction of water from the Lake itself, being carried out by properties adjacent to the Lake. Mr Dale Stock is not the only party that should be investigated. I wish to contest Mr Stock's retrospective application to the DEDEAT and DWS.
Matthew Hills
Request to be registered as an IAP
R Gouws and DH Torien
Request to be registered as an IAP
Gavin Calico - NMBM
Existing cables and overhead lines are present on the erf.
No structures, or cutting or filling, that will alter the ground level, will be allowed within the power line servitude, or in the absence of a servitude, within 5 m of the extremities of the overhead line (servitude) or within one metre of underground cables.
A supply can be made available to the erf at a cost to be determined once final layout capacities and exact locations of such supply are confirmed in writing. Written details, together with an approved final layout, must be provided to the Executive Director: Electricity and Energy. Notice period of up to 9 months before an electrical supply is available, can be required in some instances.
CEN responded to Mr Calico that Mr Stock is not applying for electrical connection from the NMBM, and no new activities are planned on the farms that may impact on servitudes. For checking purposes, a copy of shapefiles of the servitudes was requested. These are unfortunately not available.
R Price/C Atterbury
Interested as a neighbour
Tony Lutz of A J Lutz Family Trust
Request to be registered as an IAP
Charles Owen - neighbour at 63 Butterfield Road
<p>1) Water usage:</p> <ul style="list-style-type: none"> - 4 Portions of land around the property in question (that I am aware of) is used for the production of "instant lawn" grass. This necessitates the use of vast quantities of water during dry periods. The water is procured from the borehole on the property and the owner of the business has told me that he pumps water from the borehole 24/7. - Our concern is that this will compromise the use of our borehole water when needed. Our borehole is situated approximately 10m from the fence and I would estimate 100 – 150m from the neighbour's borehole. We make use of rain and borehole water on our property. - We have subdivided our property and will be applying for a borehole to service that property as well. - I have conveyed these concerns to Mr Roger Metelercamp as well. <p>2) Air pollution:</p> <ul style="list-style-type: none"> - Of equal and possibly greater concern is the air and dust pollution that has occurred since Mr Stock had started this business. - The two dwellings and new outbuildings on our property are in a direct line of the path of the prevailing South Westerly wind blowing across the mounds of ground and animal faeces dumped on the neighbour's South West side. - The stench that emanates from the fertilizer/manure in these mounds and that is spread via a machine that spews the manure over the grass in a fine dust form is, to put it mildly, literally suffocating. It is clear that whatever the materials are, it

must surely be illegal. My guess is that pig and chicken faeces and perhaps even materials from the Fish Water Flats sewerage system is used. These materials are spread up to the fence line of our property and we have already lost 4 sets of tenants who rent our garden cottage, who have claimed that they cannot put up with the stench and the health hazards that go along with it. The cottage is situated approximately 5m from the fence.

- The rent forms part of our retirement income, and we thus lose one or two months income on a regular basis.
 - At these times it is impossible to entertain friends and guests and even our children are reluctant to visit.
- 3) Dust pollution:
- The dust blowing from the huge mounds of manure, ground and sand has contaminated our drinking water, our swimming pool, the insides of the houses and buildings as well as the roof and walls of our buildings.
 - We cannot hang our washing outside with the slightest sign of wind, lest the clothing gets contaminated with dust.
- 4) Flood damage:
- After the next door property had been altered to plant the grass we had heavy rains in October 2012. The resultant change in the lay of the land resulted in our garden cottage being flooded. This had never happened before even with heavier downpours than at that time.
 - We had to go to extra expense to dig new stormwater furrows to try to prevent any future flooding.

The final question to ask is: why should the actions of one person be allowed to severely negatively impact the quality of life and the livelihood of the many neighbours around him?

CEN requested Mr Owen to be able to share a placemark of the cottage that was flooded in 2012 please to check its location in relation to the alterations made on the property, and the greater aquatic environment.

M Bloem – Department of Water and Sanitation

From a water resource management perspective, the office has no objections to the development, provided the following is taken into account in the assessment phase thereof:

The operations of the grass farm must adhere to all relevant legislation and standards to ensure prevention of groundwater exploitation and contamination.

A Geohydrological Report must be incorporated as part of the retrospective impact assessment detailing all anticipated groundwater impacts from the operation of the grass farm.

The applicant should apply for a WULA in terms of 21a of the NWA for abstraction of water from a water resource, and 21 b for the 2 dams on the properties. A WUL for all activities that trigger Section 21 of the NWA must be lodged with the Department online at <http://www.dwa.gov.za/ewulaas/>

The structure of the upgraded dam wall should comply with all dam safety regulations.

In summary, the key issues of concern raised by Interested and Affected Parties are:

1. The impact of damming of surface runoff, and abstraction of surface water from the dam and groundwater in the catchment on the Lake to the south-west.
2. The impact of using surface and groundwater for irrigation lawns on neighbour's boreholes.
3. Drying of the Lake and the associated ecological impacts.

