
# Hawaan Forest Conservation Trust

# Monthly site inspection report:

Summary: 06.12.2024

1.Work at the Hawaan forest over November comprised routine maintenance actions, including cleaning and raking on the WESSA trail network, again, a significant amount of woody encroachment was cutback at the corner of Block 5 which contributes towards long-standing goal of opening up grassland in Block 5.
2.November realised about 110 mm of rainfall, a similar amount to October, as such, there been a gradual increase in forest productivity this month – as noted by the increase in NDVI which has reached 0.85.
3.Exclusion plots have been constructed. Floristic data for these enclosures will be collected during early December or January.
4.No snares were removed during the routine snare western portion of the reserve.
5.The Acoustic monitor sampling has been completed for the summer forest sub-set, and now deployed into the grassland parts of the reserve.
6.Actions planned for December are to focus on trail maintenance in the forest to ensure forest users have access to a high-quality network over the holiday period.

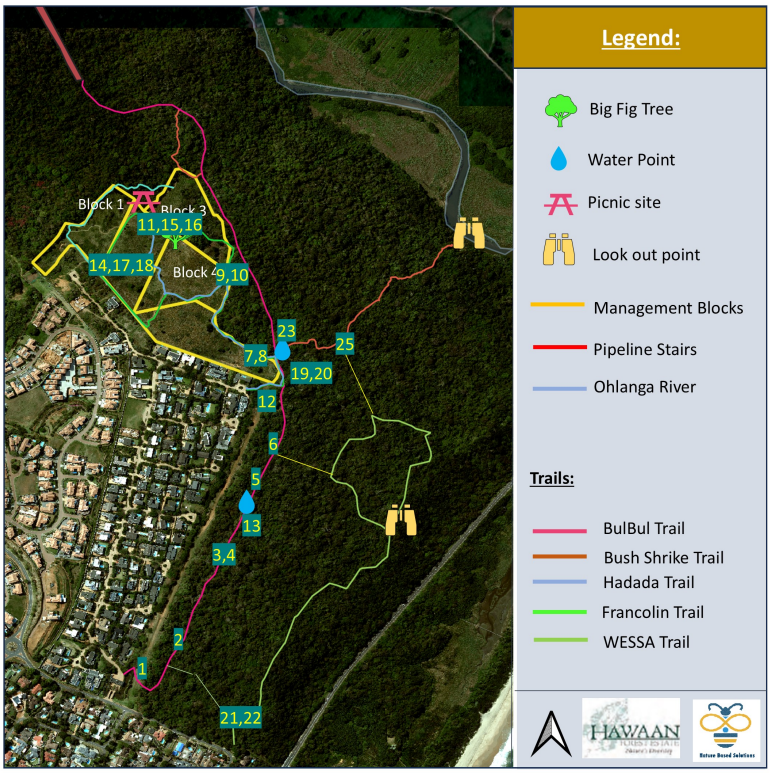



Figure 1. Numbers on the map refer to items below.

**(1)**


Signage linking WESSA trail to the forest has now been installed.

**(2)**

This, small seedling is called *Solanum seaforthianum*, (Brazillian Nightshade). Although they are not typically common in Hawaan, the HCT regularly identifies and uproot seedlings during the active summer growth phase. See the link to the global dataset of iNaturalist observations https://www.inaturalist.org/observations?taxon_id=169083

**(3)**

A potentially dangerous emerging invasive plant species at the Hawaan is the so-called Stickyweed, which recently popped up during early summer along the pipeline trail. The HCT staff keep a keen eye out for it because, as the name implies, the sticky seeds are easily moved around by people and animals. Because it shade tolerant, it has the potential to colonise the forest interior - It is the HCT responsibility to ensure that this does not happen.

**(4)**

During the site inspection, we observed this excavated top of a termite nest. Termites create durable mounds using a natural cement of saliva and feces, binding soil and organic matter. This hard structure, while keeping predators at bay, also apparently keeps the colony waterproof.

**(5)**

Although the trails on the Wessa side have been raked and clean - the pulse of summer growth means that HCT will shore up their efforts and focus on trail maintenance of the festive season.

**(6)**

Flowering in June through to December on the pipeline *Senecio pleistocephalus* – https://www.inaturalist.org/observations?taxon_id=556278

**(7)**

The hard work by HCT staff – with support from Trustees has ensured we are keeping ahead of the woody encroachment issues and preserving the open-habitat conditions of the grassland at Hawaan.

