

Schotia afra

Biodiversity monitoring in degraded Subtropical Thicket lands

*Preliminary findings from Addo and
Baviaanskloof*

Kyra Lunderstedt,

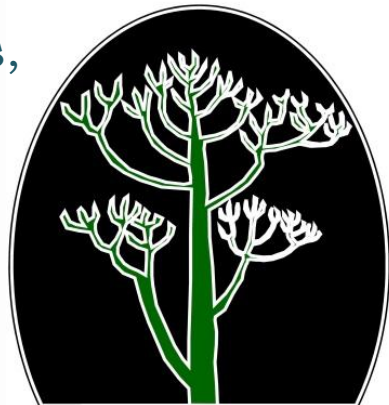
Craig Sholto-Douglas,

Mike Powell,

Cosman Bolus,

Jakob Raath

Mdoda Ngwenya



Rhodes Restoration Research Group

THICKET FORUM
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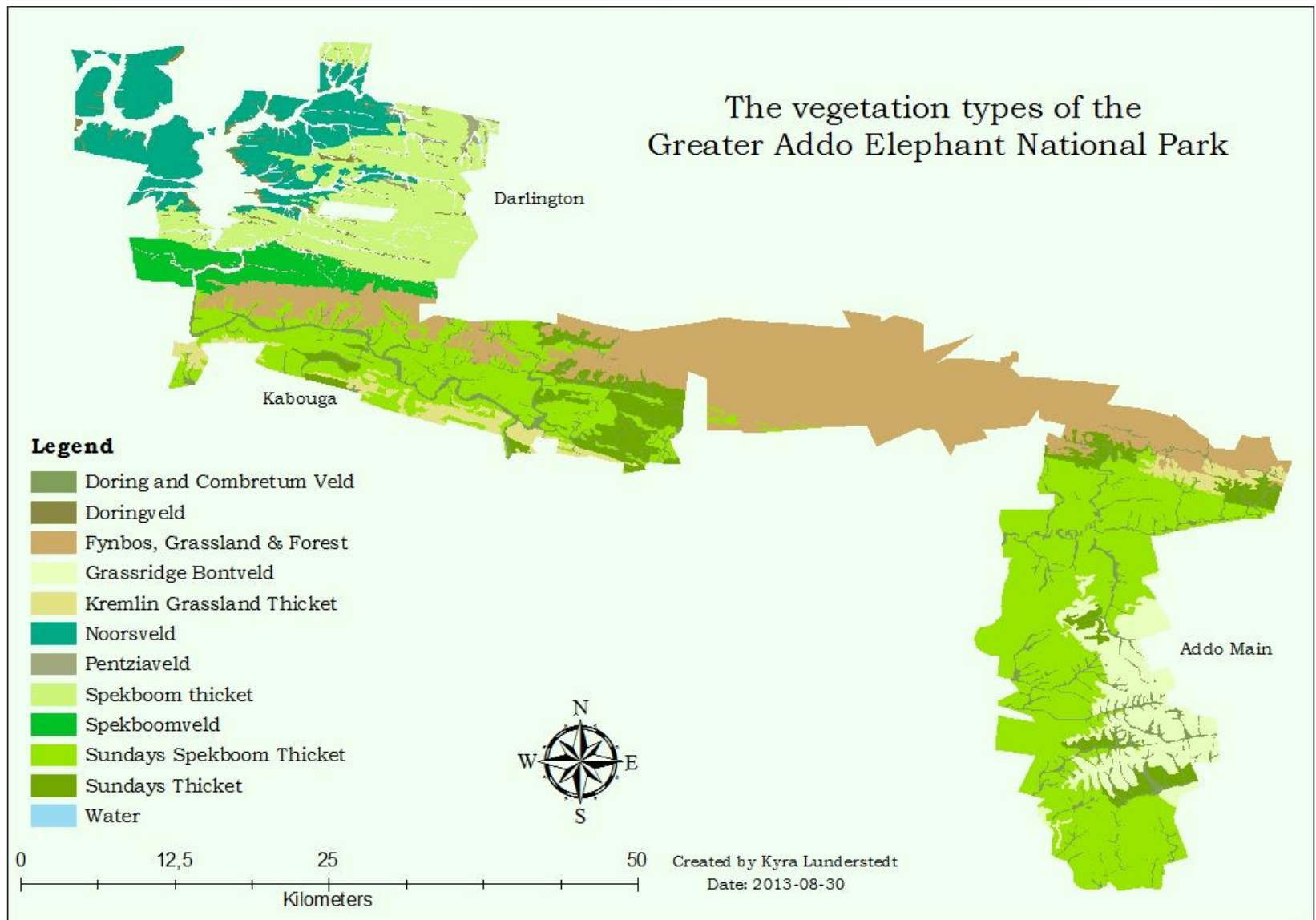
Method

