Hawaan Forest Conservation Trust

Monthly site inspection report:

31.01.2024

Summary:

1) Insect life in the forest and grassland has been active during January. The ongoing showers have meant that the forest ecosystem has remained extremely productive late into the growing season, when the extreme heat in January can sometimes slow things down. Consequently, there have been some lovely observations around the ground nesting bee colony, such as Velvet Ants, which are in fact hemiparasitic wasps that lay their eggs on the host larvae of either bees or wasps.
2) Work conducted during January 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 been difficult because of the consistent rain across the month.
3) Two members of the HCT staff attended a basic First Aid and SHE REP courses during January 2024.
4) There have been reports of poaching again on the western portion of the reserve. Though only a single snare was located in the during a patrol on the western boundary of the forest.
5) Follow-up work on the bush encroachment will begin during the final week of January 2024, once the work around the trail network has been attended to by HCT staff.

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

(1)

Forest pathways have been mowed in early January and were looking good and neat during the inspection.

(2)

In sub-tropical African forests, cicada beetles are known for their loud calls during peak summer, primarily as a mating call to attract females. The intensity of their calling, amplified by high summer temperatures, plays a crucial role in their life cycle and contributes to the characteristic soundscape of these of forest environment at the Hawaan.

(3)

The sticky weed on the eastern corner of the grassland trails have been removed, which seems to have increased over the growth phase of summer. HCT to focus on this and remove completly before the end January.

(4)

Wallenburga undularis was seen flowering within the grassland, and the pathway edges.

(5)

The bush encroachment, which was managed along the eastern portion of the forest in late November, clearly makes a significant difference to the structure of the grassland. However, in its place, an invasive grass, Itch Grass (Rottboellia), has emerged. As it's an annual grass, the HCT staff have been instructed to carefully slash and spray this grass when it's noted

(6)

In January, the forest staff have focused on cutting back Silver Oak from the edges of and pruning back over hanging branches from the trails.

(7)

HCT Staff have now cut back summer growth along the Bushshrike trail. This was prioritsed for work by the end of January 2024.

(8)

The forest ecosystem has experienced exceptional productivity due to the rainfall in December and throughout January 2024. This has led to a notable increase in breeding activity, resulting in either a second or even a third brood of chicks for the Red Capped Robin Chat this season.

(9)

Forest pathways along the west of the forest were looking neatly mowed and well managed.

(10)

Along the Bulbul trail, keep an eye out for eye out for Moth Fruit Creeper, *Acridocarpus natalensis*.

(11)

Another invasive species, Solanum seaforthianum, is being actively managed by the conservation staff. If you encounter these flowers, please either remove them or alert us to their location.

(12)

The pipeline down to the sewage works has once again popped open, basically spilling raw sewage into the forest and then onto the Ohlanga River. This incident has been logged with the relevant city officials, which led to an inspection on the 19th of Jan. Despite the inspection, the issue has not yet been resolved and commutation with the city is a weekly basis.

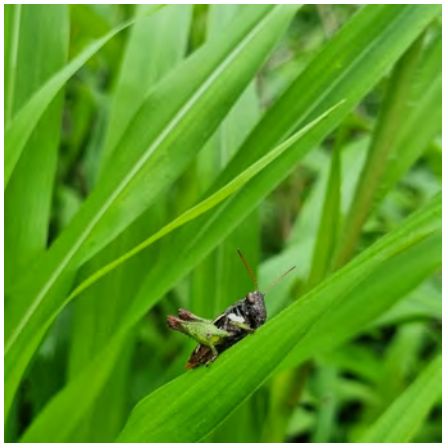
(12)

Velvet Ants, from the sub-family Mutillinae, are unusual because they are not actually ants but a unique group of solitary wasps. Despite their common name, these insects belong to the family Mutillidae and are known for their striking, velvety appearance and vibrant colors, which can range from bright reds and oranges to black. In addition to their distinctive appearance, Velvet Ants have a fascinating relationship with bees. They are known as cleptoparasites, meaning they lay their eggs in the nests of ground-nesting bees and wasps. The larvae of Velvet Ants then consume the host's larvae and the food provisions left by the host for its own offspring.
https://www.inaturalist.org/observations/197064634

(12)

Another species of Velvet Ant, known for inspecting holes in search of bees or wasps nests, is particularly common in sandy trail areas. These insects lay their eggs as brood parasites, utilizing the nests of other species for the development of their own offspring. Their presence is notably higher in sandy environments, where many bees and wasps build their nests, providing ideal conditions for the Velvet Ant's unique reproductive strategy.