4. The Lake is an important recreational area for the local community, and many properties along the Lake were purchased because of the beauty of the Lake environment. Drying of the Lake impacts on these values.
5. The impact of odour and dust from composting (storage and application) on neighbouring properties
6. Flooding of 63 Butterfield Road

Responses to issues:

Impact of damming and abstraction of surface water, abstraction of groundwater on the aquifer, borehole users, and the Lake (and other downstream aquatic areas):

The groundwater report done by SRK Consulting showed the location of boreholes in the surrounding area as identified in available databases, and during the hydrocensus done as part of their investigation. If boreholes are not properly managed, and over-abstraction takes place; this can lead to dewatering of the aquifer. A number of factors can contribute to dewatering:

- Over-abstraction (i.e. exceeding the recommended yields, as determined by a pump test)
- Insufficient recharge of the aquifer (this may take place during extreme drought conditions)
- An increase in the number of users in the immediate area abstracting from the same aquifer

Over-abstraction can result in reduced available volumes from the aquifer, and changes in water quality. The groundwater report recommended that Mr Stock reduces his current abstraction rates as follows:

'The maximum volume of water that can be abstracted from the borehole, should it be pumped 24 hours a day, every day, is 8640 l/day. Therefore the current abstraction rate of 0.27 l/sec is too high, and must be reduced to 0.1 l/sec.'

The specialist concluded that if abstraction takes place within the recommended parameters, and that if water levels are monitored on a monthly basis and do not drop over time; then there would be no significant impact on the aquifer. Mr Stock will implement this recommendation.

Regarding the impact of groundwater abstraction on other surface water bodies and the Lake, the groundwater specialist noted the following:

- Mr Stock's borehole is situated at 210 m.a.m.s.l., and is 68 m deep. Therefore the bottom of the borehole is at 142 m.a.m.s.l.
- The Lake is situated at ~98 m.a.m.s.l.

- The dynamic water level² of Mr Stock's borehole was calculated by the FC-program from the yield testing data as 26.6 m.b.g.l (therefore 183.4 m.a.m.s.l).
- Based on the above, the bottom of the borehole is at a higher elevation than the top of the Lake, therefore extraction from the borehole cannot influence water levels in the Lake.
- Rather, it is postulated that the Lake is significantly replenished by rainwater that is channeled mostly from the north and east towards the Lake. Downward seepage in the Lake is prevented by a largely impermeable base that was created by a silt bottom. During extended rainfall periods, the upper sandy sediments get saturated. Rainwater that seeps into the higher-lying sandy areas around the Lake likely feed the Lake for a period until the water level in the sandy material has lowered to below the level of the Lake.

In summary, the Lake is not dependent on groundwater flow, therefore groundwater abstraction by Mr Stock is unlikely to impact on water levels in the Lake.

An aquatic specialist study was done by Karissa Nel. The specialist mapped aquatic environments in the surrounding area, and recommended buffer areas in which no activities must take place (other than abstraction for obvious reasons) (see Figure 11). The compost windrows are the only activity that are within the recommended buffer area of a farm dam, and will be shifted to avoid this area. Only one natural wetland within 500 m of the activities was identified. The catchment of the wetland is small, and runoff from the Pivot and irrigated areas does not flow into this wetland. The remainder are dams / artificial wetlands. The drainages are non-perennial/seasonal systems, with flowing water for a period after rainfall.

Abstraction volumes of surface water from the Pivot Dam on Ptn 95 is not available, but was calculated by subtracting water availability from water demand (refer to the water demand table earlier in this document). The calculation indicates that at the current borehole abstraction rate (which needs to change to meet the groundwater specialist's recommendations), approximately 360.62 m³/month is abstracted from the Pivot Dam. When the borehole abstraction rate is adjusted, this figure will need to increase to 465.44 m³/month to meet the current demands. . The volume of water that can safely be abstracted from the dam without impacting on the 'ecological reserve' and downstream aquatic environments will be informed by the Water Use Licence application that is underway with the Department of Water and Sanitation. Mr Stock will have to comply with the recommended abstraction rate, indicated in any Water Use Authorisation.

The Lake Farm Lake is a natural wetland system occurring downstream of the seasonal drainage system and dams on Mr Stock's farms. As indicated by the geohydrologist, the Lake mostly receives runoff from a number of non-perennial drainages in the catchment (refer to Figure 12). From the figure, it is clear that there are many dams in the catchment area, and that there are several watershed basins in the area, each with its own dams that contribute to reduced flow in the

² 'dynamic water level' is defined as the level at which the groundwater level in the borehole will stabilise when pumped at a constant rate.

system (Figure 13). Further, chronological Google Earth images between 2004 and 2020 were used to count the increase in dams in the catchment over time – the number increased from 36 to 48 over the period. The Lake is not groundwater fed, but is mostly replenished by rainfall runoff in the catchment. Figure 14 shows a correlation between annual rainfall and the water level in the Lake. It is interesting to note that despite some more recent higher rainfall years (2017 to 2019), the level of Lake has been progressively decreasing in the last 5 years. A large number of variables contribute to the drying of the Lake, and it is a cumulative impact that needs to be addressed on a catchment level (i.e. by all users, and considering all factors). The specialist provided some possible reasons for the drying:

- Approximately 5 years have passed since the last rainfall peak in 2015. In earlier trends, it appears that a rainfall peak was needed to restore the Lake level (e.g. see the period between 2001 and 2006, and 2009 and 2012)
- There has been less overflow of dams in the catchment due to relatively low rainfall over the last 5 years
- There has been an increase in the number of dams in the catchment over the last 20 years
- It is likely that the high number of dams in the catchment retain most of the runoff during years of lower rainfall, while rainfall peaks are needed to create sufficient runoff toward the Lake to restore its levels.
- Rainfall seeps into the sandy layers above the Lake needed for groundwater recharge have reduced due to increased groundwater use associated with lower rainfall in the last few years.

