



Western Cape  
Government

Agriculture



BETTER TOGETHER.



# 1<sup>ST</sup> INTERNATIONAL CONFERENCE OF LANDCARE STUDIES 5-8 NOVEMBER 2017

Scaling up climate smart agriculture from the Koup pilot project of 80 000ha to 500 000ha. Doing it the LandCare way.

Venue: Nagoya Japan

FJ STEYN



***“Action without vision  
is only passing time,  
vision without action  
is merely day dreaming,  
but vision with action  
can change the world.”***

**- Nelson Mandela**



# **Present conditions of the prevailing Drought in the Central Karoo**

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**The present drought is 3 years old and farmers are on their knees**

**The thorn trees in the river beds are dying due to the drought**

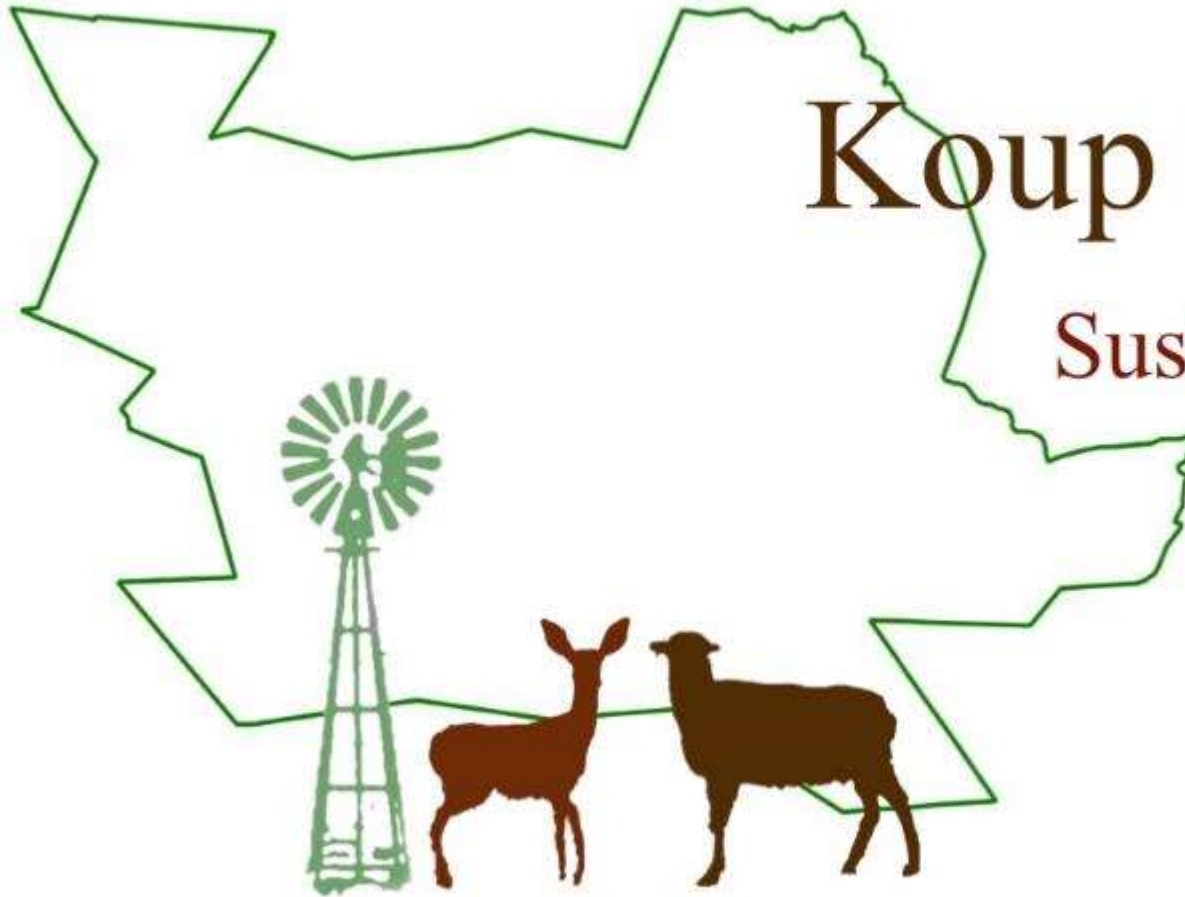
**The animals are weak and cannot raise any lambs**

**The veld has nothing that can be eaten and all vegetation is very dry and unpalatable.**

**This is a serious situation, a disaster and yet there is hope.**

# 80 0000ha

## Koup farming Sustainability



**If Agriculture and all NRM role-players are grouped together with the farmers and have a common vision, then this is the only time you will have realise sustainable development.**