(13)



Forb hoppers, primarily feeding on a wide variety of non-grassy plants or forbs, distinguish themselves from grasshoppers by their specialized diet, which is less focused on grasses and more on broad-leaved plants.

(14)

Feather-legged Spiders of the genus Miagrammopes are unique for their remarkable web-building behavior and hunting techniques. They construct a small, unusual web, which they hold stretched between their front legs, and when an insect passes by, they release it, entangling the prey with remarkable accuracy.

(15)

Purple Turacos, common visitors to the Bush Shrike trail-watering point, exhibit breeding behaviors characteristic of many turaco species. These birds are monogamous, typically forming long-term pair bonds. During the breeding season, both male and female Purple Turacos collaborate in building a rather flimsy and shallow nest, often placed in the fork of a tree branch.

(16)

Black sparrow hawks are a also typical visitors to the Bush-Shrike watering point. They nest in a very large Flatcrown tree, on the eastern area of the forest.

Operations: Tasks 2023															
Category	Item	Task	**Schedule**	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Trails	1.1	Clearing away vegetation that is growing over, repairing washaways	Weekly	x	-	-	-	–	_	–	-	-			
	1.2	Repairing washaways	Weekly	-	-	-	-	-	-	--					
	1.3	Resetting concrete sleeper treads on steeper parts of the trails	Weekly	-	-	-	-	-	-	-	-	-	-	-	
	1.4	Cut the trails using a brush cutter once every two weeks in summer and check for overgrowth in winter	Weekly	x	-	-	-	-	-	-	-	-	-	-	-
	1.5	Trails should be maintained because they function as fire breaks or tracer breaks for fire-fighting when annual burn is done each year in July/August.	Weekly	x	-	-	-	-	-	-	-	-	-	-	-
	1.6	Check trails for over-hanging branches and other vegetation.	Weekly	x	-	-	-	-	-	-	-	-	-	x	x
	1.7	Clearing litter on the trails and in the forest twice a week as not much pedestrian traffic if usage increases then checking daily will have to be done.	Weekly	x	-	-	-	-	-	-	-	-	-	-	x
	1.8	Check fuel and oil for machines and report.	Monthly	x	x	x	x	x	x	x	x	x	x	x	x
	1.9	Snare management – check hot spot sites for re-applied snares on a weekly basis	Monthly	x	x	x	x	x	x	x	x	x	x	x	x
Water points	2.1	Check if waterpoints are soiled by animals	Weekly	x	x	x	x	x	x	x	x	x	x	x	x
	2.2	Fill waterpoints along the trails	Weekly	x	x	x	x	x	x	x	x	x	x	x	x
Infrastructure	3.1	Observe and report to Management where signage needs to be cleaned or replaced due to vandalism or fading	Monthly	x	x	x	x	x	x	-	-	-	-	-	x
	3.2	Check signs and clean signs and benches weekly	Weekly	x	x	x	x	x	x	x -	x	x	x	x	x
	3.3	Check exclusion plot for fallen trees or branches damaging the wire.	Monthly	-	x	x	x	-	-	x	x	x	x	x	x
	3.4	Keep tools and equipment clean and serviced daily for hand tools.	Weekly	x	x	x	x	-	-	x	x	x	-	-	-
	3.5	Clean and service machine tools after each session of use. Chainsaw, Brushcutter.	Weekly	x	x	x	-	-	-	-	-	-	-	-	-
	3.6	Service of machinery at Berries	Yearly	-	-	-	-	-	-	-	-	-	-	-	-

