

PRFC Partner Reporting



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Excerpt from the Wilderness & Wildlife Conservation Trust's (WWCT)



The Wilderness & Wildlife Conservation Trust
130 Reid Avenue, Colombo 04, Sri Lanka
Website: www.wwct.org
Email: info@wwct.org
Instagram: [wwctsrilanka](https://www.instagram.com/wwctsrilanka)

Peak Ridge Forest Corridor - Central Highlands

In 2021 WWCT continued to expand its work in the tea estate landscapes of the Southern Central Highlands, moving remote cameras onto two additional ridgelines that run roughly parallel to the Peak Ridge Forest Corridor (PRFC). This was a goal originally planned for 2020 but delayed due to the Covid-19 pandemic.

We have also continued with the long-term monitoring of the leopards that reside on and utilize the PRFC and continued with our database, recording all known human-leopard interactions in the Highlands and throughout the country.

Leopards of Peak Ridge Forest Corridor (PRFC)

Despite limited access to the region during lockdown periods and travel restrictions, we were still able to employ 9 remote camera stations along the PRFC for a total of 2012



remote camera days in 2021. This included two new “permanent” cameras which are dug and cemented into the earth at key locations to ensure that they are not removed (Fig. 1). A total of 157 leopard photo-captures were attained which allowed us to continue to monitor the individual leopards inhabiting this key upland ridge.

Fig. 1: installing of a new permanent camera on Dunkeld Estate. The pole and camera box set-up were made locally, in the nearby community of Norton Bridge.



It is now 5+ years that adult male leopards “Arnold” and “Ozzie” and adult female “OC” (Fig. 2) have been established on these hills, avoiding the many hazards and potential pitfalls that exist on this human-dominated landscape.

Fig. 2: Top to bottom – Arnold at Norwood Estate in October 2021, Ozzie at Osborne Estate in November 2021, and OC at Osborne Estate in October 2021. All three leopards have been resident in the region since we commenced work in August 2016 (~5.5 years).



Unfortunately, not all of the region's leopards are as fortunate, and in 2021 we saw two resident animals succumb to the dangers that characterize this area.

First, in August, it was "Whitley", an adult male who had been resident in the Central part of the PRFC since early 2019, who was found floating in the Canyon reservoir during a period of extremely heavy rains (Fig. 3). Whether he died naturally was not possible to ascertain during the post-mortem.



In mid-October, a resident female leopard, "Nina", who occupied the far southeastern section of PRFC, and was the mother of at least 2 litters of cubs, was found caught in a snare on Venture estate, near the center of her range (Fig. 3). Nina was first detected on the ridge as a young female in September 2018. Her death once again highlights the insidious threat posed by wire snares on this landscape.



When resident leopards die, they leave a vacuum on the landscape that can be exploited by other leopards looking for a vacant area in which to establish themselves.

In early 2019 "Whitley" had occupied a part of the ridge that was an overlap zone between "Arnold" and "Ozzie", which means that it was not the core of either resident male's territory and therefore could probably be claimed more easily. It was interesting to see that "Ozzie", who had not been detected using what became the core area of "Whitley's" range for almost 3 years (since October 2018), was back in the area just one month after "Whitley's" unfortunate death (Fig. 4).

Whether he continues to utilize this area is uncertain, especially as he already occupies a sizeable range (including roaming across to the Western Ridge – see below and Fig. 5). Already another, currently unknown male, has also been detected in "Whitley's" old

range, as has one of resident female “OCs” 2018 male cubs, “Oswald”, who is now an adult male (Fig. 6). How these 3 males sort out the now vacant territory – or whether another male shows up to enter the fray, remains to be seen.

Fig. 3: Whitley at Norwood Estate (top right) on July 25th, 2021 just days before being found floating in the Canyon reservoir (bottom right) on August 7th. Nina in June 2021 (top left), a couple of months before being found dead in a tea estate with a grievous snare injury (bottom left).





Fig. 4: Adult male “Ozzie” on Dunkeld Estate in October 2018 (left), which became a central part of adult male “Whitley’s” range from early 2019 to his death in August 2021. In September 2021, “Ozzie” was detected back in the same area for the first time for almost 3 years (right).