# Community based Natural Resource Management CBNRM

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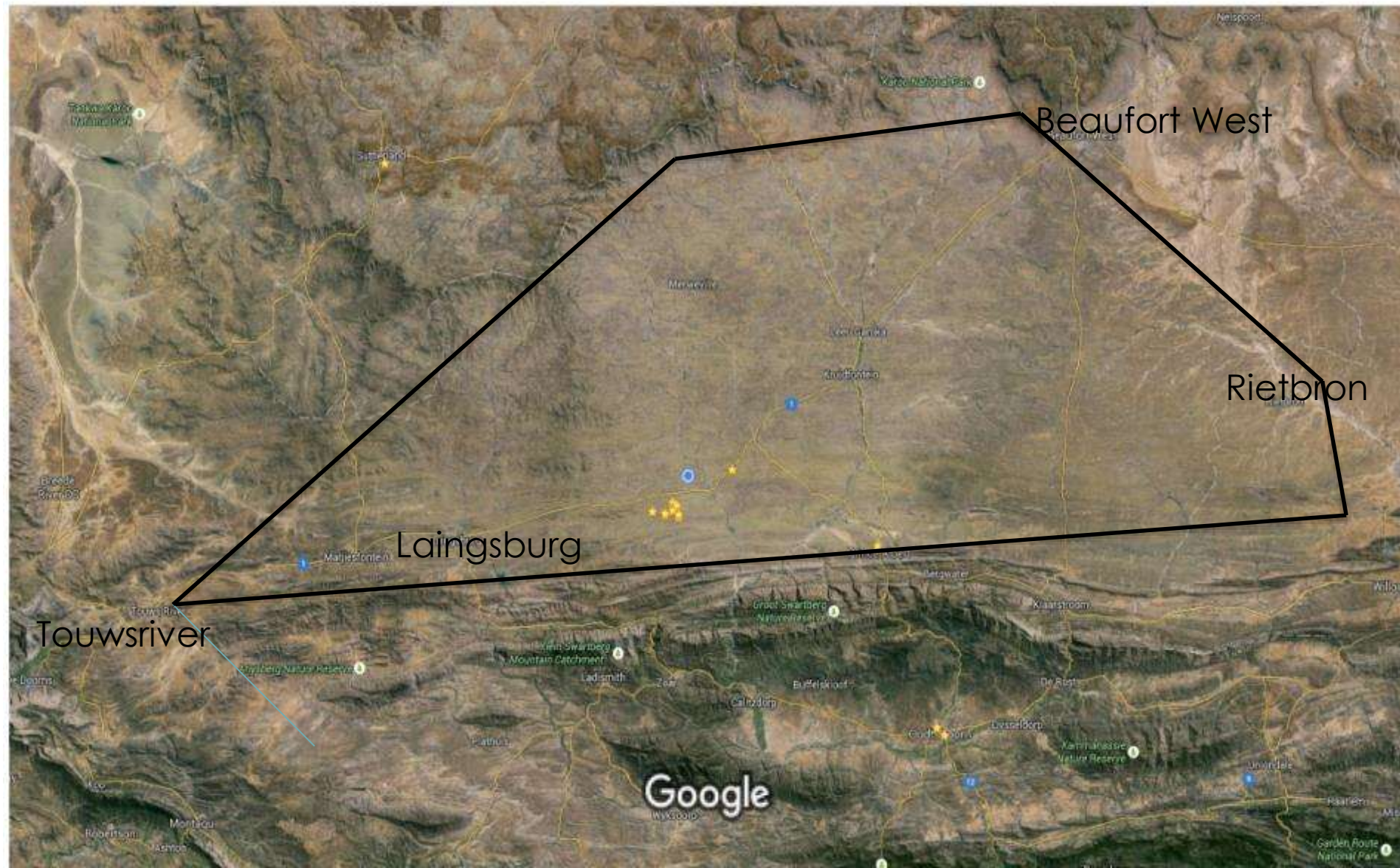
**To effectively address many natural resource issues and strive for sustainable development of land, water and biodiversity, planning must be conducted at a scale larger than an individual farm, that is a area wide scale**

**and designed by an integrated group of partners, yes that is us**

**and lead by the very people that utilise these resources on ground level, yes the farmers and community.**

**CBNRM methodology where local people identify concerns, set the future vision of their home, prioritize and implement and we as partners enable this vision as servants.**

