

*Gondwana*  
**TRACKS** **PARK REPORT**

**JANUARY - MARCH 2013**



**White-backed and Lappet-faced Vultures, Dassiepoort**

**Highlights**

**Late rains bring some relief**

**Encouraging Vulture Sightings**

**Quarterly Game Counts Initiated**

**Polytechnic Students' Field Trip to GCP**

**Earth Hour Observed**

## **Introduction**

This is the first “Quarterly Report”, replacing the Bi-monthly version. Included is a map of the Gondwana Cañon Park, to locate places referred to in the report.

As this report was being written, good rains fell at long last over the whole Park (44mm at Holoog, Park HQ) on 30<sup>th</sup> and 31<sup>st</sup> March – the first really decent and meaningful precipitation since February last year! The past few months have been a real mind-bender for Park staff, who have had to spend so much time most days of every week since the start of 2013, just supplementing water supplies at some key waterholes serving plains animals such as Red Hartebeest, Blue Wildebeest, Oryx, Springbok and Burchell’s Zebra (Dassiepoort, Middelpoort, Springbokvlakte, Zebra, Geluk). Not that the solar pumps have failed in any way – they just could not keep up with the intense prolonged evaporation and drinking pressure as exceedingly high temperatures prevailed (39°C – 40°C being the norm), and no precipitation was forthcoming at precisely the time when we should expect our main rains. This nerve-racking preoccupation with water supply may have interfered with many other projects, both on the Management and the Research and Information sides, but was clearly necessary especially when one considers all the wildebeest and hartebeest mothers with dozens of new-born calves, and the necessity to maintain reasonable condition so as to minimize unnecessary, wasteful mortalities. As it is, a number of deaths were recorded among the very young and the very old – particularly kudu, but that is natural and is to be expected each year if conditions get a bit rugged. This past few months however, has been extreme – and one supposes that we ought to get used to the probability of entering a new dry (“normal” for the south?) cycle, as well as the reality of global warming: events are in fact unfolding exactly as predicted, so we ought not to be surprised!

In spite of the above, we nevertheless managed to get a few meaningful projects off the ground, such as the start of the Quarterly Game Counts; the permission from MET and Roads Authority to remove cattle-grids at the four National Park/GCP boundaries on the public road between Roadhouse and Altdorn (Manni’s idea) was obtained and a start has been made; the final cleanup and chicken-parade at the site formerly occupied by Geluk house and used until recently as a storage site for all old redundant scrap; and the dismantling of a further number of redundant reservoirs and sheep-drinking troughs.

The commitment, solid action and sound environmental philosophy of Gondwana/Nature Investments can surely be measured by the encouraging increase in various vulture species/numbers recorded this Quarter – we must be doing something right; if not, those birds would be the first to tell you by being conspicuous by their absence!

## **Management and Development**

A brief summary of tasks undertaken during these three months is as follows:

Due to high temperatures, lack of rain and heavy drinking by game, our two vehicles supplemented the water supplies at Dassiepoort and Middelpoort virtually daily throughout the period (and occasionally at Geluk and Zebra as well), with a water-trailer and drums from a borehole in the Holoog area. Roads Contractor Brandberg Construction also kindly assisted with four tanker-lorry loads of water at Middelpoort on two occasions during the Quarter. Pump tests were conducted at 14 boreholes to assess condition of solar pumps during first half of February.

Palms and Klipdam reservoirs at Holoog (Park HQ) were both emptied, patched and refilled, and Geluk, Scorpion, Steenbok, Dassiepoort, Klipdam and Middelpoort waterholes were cleaned.

Five more redundant and rusted reservoirs were dismantled (Karios, Kanebis minor, Rooiberg, Grenspos and Steenbok).

Neighbour Johann Berg was supplied with some old fencing material for boundary repair, and neighbour Sarel Smit’s watertank at Kanebis was pumped full for him.