Albeit still in small quantities - the wildflower restoration which was conducted in 2022 has been a success of concept - with the *Vernona natalensis* slowly but surely becoming established and also providing seed into the grassland.

**(9)**

The flat crown Albizia next to the grassland block offer a beautiful shady feature and retreat for the forest user.

**(10)**

Further grassland cleaning and spraying was conducted in November on Phase 5 block.

**(11)**

Tiger beetles are fast-running, predatory insects known for their exceptional hunting abilities. Found in diverse habitats, paths often mimic the beetles' natural habitats, such as riverbanks or clearings, which they favor for preying on smaller insects and other arthropods.

**12)**

The ground-nesting grassland bees have emerged from their usually nesting place near the bushshrike waterpoint – the best time to observe their busy activity is on hot mornings during sunny weather – they don't sting unless you try and catch them.

**(13)**

Flowering within the forest canopy and edges during November is the beautiful and elegant forest legume, *Baphia racemosa*, also known as Natal Camwood.

**(14)**

In the grassland, the Sickle Bush (*Dichrostachys cinerea*), a native small shrub, is notable for its attractive flowers, which contribute to the visual appeal of the ecosystem while serving ecological functions.

**(15)**

In the grassland, flowering at during early summer and through the rainy season – are (Blue-bells) *Wahlenbergia's* – which are once the few species remaining after sugar cane cultivation

**(16)**

Our experiment in bring back Eriosema psoraloides has been extremely successful as we watch it colonise the north-east of the grassland.

**(17)**

Lionface Nemesia's are another of the herbaceous wildflowers which survived the period of sugar cane cultivation at Hawaan.

**(18)**

On the ridge within the south-west corner of the grassland African Grassland Thistle - *Berkheya speciosa* was introduced in 2007/8 back to the Hawaan Grassland. This species flowers in early summer but can persist across the season if there is lot of rain about.

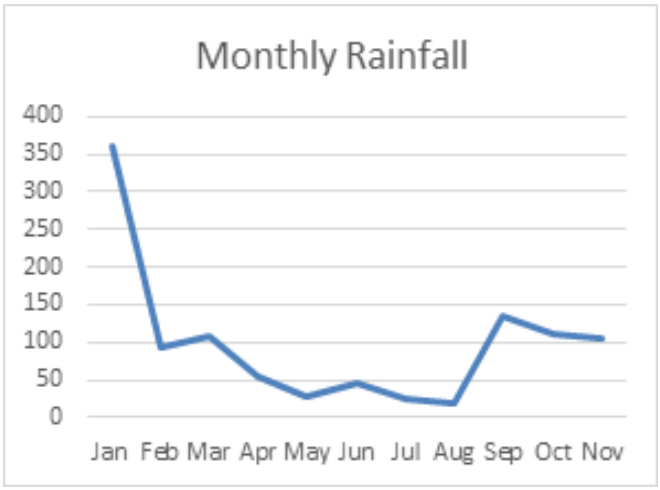
**(19)**

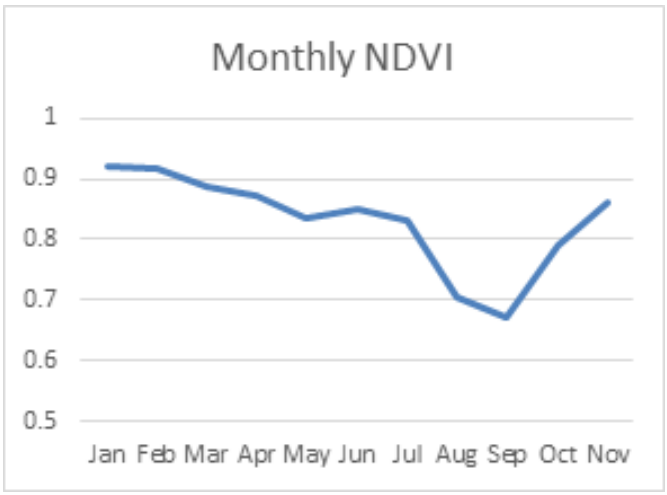
Around the forest in colour in November are the African False Tiger Moth (*Agoma trimenii*) which utilises plants from the Grape family, including forest wild grapes like *Cissus* and *Rhoicissus*, as the food for its larvae.