- 1x 10x10 m quadrat to measure Spekboom and Noors
- 4 x 2x2m quadrats to measure % cover of all species and bare ground.
- 2 x belt transects 1x50 m to measure the length and width of woody and succulent tree species that intersect the belt.



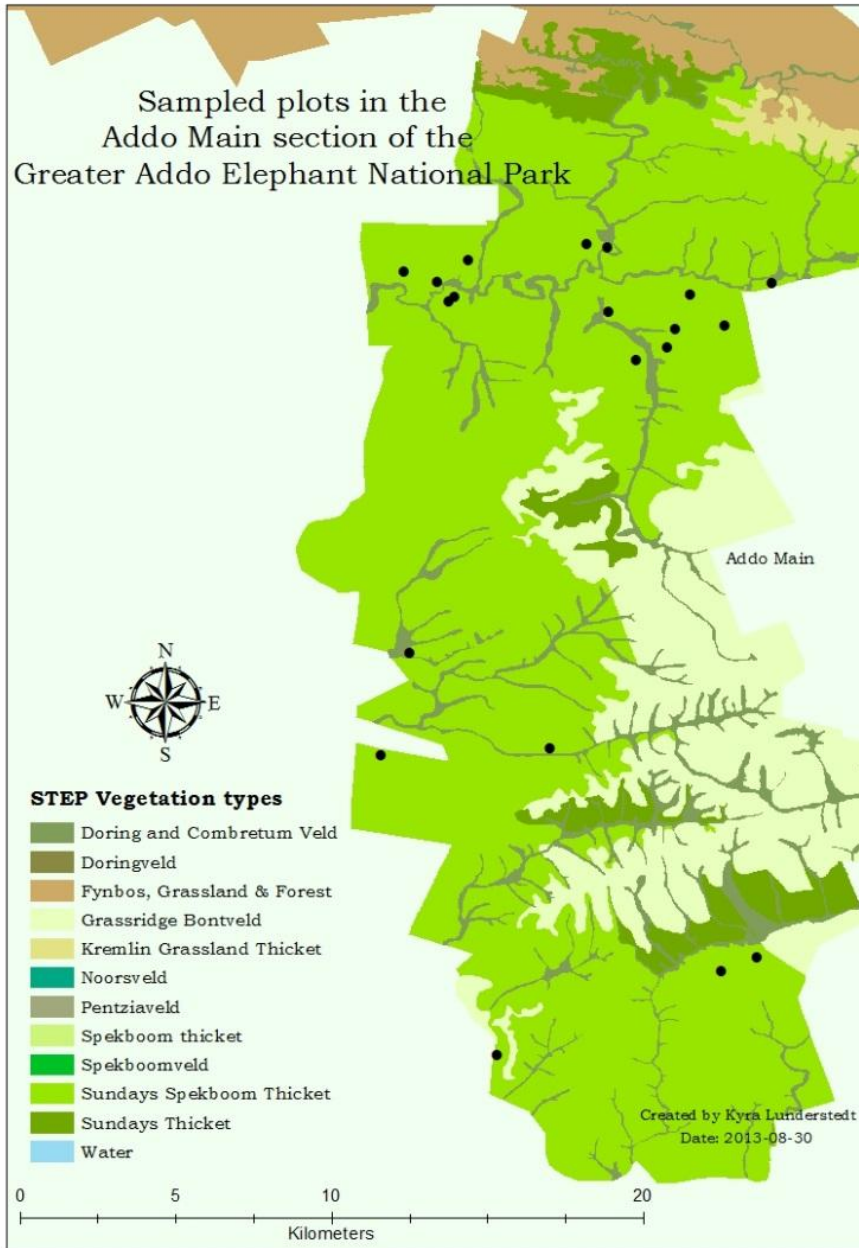
Aloe ciliaris

Study sites

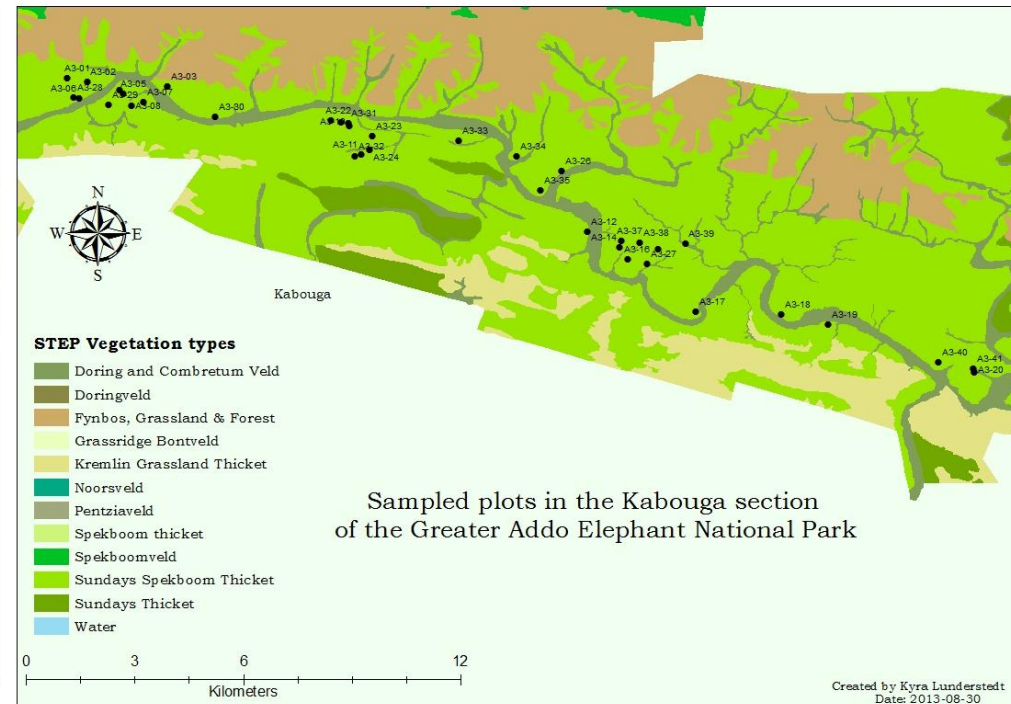
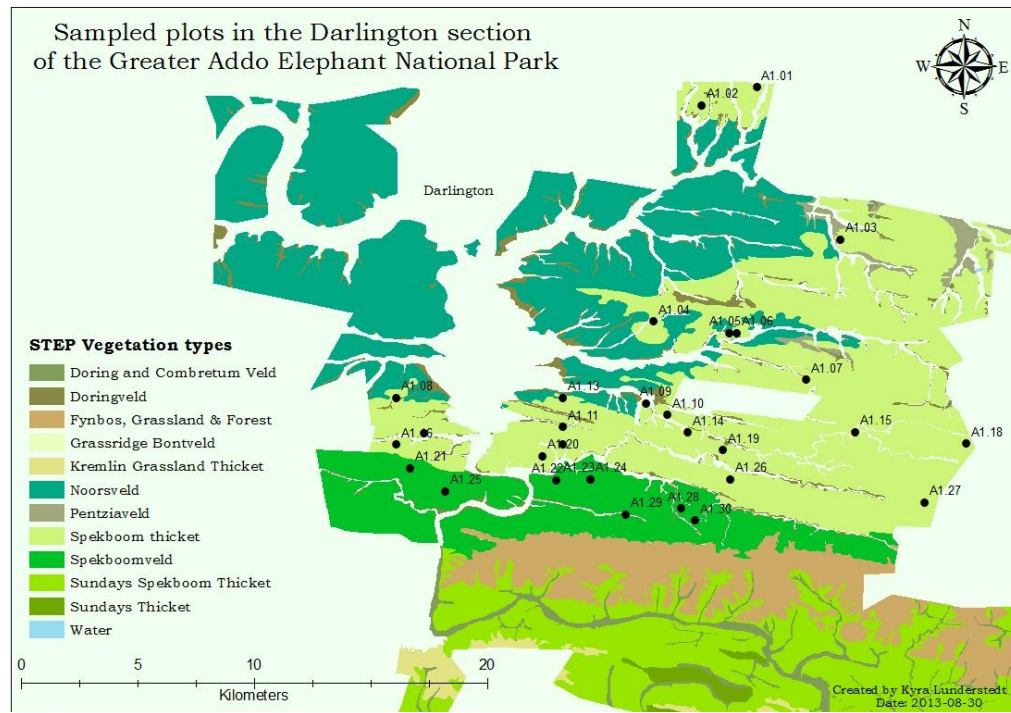