	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	x	x	x	x	x	-	-	-	-	-	-
	3.8	Check that trail cameras daily to ensure they are not stolen.	Daily	x	x	x	x	x	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, Triffid etc..in both the forest and grassland systems.	Weekly	x	x	x	x	x	x	x	x	x	x	x	x	x
		Checking for regrowth of IAPs monthly and set out new work areas each month.	Monthly	x	x	x	x	x	x	x	x	x	x	x	x	x
	4.2	Removal of selected indigenous woody encroachment species such Silver Oak in the grassland section	Monthly	-	x	-	-	-	-	-	-	x	x	-	x	x
	4.3	Monitoring herbicide stores on a monthly	Monthly	x	x	x	x	x	x	x	x	x	x	x	x	x
Fire management	5.1	Ensure tracers belts and pathways in the grassland open before prescribed burn	Yearly	-	-	-	-	-	-	-	x	x	-	-	-	-
	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. *Fire fighting =equipment one drip torch, 3 rubber beaters with handles, two Knapsack sprayers.*	Yearly	-	-	-	-	-	-	-	x	x	-	x	x	-
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.							

Camera Trap highlights from November 2023. Hawaan Forest.

Large Spotted Genet

Female Bushbuck

Red Capped Robin Chat

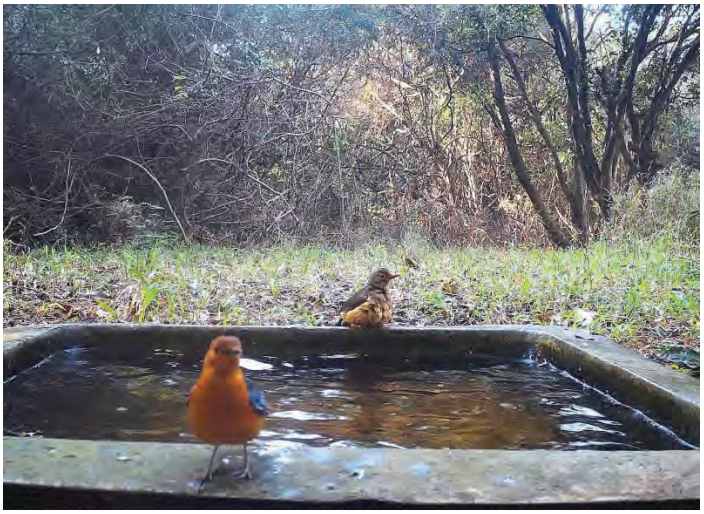
Pair of Red Duikers

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

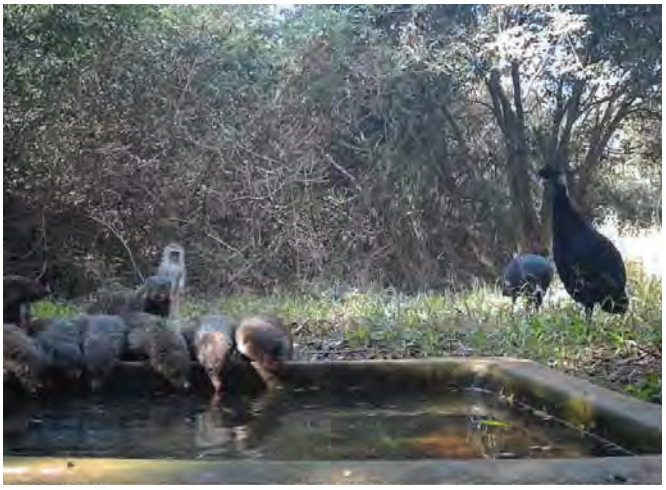
Some beautiful camera trap images were taken at the forest water point during July, 2022.

Red Duiker, female.

Bushbuck females.

Crested guinea fowel.

Red Duiker, male



Vervet Monkey, Banded Mongoose, and Guinea fowel.