These factors need to be tested on a catchment basis, and abstraction in the catchment by all users' needs to be informed by an ecological reserve determination. The DWS is responsible for this, and the exercise will have to be done as part of the WULA for Mr Stock's activities.

The aquatic specialist assessed the impact of Mr Stock's activities on the changes to the hydrological regime of the drainage areas in the study area as follows:

'The natural hydrological regime of the drainage line in the study area has been altered in various ways over many years. Many dams have been constructed in the drainage line, dams were reconstructed after breakage, and water from some of these dams is abstracted for us on the adjacent farms. Other factors that are continually impacting on the hydrology of the aquatic systems in the study area are sedimentation from erosion, and invasion of alien plants. Over-abstraction of surface water can have a negative impact on the hydrology of the drainage line and the downstream aquatic systems, however if abstraction is done responsibly (i.e. as per the conditions of the WULA when finalised), the impact to the aquatic system should not be significant (note this includes the Lake). Abstraction data from the Pivot Dam was estimated, and together with the small catchment of the dam, it is not expected that Mr Stock's activities affected they hydrology of the drainage line in a significant manner to date'.

Impact of making and applying compost

The aquatic and geohydrological specialists provided recommendations regarding making compost, and applying it on the grass farm, to prevent contamination of these resources via leachate and/or ponding and runoff. These, together with the Norms and Standards for Waste Storage and the Draft Norms and Standards for Composting have been used to guide ongoing operations at Mr Stock's farm, and will be included in the EMPr. A Waste Licence is being applied for which will provide conditions of operation, including monitoring of ground- and surface water to test for any contamination.

The odour assessment done by Safetech measured Hydrogen Sulphide, Ammonia and Total Volatile Organic Compounds at various points surrounding the area where compost is made and applied, to test if an odour nuisance is being created. No standards exist in South Africa for these parameters, therefore the WHO's guideline for Hydrogen Sulphide, and the USEPA's Odour Thresholds for Mercaptan and Ammonia, were used as guideline limits. The results showed that no limits were exceeded. Therefore, odour from compost cannot be viewed as a nuisance impact.

The EMPr will address the making, storage and application of compost to be in line with the Norms and Standards under the Waste Act to prevent odour.

Flooding of 63 Butterfield Road

Refer to Figure 15 - The pivot areas are located in a different watershed basin to No. 63 Butterfield Road. Runoff from the pivots is in a westerly / south-westerly direction towards the Seaview Stream. A watershed separates the pivots from the watershed basin in which No 63 Butterfield Road is situated. Runoff from the pivots does not drain in the direction of the property, therefore it is highly unlikely that the clearing of vegetation and establishing of pivots was associated with flooding of the cottage on Mr Owen's property.