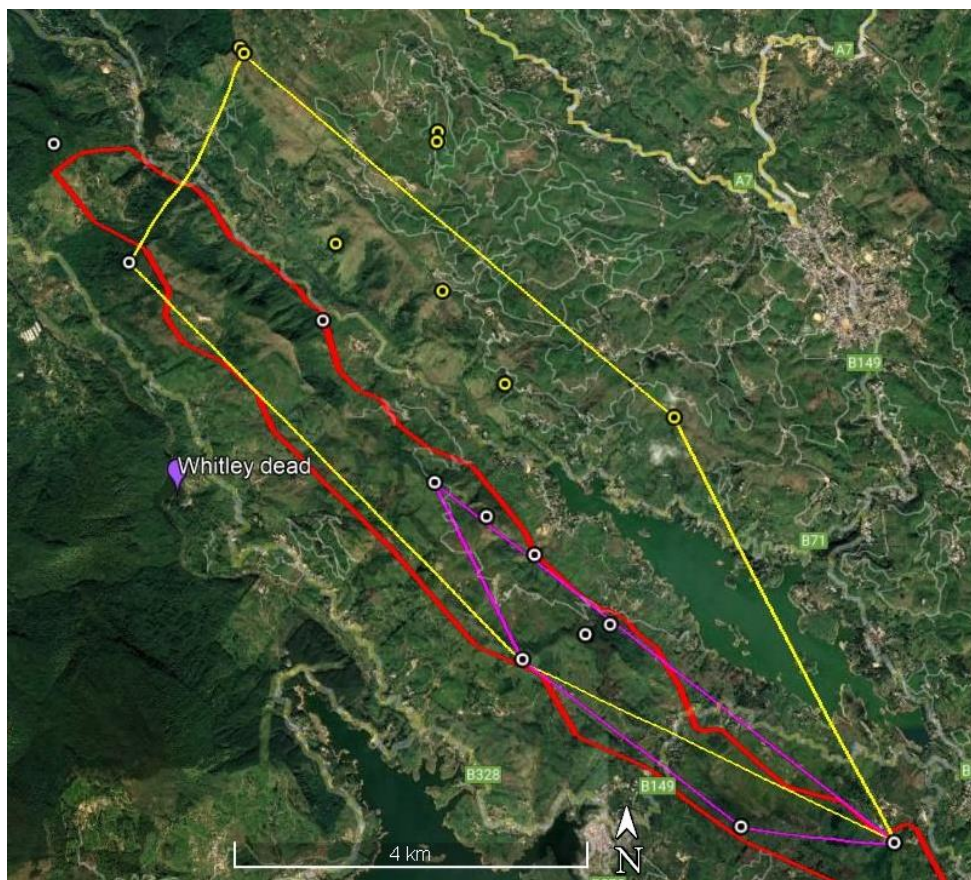


Fig. 5: The remote camera locations (white dots = PRFC; yellow dots = Western Ridge) where “Ozzie” (yellow lines) and “Whitley” (purple lines) have been detected. “Ozzie” ranges along the northern half of the PRFC (red outline) and also roams along the parallel Western ridge. “Whitley” utilized a smaller area of PRFC but also appears to have ranged to the west as this is where he was found dead in August 2021 (purple marker).



Fig. 6: An unknown male (left) that has appeared in “Whitley’s” old range after the latter’s death in August 2021. One of “OC’s” sons, “Oswald” (right), born in 2018 and now > 3 years old, who has also been detected within this newly vacant range.

It appears that “Nina” may be succeeded by one of her 2020 daughters, currently known as “Cub C” (Fig. 7). This young female is now ~18 – 20 months old and is regularly seen in this newly vacated area although only time will tell whether she manages to establish herself here, or another female enters from somewhere else.



Fig. 7: Nina’s 2020 “Cub C” at Kew Estate in September 2020 and again in October 2021. She is now ~ 18 – 20 months old.

Similarly, there are signs that “OC’s” most recent female cub, “OK”, who is now ~21 – 23 months old, is settling in the area immediately to the south-east of her mother. She has been detected using the Glentilt, Norwood and Venture estates (Fig. 8).



Fig.8: An inquisitive “OK” at Glentilt Estate which borders her mother’s range. She now moves around independently and we are keen to see whether she fully settles in this area.

Habitat Restoration

The re-forestation of the PRFC is proving a difficult task (Fig. 9) with initial efforts resulting in high mortality rates for saplings due to what appears a variety of reasons. Although planting is conducted only during wet periods, the extended dry periods in this region are taking their toll on saplings. Deer also browse the saplings (Fig. 10) and attempts to protect them with wood frames and plastic sheeting have not been successful due to people removing the wooden stakes to use as firewood.



Fig. 9: “Elephant Ear” plants at the re-forestation site on Dunkeld Estate. There is wide variation in success with some plants still very small (left) and others more robust (right).



Fig. 10: A barking deer (left) and sambar (right) browsing in amongst the tea bushes. These deer consume the fresh leaves of re-planted saplings.



We are approaching this long-term project using adaptive management, so are continually monitoring plant success and adapting our strategies to address issues that arise, as they arise. Currently we are creating bamboo shields which will be used to try and protect newly planted saplings from browsing wildlife since bamboo will not be removed for firewood and is more available on the estates. We are also focusing on growing plants in the nurseries for longer periods before planting so that saplings have a more mature root structure and hopefully are less susceptible to low water levels. The next phase of planting is scheduled for May 2022 when the rains will hopefully arrive in the Central Highlands.

