

# Peak Ridge Forest Corridor Project

## Update Report I

September 2018



### The Leopard Project

#### The Wilderness & Wildlife Conservation Trust

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## Executive Summary

Continued monitoring of the Ridge via remote cameras are ongoing. Leopard activity and residency as well as use patterns are being obtained which contribute to our understanding of how leopards are continuing to utilize this identified area over the long term. In addition mammal (prey) availability is also being effectively documented for this area revealing how a mixed landscape of tea, eucalyptus, scrub forest, montane forest and grasslands which make up the Ridge corridor area allow for mammalian biodiversity persisting in such a habitat. To date we have documented a minimum of 22 mammal species within the Ridge area.

In addition herpetological surveys were initiated in August with amphibian and reptile presence being quantified. Often the health of an ecosystem is gauged by the entire spectrum of biodiversity within and as such this expanded survey work will give us the knowledge of the variety of species residing within this Ridge corridor.

To date we have identified a total of 19 individual leopards (6 adult females; 5 adult males; 6 cubs; 2 new juveniles) using this Ridge area and continue to follow their movements which will allow us to quantify residency of these animals and therefor long term trends of leopard use along/within this Ridge.

Habitat mapping has also begun with the area above the WWCT Dunkled Research Station mapped. We now need to move further afield to map the Ridge area to the west of the Station towards Hapugastanna. A small section south-east of the Station that connects to Peak Wilderness Reserved Forest also needs to be completed. Assessment of habitat type along the Ridge is being conducted together with identification of areas that could benefit from habitat restoration.



## Leopards on the Ridge - Sept 2018

Our long term monitoring remote cameras are picking up leopard use patterns both temporally and spatially. This is allowing us to better understand the behaviour of these animals in this habitat and establish important elements of their life history such as length of residency, turnover or changes in residency, reproduction, cub success, and how land use changes across time and space. This gives a pattern of frequency and intensity of use of the landscape which allows us to establish the importance of sections of the Ridge based on intensity of use and importance for key ecological requirements (e.g. cub rearing). This will also then allow us to better shape the boundaries of the final Ridge Forest Corridor that we aim to establish as a protected area. Currently this information is being collected for the individuals that frequent the restricted portion of the Ridge in proximity to our Research Station (below). Once additional remote cameras are placed across the Ridge we will be able to establish this sort of information for the whole Ridge.

### Leopards on the Ridge in proximity to the Dunkeld Conservation Station

*Resident Adult Males:*

#### 1. Kew Male - Arnold

He was first detected at Norwood Tea Trails (Aug 2016) and has been there regularly for the past 2 years (Fig. 1). In March 2018 he appeared for the first time at Dunkeld Estate (Fig. 2) and April 2018 at Kelenya-Braema. He has consistently been seen at these locations as well as in Osborne Estate from this time until his last sightings here in end June (Fig. 3). He has again returned to the Norwood area in July.



Fig. 1: Arnold at Norwood  
Tea Trails bungalow area (July 30/18)



Fig. 2: First Appearance of Arnold  
at Dunkeld Estate (March 7/18)





Fig. 3: Arnold at Dunkeld Estate (June 25/18)

## 2. Osborne/Claverton Male - Ozzy

First detected on Osborne Estate's Claverton Division in October 2016, this resident adult male has been photo captured >40 times in and around Dunkeld, Kelanya-Braema and Osborne Estates (Fig. 4). He has also occasionally been detected in a section of Norwood Estate several kilometers distant. He has been caught on camera courting with one the area's resident females (OC) and is thought to be the father of at least one set of cubs (and probably more) that have also been detected along this portion of the ridge (see below).



Fig. 4: Left: Ozzy on Kelanya-Breema Estate (Jan 11/18) and Right: at Osborne Estate (August 08/18)

These two resident adult males (Arnold and Ozzy) exhibit substantial overlap and have sometimes been detected in the same location in rapid succession (Fig. 5).



Fig. 5: Left – Arnold at Dunkeld Estate March 07/18, 19:26; Right – Ozzy at same location March 07/18, 22:25

#### *Resident Adult Females*

##### 1. Osborne/Claverton Female - OC

First detected on Osborne Estate in October 2016, this resident female had a young male cub at that time. She and the cub-Oliver-remained in the area of Dunkeld, Kelanya-Braema and Osborne estates until June 2017 at which time Oliver, now ~18 months old went off on his own (Fig. 6). OC remained in the vicinity and gave birth to two cubs in ~July 2017. She and the cubs were first seen in October 2017 but unfortunately one of the cubs was not seen and by February 2018 both cubs had disappeared and OC was on her own again (Fig.7).