**(20)**

In November's light,
Bush snake glides in canopy—
A verdant delight

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

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 | 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 | - | - |

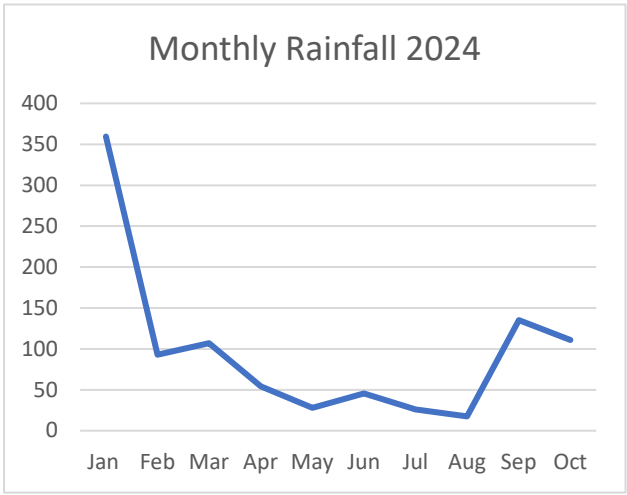
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3.7 | Keep Tilley Huts neat and tidy sweep daily, clean windows every 10 days check maintenance and rusting on a monthly basis and report to HCT members. | Weekly | x | x | x | x | x | x | x | x | 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 - | - | - | - | - | - | - | - | - |

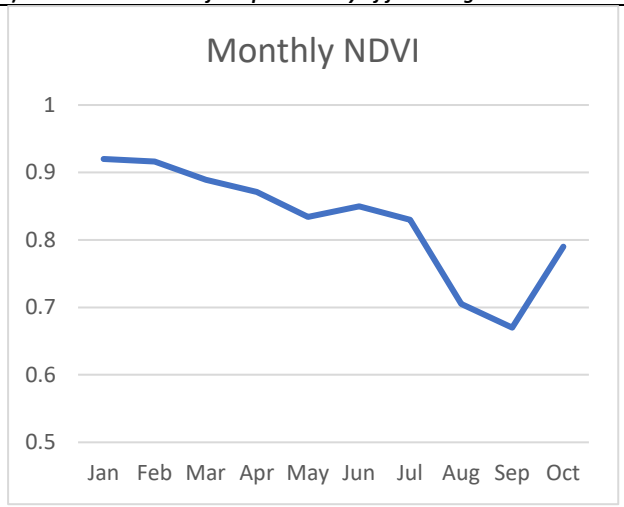
| Item | Herbicide name | Active ingredient | Type | Litres in stock | Date used | Species applied | Location |
|---|---|---|---|---|---|---|---|
| 1. | Gladiator, pre-mix | Picloram | Selective | 15L (pre-mix) | 16/4/22 | Creeping inch | Forest mgmt zone |
| 2. | Round-up | Glyphosate | Non-selective | 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**