Despite these hurdles, we are happy to have a positive response from the PRFC partner estates. Mahanilu, has already set up another forest tree species nursery and

are propagating native species. The original Dunkeld nursery (Fig.11) continues to hold a variety of species including many that are being propagated here experimentally. Success is mixed with some saplings thriving and others not doing as well. We also received saplings via PRFC partner Alliance Finance that are being grown in the nursery.

Kelanya-Breama Estate that borders Dunkeld Estate (where WWCT has its field station) has also supported the reforestation plan and agreed to give over ~ 20 hectares of currently unused land for restoration (Fig. 12 & 13).

In order to ensure that this project becomes a long-term success, we are communicating with other projects that have undertaken similar restoration projects, both locally and internationally as reforestation of native tropical species is a difficult operation. The open data platform “Restor” (www.restor.eco) is an example of an international repository from which we can gain useful first-hand knowledge about successes and failures of other projects and contribute our results as they come.



Fig. 11: The Dunkeld forest nursery and a new batch of a wide variety of forest plants being propagated inside the nursery.

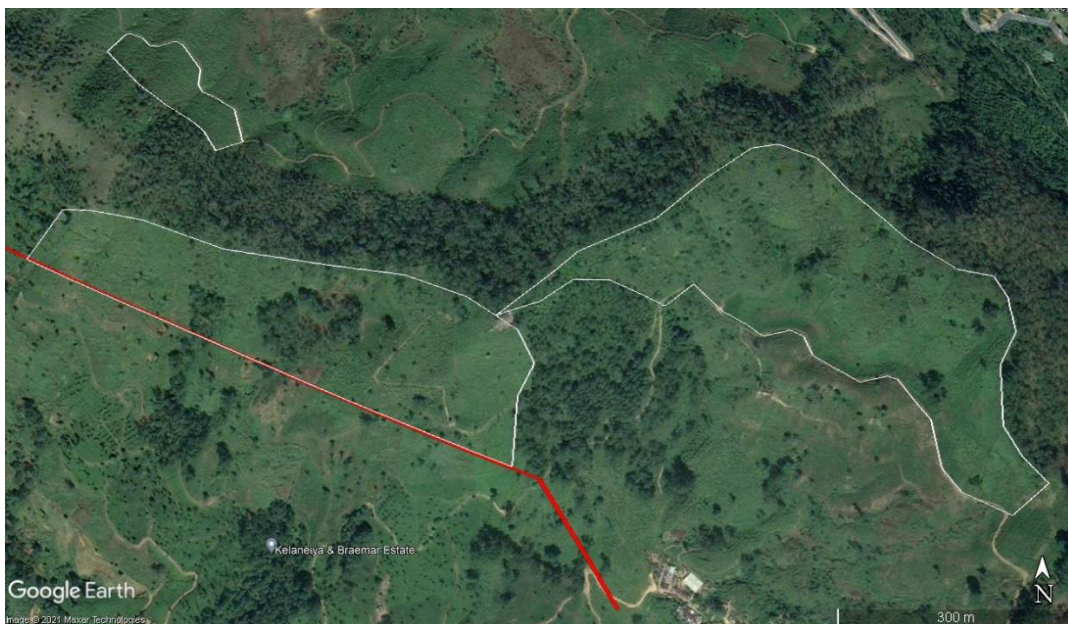


Fig. 12: The areas to be re-forested in the middle section of the PRFC. The small white polygon in the top northwest corner is on Dunkeld estate where re-planting is currently ongoing. The larger areas also demarcated in white are the areas on the Kelanya-Braemar estate which have been earmarked for re-forestation. These will provide a much-needed buffer to the thin strip of forest cover that presently characterizes this section of the PRFC. The red line is the approximate border of the PRFC.



Fig.13: View towards some of the land ear-marked for re-forestation on Kelanya-Breama Estate. The strip of shrubland between the tea (foreground) and Eucalyptus trees (ridge-top) is designated for re-planting.

Western Ridge

From August through October 2021, WWCT operated 6 remote camera locations along the ridgeline – that we called the Western Ridge - that runs parallel to the PRFC on the northern side of the Castlereagh reservoir and Kehelgaha Ganga (Fig. 14).



Fig. 14: Left: The rugged eastern end of the Western Ridge (with the PRFC in the background across the valley to the south). Right: One of the remote cameras set up on the Western Ridge at Broad Oak division (tea estate community housing in the background).

A total of 8 individual leopards were photo-captured on the Western Ridge including 2 individuals – adult male “Ozzie” and adult female “Torn Ear” – that have also been detected on the PRFC. “Ozzie” clearly moves regularly between the ridges, whereas “Torn Ear” was detected once at PRFC in August 2019 and now seems to have settled across the valley on the Western Ridge (Fig. 15). This is consistent with long term observations which show adult males moving throughout the tea estate landscape,

including travelling through the lowland, tea-dominated areas, whereas adult females appear to reside in the upper slopes and ridges, crossing the more densely human-populated lower areas only when dispersing or infrequently.