Plots

Sampled plots in the Addo Main section of the Greater Addo Elephant National Park



Sampled plots in the Darlington section of the Greater Addo Elephant National Park



Site	Plots	Vegetation types within plots	Terrain and altitude	Drivers of degradation
Darlington	30	<ul style="list-style-type: none"> • 23% Spekboomveld • 77% Spekboom Thicket 	Mountainous	Goat browsing
Kabouga	30	<ul style="list-style-type: none"> • Sundays Spekboom Thicket 	Very mountainous	Old lands and goat browsing
Addo Main	20	<ul style="list-style-type: none"> • Sundays Spekboom Thicket 	Flat	Predominantly old agricultural lands and habitat transformation
Baviaanskloof	30	<ul style="list-style-type: none"> • Baviaans Spekboom Thicket 	Very mountainous	Goat browsing

Differences between Spekboom thicket types, according to Vlok and Euston-Brown, (2002)

- *Spekboomveld* is the name given to an abundance of Spekboom in arid thicket units
- *Spekboom Thicket* is the name given to an abundance of Spekboom in valley thicket units
- *Sundays Spekboom Thicket* refers to the area where this type of Spekboom Thicket occurs

Plant stats

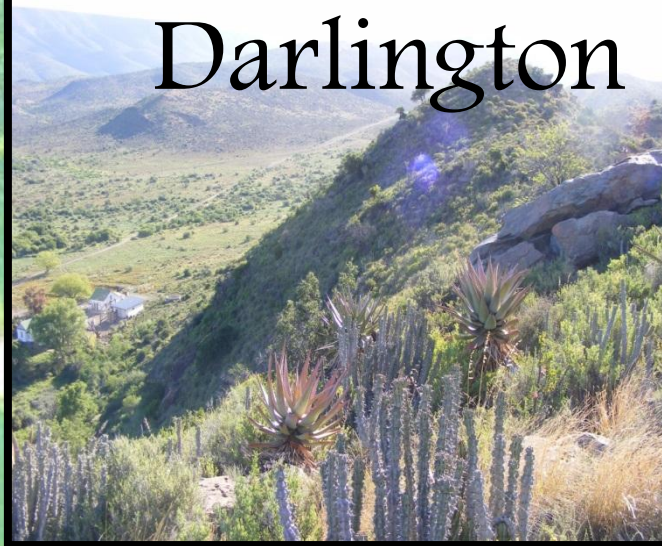