Fig. 6: Left: OC and her male cub Oliver, Dunkeld Estate April 2017 and Right: OC's male cub Oliver (now sub-adult) now on his own, December 2017





Fig. 7: Left: OC and two new cubs (~ 3 months old), October 2017 and Right: OC on her own again in June 2018 after the cubs disappearance.

## 2. Kelani Braema Female – Braema

Braema was first seen on the Kelani Braema estate in August 2016 during the first round of our broad scale remote camera survey. She has remained in the vicinity of the Kelani Braema estate, as well as neighbouring Dunkeld and Glentilt estates ever since, having two cubs in 2017 (Fig. 8). While she has not been spotted since March 2018, and then in the absence of cubs, we are hopeful that our cameras will pick her up again soon.



Fig. 8: Left: Braema as first seen in August 2016 on the Kelani Braema estate and Right: with her two cubs in January 2018 on Dunkeld estate.

### 3. Glentilt Female – Glenda

Glenda was resident in the Norwood area from 2016 until October 2017 when she was last seen there (Fig. 9). Since that time a succession of females have been detected there but none with regularity (see below).



Fig. 9: Glenda at Norwood estate in September 2017

#### *Occasional Visitors:*

### 1. Laxapana Male – Lucky

An infrequent visitor to this section of the Ridge, Lucky was frequently photo-captured on the Laxapana estate during the first phase of our remote camera survey in 2016. Laxapana estate is more than 5 km away from this ridge but that is not a great distance for an adult male leopard. For example, we have documented Arnold using an area of > 50km<sup>2</sup>. We have only seen Lucky on this part of the ridge a handful of times – in April and November 2017 and again in January, February and March of 2018 (Fig. 10).

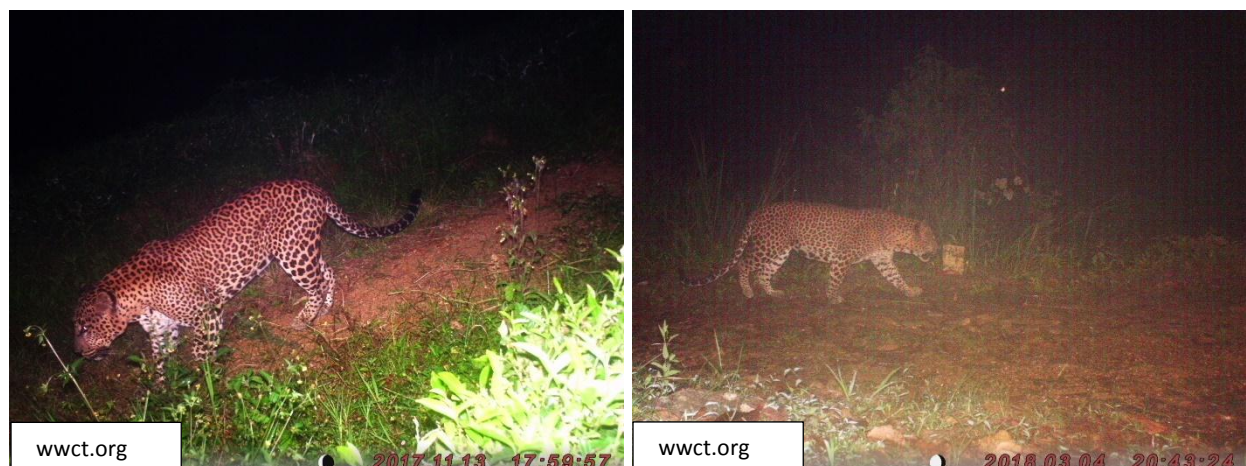


Fig. 10: Left: Lucky at Kelani-Braema estate in November 2017 and Right: at Osborne estate in March 2018.



## 2. Norwood Tea Trails Male – Norbert

Both Arnold and Ozzy use the forest area behind the Norwood Tea Trails bungalow with Arnold visiting very regularly, however a third male, Norbert, has also been seen there on occasion (Fig. 11).



Fig. 11: Norbert at Norwood in May 2017

## 3. Norwood Tea Trails Female – Norma

This is a tragic story. After Glenda (above) stopped appearing in Norwood, a new female, Norma, appeared in November 2017 (Fig. 12). The second time we got Norma on camera, in January 2018, we were in for a shock as she had a wire snare around her waist which had caused significant damage (Fig. 12). We assumed she would never be seen again, but amazingly she survived for 4 more months before finally succumbing to the wound in May 2018. Our team confirmed her death from the images of her carcass that the DWC retained.



