THE INFLUENCE OF POACHING AND RAINFALL ON WHITE RHINO POPULATION GROWTH

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My summer 2018 trip was to pilot the field work for the fine scale habitat selection chapter for my dissertation. Prior to my arrival SANParks had deployed foot collars to white rhino females. This involves a team made up of a vet, pilot and technicians flying a helicopter in search of a female rhino in a targeted region of the park. The vet darts the rhino and once the rhino is down the team attaches VHF and satellite foot collars on the front legs. The choice for fitting the collars on the front legs instead of the back is because the back legs often get wet from dripping urine and the friction from the collar then irritates the skin around the collar causing sores. The reason for using both types of radio collars is to receive the data remotely via the satellite collars but also be able to track the rhino on foot to conduct body condition assessments and to change or remove collars. This facilitated my study which is looking at the fine scale habitat components that white rhino females look for in the landscape. We broadly know what white rhinos look for in the landscape but not at the fine scale. This fine scale information is important for understanding how an individual's reproductive status, age and body condition will affect their fine scale habitat selection.

The satellite collars were set to record location data for each individual every four hours. The day before I planned to go into the field I would download location points for rhinos from the past three days and create random pseudo points for each known location point. The choice of only using points from the past three days is to ensure the vegetation is in a similar condition to when the condition the white rhino was there. The location points were then loaded into a handheld data collector loaded with the cyber tracker software.

At each known white rhino location I assessed a 50m radius around the point. To determine the vegetation structure and composition of the location I collect the percentage cover and species names of the three most abundant grass, shrub, small tree and big tree species. I also classified the site according to vegetation formation like forest, thicket, woodland etc. I assessed the underlying soil by classifying it as; clay, silt, sand, gravel and boulders. The topographic position of the point was recorded as either crest, mid-slope, foot-slope or riparian. I also looked at how visible the area was for rhinos; this looks at how far a white the rhino can see in either direction from a location point. After the assessment of the habitat in the known rhino location I then walked to a randomly created pseudo location 200m away from the known location. The same habitat assessment was done in the pseudo location. The use of the pseudo location is so that I can analyze what rhinos are selecting for out of the habitat available in the landscape.

To assess body conditions I went out into the field with the H-antennae to track the rhino using the VHF collar. I would then approach a rhino without disturbing it aiming for a distance of less than 100 meters. By studying the side profile of the rhino I could assess the amount of subcutaneous fat and muscles and score each of the following body parts—neck, shoulder, ribs, spine, rump, abdomen and tail base—from 1-5, with 1 being very poor (emaciated) and 5 being excellent (heavy).

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