Hawaan Forest Conservation Trust

Monthly site inspection report:

Summary: 29.01.2025

1. Work in the Hawaan forest during January comprised routine maintenance actions, focusing on maintaining overgrown areas along the forest trails, cutting back fallen trees, mowing grassland pathways, and addressing bush encroachment in the grassland.
2. January recorded approximately 230 mm of rainfall, compared to 55 mm in December. Consequently, the forest environment is extremely humid and wet (NDVI 0.91) – a fact reflected in the abundance of fungi and forest molluscs observed during January's inspection (see items 19-26).
3. Despite a thorough patrol along the entire eastern portion of the reserve along the M4 highway, no snares were found or removed during these operations.
4. Planned actions for February include recording floristic data from the browsing exclusion plots, documenting the occurrence of fungi species on iNaturalist during this humid summer period, deploying a late summer acoustic monitoring subset along the WESSA trail, and treating invasive plant species that have re-emerged on the M4 highway boundary.

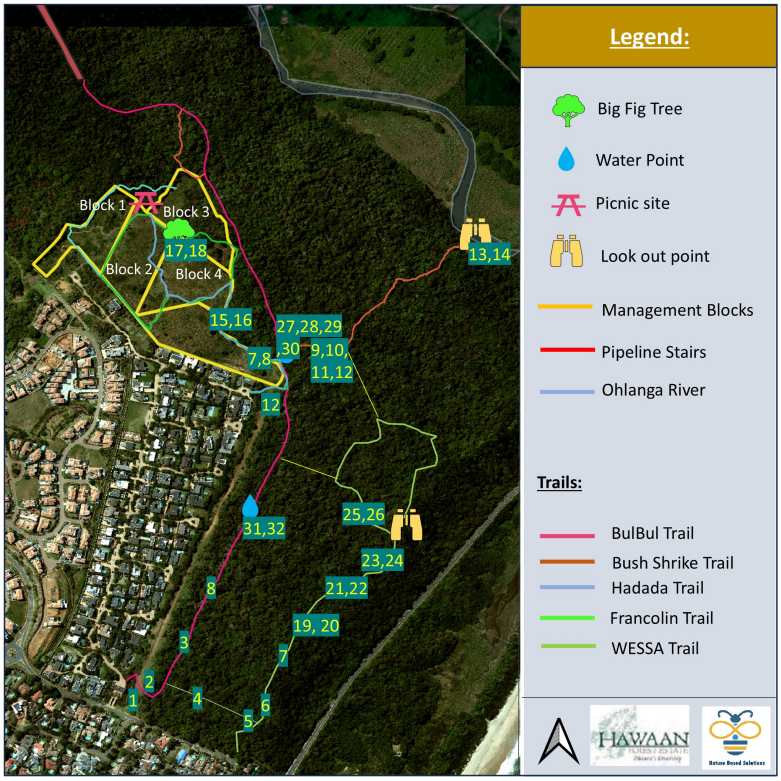


Figure 1. Numbers on the map refer to items below.

(1)

The gate and entrance area were looking neat in Jan. Some litter has surfaced after the rain and needed to be picked up.

(2)

House-keeping at the management zone is good but HCT staff need to focus on Weeding out the Sticky-weed to ensure it does not invade the forest.

(3)

Forest trails have been mowed neatly, and the edges of the pipeline have been pruned back.

(4)

Opening of hanging branches on the edges of the WESSA trail will be completed in January 2025.

(5)

The benches and forest signage on the WESSA trail needed cleaning after the December – and will be done in January by HCT staff.

(6)

The ‘Carnegie’ bench will be moved to just opposite the large Ziziphus tree – in that way the forest user will get perspective of the base of this large forest tree.

(7)

On the Wessa trail where creepers have bought down a tree- we will move the trail slightly to the left rather than cutting back the fallen tree.

(8)

A large Forest Fever tree, came down on the pipeline in December- which has been cut back and cleaned by HCT in January.

(9)

The old fenceposts on the Bush Shrike trail need to be removed by HCT staff.

(10)

HCT team to also remove old-wire from trail edge and take back to the management zone.

(11)

The browsing exclusion plots have now been installed - HCT staff will formally sample the vegetation in these exclusion area and a control using Braun-Blanquet cover-abundance. The will allow us to gain an understanding of the effects of antelope to the forest recruitment and herbaceous understory vegetation composition.

(12)

HCT staff will prune off broken branch neatly and remove creeper from the Cavacoa aurea on the Bushshrike trail.

(13)

The observation deck was clean and swept during the inspection in late January 2025.

(14)

HCT staff adjust raking regime at the observation viewpoint so that they can mitigate rain-water runoff at the pathway.

(15)

Another hot-spot for Sticky-weed maintenance needs attention on the grassland trail in Block 5.

(16)

Grassland Block 4 – looked very good during the inspection in January 2025.