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

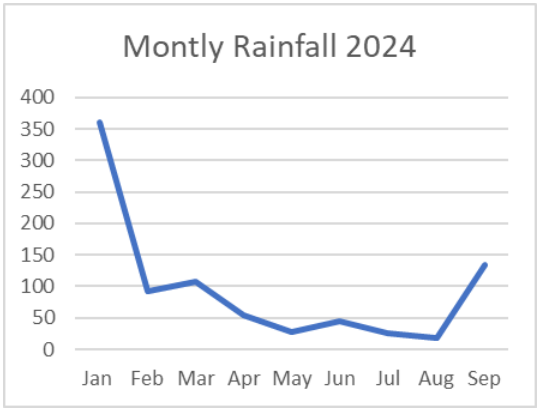


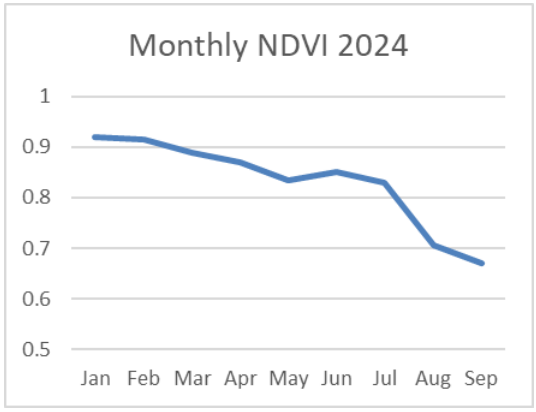



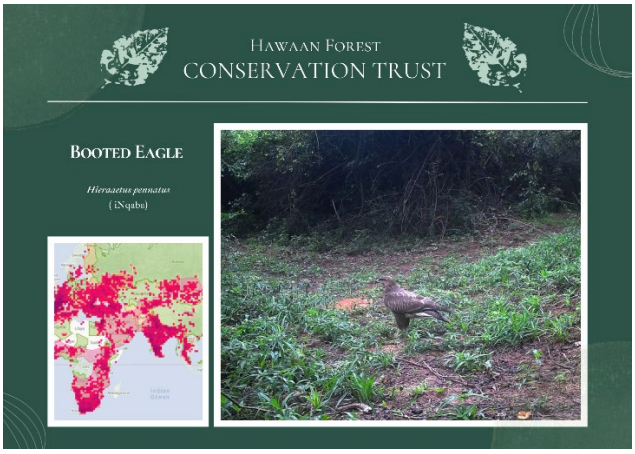

The camera trap images from October 2024 reflect the clearing humidity and the greening up of the forest, which has been occurring since the beginning of September. This change lends a mystical quality to the forest at this time of year.