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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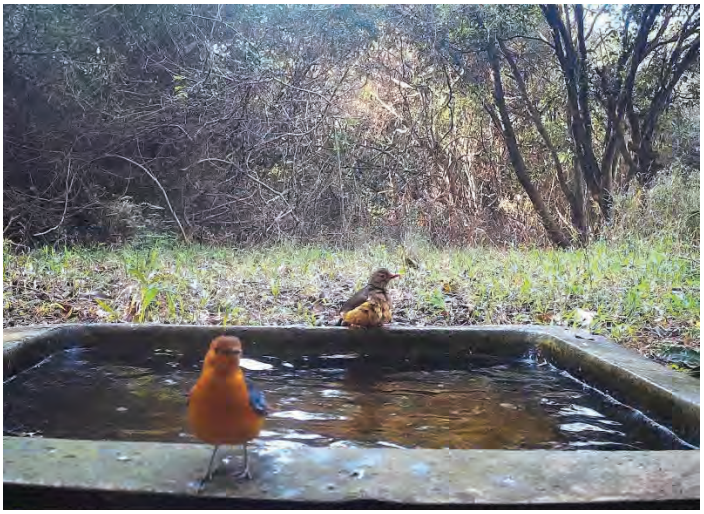

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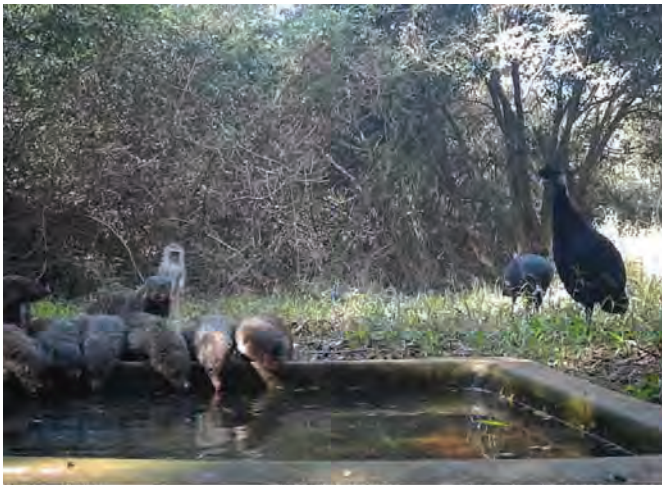

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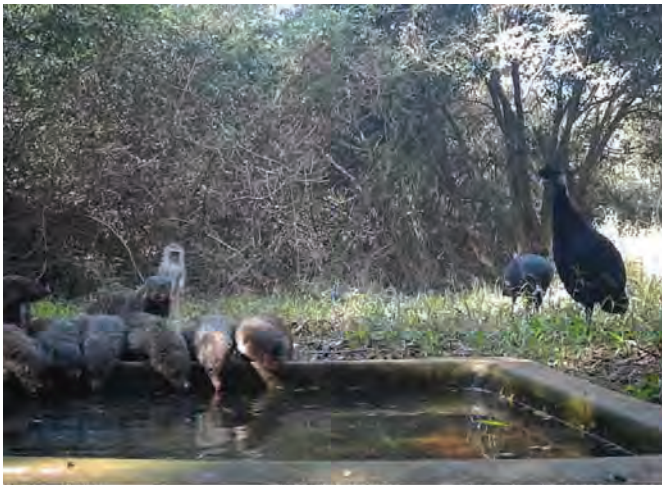

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September 2022

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Bushbuck male at dawn.

Crested-guineafowl in the forest at night!