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Various computer gremlins and electrical problems at Park HQ were fixed by Jens and Reini respectively, and Trossie gave the main generator a major service in January.



**Brandberg Construction staff and vehicles helping to fill Middelpos reservoir and waterhole**

Park staff removed farm gates and fencing 30 metres either side (as specified by Roads Authority) at all four cattle grids across the public roads in the Park (boundaries between us and Huns/Ai-Ais National Park), in preparation for the removal of the actual grids, as approved by Ministry of Environment and Tourism. Roads contractor Brandberg Construction will remove the grids as per Roads Authority specifications, during the course of resurfacing our local public road.



**General Workers, Bobby, Josef, & Leon removing fencing prior to cattle grid removal**

Routine weekly and monthly tasks included rain-gauge servicing, downloading of camera-traps (Stamprivier, Jakkalsdam, Jagpos, Geluk, Middelpos, Dassiepoort, and Holog x 2); HQ grounds, staff vegetable garden and indigenous tree nursery maintenance; waters maintenance and eastern and northern boundary fence repair – though less than usual due to the absolute priority of supplementing certain waters over the last 3 months, as described above.

Fly-screens were added to one window in each of the Park staff and students' rooms at Holog. The Management Warden and Senior Ranger (Management) attended the NAMPLACE meeting at Ai/Ais in February, and both Wardens were present at the annual Managers' Meeting held at Namib Desert Lodge in March. Quarterly Game Counts were initiated at end of March by Park staff.

**Law Enforcement**

No untoward incidents were noticed or reported for the Quarter.



## **Monitoring and Research**

### **Climate**

During January there were a few small isolated showers in some parts of the park, resulting in an average rainfall of 1.3mm throughout the area, compared to the 15.0mm which is the average January rainfall from 2003-2013 in GCP. No rain however fell in GCP during February and this is the month that the park usually receives the most rain (average rainfall for February throughout GCP is 37.7mm). March was also rain free until the last two days, when thankfully the whole park received a much needed soaking. The average amount of rain that fell during the 30<sup>th</sup> and 31<sup>st</sup> March was 31.0mm, compared to the GCP March average of 22.3mm, and this provided some welcome relief from the drought conditions of the previous months.

A total of 33 rain-gauges are monitored in the Park. Selected rainfall data recorded from these gauges during this three-month period is given below:

<b>Name of rain-gauge</b>	<b>January (mm)</b>	<b>February (mm)</b>	<b>March (mm)</b>	<b>Park zone</b>
Augurabis (Cañon Outpost)	0.0	0.0	34.2	North
Holoog	0.0	0.0	44.0	North
Tafelkop	2.0	0.0	38.0	North
Cañon Roadhouse	1.8	0.0	13.8	North
Jagpos	2.5	0.0	23.5	North
Cañon Lodge	5.0	0.0	20.0	Central
Porcupine	2.5	0.0	22.0	Central
Springbokvlakte	5.0	0.0	29.0	Central
Rooiberg	2.0	0.0	26.0	South
Altdorn	0.0	0.0	40.0	South
Quaggagat	0.0	0.0	52.0	South

Temperatures during January to March have been extremely high with the maximum temperature being between 1 and 3 degrees higher than the same period in 2012. The average maximum temperatures were also at least one degree higher than the equivalent time period last year. Maximum daily temperatures reached above forty degrees six times in January, three times in February and four times in March.

The minimum and maximum temperatures recorded for January to March 2013 are indicated below, together with the means for both months (derived from data for 2003-2013). No data is available for minimum temperatures in March due to the weather station at the Roadhouse not functioning.