# Koup Region

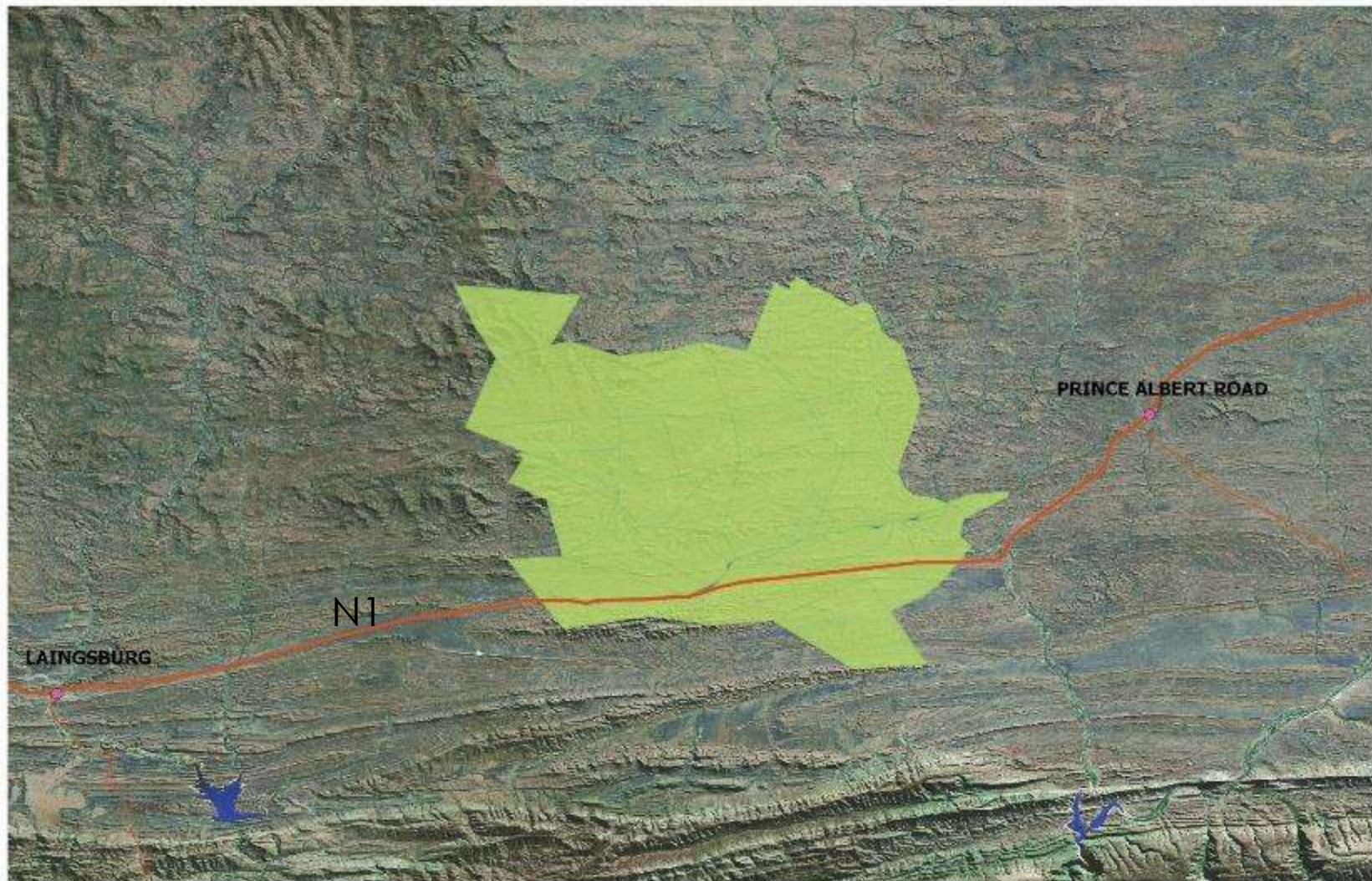




# Resemblance of the two logos



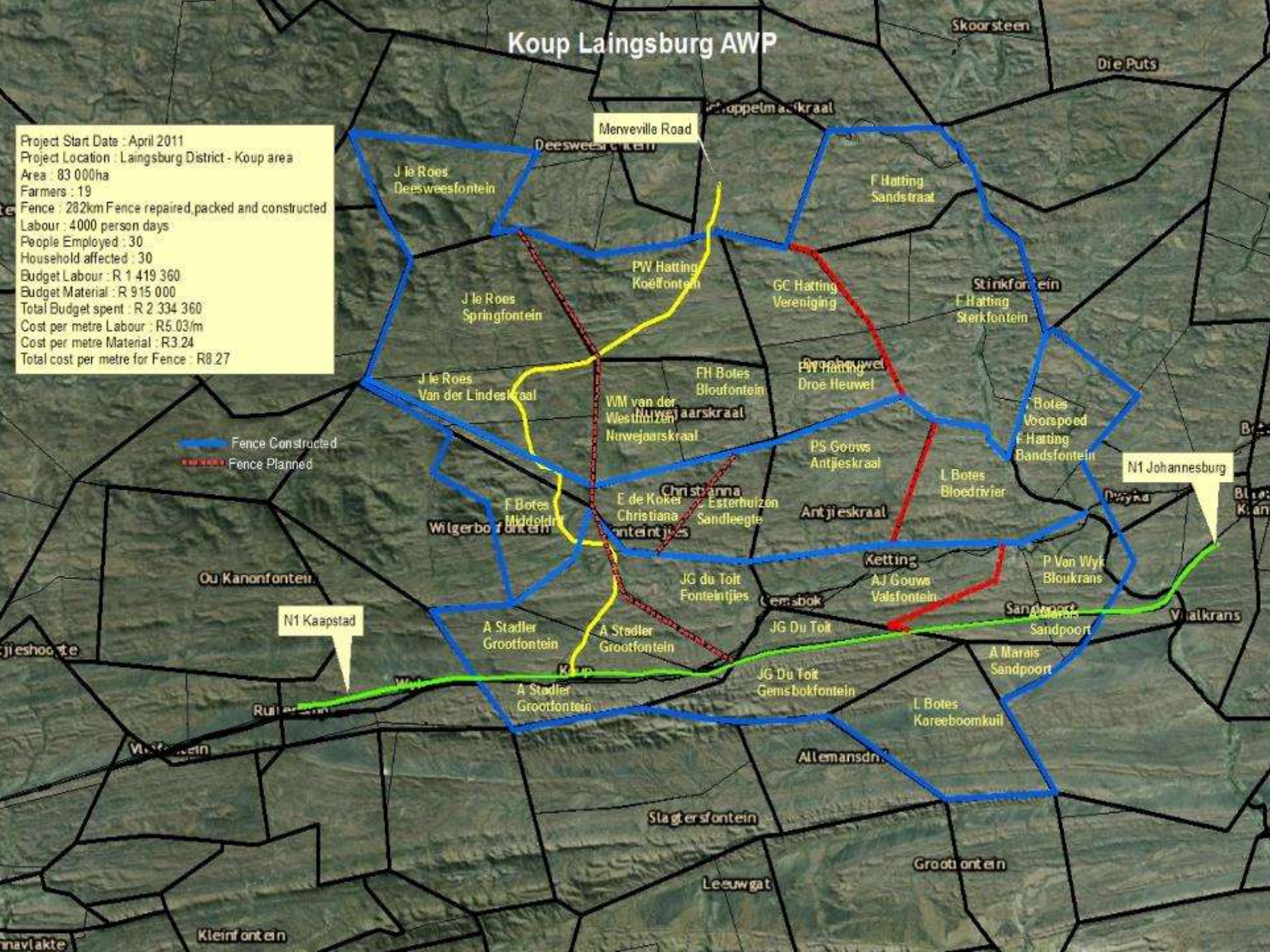
## KOUP CONSERVATION PROJECT AREA





## Koup Laingsburg AWP

Project Start Date : April 2011  
Project Location : Laingsburg District - Koup area  
Area : 83 000ha  
Farmers : 19  
Fence : 282km Fence repaired,packed and constructed  
Labour : 4000 person days  
People Employed : 30  
Household affected : 30  
Budget Labour : R 1 419 360  
Budget Material : R 915 000  
Total Budget spent : R 2 334 360  
Cost per metre Labour : R5.03/m  
Cost per metre Material : R3.24  
Total cost per metre for Fence : R8.27







## Murraysburg Commonage Camps

(Camp boundaries not verified by GPS)  
Digitised from scanned map  
GIS calculated area: 5794.26 ha



### Legend

Boundary of Murraysburg commonage  
Backdrop: SPOT 3123D & 3223B (±2010)

### Locality Map



0 500 1 000 2 000 Meters



**Western Cape  
Government**

Agriculture

Map scanned by Dewalene Kilian  
0218085080 (Febr 2013)

© GIS/FSD/Beaufort West/Murrays/commonage



# PSP 2014-2019: Provincial Strategic Goals



**STRATEGIC GOAL 1:**  
Create opportunities for growth and jobs



**STRATEGIC GOAL 2:**  
Improve education outcomes and opportunities for youth development



**STRATEGIC GOAL 3:**  
Increase wellness, safety and tackle social ills



**STRATEGIC GOAL 4:**  
Enable a resilient, sustainable, quality and inclusive living environment

**STRATEGIC GOAL 5: Embed good governance and integrated service delivery through partnerships and spatial alignment**

# LandCare principles

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- Integrated Natural Resource Management
- Community based and led
- Sustainable livelihoods
- Capacity building
- True partnerships
- Blending of upper level policy with ground up feedback

# True Partnerships



## **Koup projects- these will set the future vision**

- **Economic research**
- **Ecological biodiversity jackal and caracal**
- **Ecological baboon**
- **Ecology Plant composition and carrying capacity**
- **Scanning project to investigate low weaning**
- **Sociology project to measure improvement in livelihoods**
- **Farm workers survey to determine skills and needs**
- **Fencing Project**
- **Farmer worker training project**
- **Herd dogs agricultural resources protected**
- **Lam export Co-operative**
- **Study group formed to determine sustainable farming**





