



## Hawaan Forest Conservation Trust

### Monthly site inspection report:

26.02.2024

#### Summary:

- 1) The abundance of Insect life in the forest has continued from January to February. This may be related to the heat, which has been extreme (daily average 24 degrees), and little rain, with the estate receiving 25 mm of rain compared to 246 mm in January. Consequently, the HCT staff have attended to filling up and refreshing the water points on the reserve, which have been well-utilized by wildlife.
- 2) Work conducted during February by the HCT operations team has included mowing, pruning, and weeding, of the trail network around the grassland and forest. Spot spraying of invasive and woody plant species will resume in early March 2024.
- 3) There have been some really good sightings of Trumpeter Hornbills feeding on Natal Figs, which were planted during the development of the estate some 20 years ago. A family group of three is frequently observed in the mornings, and then seen flying north, presumably towards Umdloti, where these birds are also observed by residents on the north bank of the river.
- 4) HCT staff patrolled the western section of the reserve and found no snares.
- 5) Follow-up work on the bush encroachment continued in February. Gabriel (sponsored by the Goss's) continues to clear saplings from the mid-section of the grassland towards the west, while HCT staff has been busy slashing back the invasive Itch Grass and will continue with spot spraying coppice's and *Searia nebulosa* in appropriate areas



Figure 1. Numbers on the map refer to items below.



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(1)



The management zone has been mowed appeared relatively neat; however, housekeeping could be improved and will be attended to in March.

(2)



For example, waste needs to be removed by the security contractor when they have finished their jobs.

(3)



The Bushshrike and other forest trails have now been neatly mowed and pruned for February.

(4)



It is within this mix of grass and leaves, on the sandy trails, that this centipede, from the family Scolopendrinae, was observed on being predated on by ants. <https://www.inaturalist.org/taxa/911860-Scolopendrinae>.

(5)



Water points have been cleaned and cameras checked in February.

(6)



Silver Oaks and other shrubs have been cleaned and pruned off the forest-grassland edge by HCT staff.

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(7)



Gabriel, who has been working in the grassland following up on work conducted in November, is now moving towards the central-west of the grassland blocks

(8)



Initial work and pruning of the grassland's woody encroachment have also been assisted this month by 20 hours of work by Gabriel. Thanks again to the Goss's for their support.

(9)



HCT staff are to spot spray NEMBA Category 1 *Cassytha filiformis* and Pepper trees in the central grassland area during March.

(10)



Spot spraying of *Searsia* in the central grassland areas has worked very well this summer. We will continue with this program moving forward into March.

(11)



Slashing of Itch grass has been carried out by HCT staff on the western grassland.

(12)



Quite a large portion (roughly 600m<sup>2</sup>) of the central area drainage line on the western grassland block, has been colonised by a indigenous grassland *Hoarypea* (*Tephrosia* sp.) This positive ecological response affirms the work we have been doing by burning and cutting back saplings or colonising forest trees in the grassland area. <https://www.inaturalist.org/observations/201658500>

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(13)



HCT staff are to remove a few young forest trees on the corner of the Hadada Trail on the west side of the reserve

(14)



The Hadada and Bushshrike Trails on the western side of the forest have been mowed and opened up (pruned) for summer.

(15)



This is a Hairy Flower Wasp (or a Scolid wasp) observed on the Bushshrike trail. They are interesting because they burrow into the soil and lay their eggs on dung beetle grubs belonging to family Scarabaeidae. <https://www.inaturalist.org/observations/200601705>

(16)



This is a Narrow Green-banded Swallowtail who feeds off the citrus plant family, Rutaceae, for example, Bush Cherrys and Ironwoods. <https://www.inaturalist.org/observations/200601934>

(17)



Another butterfly on the Bushshrike trail was the east African Spirit, which is host to the local Caper family creepers. <https://www.inaturalist.org/observations/200601972>

(18)



While observed in the grassland during the site visit, these nectar sipping Shiny Spiny Sugar Ant, were drinking from the extra-floral nectaries (in red) on a Lucky Bean creeper. Note the size of the abdomen which is full up with sugar! <https://www.inaturalist.org/observations/200610856>



Observations from the camera traps in February showed the usual allotment of animals using the water provided by the HCT staff to bath and drink. We are working towards formalising the logging of this data on a consist basis so that it can be used a baseline information for the forest and to track change.