	January 2003-2013 mean	<b>January 2013</b>	February 2003-2013 mean	<b>February 2013</b>	March 2003-2013 mean	<b>March 2013</b>
<b>Maximum temperature (°C)</b>	40.3	<b>42.5</b>	39.5	<b>42.5</b>	<b>37.8</b>	<b>40.5</b>
<b>Average maximum temperature (°C)</b>	35.3	<b>36.3</b>	34.3	<b>36.3</b>	<b>32.8</b>	<b>35.5</b>
<b>Minimum temperature (°C)</b>	14.1	<b>12.1</b>	15.6	<b>13.5</b>	<b>11.1</b>	-----
<b>Average minimum temperature (°C)</b>	19.7	<b>18.2</b>	20.6	<b>18.6</b>	<b>18.8</b>	-----

Table depicting maximum and minimum temperatures between January and March



Road to Mule station and the river at Mule station House, after the rains on 30<sup>th</sup> and 31<sup>st</sup> March 2013

### Veld condition

With some rain eventually arriving as this report was being written, a limited amount of veld-water is available for the first time this year, and we hope this means less drinking pressure on pumped waters. Quality of browse has deteriorated alarmingly during the Quarter in comparison to the last few years, as has grass of late. In fact virtually no annual grass emerged, and perennials also never reacted positively. If we happen to be going into a dry cycle, then of course, not just the quality but also the quantity of grazing – and palatable shrubs too – will be worse next year than now, for we are still at least dealing with the rich legacy of the preceding few good years. At least temperatures are slightly lower of late, compared to the 39 – 42°C (43°C on 23<sup>rd</sup> January at Holoog !!): they are closer to 36°C and some days even as low as 34°C now. The next few weeks should give us a better picture of what we are dealing with as we head into winter: whether animals will be able to recover some condition, raise calves successfully, require less water etc.

### Indigenous plant nursery

Around 50 more Quiver tree *Aloe dichotoma*, Camelthorn *Acacia erioloba* and Sweet-thorn *A. karroo* seeds were sown in the nursery during March. Due to the drought conditions very few plants have flowered and set seed during the last six months, so there are not many different species available for planting currently. 9 Ana trees *Faidherbia albida* and 1 Sprokiesboom *Moringa ovalifolia* were sent to Namib Desert Lodge.

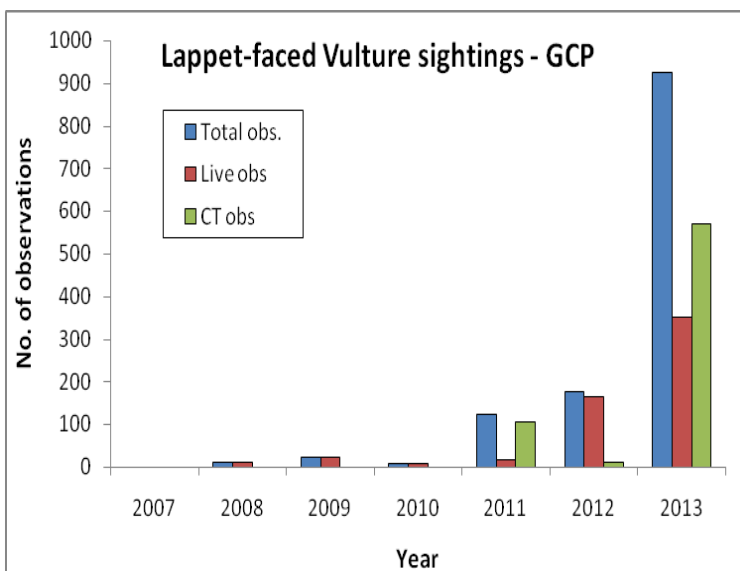
**Wildlife and Vegetation Monitoring**



Reptile researchers Sebastian Kirchoff (Germany) and Dr Hartwig Dell'Mour (Austria) were hosted at Park HQ for a few days beginning of February, while they collected tissue samples and took temperature readings of different Lizard species under permit, on the neighbouring farms, in the National Park, and in GCP.

**Sebastian Kirchoff & Dr Hartwig Dell'mour with student interns Philippe & Liana**

23 Lappet-faced Vultures were recorded at Zebra waterhole in the third week of January, and in the second week of February 16 Lappets and 6 White-backed Vultures were seen near Dassiepoort. A few days later near Dassiepoort, another group consisted of 9 Lappet-faced, 13 White-backed, and 2 Cape Vultures!