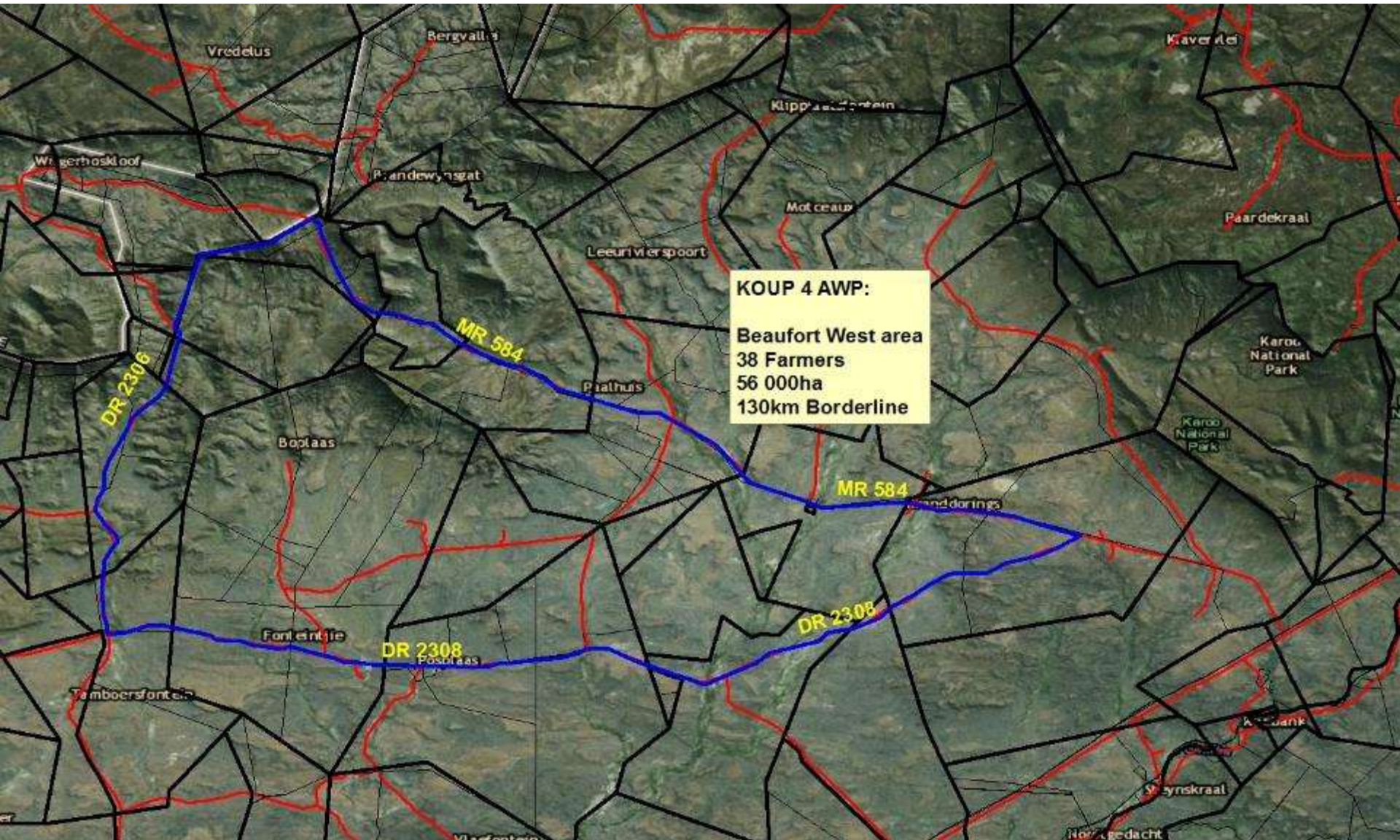
# Scaling up to **500 000ha**

- **Economic plan**
- **Ecological plan**
- **Fantastic Research opportunities into biodiversity, plant and animals**
- **Social Plan based on studies into farm worker needs and training**
- **Holistic plan of all research into a plan that could be considered for a target setting for our contribution to United Nations Convention to Combat Desertification.**