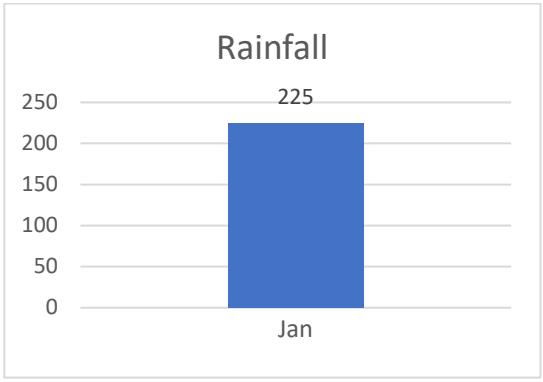
(17)

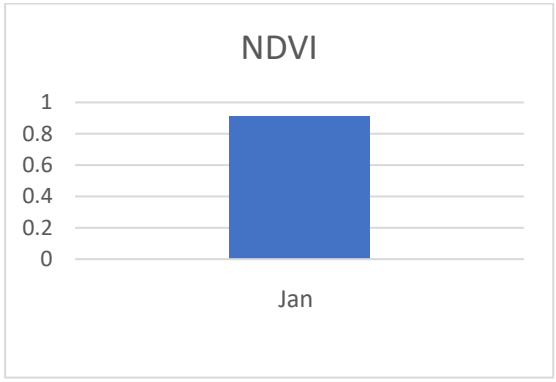
Other actions conducted by HCT staff in January were on the far corner - Block 5, where our ongoing woody encroachment programme is being implemented by cutting back pioneer indigenous scrub on the forest edge.

(18)

The central area of grassland Block 4 – also looked very good during the inspection in January 2025. Notably the over-abudance of *Helichrysum kraussii* has been controlled for the time being.

Climatic Data 2025





(19)

Xylaria is a genus of saprobic fungi known for its unique, often finger-like fruiting bodies that play a crucial role in decomposing dead wood in forest ecosystems

(21)

Candolleomyces is another genus of saprotrophic fungi in the Psathyrellaceae family, notable for its delicate, fruiting bodies that often display inky caps which a release dark spores in woodland ecosystems.

(21)

The Naemateliaceae family of fungi termed ‘jelly fungi’ are characterised by soft, gelatinous fruiting bodies. They often engage in parasitic relationships on other fungi species.

(22)

These Saw Gills and Wood Cap fungi, have evolved specialised structures—saw-like, serrated gills that increase surface area for efficient spore production and dispersal, along with robust, wood-like caps that enhance attachment a on their woody substrates.

(23)

Crinipellis fungi are characterised by their hairy or fibrillose caps and slender stems, often displaying vibrant colorations, and they occur in forested environments decomposing a variety of organic substrates such as leaf litter and dead wood.

(24)

Purple pinwheel fungi (*Marasmius haematocephalus*) are small, deep purple, pinwheel-shaped mushrooms that play a crucial role in forest ecosystems by decomposing organic matter and recycling nutrients in forest environments.

(25)

Glass snails are delicate, translucent gastropods with fragile, glass-like shells. They function as decomposers, breaking down decaying plant matter and also feed off fungi in moist, shaded habitats.

(26)

Euonyma snails have adapted to forest ecosystems by evolving efficient moisture-retention mechanisms through mucus secretion, a specialised radula for scraping decaying organic matter and fungi.

(27)

Rutting bush buck males engage in competitive behaviors—such as fighting, displaying dominance, and marking territories—to win mating opportunities with females.

(28)

African wood owl – noted at the Bushshike waterhole in January.

(29)

Crested Guinea fowls are a typical feature in the forest understory at Hawaan.

(30)

The usual pair of Water mongoose captured in January 2024.

(31)

The Crowned Eagles have bred and fledged in 2024, it has been more than 12 months since a juvenile has been noted on the camera's.

(32)

The usual Genet was also spotted by the cameras during late December in 2024.

x

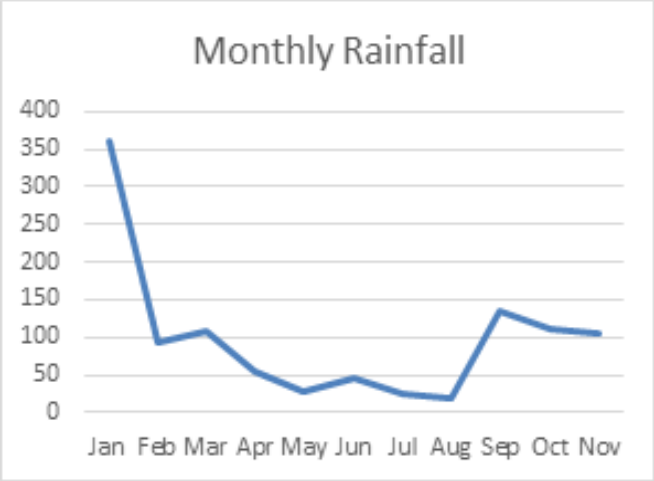
Operations: Tasks 2024															
Category	Item	Task	**Schedule**	**Jan**	**Feb**	**March**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Trails	1.1	Clearing away vegetation that is growing over, repairing washaways	Weekly	x	-	-	-	-	-	-x	x	x	x	x	
	1.2	Repairing washaways	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	-	-	-	-	-	-	-	x	x	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	x	x	x	x	x	x	x	x	x	x	-
	1.6	Check trails for over-hanging branches and other vegetation.	Weekly	x	-	x	x	x	x	x	x	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	x	x	x	x	x	x	x	x	x	-
	1.8	Check fuel and oil for machines and report.	Monthly	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	-	-
Water points	2.1	Check if waterpoints are soiled by animals	Weekly	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	-
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	-	-
	3.2	Check signs and clean signs and benches weekly	Weekly	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	-	-	-	-
	3.4	Keep tools and equipment clean and serviced daily for hand tools.	Weekly	x	x	-	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	-	x	x	-	-	-	x	-	-
	3.6	Service of machinery at Berries	Yearly	-	-	-	-	-	-	-	-	-	x	-	-