The graph opposite illustrates how rapidly the numbers of Vulture observations have increased in the park during the last few years. The number of observations is derived from the sum of all the birds recorded each time they are sighted, live and by camera trap (CT). During 2013 there have already been far more observations than during the previous years and there are two pairs of Lappet- faced Vultures nesting in the park for the first time. Not only have the total number of observations increased rapidly, but also the frequency of sightings and the maximum group sizes have also increased, as can be seen from the table on the following page.

**GCP Annual Lappet-faced Vulture Observations (2013 Jan-March only)**



	Year						
	2007	2008	2009	2010	2011	2012	2013
<b>Total No. of records</b>	0	5	6	6	28	38	107
<b>Maximum no. of Vultures per group</b>	0	5	16	3	25	27	31
<b>No. of times group size &gt; 20</b>	0	0	0	0	1	2	13

Table illustrating the increase in Lappet-faced Vulture records and maximum group sizes in GCP (2007-2013)

Three Lappet-faced Vultures observed during the last three months had rings and tag numbers L135, L144 and L207. They were all ringed in October 2010 at Tinkas, Mirabib and Gemsbokwater in the Namib-Naukluft Park. This encouraging increase in the number of vulture sightings (numbers and species) hopefully indicates a healthier local ecosystem than was the case some years ago, and no doubt emphasises the wonderful impact that the creation of GCP has had on the natural environment of southern Namibia.



Lappet-faced Vultures at Dassiepoort; L135 in the foreground.



Despite the hot, dry conditions of the last three months, record numbers of Blue Wildebeest and Red Hartebeest Calves were born during January and February. A group of 89 adult Red Hartebeest were observed together with 24 calves on one occasion and on another a different group of 26 calves and 62 adults/sub adults were seen together. Two different groups of Blue Wildebeest containing 55 adults with 17 calves and 44 Blue Wildebeest with 17 calves were also observed on the Dassiepoort plains.



**Red Hartebeest adults and calves, Dassiepoort**



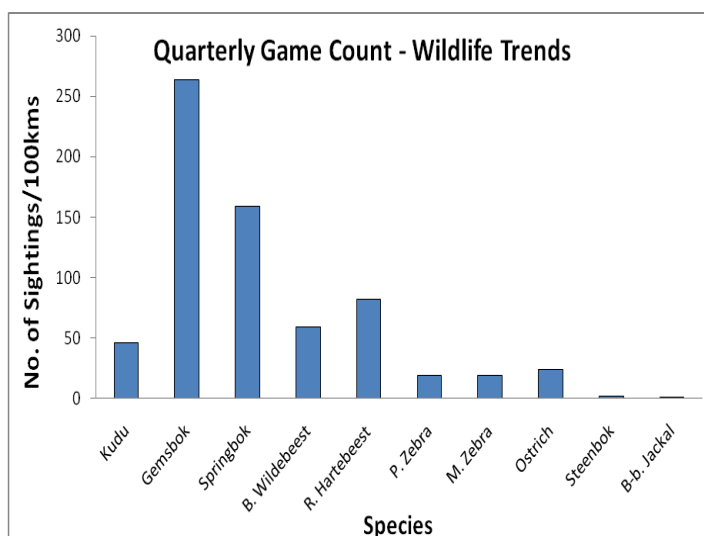
**Blue Wildebeest with their calves, Dassiepoort**



In order to become better informed about animal numbers throughout the year a Quarterly Game Count program has been initiated. On 30<sup>th</sup> March, two routes were covered by the staff as part of this new program; just two different routes (along the same eight routes as in the Annual Game Count) are to be covered every 3 months. The following results were obtained from the first count, during which 122km were driven:

Species	Ratio- Adult/Sub-Adult : Juvenile
Kudu	10:1
Gemsbok	64:1
Springbok	21:1
Blue Wildebeest	5:1
Red Hartebeest	5:1
Mountain Zebra	19:1

Age ratios of animals from Quarterly Game Count



Numbers of animals seen during Quarterly Game Count per 100kms driven

Guides from the Cañon Lodges have also been asked to submit records for animals that they see during Game Drives with guests, and visitors who use Wildebeest Drive are also being invited to contribute their sightings. These will all help us to gain a more accurate picture of animal movements throughout the park during the year, and the results from the Game drives and Wildebeest Drive can also be used to help market these activities to guests in the future.

We are very grateful to Professor Morris Gosling who is researching Mountain and Plains Zebra in GCP for contributing the following article summarising his Plains Zebra research to date;

#### Monitoring the reintroduction of Burchell's zebra in Gondwana Cañon Park.

As part of Gondwana Cañon Park's commitment to enriching the large mammal community of southern Namibia, it reintroduced 26 Burchell's zebra in July 2006. The animals were sourced from the NamibRand Nature Reserve so that the group was well adapted to arid areas. The introduced zebras have explored a variety of habitats including the grassy floodplains of the Gaap river but, as expected, spend most time in the extensive plains around the Holoogberg mountain. Like all habitats in the south these plains are sensitive to the unpredictable rainfall of the area but they generally support abundant grasslands, principally stands of *Stipagrostis* species - bushman's grass.

I was already carrying out research on the mountain zebra in the park in 2006 so was well placed to take on the interesting task of monitoring the survival and reproduction of the Burchell's zebra in their new environment. Like all zebra, Burchell's have individually distinct stripe patterns and all of the animals released were photographed so that the success of the reintroduction could be assessed by following known individuals. Each year I have photographed as many animals as possible and some are also photographed at camera traps, set principally to monitor mountain zebra. Over the last year there has also been intensive

camera trapping of the water holes on the plains (Middelpos and Dassiepoort) and a high frequency of re-sighting suggests that, in all probability, the entire population is known.



**Figure 1. Burchell's zebra breeding group near Middelpos in October 2010. Two females are suckling foals born during 2010; the one near the centre is PZR026f, one of the group released in 2006. Photo © Morris Gosling.**

Of the original 26 animals, two were never seen again and are presumed to have died shortly after release or to have left the area. The remaining 24 have been seen regularly and were all seen in 2012 (in fact, all but one have already been photographed in early 2013). The population has grown steadily and there are now 71 animals (all except one of these was photographed in 2012) which represents an annual increase of almost 20%. Apart from the two that disappeared in 2006 there has only been one other known death, a very young foal that was found separated from its mother in March 2007 and which, despite attempts to rear it in captivity, died shortly afterwards. The high survival is undoubtedly due mainly to the absence of the two main predators on plains zebra, lions and spotted hyenas.

With an average annual 20% increase there has clearly been successful breeding: in the 6 years between 2006 and 2012, 48 new zebra were born. The key variable in studies of population fecundity is the birth rate per adult female and in order to calculate this I have used some simple assumptions about population structure and reproduction, based on studies of plains zebra in other areas.

Most important I have assumed that birth sex ratio is 1:1 (this is necessary because foals are sometimes difficult to sex until they are a few years old) and that females can have their first foal at 3 years of age. The starting group in 2006 contained 11 females although only 9 of these were adult at the time. These were the breeding nucleus which have since been added to as new foals (assumed to be half female) eventually become adult. Summing the recruits to existing adults gives the number of adult female present in each of the past six years. When the number of foals born each year are expressed in relation to these numbers they give birth rates which range from 0.42 to 0.82 foals/adult female/year and which overall average 0.60. These compare with values of 0.74 for Hwange NP in Zimbabwe (Barnier, F. et al, *Acta Oecologia*, 2012) and 0.79 for Kruger NP (Smuts, G.L. Koedoe 19, 1976). Given less rainfall and thus relative lower grassland productivity, a slightly smaller value for the south of Namibia is to be expected.