***"to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability"***

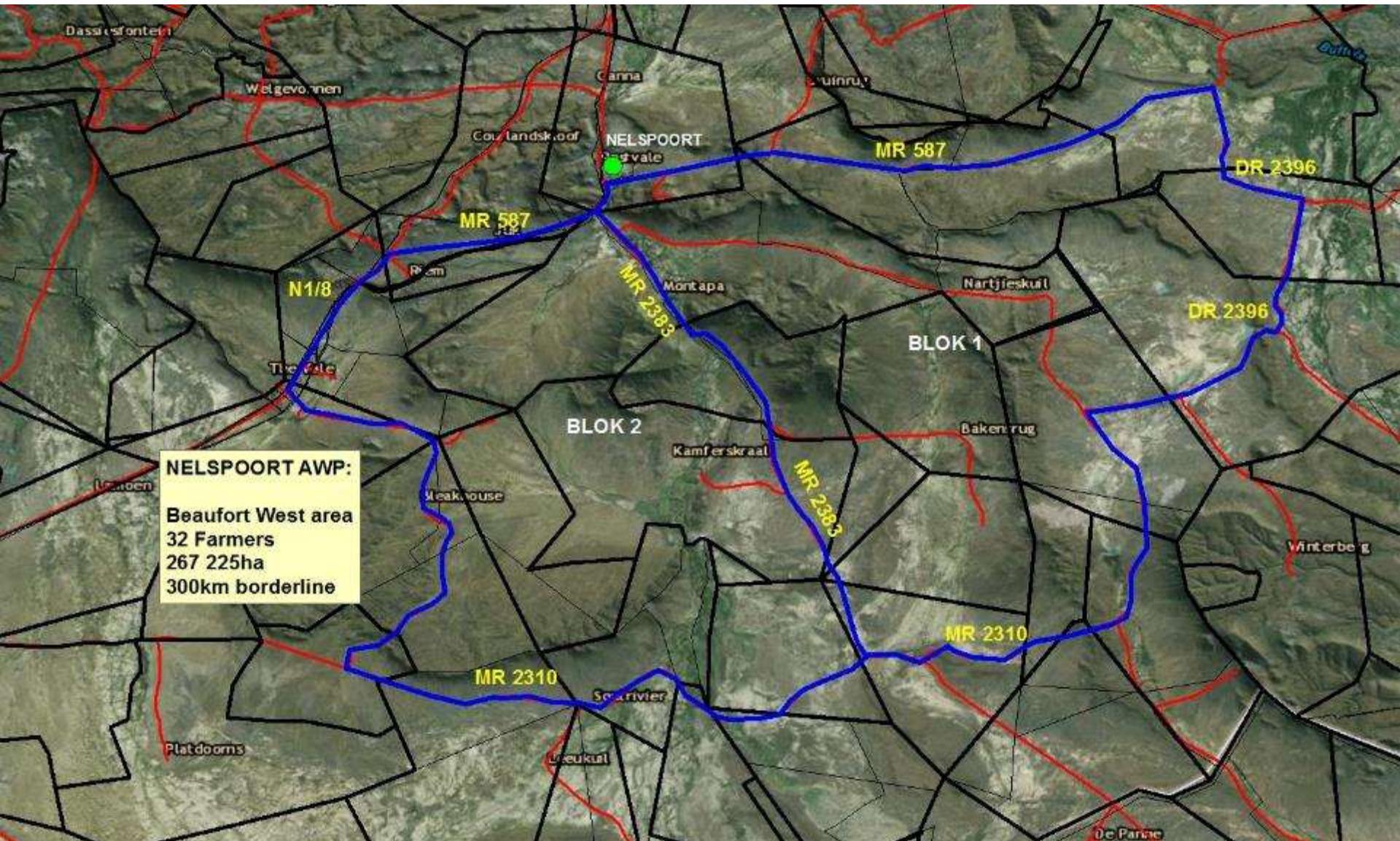


# KOUP 4 AWP (BEAUFORT WEST)



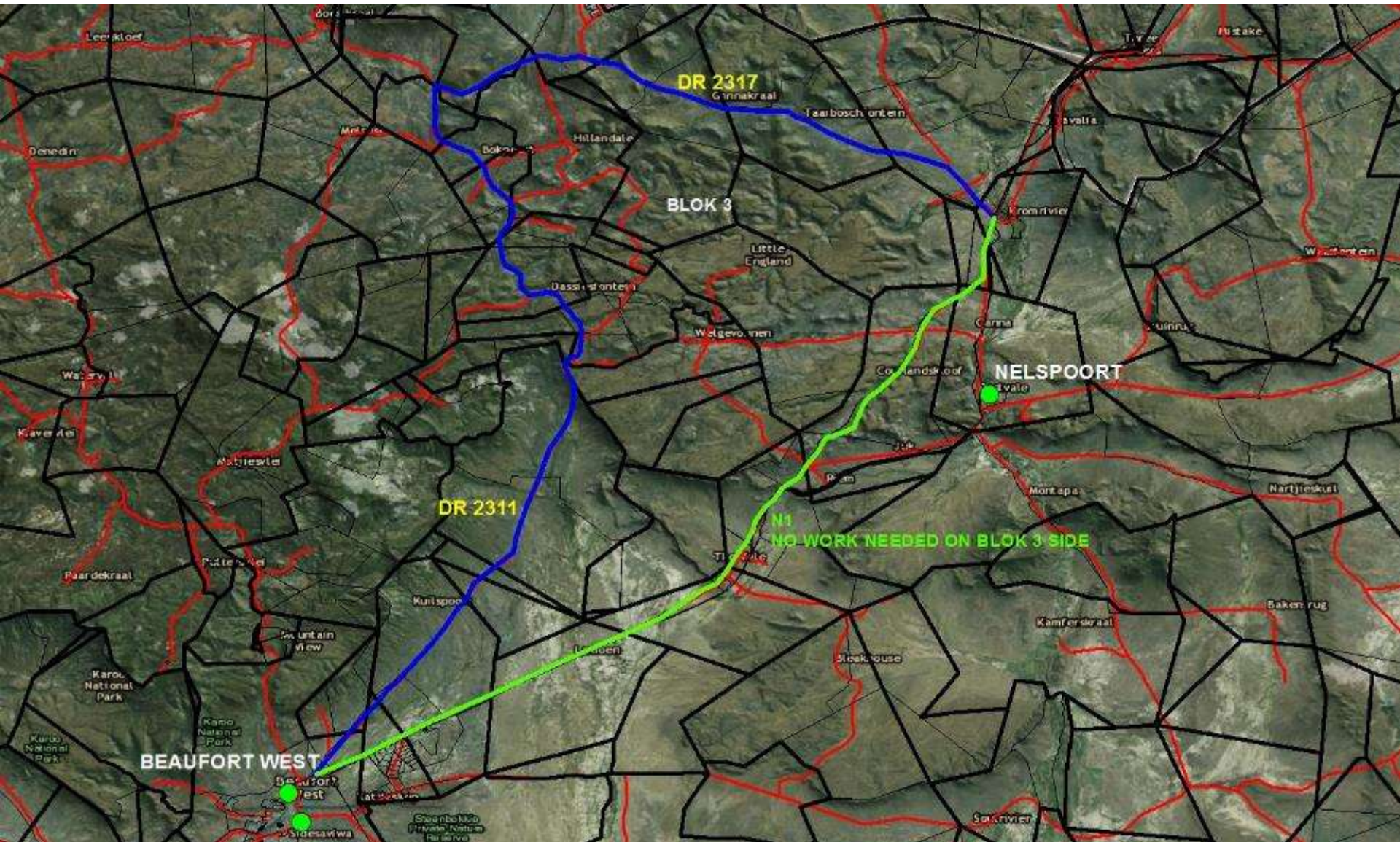


# NELSPOORT AWP (BEAUFORT WEST)



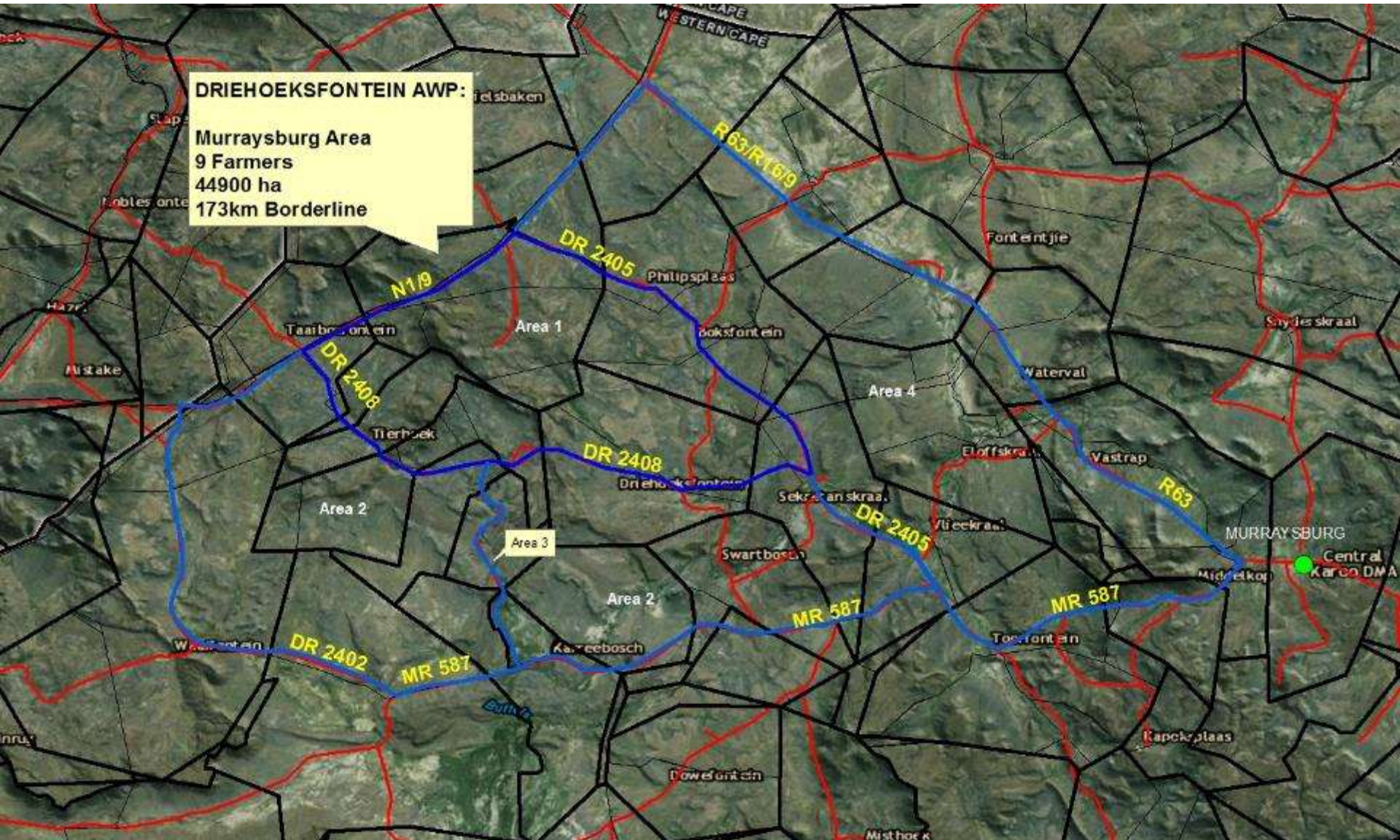


## NELSPOORT AWP (BEAUFORT WEST)



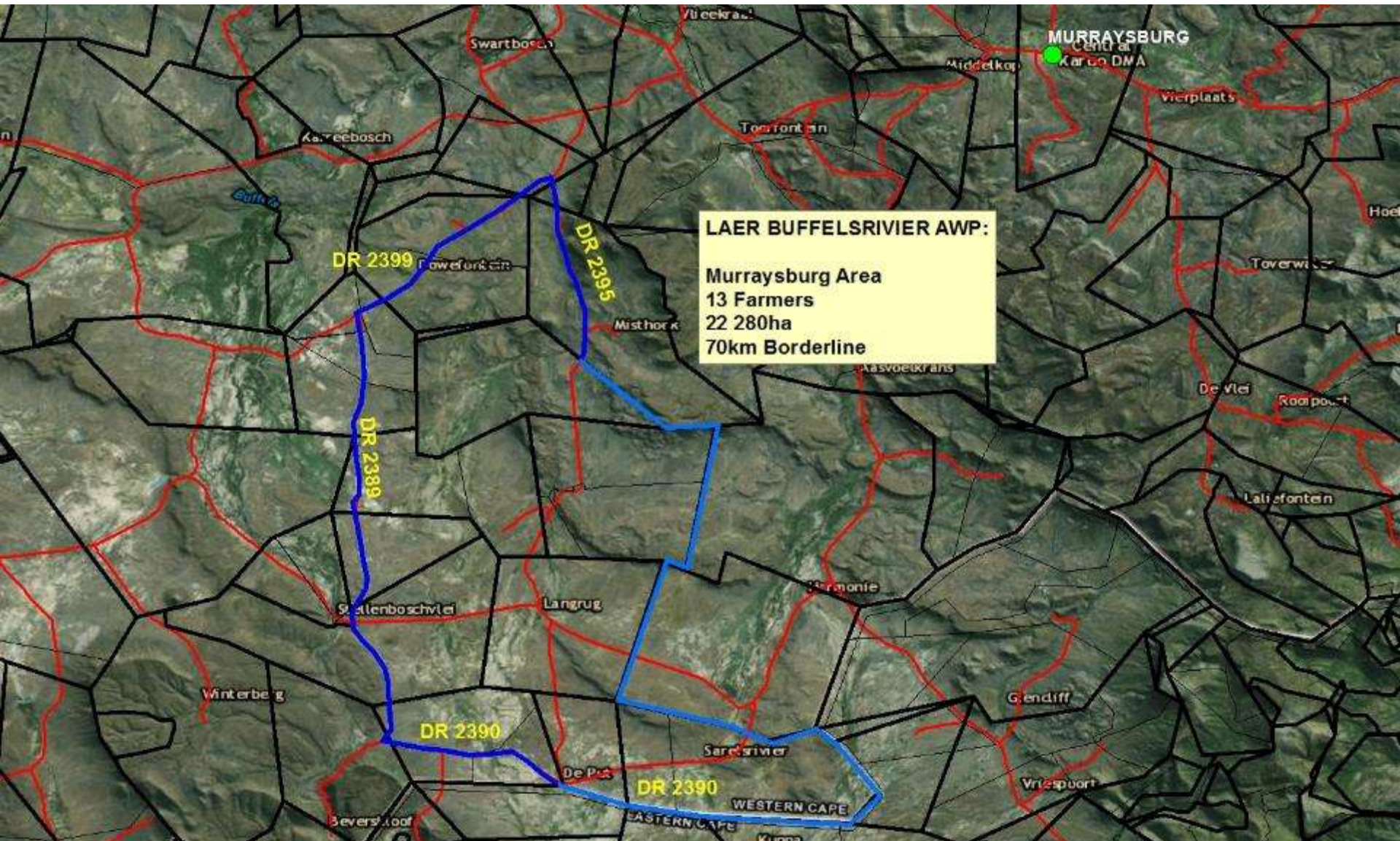


# DRIEHOEKSFONTEIN AWP (MURRAYSBURG)





# LAER BUFFELSRIVIER AWP (MURRAYSBURG)



# Climate Smart Agriculture Priorities.

Priority Project 1: **Conservation Agriculture** for all commodities and farming systems