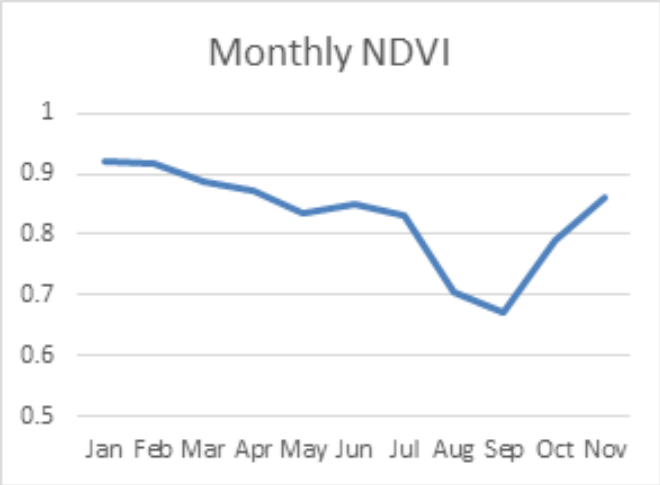
	3.7	Keep Tilley Huts neat and tidy sweep daily, clean windows every 10 days check maintenance and rusting on a monthly basis and report to HCT members.	Weekly	x	x	x	x	x	x	x	x	x	x	x	-	-
	3.8	Check that trail cameras weekly to ensure they are not stolen.	Daily	x	x	x	x	x	x	x	x	x	x	-	-	-
	3.9	Cleaning of shower on a daily basis after use.	na	-	-	x	x	x	-	-		-	-	-	-	-
	3.10	Check and order cleaning consumables for shower and toilet	na	-	-	-	-	-	-	-		-	-	x	x	-
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	-
		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	-
	4.2	Removal of selected indigenous woody encroachment species such Silver Oak in the grassland section	Monthly	-	x	-	x	x	x	x	x	x	x	x	x	-
	4.3	Monitoring herbicide stores on a monthly basis	Monthly	x	x	-	x	x	-	-	-	-	x	-	-	-
Fire management	5.1	Ensure tracers belts and pathways in the grassland open before prescribed burn	Yearly	-	-	-	-	-	-	x	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	-	-	-	-
Consumables	6.1	Order uniforms and personal protective gear for the 2 staff.	Yearly	-	-	-	-	x -	-	-	-	-	-	-	-	-

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.	Plenum	Picloram	Selective	5L	05/03,24	Searsia	East-grassland
8.	Plenum	Picloram	Selective	3L	05/08,24	Searsia, Dodda, Euclea	East-grassland

Climatic data for November, 2024.





Camera trap highlights from November 2024, aligning with the pattern of increasing observations within the interior of the forest – though the water-points are still being utilised a diversity of animals

(21)

Bushbuck female and doe

(22)

Maybe a Marsh Mongoose…

(23)