Spotted Genet



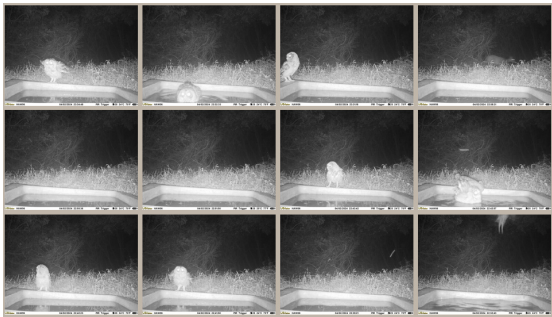
Tambourine Dove



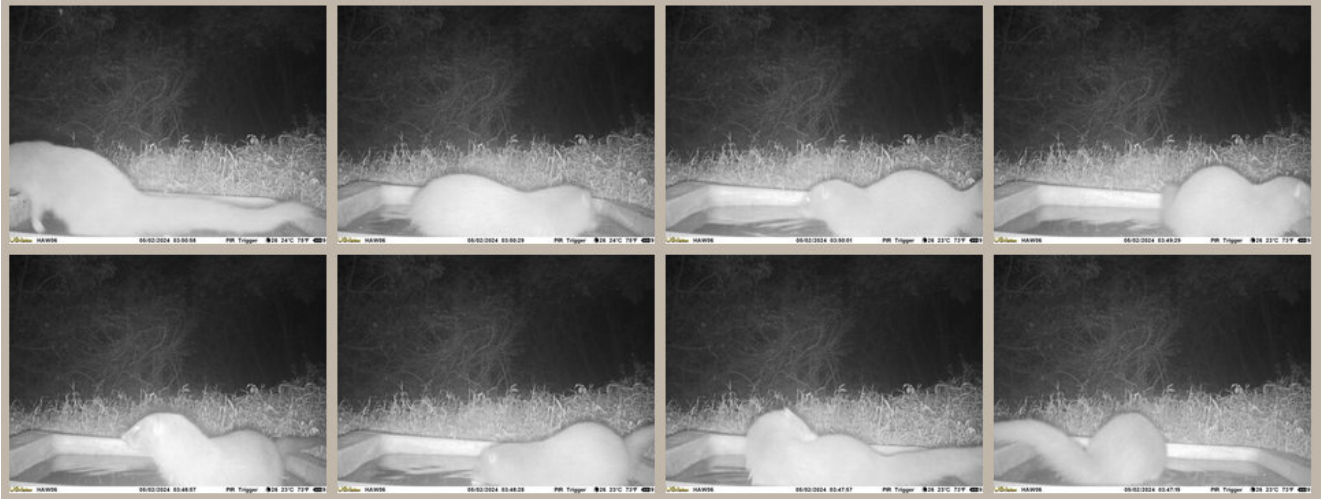
Red Duiker



Blue Duiker



Spotted Eagle Owl



Water Mongoose







|                        |      |   |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|------|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                        | 3.7  | Keep Tilley Huts neat and tidy sweep daily, clean windows every 10 days check maintenance and rusting on a monthly basis and report to HCT members.   | Weekly  | x | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 3.8  | Check that trail cameras daily to ensure they are not stolen.   | Daily   | x | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 3.9  | Cleaning of toilet and shower on a daily basis after use.   | na      | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 3.10 | Check and order cleaning consumables for shower and toilet  | na      | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Woody plant management | 4.1  | On-going daily work is clearing invasive introduced plants such as Pepper Trees, Trifid etc..in both the forest and grassland systems.  | Weekly  | x | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        |      | Checking for regrowth of LAPs monthly and set out new work areas each month.  | Monthly | x | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 4.2  | Removal of selected indigenous woody encroachment species such Silver Oak in the grassland section  | Monthly | - | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 4.3  | Monitoring herbicide stores on a monthly  | Monthly | x | x | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Fire management        | 5.1  | Ensure tracers belts and pathways in the grassland open before prescribed burn  | Yearly  | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
|                        | 5.2  | Service fire-fighting equipment once before the annual burn is completed and then oil up so that ne-t season the equipment has not seized up with rust. <i>Fire fighting =equipment one drip torch, 3 rubber beaters with handles, two Knapsack sprayers.</i> | Yearly  | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Consumables            | 6.1  | Order uniforms and personal protective gear for the 2 staff.  | Yearly  | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Item | Herbicide name | Active ingredient | Type      | Litres in stock | Date used | Species applied     | Location       |
|------|----------------|-------------------|-----------|-----------------|-----------|---------------------|----------------|
| 5.   | Plenum         | Picloram          | Selective | 18L             | 13/4      | Pepper, Yellowbells | West grassland |
| 6.   | Plenum         | Picloram          | Selective | 5L              | 05/9      | Pepper,             | West grassland |
| 7.   |                |                   |           |                 |           |                     |                |