Fig. 12: Left: Norma on first appearance November 2017 and Right: with snare in February 2018, 3 months before her death.



## Biodiversity Monitoring

To date 22 species of mammals have been detected using the Ridge (Table 1 & Fig. 14). Of note is that primates, toque macaques and the endangered purple faced langur are using this ridge. We hope that continued surveys will establish better use patterns. Two of Sri Lanka's other wild cats, the Rusty spotted cat and Fishing cat are also regularly detected (Fig 13.), indicating that this Ridge is home to a wide suite of animals. Endemic birds and butterflies as well as a host of reptiles and amphibian some of which are endangered are also being detected within this habitat. This biodiversity presence confirms the importance of this Ridge habitat not only to the leopard but to the host of other species that are utilizing this area as a refuge.

Table 1: Mammal species detected on the Ridge

| Family          | Common name               | Species                           |
|-----------------|---------------------------|-----------------------------------|
| Cercopithecidae | Purple-faced langur       | <i>Trachypithecus vetulus</i>     |
|                 | Toque macaque             | <i>Macaca sinica</i>              |
| Cervidae        | Sambar                    | <i>Rusa unicolor</i>              |
|                 | Barking deer              | <i>Muntiacus muntjac</i>          |
| Tragulidae      | Yellow-striped mouse deer | <i>Maschiola kathygre</i>         |
| Sus             | Wild boar                 | <i>Sus scrofa</i>                 |
| Felidae         | Leopard                   | <i>Panthera pardus kotiya</i>     |
|                 | Rusty-spotted cat         | <i>Prionailurus rubignosa</i>     |
|                 | Fishing cat               | <i>Prionailurus viverrina</i>     |
| Herpestidae     | Stripe-necked mongoose    | <i>Herpestes vitticollis</i>      |
|                 | Indian brown mongoose     | <i>Herpestes fuscus</i>           |
|                 | Ruddy mongoose            | <i>Herpestes smithii</i>          |
| Hystriidae      | Porcupine                 | <i>Hystrix indica</i>             |
| Lepus           | Black-naped hare          | <i>Lepus nigricollis</i>          |
| Manidae         | Pangolin                  | <i>Manis crassicaudata</i>        |
| Muridae         | Rat                       | <i>Rattus sp.</i>                 |
| Mustelidae      | Eurasian otter            | <i>Lutra lutra</i>                |
| Viverridae      | Ring-tailed civet         | <i>Viverricula indica</i>         |
|                 | Palm civet                | <i>Paradoxurus hermaphroditus</i> |
|                 | Golden palm civet         | <i>Paradoxurus zeylonensis</i>    |
| Sciuridae       | Giant squirrel            | <i>Ratufa macroura</i>            |
|                 | Dusky palm squirrel       | <i>Funambulus obscurus</i>        |



Fig.13: Fishing cat and Rusty spotted cat detected within the Ridge area



Fig.14: A jackal that visits the WWCT Dunkeld Research Station (above), the endangered purple faced langur (bottom left) and a barking deer (bottom right) all photo captured during the ongoing remote camera monitoring.

## Habitat Mapping

The WWCT team continues to map the selected Ridge so as to finalize the boundaries of the area for protection and to identify sections that require intervention for habitat restoration. As some areas include difficult terrain to access the actual ground mapping is taking longer than initially hoped. However it is expected that by the end of Phase II we would have completed the necessary mapping.



## Education & Awareness

It is important to ensure that communities living in proximity to the Ridge are made aware of what we are doing and why; as well as be reminded of the importance of Ridge forest habitats for climate resilience. The recent unusual drought to heavy rains weather pattern that the Central Highlands have been experiencing is an indicator of how drastic localized habitat alteration can affect climate which in turn impacts on day to day activities, overall plantation and agricultural outputs and other livelihoods. WWCT conducted 2 awareness programmes at surrounding estate areas in May/June and August 2018 within the Ridge area communities (Fig. 15). Often these programmes are conducted at the request of estate managers/DWC and/or after a leopard related incident or sighting has occurred in the vicinity.



Fig. 15: WWCT team conducting awareness programmes in the Dunkeld and Weli Oya estates.

## Acknowledgments

We thank the Department of Wildlife Conservation (DWC), Sri Lanka for continued issuance of our research permit, for collaborative conservation intervention and for general ongoing partnership with this work. To all the involved estates and management companies a big thank you for cooperation and support to permit us to work within their lands.

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