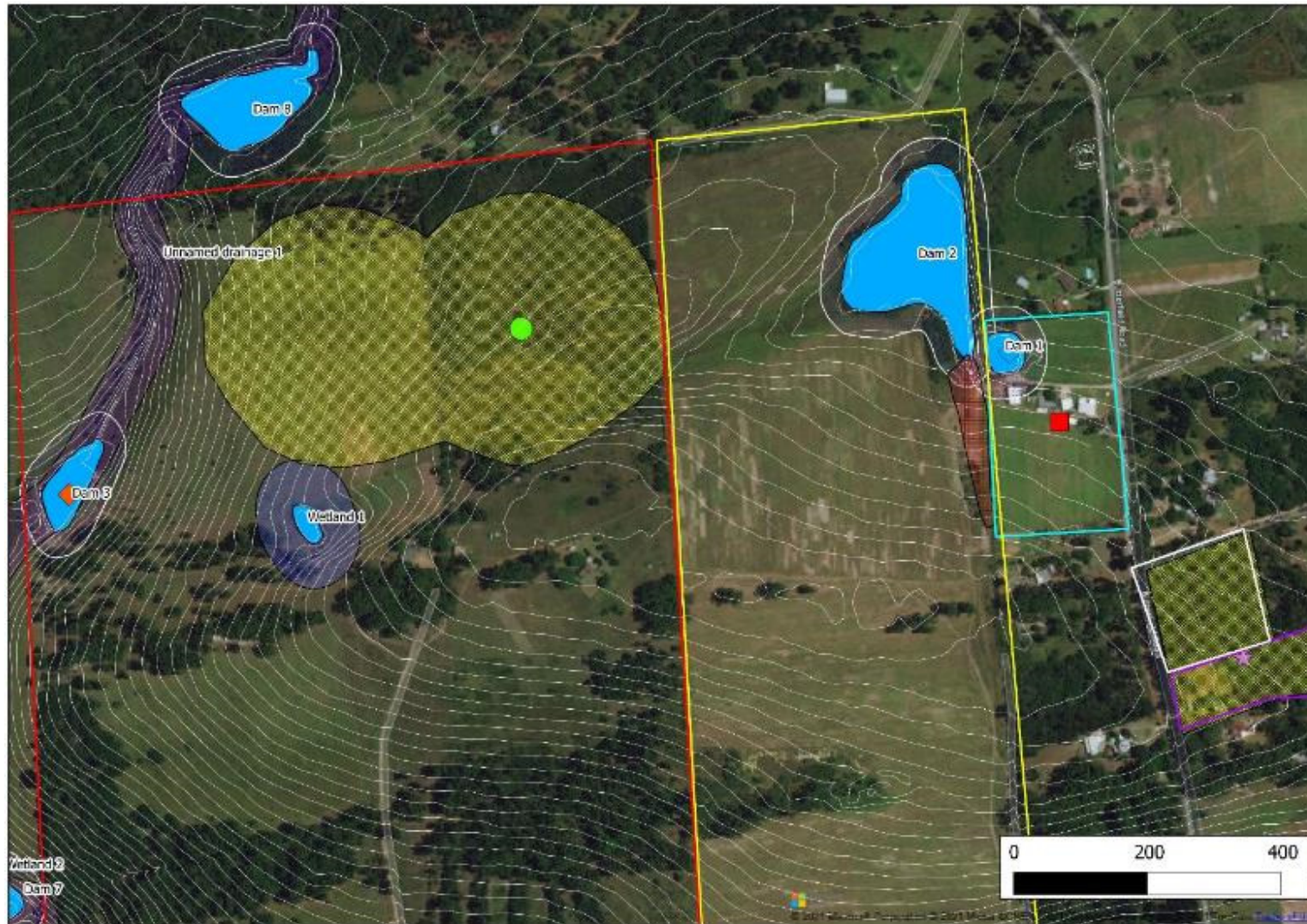


FIGURE 11: ACTIVITIES IN RELATION TO AQUATIC ENVIRONMENTS AND THEIR SUGGESTED BUFFER AREAS. ONLY THE COMPOST WINDROW (BROWN SHADING NEAR DAM 1 AND 2) FALLS WITHIN THE BUFFER AREA OF THE FARM DAMS, AND WILL BE SHIFTED TO AVOID THESE AREAS.

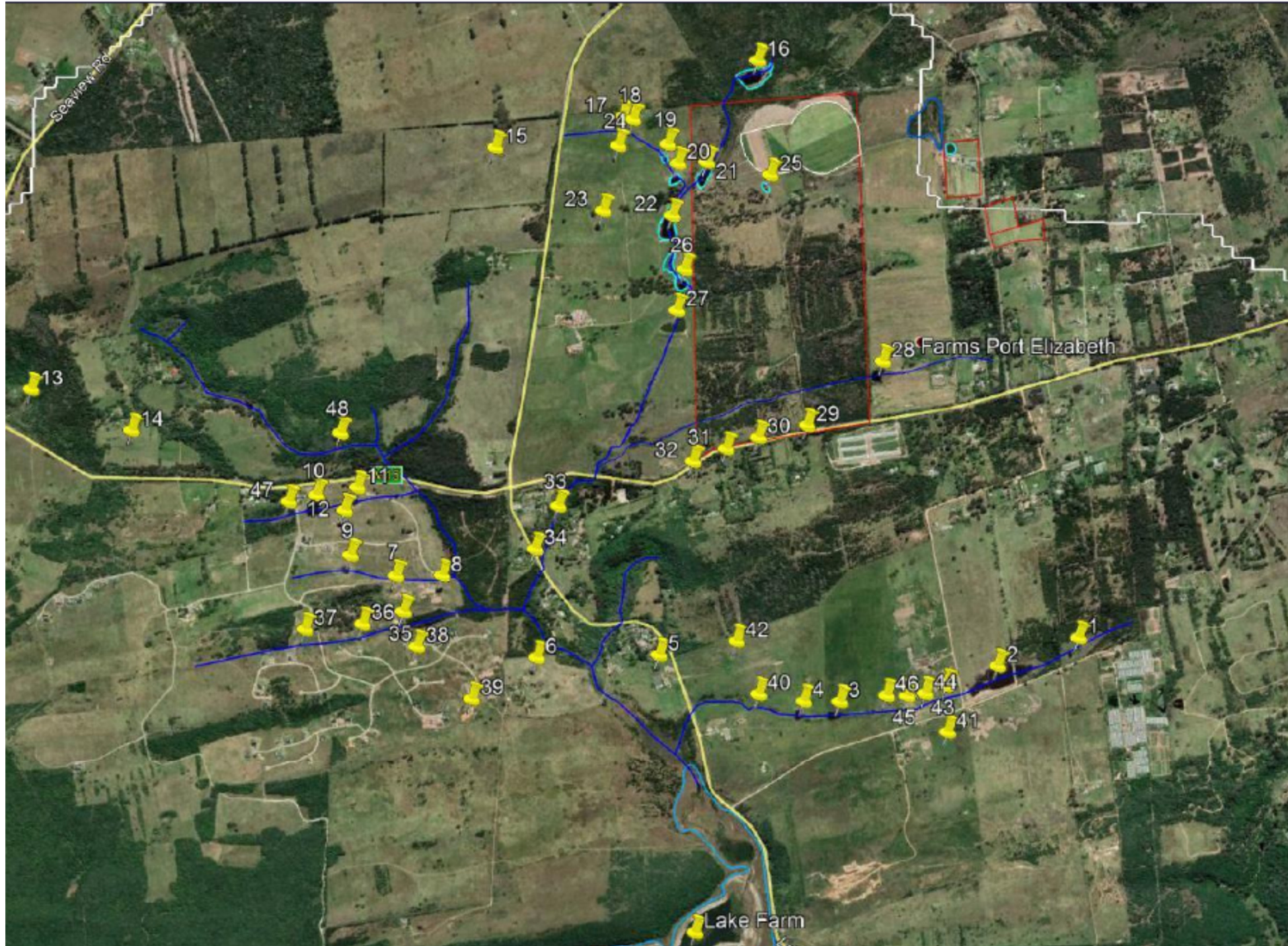


FIGURE 12: AN OVERVIEW OF DAMS, WETLANDS AND DRAINAGES IN THE LAKESIDE LAKE CATCHMENT (USING GOOGLE EARTHY 2020 IMAGERY).

