



Hawaan Forest Conservation Trust

Monthly site inspection report:

25.03.2024

Summary:

- 1) The temperatures during March have eased somewhat since February. However, weekly highs for the last week of March were still around 30 degrees. 88 mm of rain fell during March.
- 2) Work conducted during March 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 has resumed, and the results are shown in items 16.
- 3) Following the sightings of Trumpeter Hornbills feeding on Natal Figs, Bernard Chitikno spent a couple of days in an attempt to track down their nesting sites. Unfortunately, he did not find the nest but determined that they visit Hawaan in the mornings at 6 am before heading out to forage for the day. This indicates that they may be roosting in a nearby area of the forest and not in Umdloti where they are also often observed.
- 4) A security incident in March has prompted us to conduct enhanced snare patrols around the eastern and western areas of the Forest. Life Landscapes will also cut back to 30 cm, a 20m wide strip along buffer at Python Place.
- 5) Follow-up work on the bush encroachment was conducted on the western portion of the grassland by the HCT staff who have slashed back coppice and spot sprayed regrowth.



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

(1)



Assessment of the foot path with the Estate Manager along the Phase 5 boundary determined that limited (300 mm high by 20 wide) pruning of grasses will improve both visual and access for Marshall security along the grassland buffer.

(2)



Ongoing, management of the bush encroachment has been cut back by Gabriel along Phase 5 bufferzone.

(3)



For security purposes, a rough cut of grasses 300 mm high, while case-by-case clearing of bush-clumps within 20 m of the boundary has been discussed.

(4)



During a drive around with the Estate Manager, *Syngonium podophyllum*, was noted planted on the verge. As this is a Cat 1a listed invasive species it should be removed.

(5)



Camera traps were checked, and water holes have been cleaned during March 2024.

(6)



A forest Knobwood, which fell down on the servitude, was cleaned up in March by the conservation team.

(7)



Clearing of Silver Oak off the servitude was conducted near the Bush Shrike trail junction.

(8)



Scleroderma fungi, commonly known as Earth balls, are a genus of fungi belonging to the family Sclerodermataceae. They are notable for their thick, tough outer rinds and spherical fruit bodies. These fungi are ectomycorrhizal, meaning they form symbiotic relationships with the roots of plants, helping their plants with water and nutrient absorption while the fungus receives carbohydrates produced by the plant through photosynthesis.

(9)



The solitary bee's colony are still actively foraging, and hence we have not mowed the edge of the pathway in this area during March.

(10)



At the solitary bee colony, the HCT staff will cut back both the Siver Oak and the Croton on the grassland-forest edge.

(11)



Grassland trails have been cut and maintained during March 2024.

(12)



HCT staff have started their spot-spraying programme in the central areas of the grassland. Targeting, specifically, *Cassytha filiformis* and *Searsia nebulosa*.

(13)



HCT staff to gently prune back and lift the crown of the Duiker-berry Tree at the picnic area.

(14)



Follow up spraying and cutting was done in March on the western area of the grassland during March. This consolidated the work conducted in November 2023

(15)



HCT staff have cleared up a couple of bush-clumps on the western area of the grassland, allowing, for security purposes, a much more open perspective for the cameras.

(16)



This Blood-Red Acraea butterfly was noted enjoying the nectar on the local Tephrosia's which have come up after the burning and clearing in the western areas of the grassland.

https://www.inaturalist.org/observations/205223358#activity_identification_1d27cb87-a805-4a0b-8cea-8e6d7838ad10

(17)



The ground-nesting bee colony remains vigorously active, engaged in pollen collection as of late March 2024. Soon, they will transition into the diapause phase of their lifecycle. During this period, the females, as depicted in the accompanying image, will perish, leaving the pupae buried in the soil. These pupae are set to emerge towards the year's end, around mid-November.

(18)



So great to see, that the local Hawaan fauna, a vine-leaf Vagrant butterfly, utilising the some of planted wild-flowers (Leonotis) in the wild-flower restoration areas.

https://www.inaturalist.org/observations/205223293#activity_identification_da28e614-6c8c-42cf-97d0-1e0e661b9759

Camera Trap imagery from March 2024



There have been some great mixed foraging parties captured on the camera's during March. Here, Crested Guinea fowls and Red Duiker.