Blue duiker in the forest

Lemon dove in the forest leaf litter

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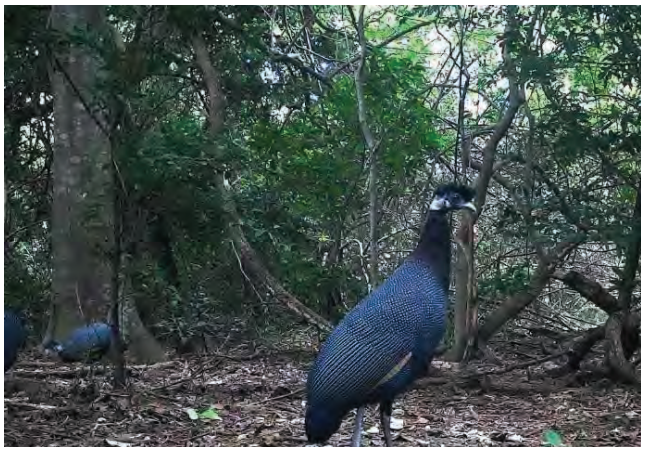
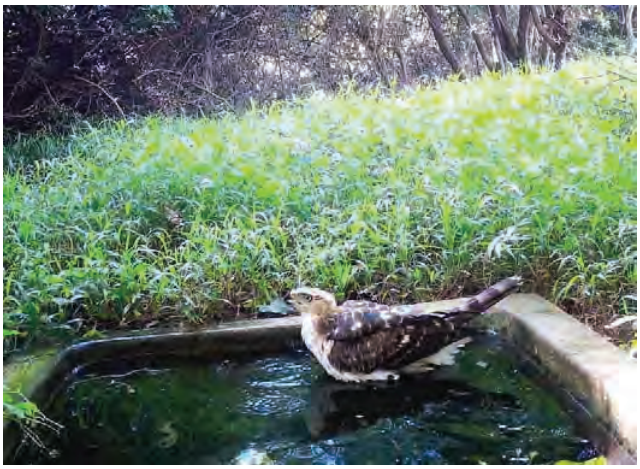


Crested Guinea fowl

Purple crested turaco



Crowned eagle (Juvenile)

Female bushbuck

Wood owl

Tambourine dove

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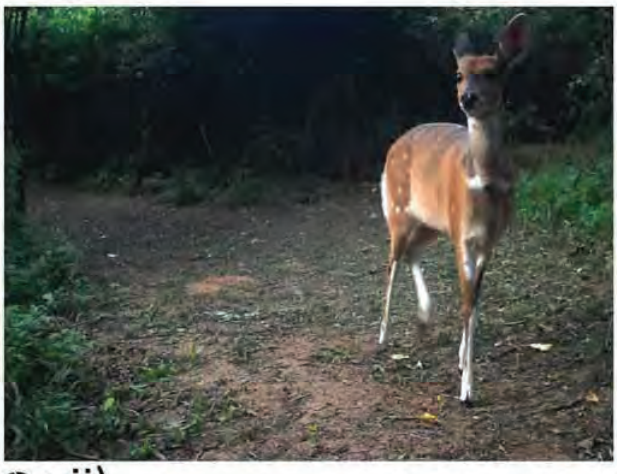

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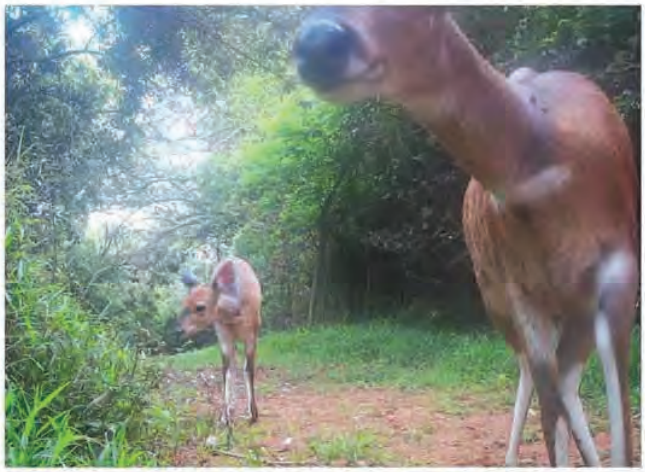


Camera trap images March 2022

During March the HCT have again worked closely with the HRA and Marshall security. Highlights from March 2022 include: Many different forest fauna utilising the water point at the BushShrike junction, including: Blue Duiker; Black Sparrow Hawk; Purple Turaco; and a Wood Owl. The camera on the Bush-Shrike trail also picked up some beautiful images of foraging Banded Mongoose and Crested Guinea fowl.