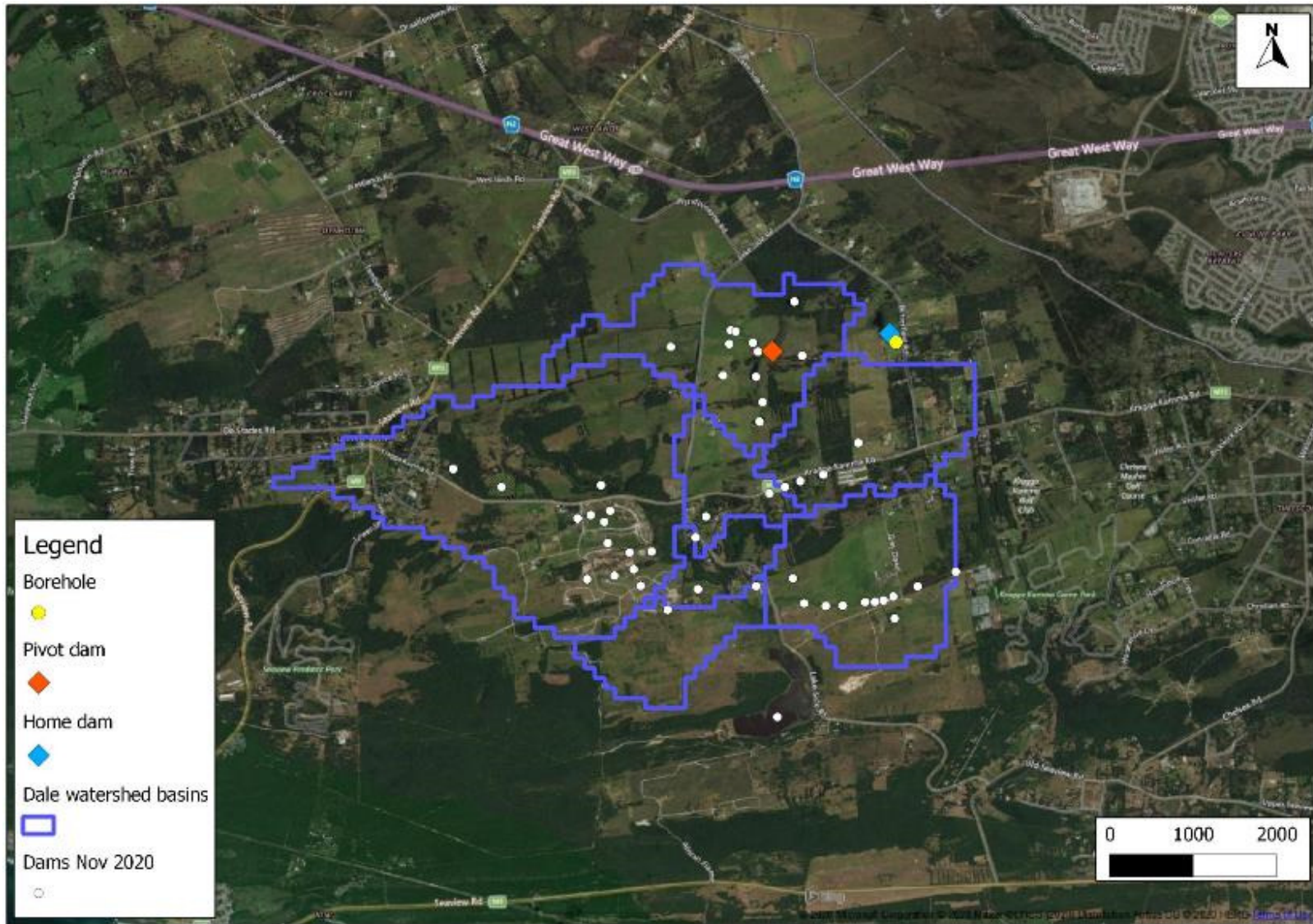


FIGURE 13: OVERVIEW MAP SHOWING THE VARIOUS WATERSHED BASINS IN THE AREA. NOTE THERE ARE A NUMBER OF WATERSHED BASINS IN THE AREA EACH WITH ITS OWN DAMS. DRYING OF THE LAKE NEEDS TO BE ADDRESSED ON A CUMULATIVE LEVEL.