On the Bush-Shrike trail, Crested Guinea fowl and Bush Buck.



The recent hot weather has prompted a diverse array of animals captured at the water-hole on the Bush-shrike trail. Such as the Crowned eagle drinking at the water-hole.



A family of Purple Crested Turaco's.



A nice large Bushbuck passing by the water-hole on the Bush Shrike trail.



A small, blue Duiker close up at the water-hole.

Operations: Tasks 2023

[illegible]

	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	z	-	-	-	-	-	-	-	-	-	-	-
	3.8	Check that trail cameras y ggmf to ensure they are not stolen.	Daily	x	x	z	-	-	-	-	-	-	-	-	-	-	-
	3.9	Cleaning of shower on a daily basis after use.	na	-	-	z	-	-	-	-	-	-	-	-	-	-	-
	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	z	-	-	-	-	-	-	-	-	-	-	-
		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
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

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.							

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



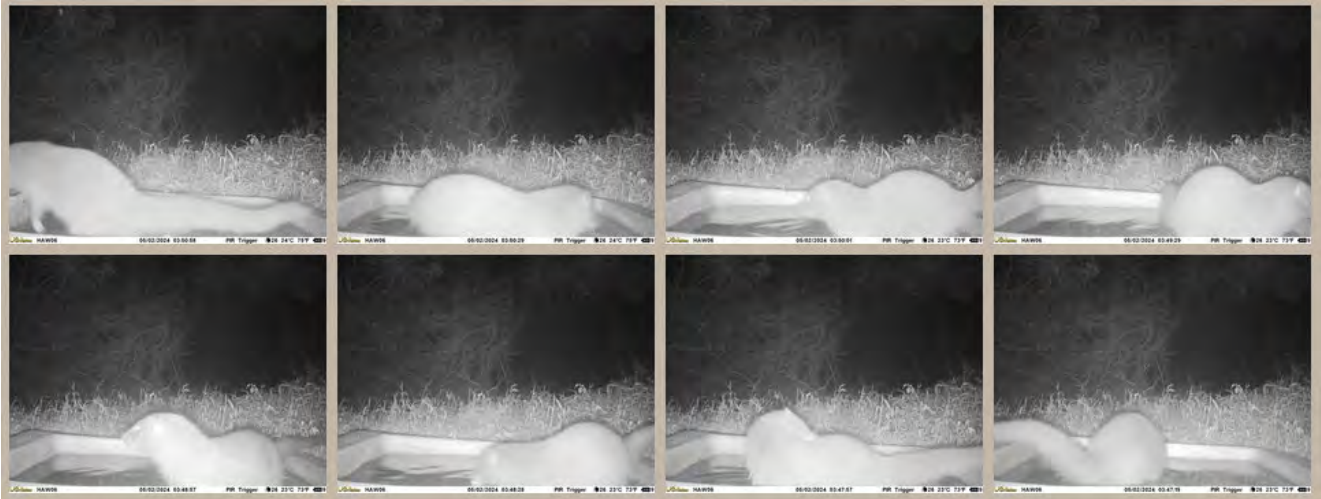
Red Duiker



Blue Duiker



Spotted Eagle Owl



Water Mongoose

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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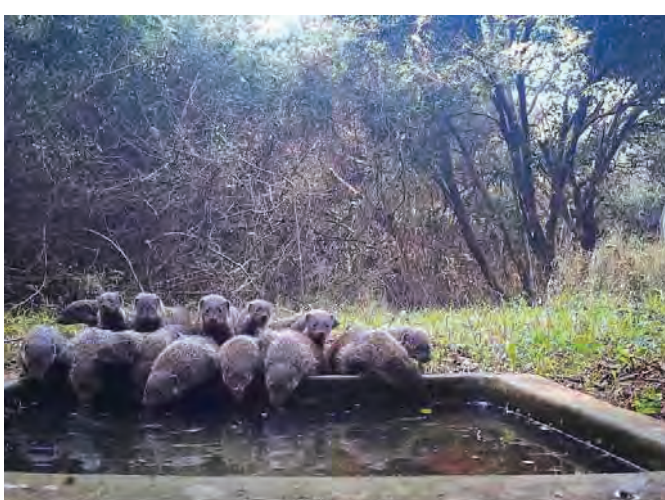
Crested guinea fowl.