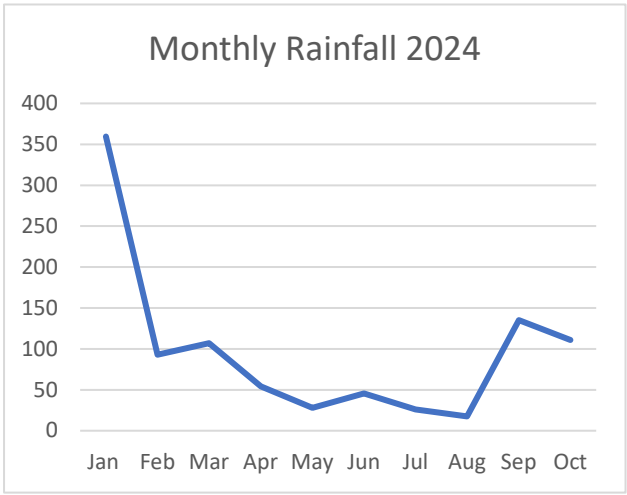
Water Mongoose

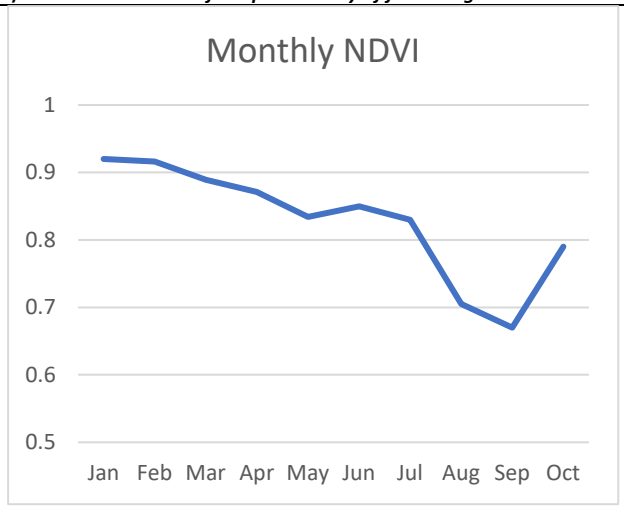
(24)

Crested Guinefowel

Climatic Data

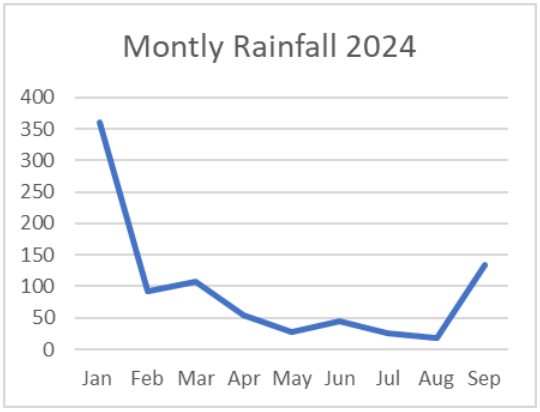
Rainfall and The Normalized Difference Vegetation Index (NDVI) ***which is a measure of the productivity of forest vegetation.***

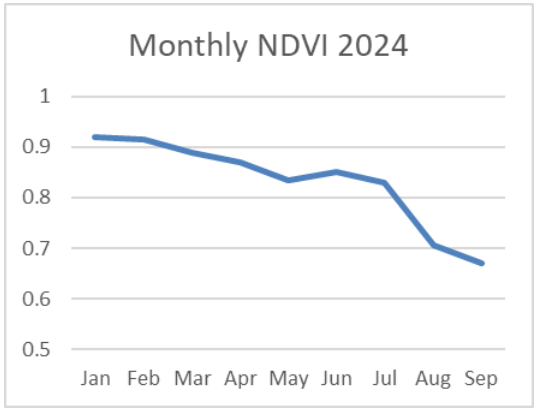


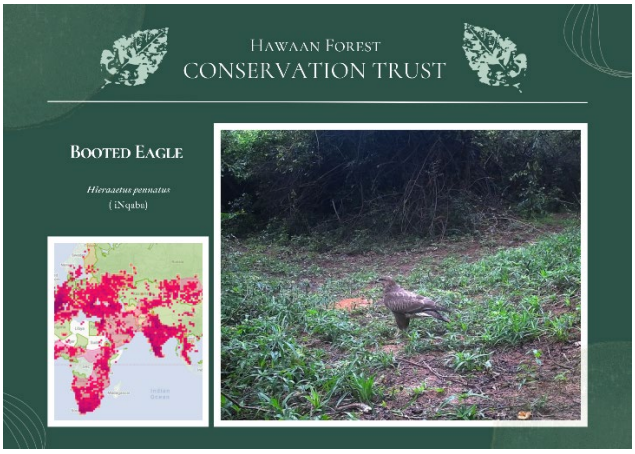


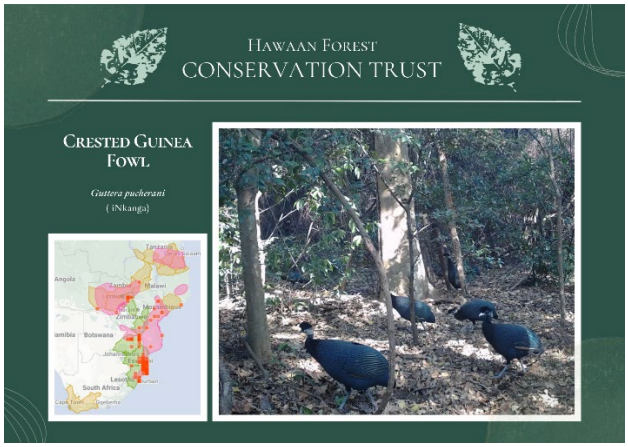
The camera trap images from October 2024 reflect the clearing humidity and the greening up of the forest, which has been occurring since the beginning of September. This change lends a mystical quality to the forest at this time of year.