**Figure 2. Burchell's zebra drinking at Middelpoos; January 2013. The left hand animal is PZR054m, born in the Park in 2009, three years after the introduction. Camera trap photograph.**

As yet there are no conclusive signs of overpopulation although there is a suggestion that birth rate is lower in recent years; in 2007-09 it averaged 0.69 and in 2010-12, 0.54 foals/adult female/year. However the detailed trend is not simple and further data are needed. Body condition has generally been good although there is considerable variation between individuals. Lactating females are sometime thin and they might prove to be the most sensitive indicator of population condition in the future.

Anybody reading this report who visits the Park can help by photographing plains zebra when they see them (right sides please!) and sending the photos to [l.m.gosling@ncl.ac.uk](mailto:l.m.gosling@ncl.ac.uk) or to Sue Cooper. Good quality photographs of foals and their mothers are particularly valuable for the study of reproductive ecology.

Many thanks to all in Gondwana for their help and support in this project, particularly Manni Goldbeck, Chris Brown, Sue and Tryg Cooper, Gammy Sikongo and everybody at Holoog; and not least Otto and Brigitte von Kaschke who helped me over many years and who are now keeping an eye of events from the Caprivi.

Morris Gosling

6 March 2013

A pair of White Storks graced us with their presence during a stop-over on the plains between Zebra waterhole and the Roadhouse, on 11<sup>th</sup> March, and another unusual sighting at Holoog itself on 31<sup>st</sup> March was a pair of Booted Eagles.

Dr Chris Brown spent some valuable time with us, inspecting the Giraffe bomas and the Augarabis nature trail, and looking at our water supply problems in relation to our plains game numbers and condition.



Dr Chris Brown & family, Trygve & Simon on the nature trail at Augurabis

### **Human Resources, Information and Training**

Two interns were placed at Holoog during these last three months: Philippe Ackermann from Germany was with us from December until the end of February and Liana Mbako, a Namibian who is studying for a degree in Natural Resource Management at the Polytechnic of Namibia, joined us in January. She will be with us until the end of June. We would like to wish her well for her time here. She has already got very involved with life in the Park and is carrying out a project looking at factors affecting drinking frequency in Common Duiker.



Philippe and Liana at the Fish River Canyon viewpoint near Hobas

Philippe was of great assistance to us. He was enthusiastic, quick to learn and soon became part of the Park team. When he was not working in the field, he also gave German lessons to some of the Park staff. We would like to thank Philippe for all his hard work and we wish him well for his next



internship with MET, prior to studying for a degree in Natural Resource Management next year. Below is his version of his time spent in Gondwana Cañon Park.

My time at "Holoog"

It was the 3<sup>rd</sup> of December 2012, when I arrived in Windhoek / Namibia Airport. About 12 hours before, I entered the plane in Germany where it was freezing. When I left the plane it was like entering a new world, not only because of the major temperature differences.

I was not the only volunteer who arrived around that time. Together with the other volunteer we were picked up on the airport by bus and were driven towards the south. It was night time and we were very tired. We spent a night in a motel on the way, where we finally were separated on the next morning. The other volunteer drove to one of the lodges in the Fish River Canyon region. "But what about me?" – The smile on the drivers face told me more than 1000 words. I was still dressed with long jeans and a long sleeved black shirt. After many hours more I knew why he was smiling. It turned hot, very hot! After hours in the car we finally arrived on a very remote place "Welcome to Holoog!" I was really amazed. Four small buildings surrounded by mountains and beautiful nature. After I was very kindly welcomed and my room was shown to me, I couldn't wait to get out of my clothes! The rest of the first day was used to show me some regions of the park and to give me an idea what is being done at Holoog.