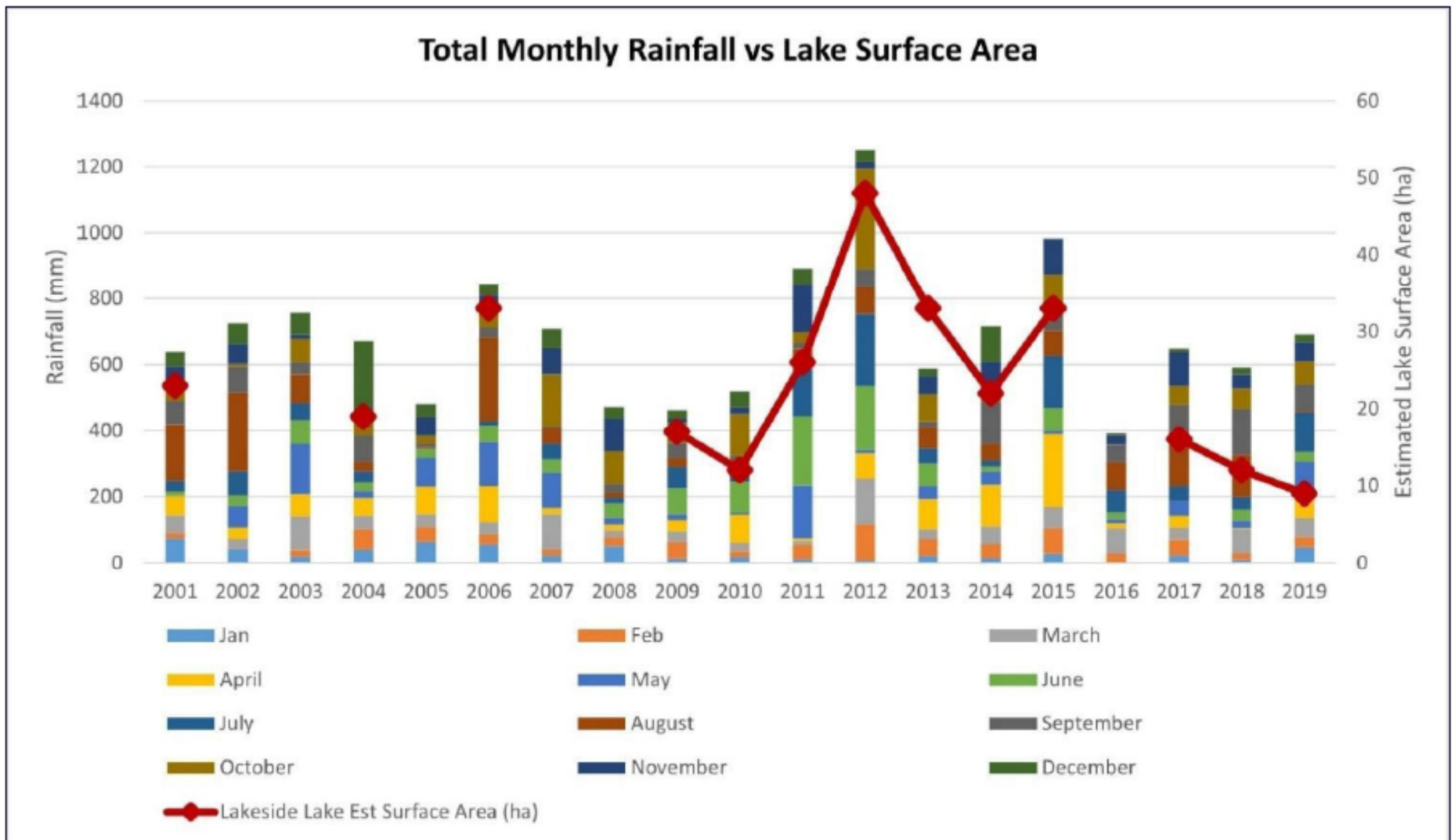


FIGURE 14: RAINFALL (2001 TO 2019) IN RELATION TO THE LAKE FARM LEVEL (ESTIMATED OFF AERIAL IMAGES).