Climatic Data for September 2024

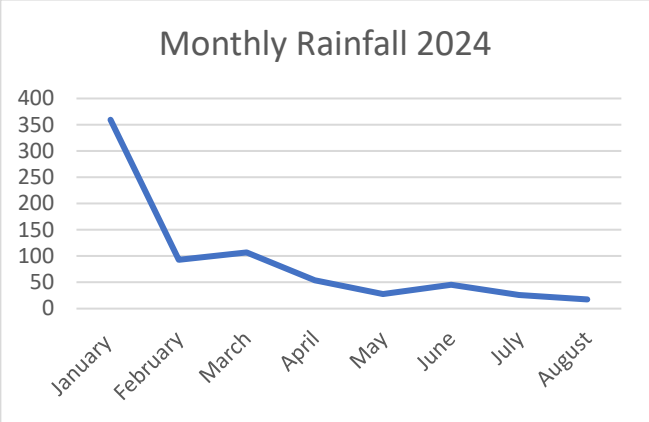


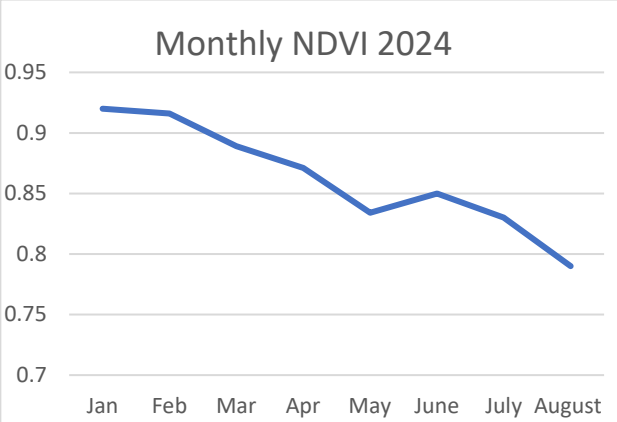




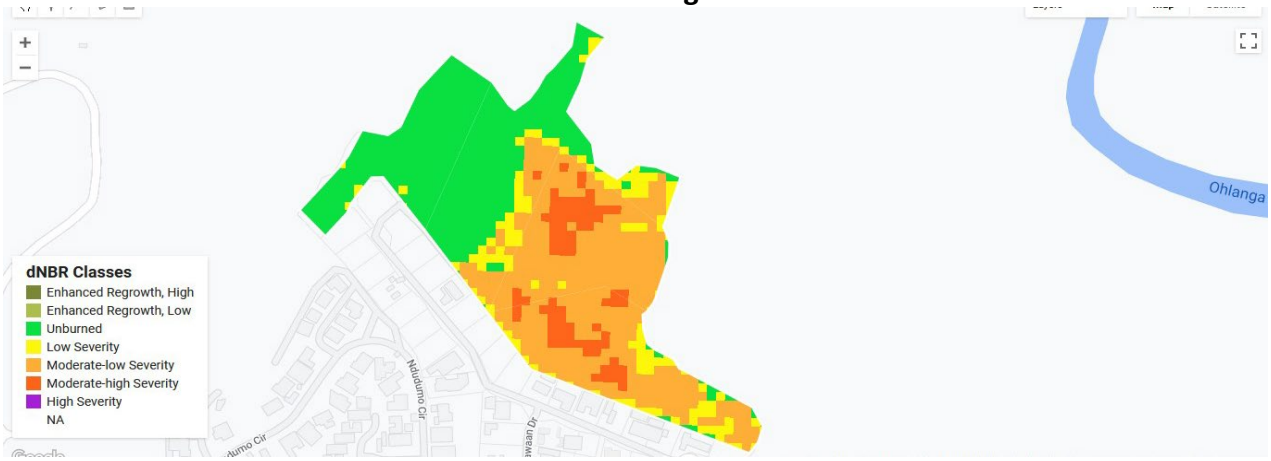


Climatic data (August 2024)