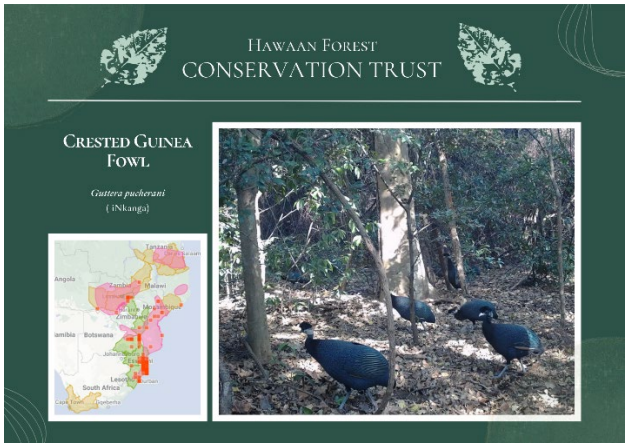



## Climatic Data for September 2024



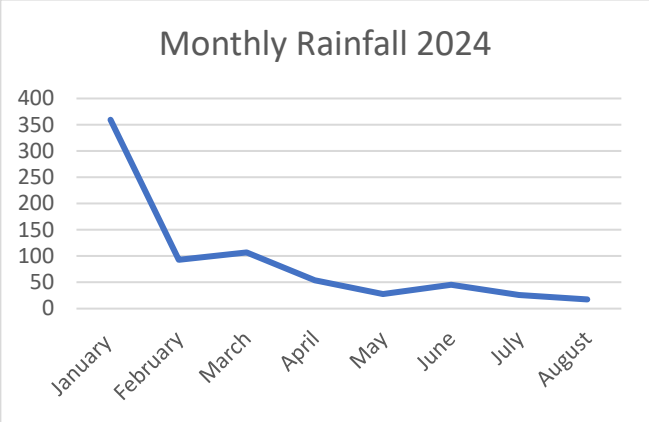



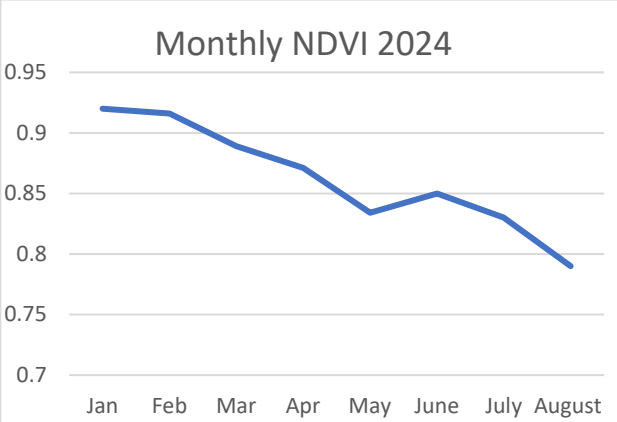



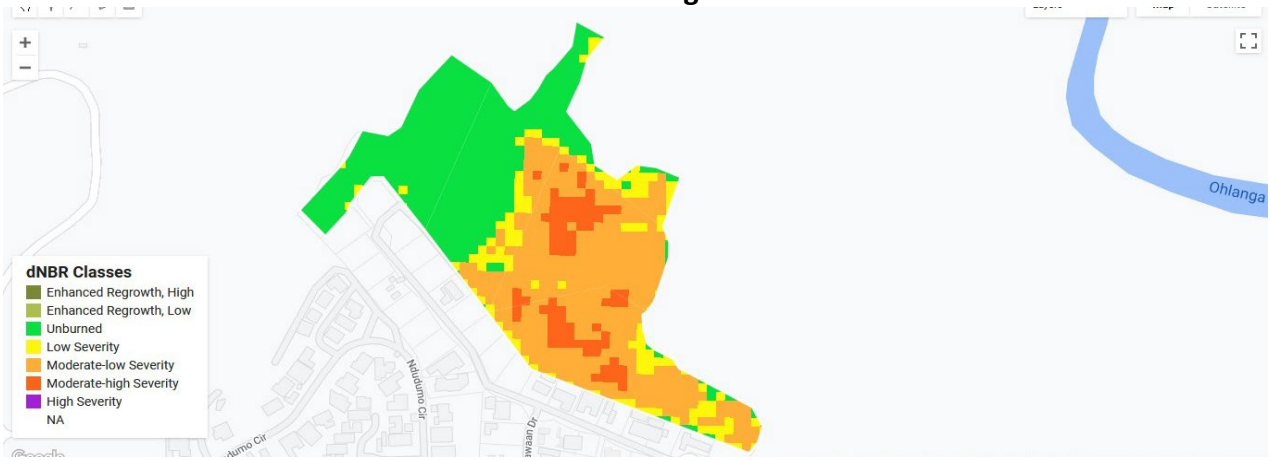


## Climatic data (August 2024)

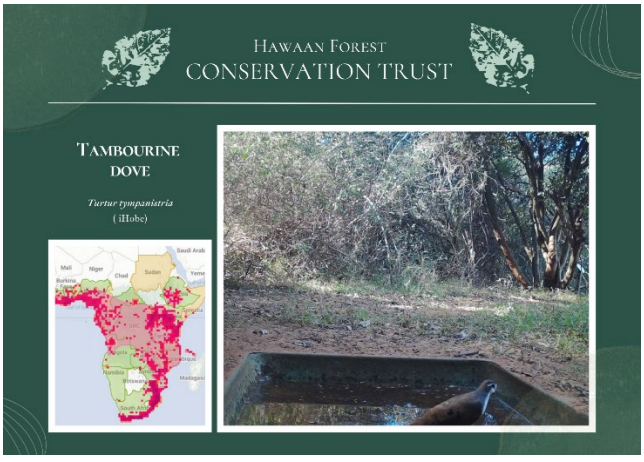


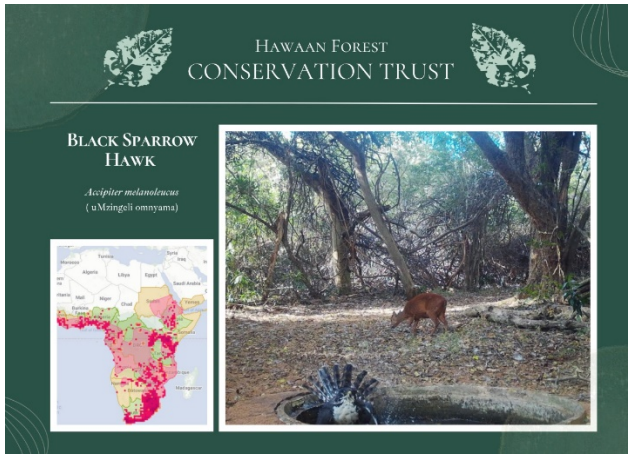



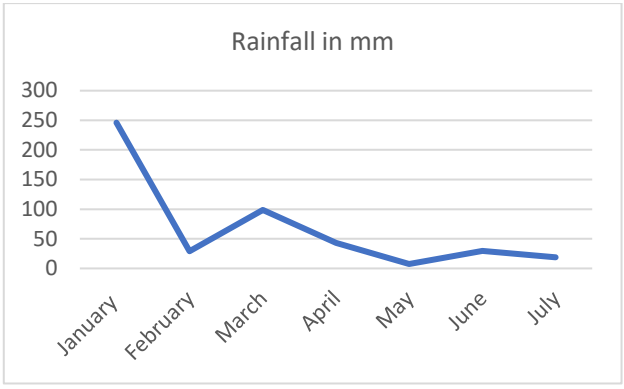

## Prescribed burning scar 2024

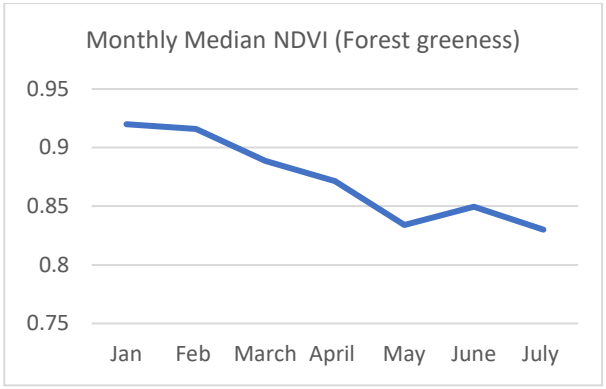



## Avifauna of the Hawaan Forest

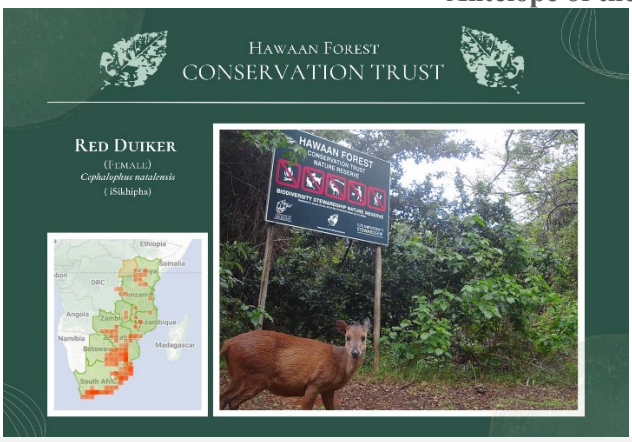