Photo by Jakob Raath

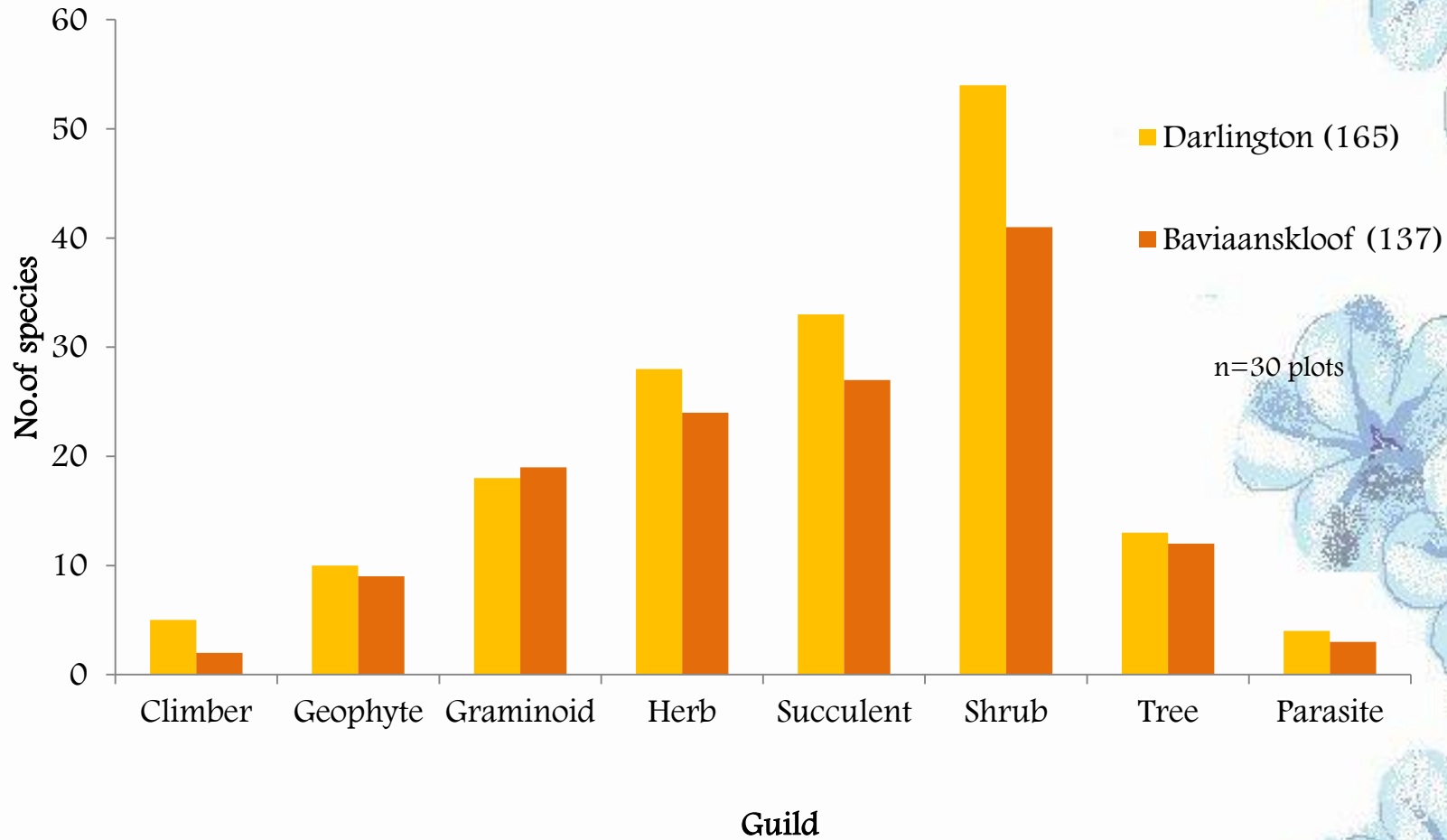


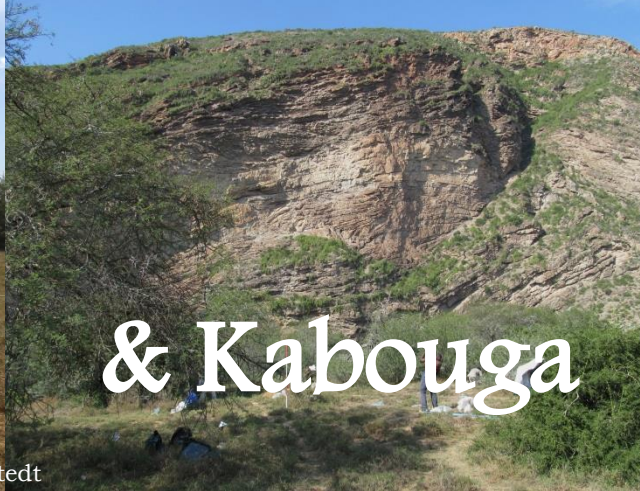
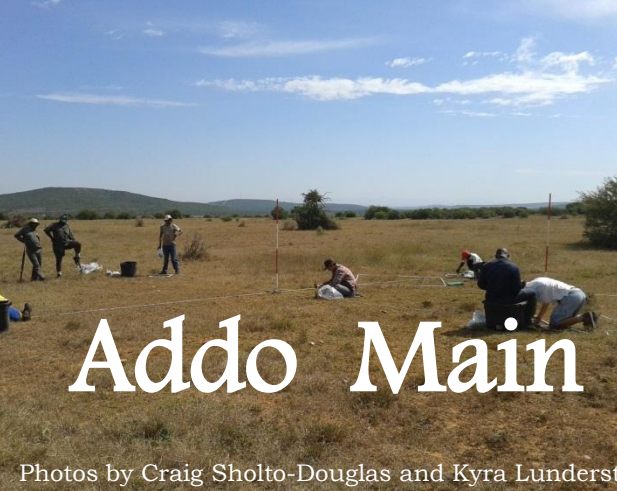
Photo by Mike Powell

Total no. species	165	137
No. genus'	117 (70%)	102 (74%)
No. families	47	48
Common species	<i>Pentzia incana, Euphorbia coerulescens, Mesembryanthemum aitonis, Panicum deustum</i>	<i>Cynodon incompletus, Galenia pubescens, Aristida congesta, Grewia robusta</i>

- Darlington has a high species richness

Guild structure





Addo Main & Kabouga experiences

Photos by Craig Sholto-Douglas and Kyra Lunderstedt

Addo Main

- Repetitive in the plant species present. *Drosanthemum hispidum*, *Galenia pubescens* and *Cynodon dactylon* being most common.
- Old lands = very few belt transects to look at woody cover.

Kabouga

- Time consuming as belt transects had an abundance of woody trees to measure.
- Variety of plant cover types within quadrats. *Grewia robusta*, *Rhigozum obovatum*, *Lycium* sp and *Putterlickia pyracantha* most common and included ground cover similar to Addo Main.

Kabouga had higher woody tree and woody shrub cover than Addo Main.