| 8.   |                |                   |           |                 |           |                     |                |

| Item | Herbicide name     | Active ingredient | Type          | Litres in stock             | Date used | Species applied                  | Location          |
|------|--------------------|-------------------|---------------|-----------------------------|-----------|----------------------------------|-------------------|
| 1.   | Gladiator, pre-mix | Picloram          | Selective     | 15L (pre-mix)               | 16/4/22   | Creeping inch                    | Forest mgmt zone  |
| 2.   | Round-up           | Glyphosate        | Non-selective | 3L                          | -         | -                                | -                 |
| 3.   | Gladiator, premix  | Picloram          | Selective     | Used 15L                    | 15/11/22  | Brazilian pepper                 | Eastern grassland |
| 4.   | Plenum 160         | Picloram          | Selective     | 20L – concentrate. Mixed 2L | 25/02/23  | Brazilian pepper – Yellow bells. | Eastern grassland |



**Camera Trap highlights from November 2023. Hawaan Forest.**



**Large Spotted Genet**



**Female Bushbuck**



**Red Capped Robin Chat**



**Pair of Red Duikers**



**Purple crested turaco**



**Tambourine dove**



The forest fauna have been out in full force during August and the action has clearly revolved around the water point at the entrance to the Bush Shrike trail. One again some beautiful forest images have been captured.



A lemon dove and male blue duiker



A Red capped robin chat with a Olive thrush



Juvenile crowned eagle



A family of bushbuck



Large spotted Genet



Dwarf mongoose



Some beautiful camera trap images were taken at the forest water point during July, 2022.



Red Duiker, female.



Bushbuck females.



Crested guinea fowl.



Red Duiker, male



Vervet Monkey, Banded Mongoose, and Guinea fowl.



Banded Mongoose.



Some beautiful camera trap images were taken within the dry forest interior during June.



Bush buck female)



Bush buck (male)



Bush buck (female)



Red duiker (female)



Bush buck (female)



Blue duiker (pair)



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Bushbuck females.



Crested guinea fowl.



Red Duiker, male



Vervet Monkey, Banded Mongoose, and Guinea fowl.



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September 2022

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## Camera trap images February 2022

During Jan/Feb the HCT have worked closely with the HRA and Marshall security. The camera trap maintenance and daily checking is being conducted by Marshall security, though the HCT still have camera located in locations that will capture beautiful and interesting wildlife images. One highlight from February was a Bushbuck male captured at dawn on the interface between the estate and the grassland.



Bushbuck male at dawn.



Crested-guinea fowl in the forest at night!