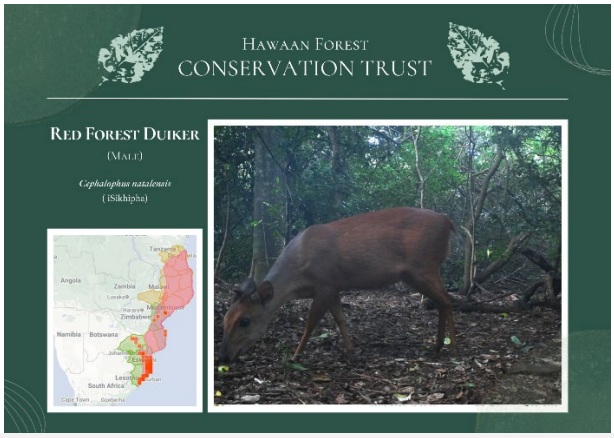





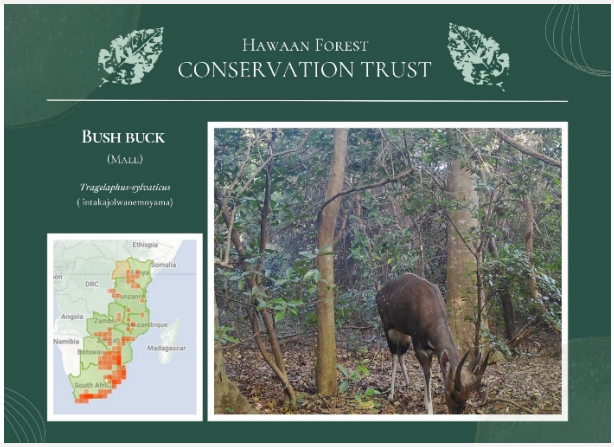




## Antelope of the Hawaan Forest

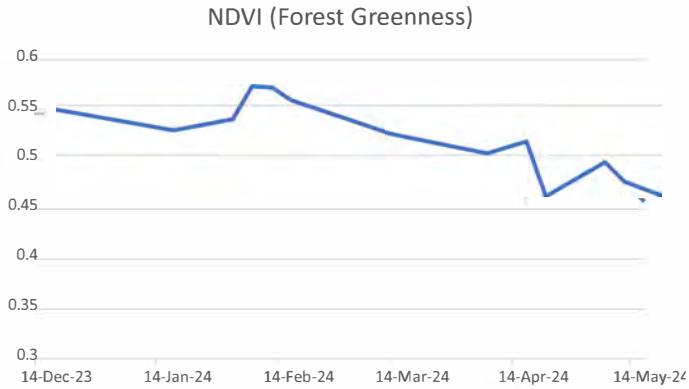











Normalised differentiated vegetation index, on a scale from 0-1, is a satellite derived metric used to monitor vegetation health and primary productivity. This can be tracked on a monthly bases through the growing season, where it can be noted that mean NDVI at the Hawaan peaked in Mid-February at 0.58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