In the following days and weeks I learned a lot by driving to the field with the rangers. I assisted where I could and tried to be accepted as a part of the team. I realised fast that the job of a ranger is often very closely connected with hard work in the field. There is always something which has to be repaired or be done. But everything which is done, leads to the fact that it is done for the animals.

The time of my internship was very dry and hot, so we had to spend a lot of time with driving water to the waterholes, because the solar pumps were not always strong enough to pump up that huge amount of water, which was needed to satisfy all animals during this hot period.

Another activity which took a lot of time, was the "fence patrol". For that we were driving in one of the cars along the fence and were looking out for holes in the fence or other defects which had to be "fixed". These tasks belonged more to the practical ones which had to be done. On the other side was the scientific part, such as monitoring of rainfall with rain-gauges or wildlife counting and other wildlife based monitoring.

While spending nearly every day in the field, one of the rangers was always willing to give me answers to one of my many questions. That was a fact which I really enjoyed! Because of the many years the rangers have already spent in the field, their knowledge is very good, and I never had a situation where I asked something, without getting an answer, often even with scientific facts like the scientific name of an animal and to which group it belongs.

When I decided to spend a day at Park Headquarters there were plenty of other things for me to do, such as working with the results of the camera traps or comparing the results of the rainfall monitoring, and much more.

Once a week one of the rangers went on rhino trekking, to see in which area the rhinos are at the moment and what they look like (health). I always took part when I had the possibility. The indescribable feeling, when you were following the spoor for hours through bushes, over sticks and stones and then finally to see this giant and majestic animal, affected me each time I was in this situation. I will never forget these experiences and the unbelievable feeling in the stomach, when you see a rhino in the field, not too far away from you.

I could continue writing and writing, but then I would sit many days typing what I have experienced each day during my time at Holoog. The fact is that each person, who is part of the quite small team at Holoog, taught me a lot during my internship. Not only the Wardens in relation to questions about animals, trees and other plants, but especially the men I spent every day with in the field! Excursions like to the Fish River Canyon were also very helpful and interesting for me to learn more about region and the country. At this point I want to say thank you very very much for all that! And I hope to see you again soon!

Philippe

Twenty-nine Nature Conservation students from the Polytechnic of Namibia, together with their lecturer Shirley Bethune camped for two nights at Holoog in March. The students were shown around parts of GCP by Senior Ranger Gammy Sikongo and our intern Liana. The group was also guided by Gammy and Liana around the walking trail at Holoog and they went on a visit to the Fish River Canyon viewpoint. The Polytechnic students were with us for Earth Hour on March 23<sup>rd</sup> and this was observed by switching off all the lights at Park Head Quarters and sitting around a braai looking at the sky and talking quietly among themselves.



**Gammy identifying *Commiphora* sp.**



**Shirley Bethune describing the Fish River Canyon formation**

Wardens Trygve and Sue attended the two day management meeting at Namib Desert Lodge in March and Trygve, together with Senior Ranger Eddy Shipulwa went to a NAM-PLACE meeting on how to record baseline data for the Greater Fish River Canyon Landscape, at Ai-Ais in February. Senior Ranger Gammy Sikongo gave training to the rest of the staff on how to set up and download camera traps, and so now everyone is confident and competent in performing this task.

Sue had a meeting with the Gondwana Lodge Managers in the Canyon to help prepare them for the upcoming Eco Award re-assessments, and also met with Ume and Andreas to help plan the syllabus for the environmental training, that all Gondwana staff are going to participate in, as part of the Pin program. All staff will have training in company philosophy, hospitality and the environment, and will be entitled to wear a pin badge on their uniform when they have passed each course.

As with many other places in Namibia, Independence Day was celebrated with sport. The Village, Lodge, Roadhouse and Park got together for a game of football for the men and netball for the ladies. It was one of the hottest days of the week, but a good time was had by all.