Blue duiker in the forest



Lemon dove in the forest leaf litter



The pair of resident water-mongoose



A pair of Olive-thrush's



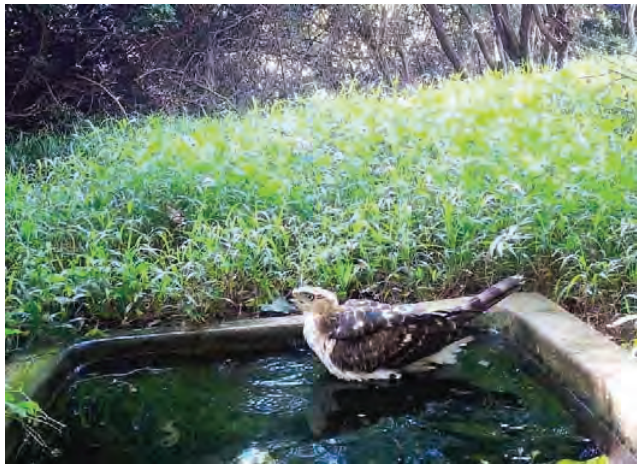
Camera trap observation Jan 2022. Due to the heat in January the most notable camera trap observations for Jan 2021 focused on the water trough at Bushshrike trail. An exciting observation was a juvenile crowned eagle having a drink and cooling off in the water.



Crested Guinea fowl



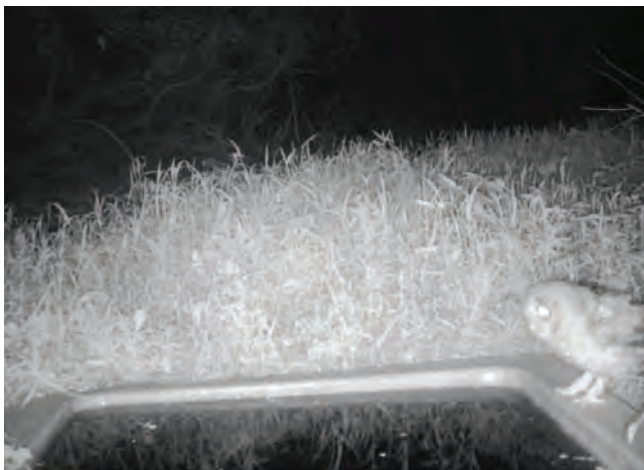
Purple crested turaco



Crowned eagle (Juvenile)



Female bushbuck



Wood owl



Tambourine dove



Six of the seven camera have been in operation during November-December. The Seventh camera is due to be installed within the next week. Camera batteries appear to last between 3-4 four weeks, while each camera used between 500 mb and 1gig of data. The data budget for each camera should be in the order of R 50-75 per month. Importantly no non-resident 'humans' have been noted on the cameras. AS will continue to monitor the camera in December but the way forward in January will be garner support from the HOA security to help with monitoring. Some interesting new species were observed over the Nov/Dec period, for example: on Camera V, a Steppe Eagle. Other observations in the images are : i) = Large spotted Genet ; ii) & vii) Female bushbuck; i) Water mongoose i) Male bushbuck.



⌂ v)



⌂ i)



⌂ iii)



⌂ vii)



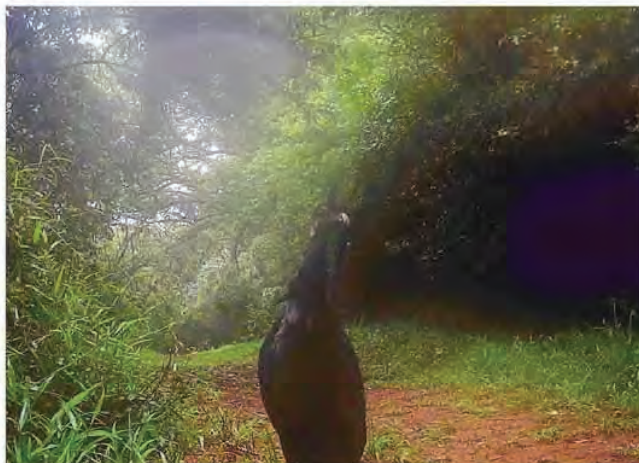
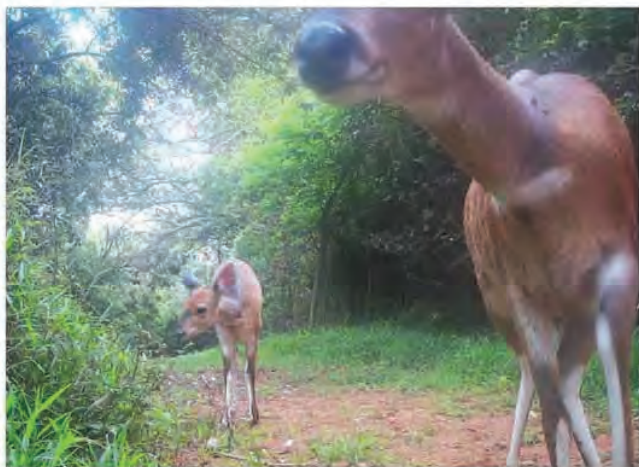
⌂ i)