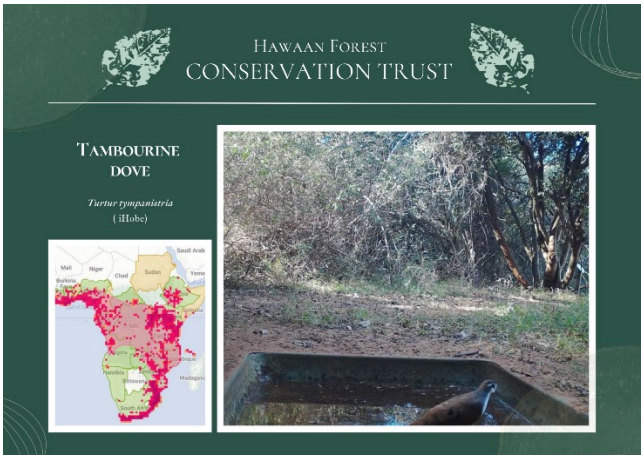


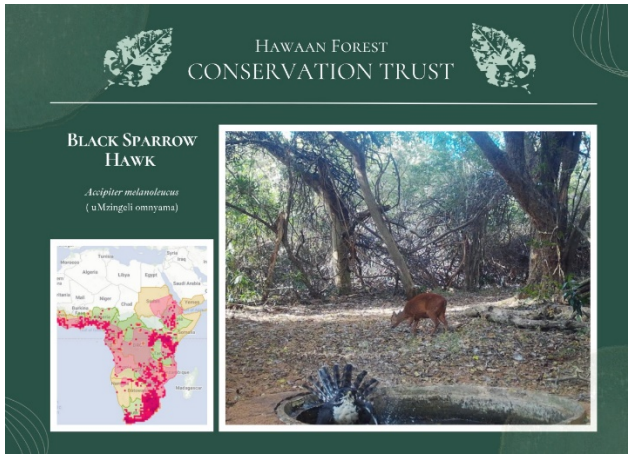


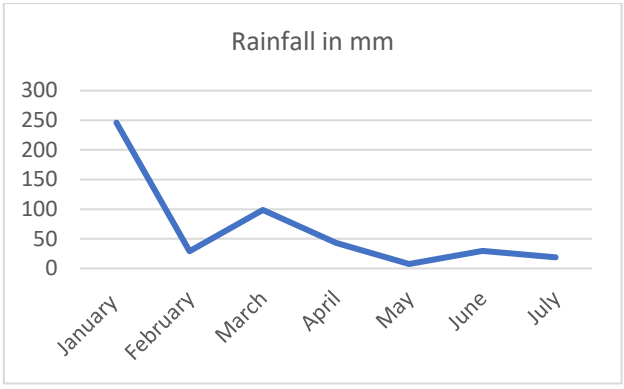
Prescribed burning scar 2024

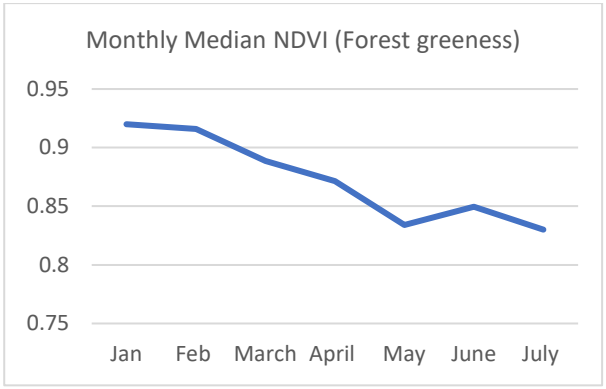


Avifauna of the Hawaan Forest

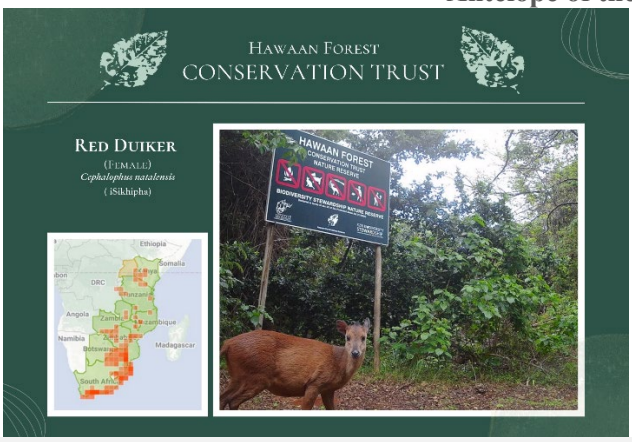


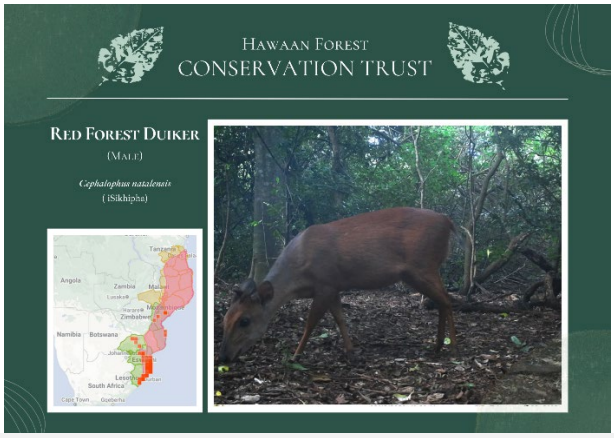


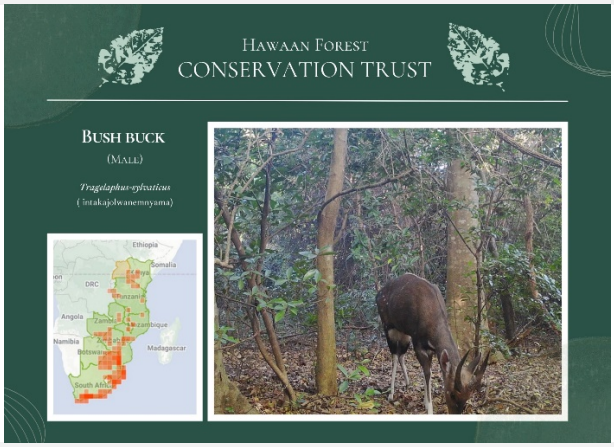


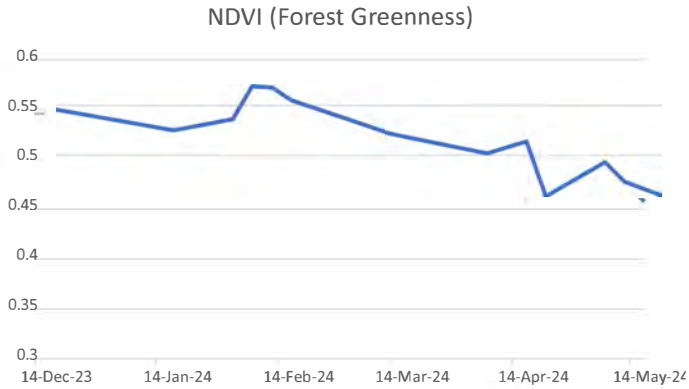


Antelope of the Hawaan Forest









Normalised differentiated vegetation index, on a scale from 0-1, is a satellite derived metric used to monitor vegetation health and primary productivity. This can be tracked on a monthly bases through the growing season, where it can be noted that mean NDVI at the Hawaan peaked in Mid-February at 0.58 and dropped to 0.45 during late May,

Female Bushbuck

Male Bushbuck

Blue Duiker - Male