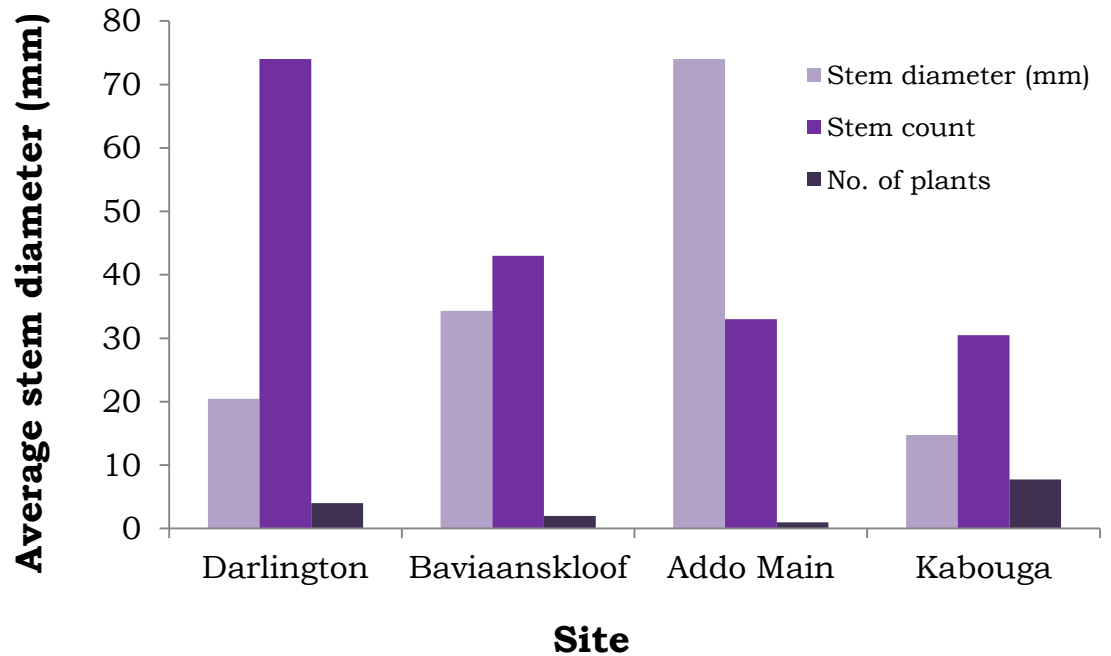
Quadrats



- Highest average no. of species per plot in Darlington.
- On average there appears to be no vast difference between other sites

Spekboom densities

(*Portulacaria afra*)

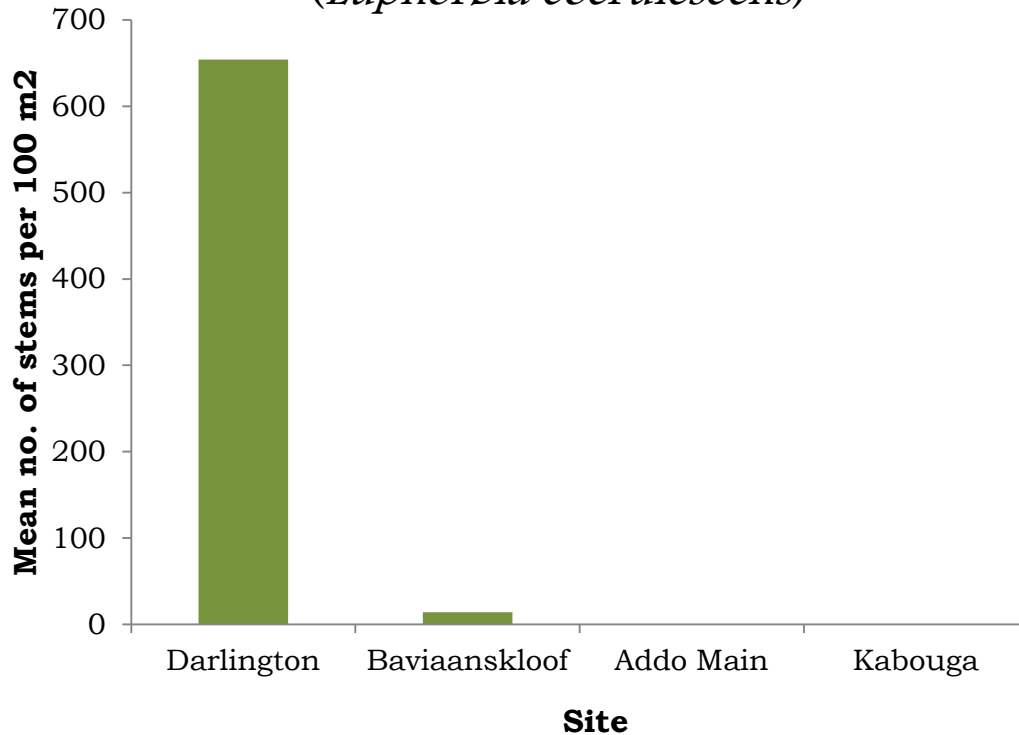


- The most spekboom plants occurred in Kabouga
- Stem diameter highest in Addo due to a single large plant



Noors densities

(*Euphorbia coerulescens*)



- Noorsveld creeping into Spekboomveld in Darlington.
- Average of 653 and a maximum of **2118** stems per plot.
- Present in 23/30 plots vs 2/30 in Baviaans



Challenges



- Availability of plants and quality of specimen with seasonality
- Pressing plants in the field- quality issues
- Herbarium work- time consuming causing backlogs
- Belt transects, Spek and Noors densities can cause biodiversity to take much longer- Slows the team down.
- Confusion when we reach a difficult plot ie semi-intact, steep slope, gullies.

Suggestions and improvements

- Is this a good method for measuring plant diversity over time?
- Should we have monitored degradation?

We would like to hear your opinion



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subtropical thicket lands

Capparis sepiana var. *citrifolia*