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Camera trap images October-November 2021. New species observations in November were Water Mongoose. Other sightings include: Bushbuck family activity, Blue Duiker pairs and Crested Guine fowel.





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Blue Duiker



Black Sparrow-Hawk



Purple Turaco



Wood Owl



Banded Mongoose

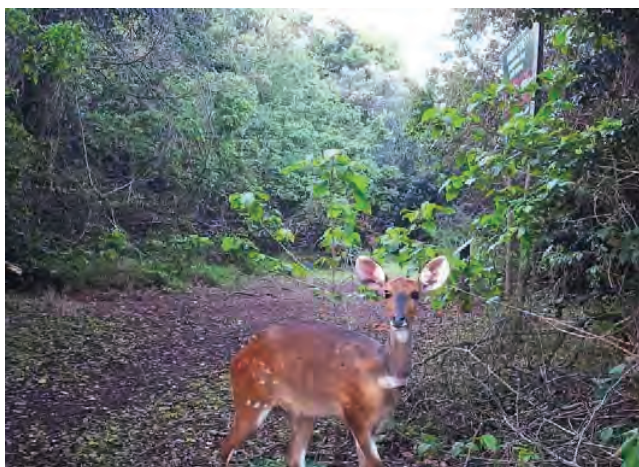


Crested Guinea fowl



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Given that we are still working out how best to deploy the camera traps in the nature reserve, some of the images received so far have been beautiful. Species noted below are as follows: Crested guinea fowl, spotted Genet, and female, male and juvenile bushbuck. Other forest antelope noted have been both red and blue duiker. Four cameras have now been deployed. Their locations have been sited in Fig. 1.





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Bush buck female)



Bush buck (male)



Bush buck (female)



Red duiker (female)



Bush buck (female)



Blue duiker (pair)



Sewer break: During the rainfall and flooding in mid-April the municipal sewer pipeline on the boundary of the HFT property ruptured. The damage is therefore not in the HFT property but will effect the species in forest. The event resulted in a high pressure flow of sewerage which eroded sections of the pipeline infrastructure while causing a plume of waste into the forest. Fortunately, it appears that the runoff did not undercut the pipeline too badly and good work from the city ensured that the issue was resolved timorously. What remains, is for the city to repair the ailing infrastructure and to co-ordinate a clean-up of the litter/plastics which was discharged into the forest.



Fig 1a. The flow of the effluent took a north-easterly direction.



Fig. 2b. Some areas of the pipeline have been undercut and will need to be repaired.



Fig 2c. The manholes on the pipeline remain open for the time being.



Fig2d. Some of the surrounding vegetation at the source point has collapsed but damage does not seem to be extensive. However, a full inspection has not been conducted.



Fig. 2e. The sewage plume continues in a north-east direction down the forest slope. Litter from this plume should be cleaned-up.



Some beautiful images and interesting sighting on the camera traps were observed during May. Firstly, a lovely bushbuck male on the Bushshrike trail camera. While many birds (tambourine dove, dark backed weaver, natal-robin, kurrichane thrush, wood owl, purple-headed turaco, thick-billed weaver and ashy fly catchers) and forest mammals (red and blue duikers, bushbuck, water mongoose, vervet monkey) have also utilised the water point.



Male bushbuck



Tambourine dove



Blue duiker (female)



Dark backed forest weaver



Purple-headed turaco



Vervet monkey



The most interesting camera trap images for October 2022 were of Bush buck males rutting, Red duiker and parties of Crested guinea fowl. Unfortunately we are yet to pick up Bushpig in the forest.