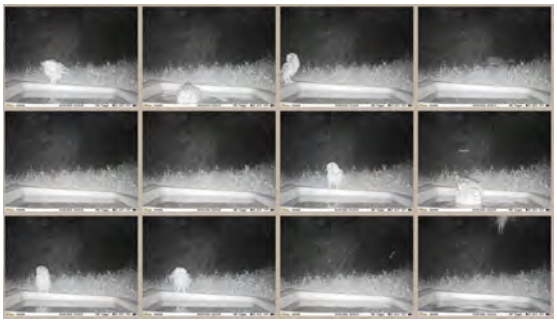
Observations from the camera traps in February showed the usual allotment of animals using the water provided by the HCT staff to bath and drink. We are working towards formalising the logging of this data on a consist basis so that it can be used a baseline information for the forest and to track change.


Spotted Genet

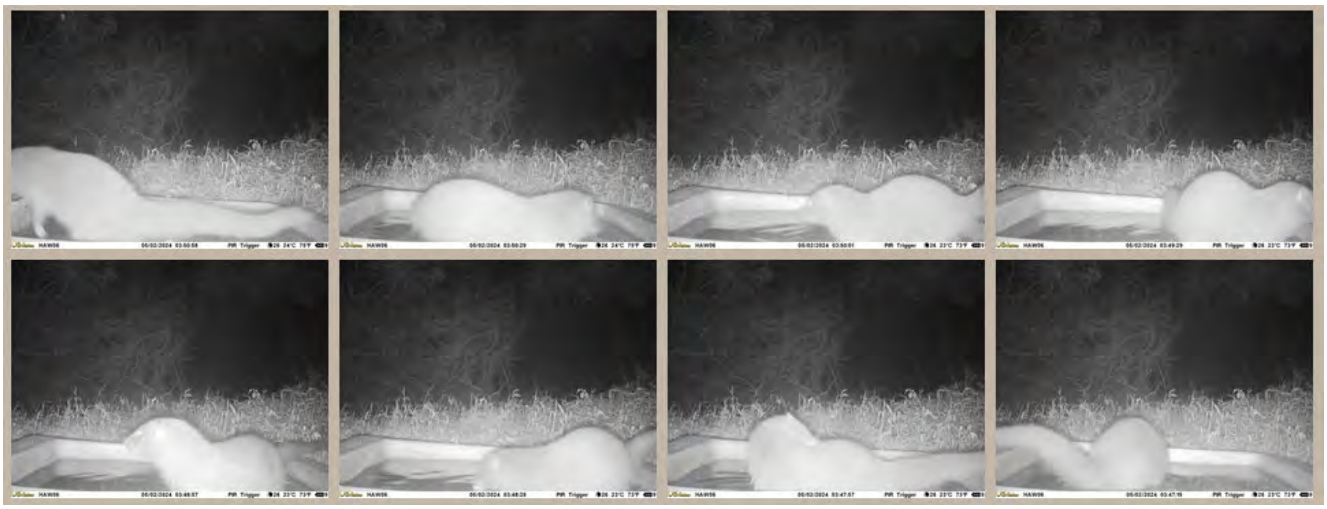

Tambourine Done


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**

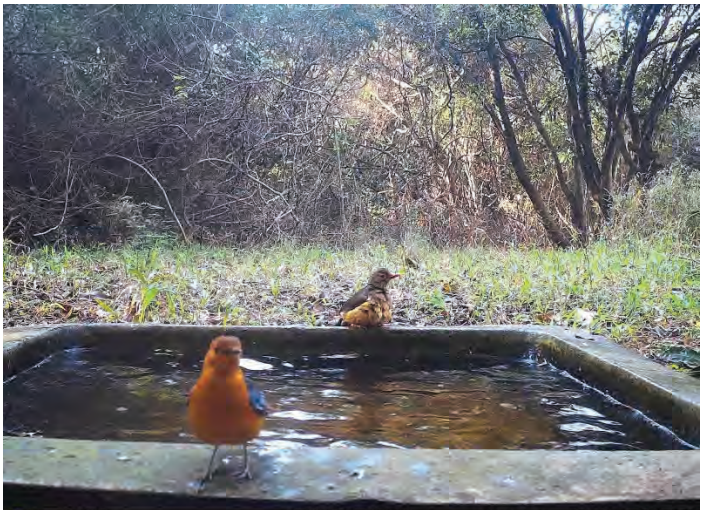

**Pair of Red Duikers**


**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

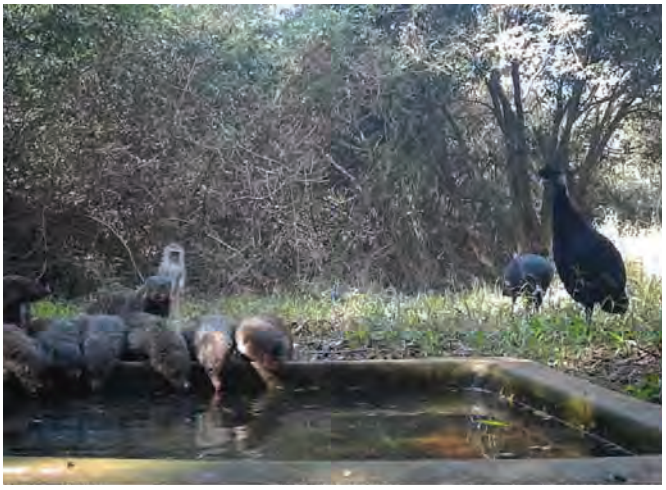