Fig. 15: “Torn Ear” as a young female (left) in 2019 moving along the lower slopes of the PRFC towards the Kehelgamuwa river. In 2021 on the Western ridge on the far side of the Kehelgamuwa river (right).

In total we recorded 2 adult males (“Ozzie” and “Saint” (Fig. 16)), 3 adult females, 2 young adult males and 1 cub. One of the females, “Lena” was twice photographed in August transporting kills which suggested that she was likely a mother as female leopards typically take small, easily transportable prey back to dens when their cubs are small. (Fig. 17). One and a half months later we photo-captured a cub which was likely hers (Fig. 18). This confirms that leopards are reproducing in this landscape, which, given the abundant evidence from PRFC, was hoped for, and now useful to verify.



Fig. 16: Adult Male “Saint” photo-captured at St.Heliers Estate on the western edge of the Western Ridge.



Fig. 17: Resident female “Lena” on Lethenty Estate carrying a dead black-nape hare (left) and on Broad Oak Estate carrying a dog (right). It is likely that this is the mother of the cub that was also photographed at Lethenty Estate.



Fig. 18: The cub photo-captured at Lethenty Estate on the Western Ridge.

Other Wildlife

As with the PRFC landscape to the south, both fishing cats (*Prionailurus viverrinus*) and rusty-spotted cats (*Prionailurus rubiginosa*) were also detected on the Western Ridge (Fig. 19). Sri Lanka’s fourth wild cat, the jungle cat (*Felis chaus*), which appears to be more of a lowland denizen, was again not detected.



Fig. 19: Fishing cat (left) on Lethenty estate and rusty-spotted cat (right) on Broad Oak Division on the Western Ridge.



Elbedda Ridge

In the middle of December 2021, 5 remote camera stations were set up on the Elbedda Ridge (Fig. 20) which links directly to Horton Plains National Park (HPNP). Although limited data has been obtained from these cameras so far, there are already several leopard detections including mothers and dependent cubs (Fig. 21). We hope to obtain substantially more information about the leopard population in this important landscape, including movement patterns and habitat use, in 2022.

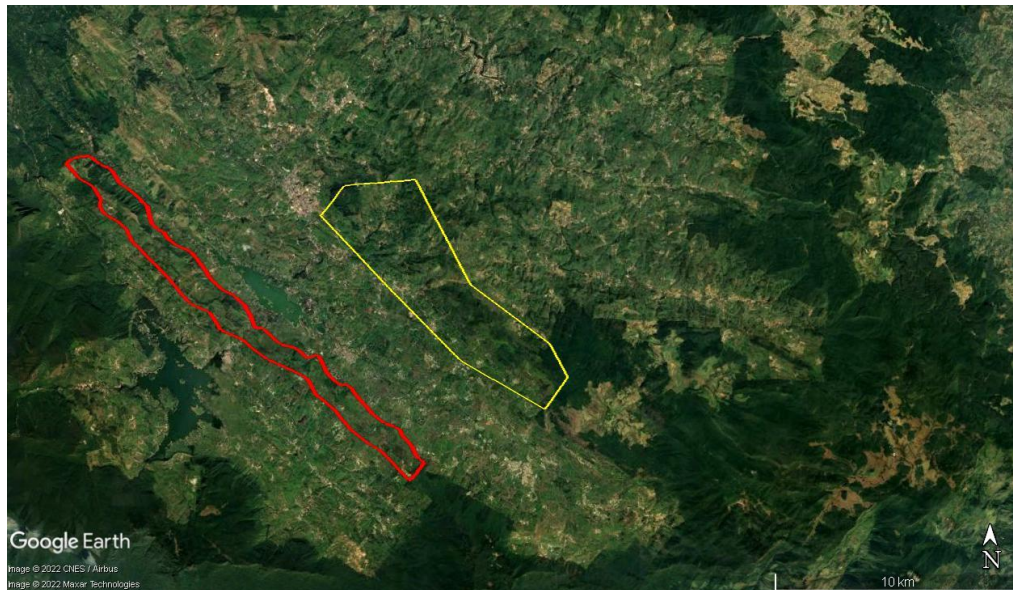


Fig. 20: The Elbedda Ridge where WWCT commenced remote camera work in December 2021 (yellow). Also shown is the Peak Ridge Forest Corridor across the valley (red). Horton Plains NP is the dark green forest patch surrounding the brown plains in the southeast corner.



Fig. 21: A mother (background) and her cub (foreground) at Batalgala estate on the Elbedda Ridge.