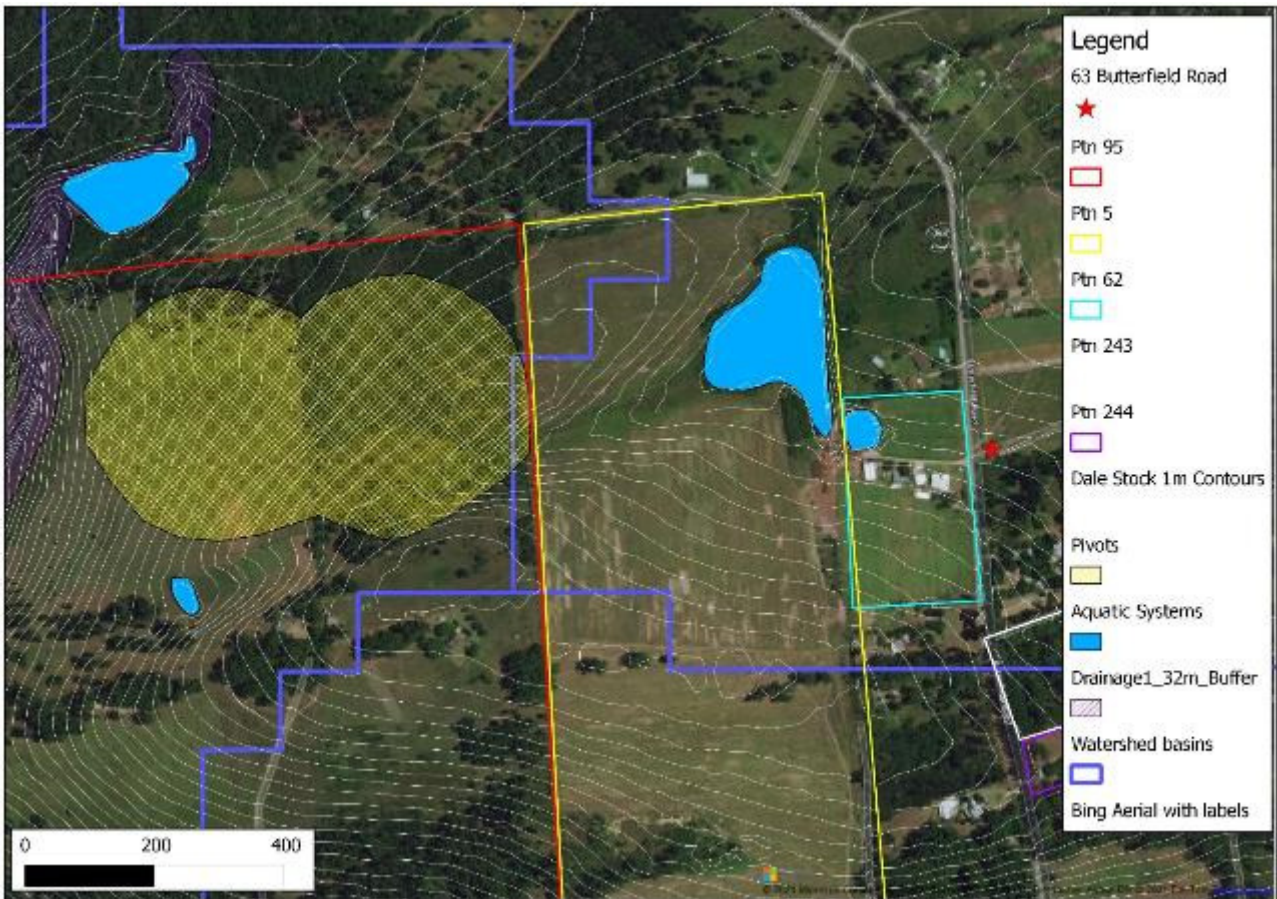


FIGURE 15: IMAGE SHOWING THE WATERSHED BASINS AND DIVIDES IN RELATION TO THE PIVOTS AND THE POSITION OF NO. 63 BUTTERFIELD ROAD.

Way Forward

The Section 24G and Waste Licence application have been submitted to the DEDEAT, and the Water Use Authorisation application process has been initiated on the online E-WULAA's portal. You will be notified of all further documentation and / issuing of decisions, once available.

If you require further information, please contact the EAP at:

CEN Integrated Environmental Management Unit

Belinda Clark / Mike Cohen

Cell: 072 725 6400 / 082 320 3111

Email: bclark@telkomsa.net / steenbok@aerosat.co.za

Postal: 43 Rhodes Street, Mount Pleasant, Gqeberha, 6070

Appendix 1: Plant Species List

KEY:				
	Invasive/garden escapee			
	SCC /protected/permit required			
Family	Species	Red List 2020	NEMBA Alien Invasive Species List 2016	EP NECO 1974
ADIANTACEAE	Cheilanthes viridis (Forssk.) Sw.	LC		
AIZOACEAE	Lampranthus sp.	NT		
APIACEAE	Centella asiatica (L.) Urb.	LC		
APIACEAE	Heteromorpha arborescens (Spreng.) Cham. & Schtdl.	LC		
ARACEAE	Zantedeschia aethiopica (L.) Spreng.	LC		
ASPHODELACEAE	Trachyandra hirsuta (Thunb.) Kunth	LC		
ASTERACEAE	Arctotheca calendula (L.) Levyns	LC		
ASTERACEAE	Athanasia dentata (L.) L.	LC		
ASTERACEAE	Chrysocoma ciliata L.	LC		
ASTERACEAE	Conyza bonariensis (L.) Cronquist	NE	Not declared	
ASTERACEAE	Conyza scabrida DC.	LC		
ASTERACEAE	Cotula discolor (DC.) J.C.Manning & Mucina	LC		
ASTERACEAE	Gazania krebsiana Less.	LC		
ASTERACEAE	Helichrysum anomalum Less.	LC		
ASTERACEAE	Helichrysum cymosum (L.) D.Don	LC		
ASTERACEAE	Helichrysum foetidum (L.) Moench	LC		
ASTERACEAE	Helichrysum odoratissimum (L.) Sweet	LC		
ASTERACEAE	Helichrysum subglomeratum Less.	LC		
ASTERACEAE	Senecio ilicifolius L.	LC		