Some beautiful camera trap images were taken at the forest water point during July, 2022.

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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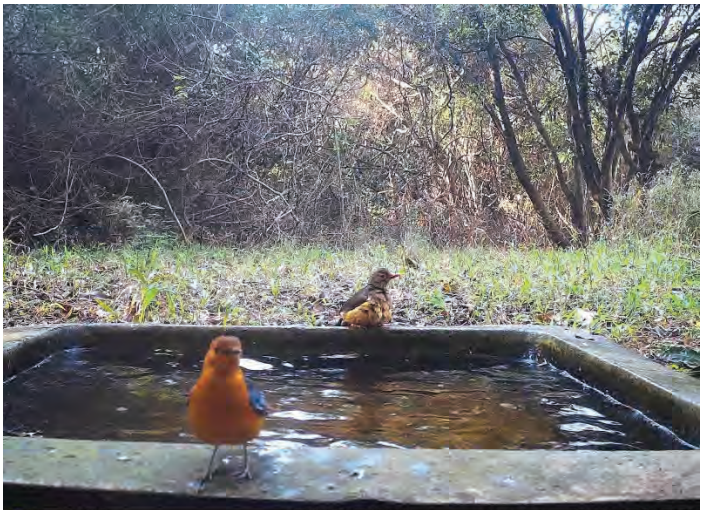

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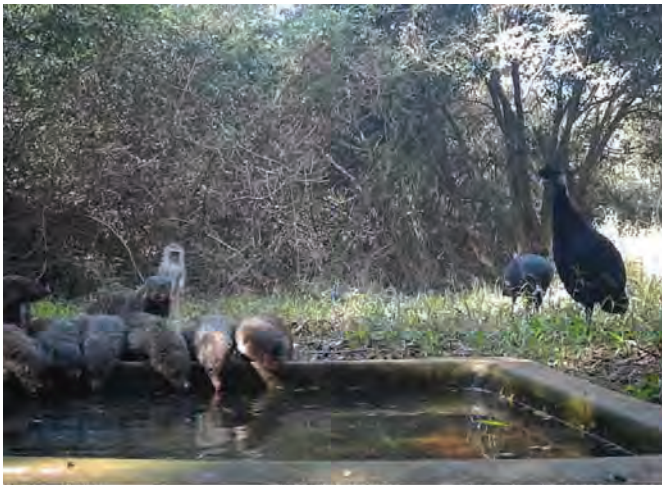

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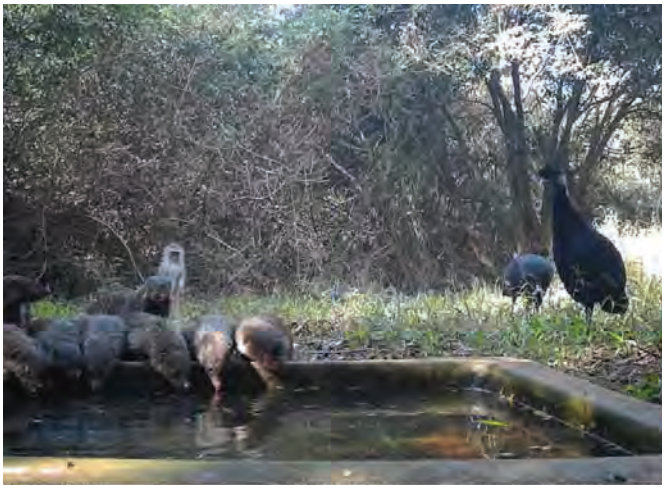

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Banded Mongoose.

# 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