Bushbuck rutting



Bushbuck rutting



Crested Guinea fowl



Crested Guinea fowl



Red duiker



Red duiker



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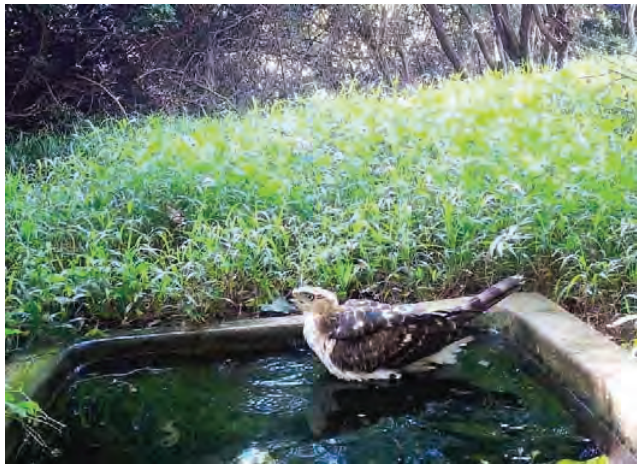
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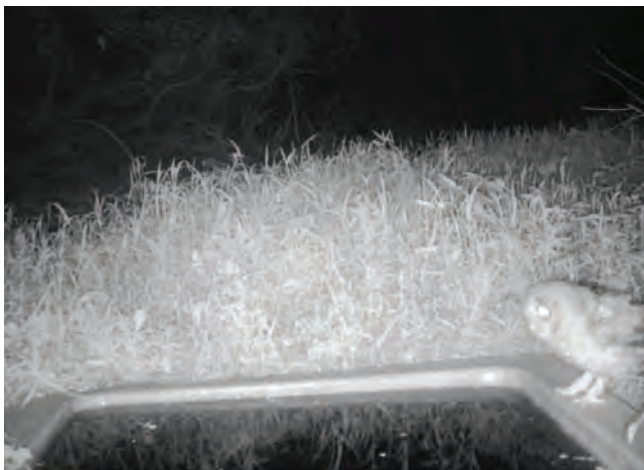
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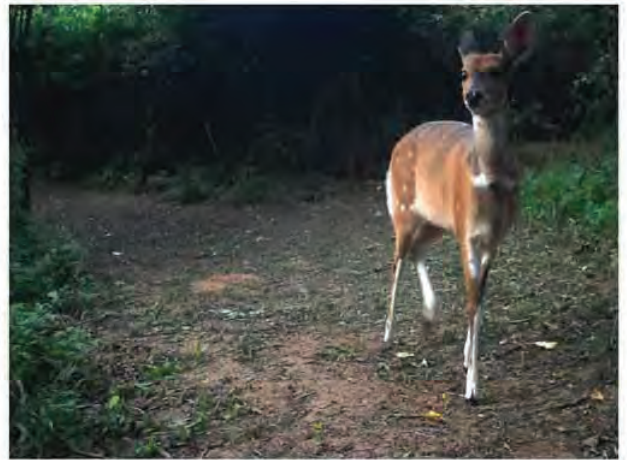
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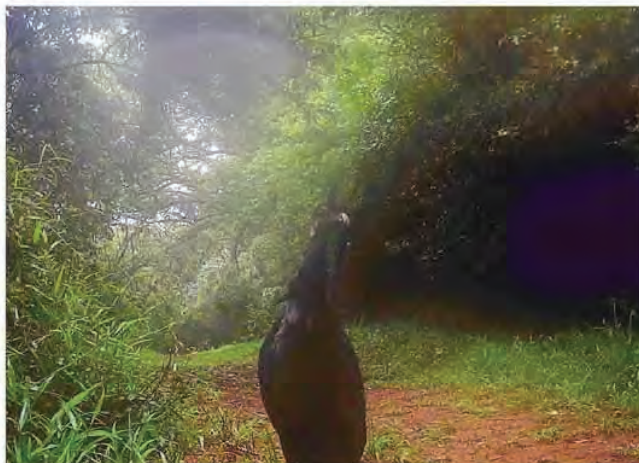
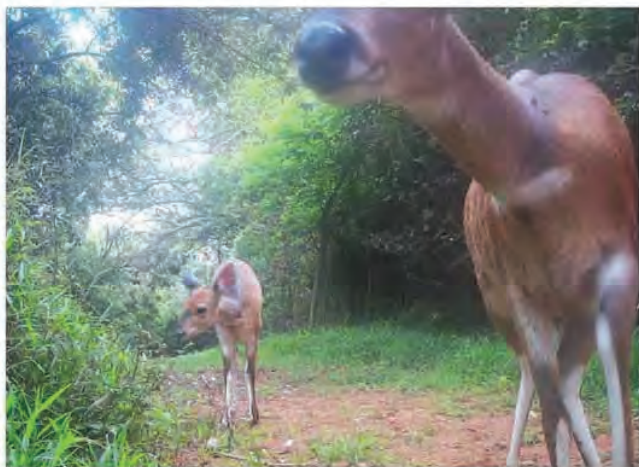
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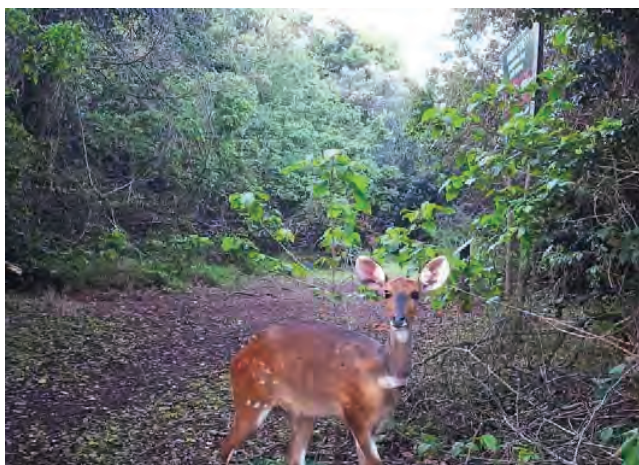