Blue Duiker

Black Sparrow-Hawk

Purple Turaco

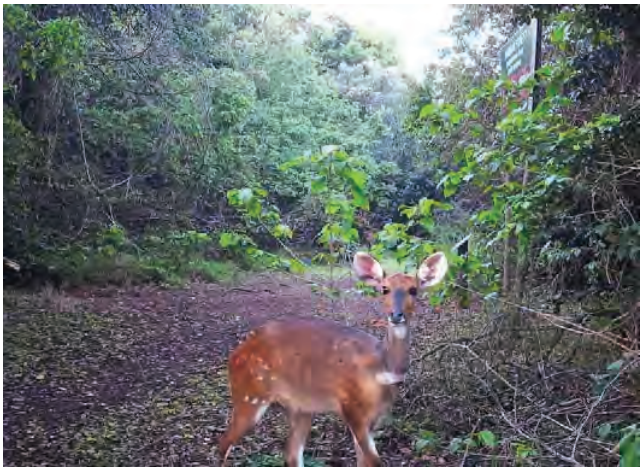
Wood Owl

Banded Mongoose

Crested Guinea fowl

Camera trap images September /October 2021

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 appearers 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.

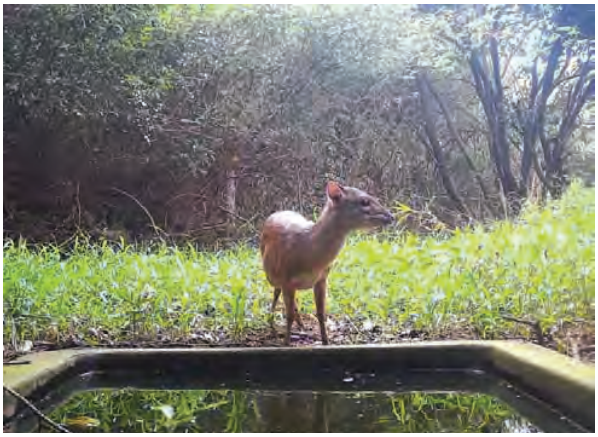
Fig2d. Some of the surrounding vegetation at the source point has collapsed but damage does not seem to be extensive. However, a full inspection has not been conducted.

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 fowel

Crested Guinea fowel

Red duiker

Red duiker

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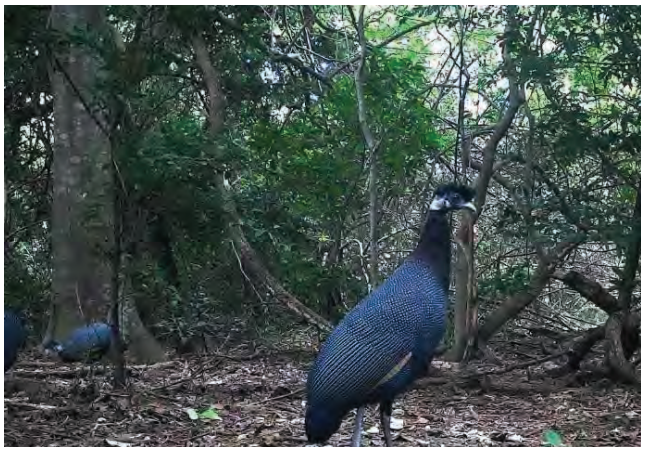

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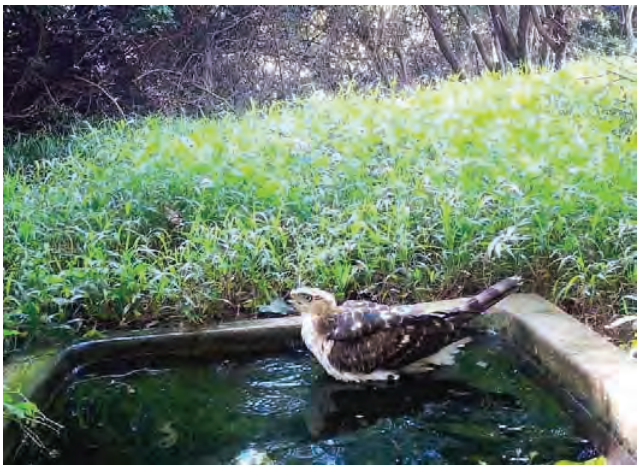