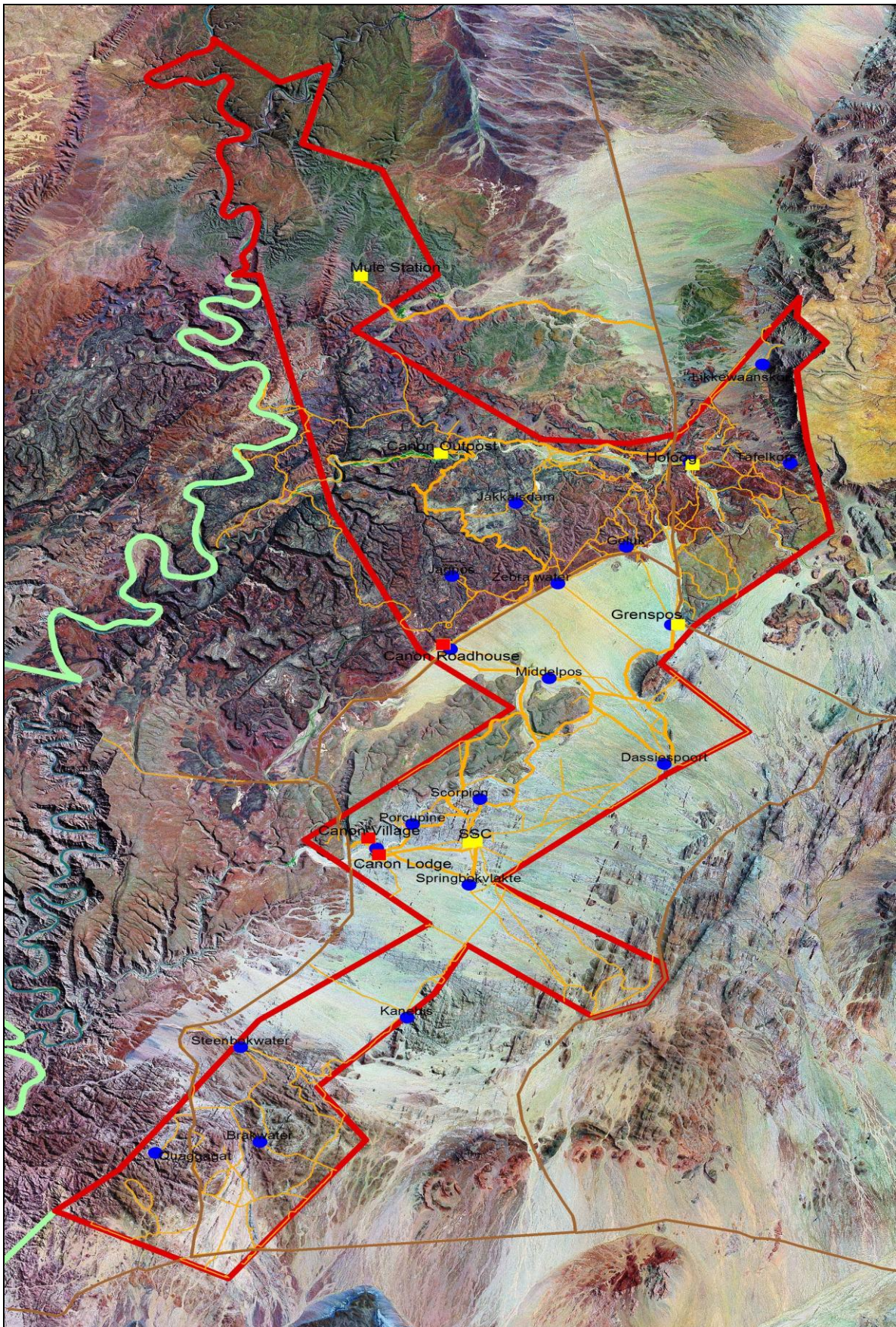


**The Cañon Collection Independence Day football players**

*Trygve and Sue Cooper*  
Park Wardens, Gondwana Cañon Park

2013/04/04





Gondwana Cañon Park