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Embankment slip: The extensive rain in mid-April and flooding of the Umhlanga river has triggered a slip of a steep section of the northern forest embankment (Fig. 1a,b). This section of forest appears to have been compromised for some time as exposed sections vegetation (sandy areas in Fig 1c) are visible in the orthophoto which was taken in 2018-2019. The vegetation cover on this slope prior to the slip was largely composed of pioneer vegetation such as *Chromolaena odorata* and *Brachyleana discolor*. It is not immediately clear what management or rehabilitation actions can be conducted to secure such as steep slope. Its likely that the dune slope will find a natural gradient. Aside from engineering options, one approach could be to plant or reseed this bank with fast growing and deep rooting indigenous trees such as *Albizia adianthifolia*. These will take 10 years to become established but if so they will offer resilience to this area for next decadal-scale rainfall event.



Fig. 1a. A perspective of the slip, looking north towards the bend in the Umhlanga river.



Fig. 1b. A perspective of the slip, looking south across the Umhlanga river towards the forest embankment.

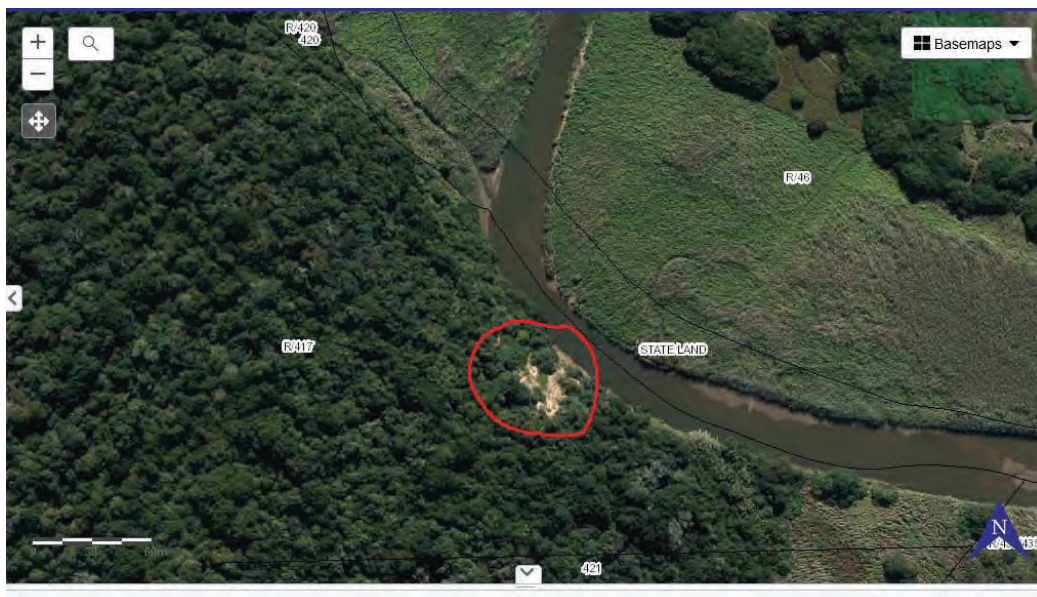


Fig. 1c. An aerial perspective of the area taken in 2018/2019 shows a previous slip which would have likely occurred due to a similar rainfall or disturbance event. The erosion site is located on the outer-apex of the river bend so this may be part of ongoing catchment-scale processes.



# The Polyphagous Shot Hole Borer (*Euwallacea fornicatus*\*) and Fusarium dieback (*Fusarium euwallaceae*)

The Polyphagous Shot Hole Borer (PSHB) is an ambrosia beetle native to Southeast Asia. In 2017 this pest was detected on London Plane trees in the KwaZulu-Natal National Botanical Gardens, Pietermaritzburg. Its presence has since been confirmed in multiple locations in eight provinces in South Africa. The beetle has a symbiotic relationship with the fungus *Fusarium euwallaceae*, which serves as a food source for the adults and their larvae. In susceptible trees the fungus causes a disease called Fusarium dieback, which can lead to dying branches and tree death. The beetles attack a wide range of exotic and indigenous trees in urban, agricultural and natural landscapes.