Lemon Dove

Red Duiker - Male

Banded Mongoose

Vervet Monkey

Camera Trap imagery from April 2024

Vervet monkeys have been enjoying the fresh water provided HCT at the Bushshrike water point

As have many of the Red Duiker

The large male bush-buck

and the beautiful female bush-buck, all look in fine condition.

Two beautiful forest doves, the rarer forest, Lemon Dove..

and the more common, more of associated with woodlands, Tambourine Dove, were captured on the camera during April

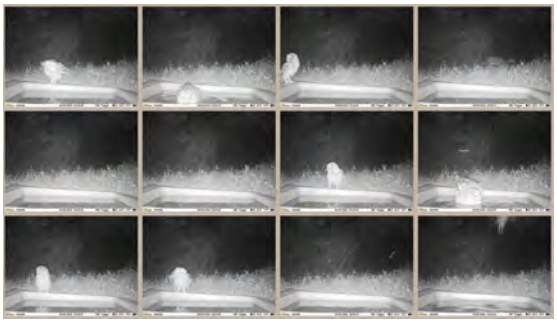
Observations from the camera traps in February showed the usual allotment of animals using the water provided by the HCT staff to bath and drink. We are working towards formalising the logging of this data on a consist basis so that it can be used a baseline information for the forest and to track change.