Red Duiker, male



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September 2022

The Red Duiker are the most beautiful forest antelope we have at the Hawaan Forest. Larger, and less common than their smaller cousins the Blue Duiker, they may reach up to 12 kg. They are coloured a deep chestnut red which contrasts pleasingly with the luminescent greens of the forest foliage in summer and similarly with the dry-scrub brown of the deciduous winter phase of the forest. These camera trap images, taken this month in September, showcase this most graceful forest antelope amongst the soft greens and browns of the forest before the onset of spring.



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-guineafowl 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

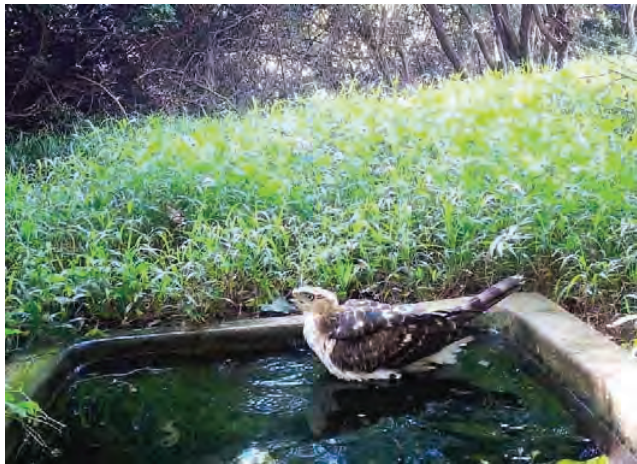
Camera trap observation Jan 2022. Due to the heat in January the most notable camera trap observations for Jan 2021 focused on the water trough at Bushshrike trail. An exciting observation was a juvenile crowned eagle having a drink and cooling off in the water.



Crested Guinea fowl



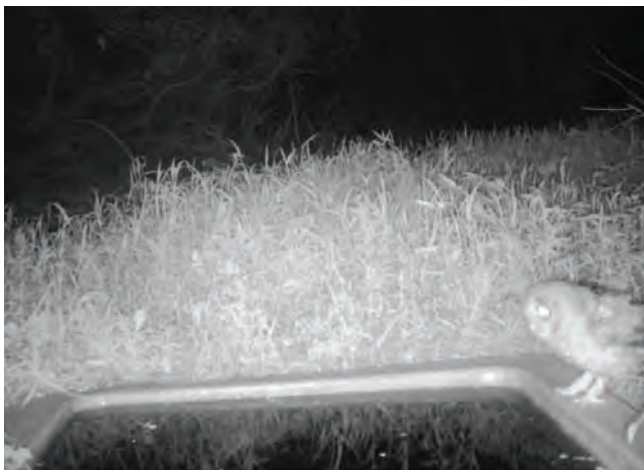
Purple crested turaco



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.



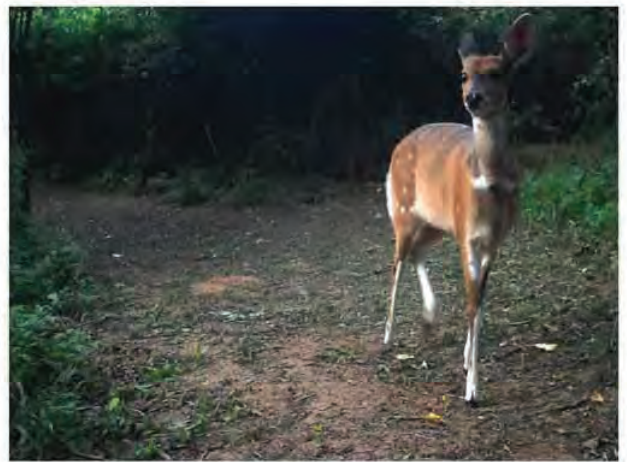
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⌂ i)