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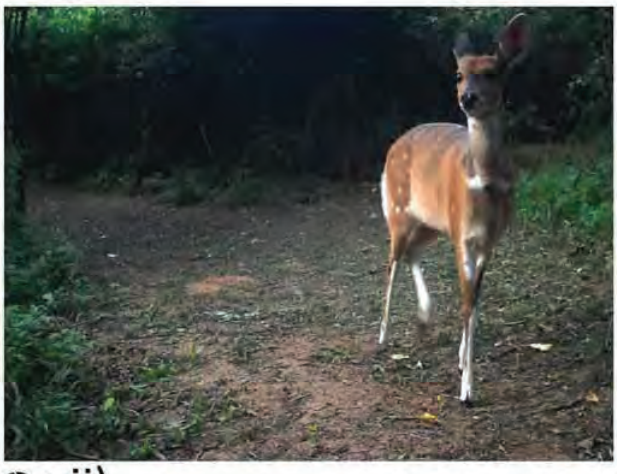

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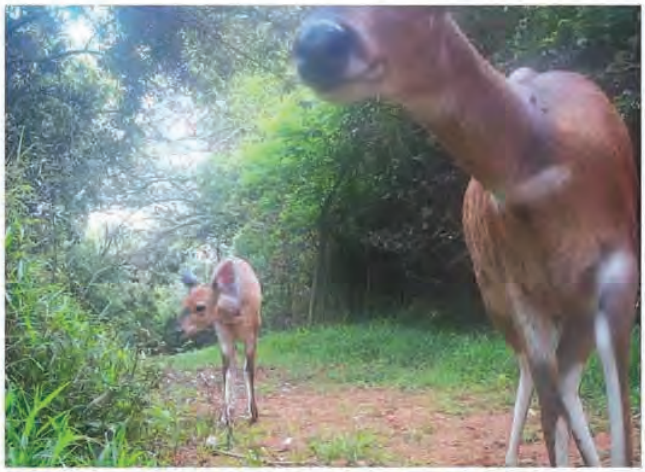

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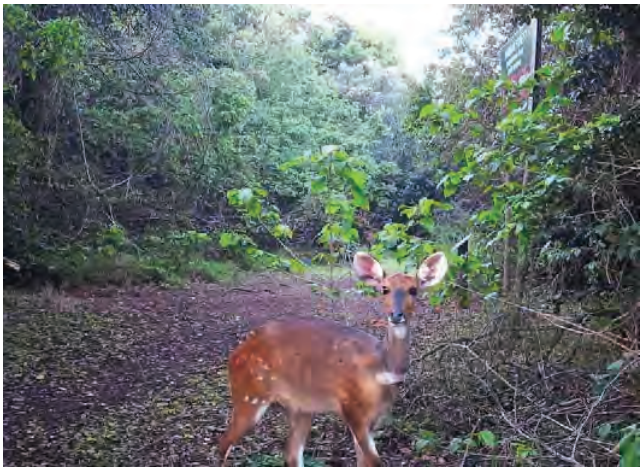
Given that we are still working out how best to deploy the camera traps in the nature reserve, some of the images received so far have been beautiful. Species noted below are as follows: Crested guinea fowl, spotted Genet, and female, male and juvenile bushbuck. Other forest antelope noted have been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



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 conduced 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 (PHSB) 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

*Some confusion existed about the Latin name of the PSHB [the species that is invasive in South Africa, California and Israel]. It has been referred to as *Euwallacea* nr. *fornicatus* and *Euwallacea whitfordiodendrus*, but as of 2019 the correct name to be used for this species is *Euwallacea fornicatus.*


HAWAAN ESTATE GRASSLAND
(ALIEN PLANT CONTROL)
Scale : 1: 2000
Date Created :30-07-2009
Block1
Area=1.7ha
Block2
Area=2.0ha
Block3
Area=1.99ha
Block4
Area=2.2ha
Block5
Area=2.4ha
HERRWOOD DR
HAWAAN DR
PYTHON PL
Legend
Parcels
Study Area
DEVELOPMENT PLANNING
,ENVIRONMENT & MANAGEMENT UNIT
BIODIVERSITY BRANCH
Created by: Lucky mncube
Tel Number : 031 311 7940
Email address:mncubel@durban.gov.za
Path:C:\esri\luckyas@26-01-2009\Richard
ETHEKWINI MUNICIPALITY