Spotted Genet

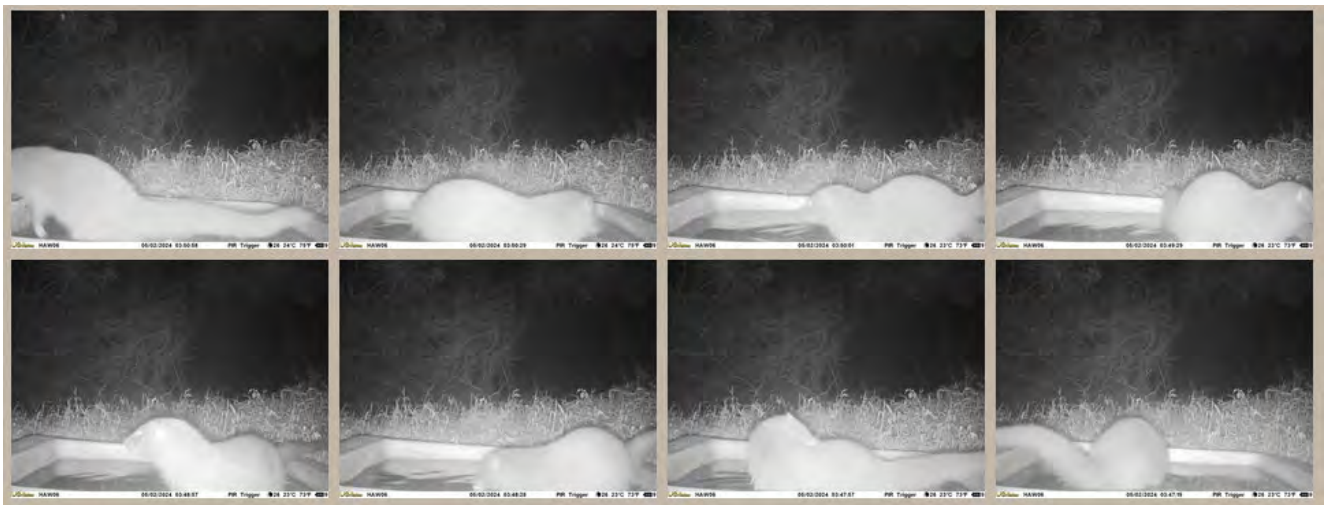
Tambourine Done

ed 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

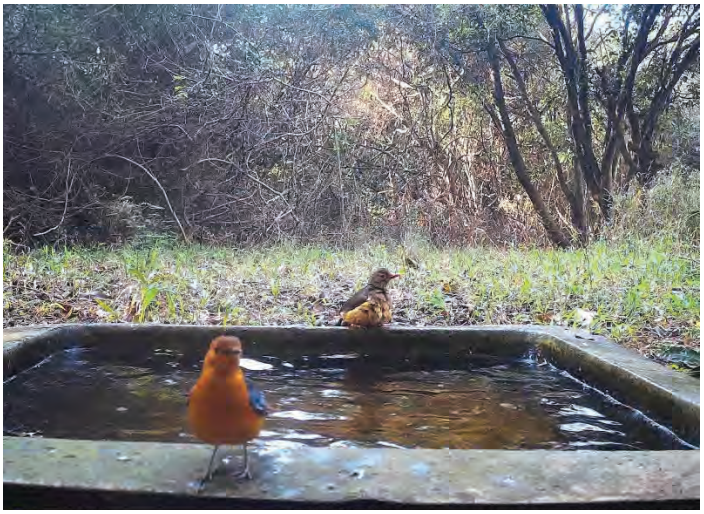
Pair of Red Duikers

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

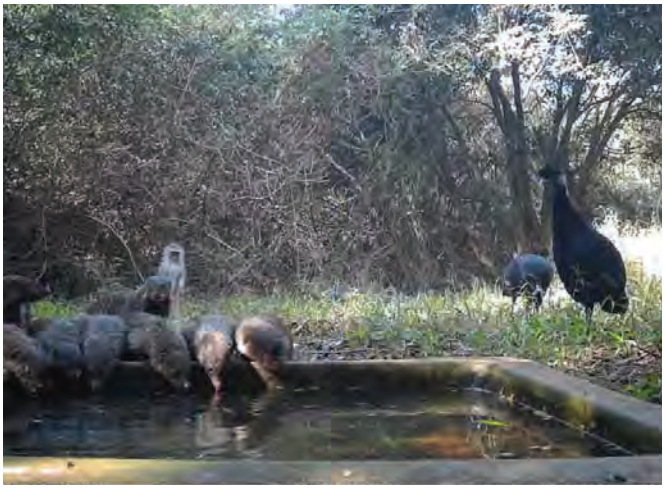
Some beautiful camera trap images were taken at the forest water point during July, 2022.

Red Duiker, female.

Bushbuck females.

Crested guinea 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)

Camera Trap imagery from March 2024

The 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 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.

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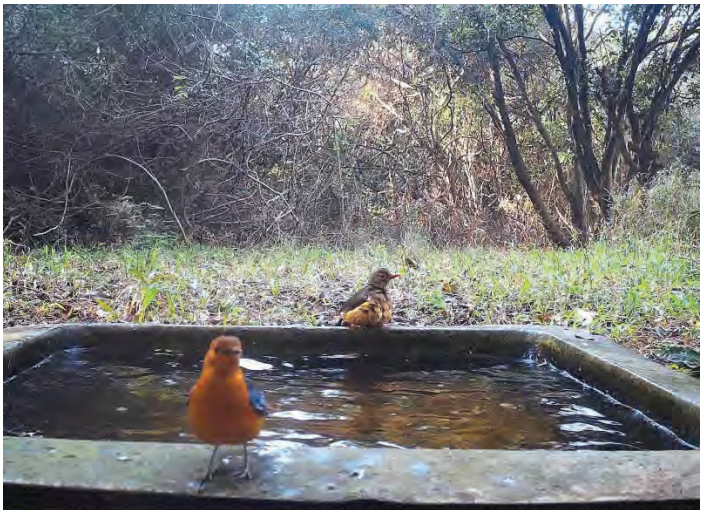

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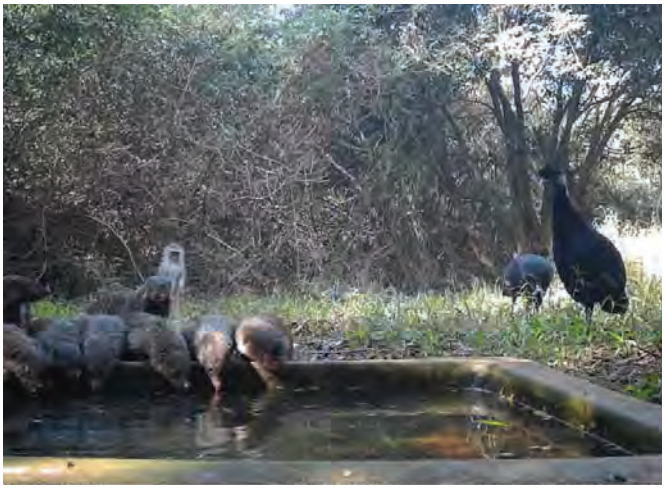

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Banded Mongoose.

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