ASTERACEAE	Senecio inaequidens DC.	LC		
ASTERACEAE	Senecio purpureus L.	LC		
ASTERACEAE	Syncarpha argentea (Thunb.) B.Nord.	LC		
ASTERACEAE	Taraxacum officinale Weber	NE	Not declared	
CAMPANULACEAE	Wahlenbergia albens (Spreng. ex A.DC.) Lammers	LC		
CRASSULACEAE	Crassula pellucida L.	LC		
CYPERACEAE	Cyperus congestus Vahl	LC		
CYPERACEAE	Eleocharis limosa (Schrad.) Schult.	LC		
CYPERACEAE	Ficinia sp.	LC		
CYPERACEAE	Isolepis sp.	LC		
CYPERACEAE	Tetragonia bromoides (Lam.) Pfeiff.	LC		
DIPSACACEAE	Cephalaria attenuata (L.f.) Roem. & Schult.	LC		
DIPSACACEAE	Scabiosa columbaria L.	LC		
ERICACEAE	Erica glandulosa Thunb.	LC		Protected
EUPHORBIACEAE	Ricinus communis L. var. communis	NE		
FABACEAE	Acacia longifolia (Andrews) Willd.	NE	Category 1b	
FABACEAE	Acacia mearnsii De Wild.	NE	Category 2	
FABACEAE	Acacia saligna (Labill.) H.L.Wendl.	NE	Category 1b	
FABACEAE	Aspalathus chortophila Eckl. & Zeyh.	LC		
FABACEAE	Indigofera heterophylla Thunb.	LC		
FABACEAE	Vicia cracca L.	NE		
FABACEAE	Psoralea glabra E.Mey.	LC		
GERANIACEAE	Pelargonium alchemilloides (L.) L'Hér.	LC		
GERANIACEAE	Pelargonium capitatum (L.) L'Hér.	LC		
IRIDACEAE	Gladiolus floribundus Jacq.	LC		Protected
HYACINTHACEAE	Albuca cooperi Bak.	LC		
HYACINTHACEAE	Hypoxis stellipilis Ker Gawl.	LC		
LOBELIACEAE	Lobelia anceps L.f.	LC		

LOBELIACEAE	<i>Monopsis scabra</i> (Thunb.) Urb.	LC		
MALVACEAE	<i>Abutilon sonneratianum</i> (Cav.) Sweet	LC		
MALVACEAE	<i>Hibiscus aethiopicus</i> L.	LC		
MESEMBRYANTHEMACEAE	<i>Carpobrotus deliciosus</i> (L.Bolus) L.Bolus	LC		Protected
MESEMBRYANTHEMACEAE	<i>Carpobrotus edulis</i> (L.) L.Bolus	LC		Protected
MYRICACEAE	<i>Morella serrata</i> (Lam.) Killick	LC		
MYRTACEAE	<i>Eucalyptus</i> sp.			
ORCHIDACEAE	<i>Disa cornuta</i> (L.) Sw.	LC		Protected
OXALIDACEAE	<i>Oxalis smithiana</i> Eckl. & Zeyh.	LC		
PINACEAE	<i>Pinus pinaster</i> Aiton	NE	Category 2 and 1b	
POACEAE	<i>Briza minor</i> L.	NE	Not declared	
POACEAE	<i>Cynodon dactylon</i> (L.) Pers.	LC		
POACEAE	<i>Eragrostis lehmanniana</i> Nees	LC		
POACEAE	<i>Hyparrhenia hirta</i> (L.) Stapf	LC		
POACEAE	<i>Lagurus ovatus</i> L.	NE	Not declared	
POACEAE	<i>Setaria sphacelata</i> (Schumach.) Stapf & C.E.Hubb. ex M.B.Moss	LC		
POACEAE	<i>Sporobolus africanus</i> (Poir.) Robyns & Tournay	LC		
POACEAE	<i>Stenotaphrum secundatum</i> (Walter) Kuntze	LC		
POLYGALACEAE	<i>Muraltia spinosa</i> (L.) F.Forest & J.C.Manning	LC		
POLYGONACEAE	<i>Rumex acetosella</i> L.	NE	Category 1a	
PRIMULACEAE	<i>Anagallis arvensis</i> L. subsp. <i>arvensis</i>	NE		
PROTEACEAE	<i>Leucadendron salignum</i> P.J.Bergius	LC		Protected
PROTEACEAE	<i>Leucospermum cuneiforme</i> (Burm.f.) Rourke	LC		Protected
RESTIONACEAE	<i>Elegia microcarpa</i> (Kunth) Moline & H.P.Linder	LC		
RESTIONACEAE	<i>Hypodiscus striatus</i> (Kunth) Mast.	LC		
RESTIONACEAE	<i>Thamnochortus glaber</i> (Mast.) Pillans	LC		
RUTACEAE	<i>Agathosma hirta</i> (Lam.) Bartl. & H.L.Wendl.	LC		Protected
SCROPHULARIACEAE	<i>Selago corymbosa</i> L.	LC		

SCROPHULARIACEAE	Sutera sp.	LC	
SOLANACEAE	<i>Cestrum laevigatum</i> Schlttdl.	NE	Category 1b
SOLANACEAE	<i>Solanum sysimbrifolium</i> Lam.	NE	Not declared
THYMELACEAE	<i>Gnidia squarrosa</i> (L.) Druce	LC	
THYMELACEAE	<i>Passerina corymbosa</i> Eckl. ex C.H.Wright	LC	
VERBENACEAE	<i>Lantana camara</i> L.	NE	

Appendix 2: Aquatic Biodiversity Study

Appendix 3: Groundwater Study

Appendix 4: Odour Assessment

Copyright © CEN Integrated Environmental Management Unit. All Rights Reserved



No part of the documents may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from the CEN Integrated Environmental Management Unit. Likewise, the document may not be lent, resold, or otherwise disposed of by way of trade.

July 2021