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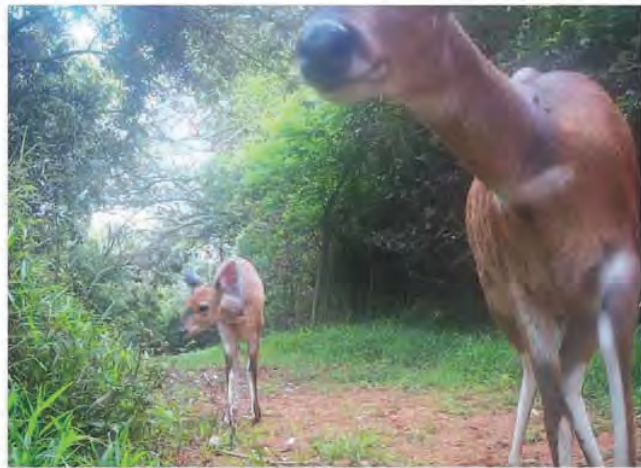


⌂ i)



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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.



Camera trap images March 2022

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Blue Duiker



Black Sparrow-Hawk



Purple Turaco



Wood Owl



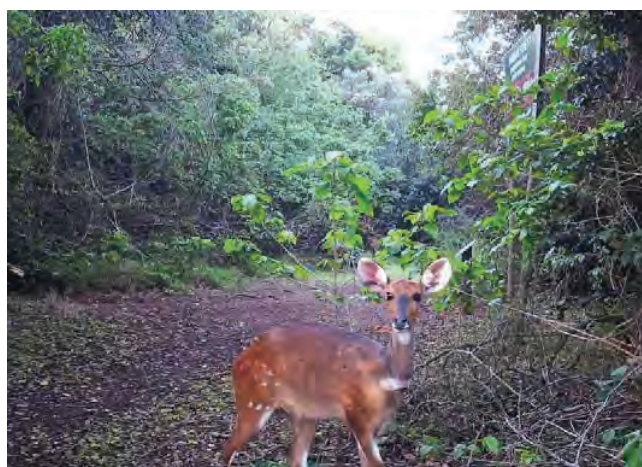
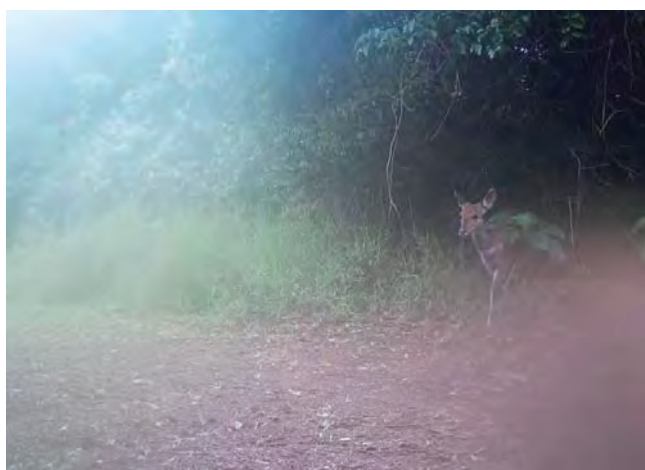
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Camera trap images September /October 2021