Above: An adult female is 1.8-2.6mm long. Males are smaller and cannot fly.



PSHB is not able to complete its life cycle on all the tree species it attacks. Trees in which the beetle is able to breed and multiply are referred to as '**reproductive host trees**'. Important reproductive hosts include species of oaks, maples, willows and coral trees, avocado and castor bean. '**Non-reproductive host trees**' are attacked by the beetle, but the beetles do not establish galleries (tunnels) or breed. The fungus may, or may not cause disease. Trees are generally not expected to die. An updated list of confirmed hosts in South Africa can be viewed at

[www.fabinet.up.ac.za/pshb/](http://www.fabinet.up.ac.za/pshb/)

The movement of infested wood is an important means of spread of the beetle. Therefore, appropriate disposal of infested trees (by chipping/composting, solarization or burning) will be key to reducing the spread of this damaging pest. Surveys to monitor the spread of the beetle in South Africa are continuing. The public can assist by looking out for symptoms. Suspected instances can be reported to [pshb@fabi.up.ac.za](mailto:pshb@fabi.up.ac.za)

Left: Chinese maple tree killed by PSHB and its fungus



Reproductive galleries in pecan



PSHB galleries in coral tree



Shot gun-like symptoms on London Plane

Compiled by Z.W. de Beer & T. Paap (Version 2021-03-04) [www.fabinet.up.ac.za/pshb](http://www.fabinet.up.ac.za/pshb)



**HAWAIIAN ESTATE GRASSLAND  
(ALIEN PLANT CONTROL)**

Scale: 1:2000  
Date: Council Report 2010

**Legend**  
 Parcels  
 Study Area

DEVELOPMENT PLANNING  
ENVIRONMENT & MANAGEMENT UNIT

**B**IODIVERSITY BRANCH  
 Created by: Lucky murebe  
 Tel Number: 081 311 7940  
 Email address: murebe@hdb.org.nz  
 Poha C: ven lucky@26-01-2009 Richard

**ETHEKAWINI  
MUNICIPALITY**