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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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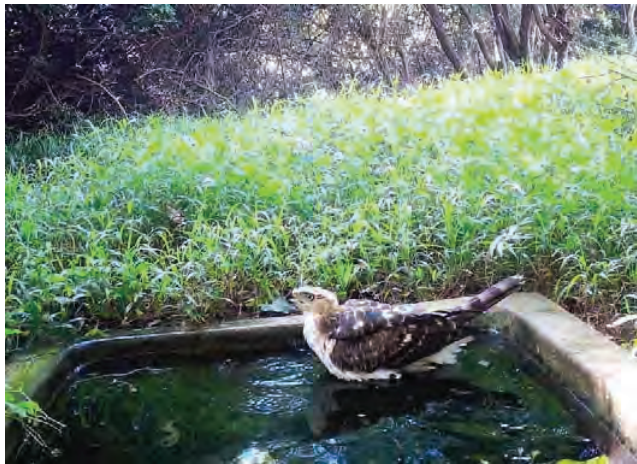
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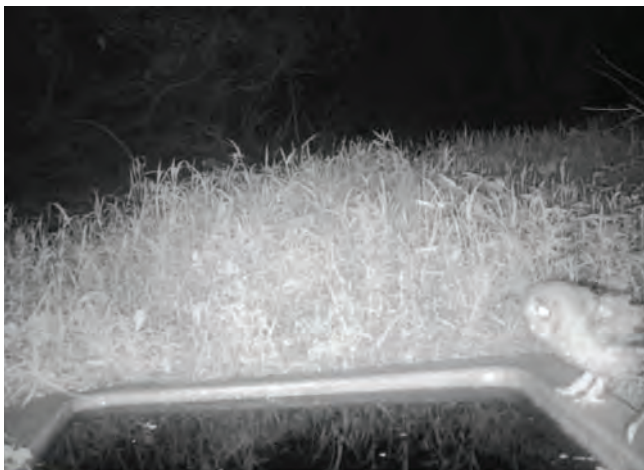
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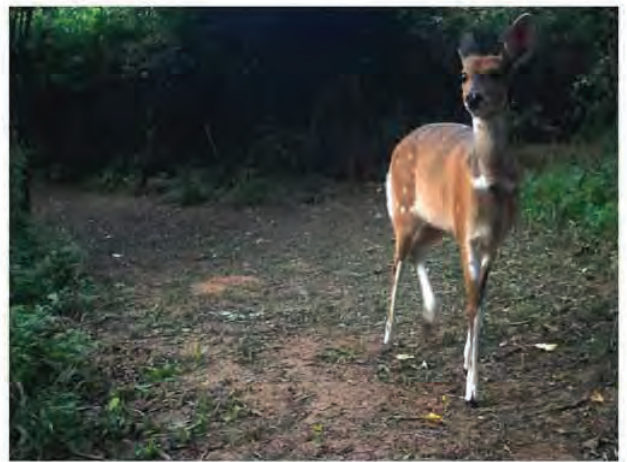
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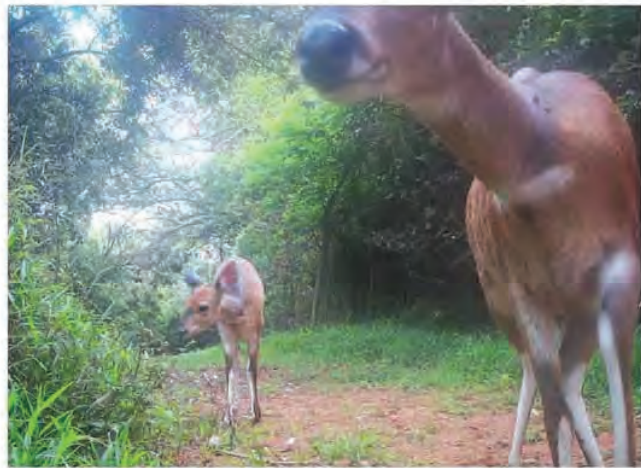


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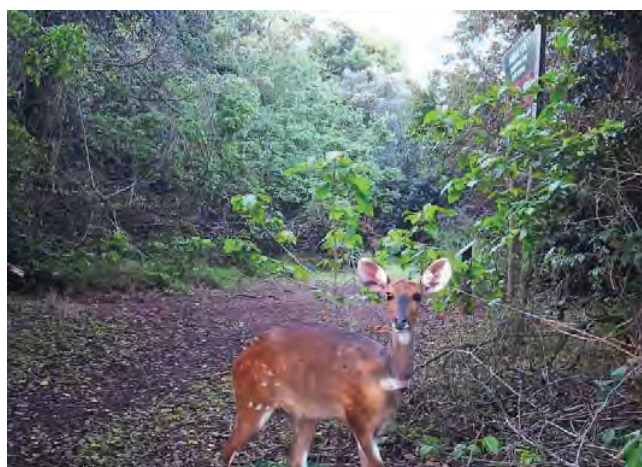
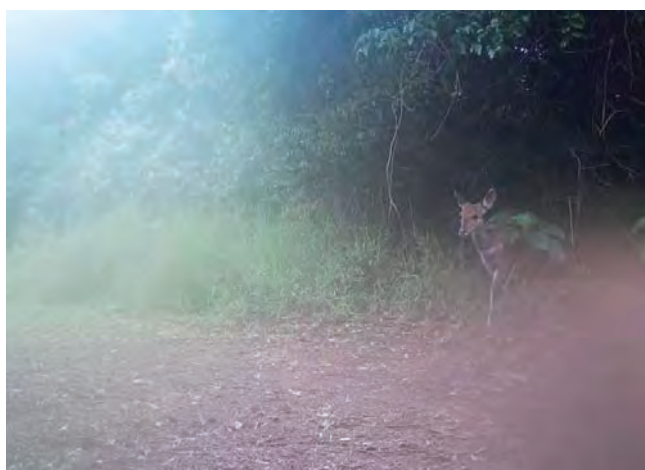
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Embankment slip: The extensive rain in mid-April and flooding of the Umhlanga river has triggered a slip of a steep section of the northern forest embankment (Fig. 1a,b). This section of forest appears to have been compromised for some time as exposed 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.

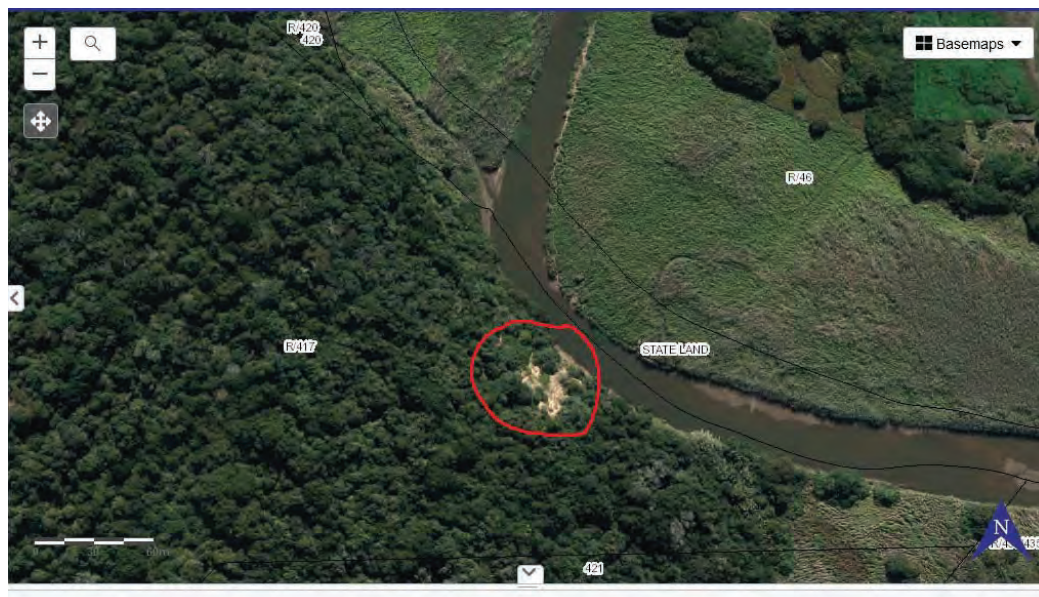


Fig. 1c. An aerial perspective of the area taken in 2018/2019 shows a previous slip which would have likely occurred due to a similar rainfall or disturbance event. The erosion site is located on the outer-apex of the river bend so this may be part of ongoing catchment-scale processes.

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/

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

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

HAWAIIAN ESTATE GRASSLAND
(ALIEN PLANT CONTROL)

Scale: 1:2000
Date: 11/2009
Drawn: 11/2009

Legend
Parcels
Study Area

DEVELOPMENT PLANNING
ENVIRONMENT & MANAGEMENT UNIT

BIODIVERSITY BRANCH
Created by: Lucky murebe
Tel Number: 081 311 7940
Email address: murebe@biodiversity.gov.gh
Peta C. van Luyk 081 2609 1209 Richard

ETHEKWINI
MUNICIPALITY