- Priority Project 2: **Restored ecological infrastructure** for increased landscape productivity, socio-ecological resilience and soil carbon sequestration

- Priority Project 3: Collaborative **integrated catchment management** for improved water security (quality and quantity) and job creation

- Priority Project 4: **Energy efficiency and renewable energy** case studies to inspire the transition to low-carbon agriculture

- Priority Project 5: Climate-proofing the growth of **agri-processing** in the Western Cape

- Priority Project 6: An **integrated knowledge system for climate smart agricultural extension.**

- Priority Project 6: An integrated knowledge system

## Similar products that are in the stage of development

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- **Alien biomass clearing RED, ORANGE AND GREEN**
- **CARA compliance farm mapping**
- **Berg Camino Mapping**
- **Soil health mapping**
- **All river mapping**
- **Erosion mapping**
- **Drought management**





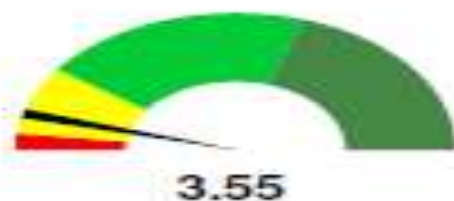
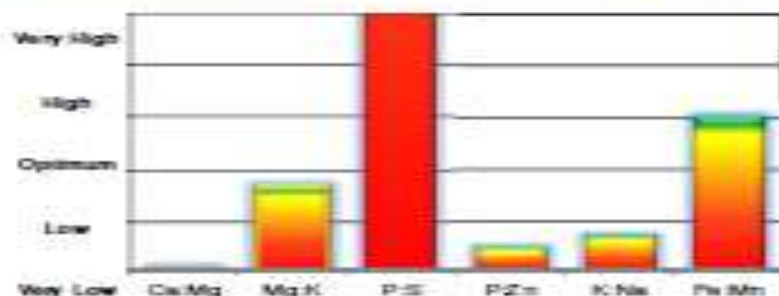
# Soil Health and Fertility Report

Submitted by: Zylem CC  
 Client: Landcare DCA Bassano  
 Location: BASSANO  
 Sample ID: 1-4B

File Number: 77729  
 Sample Date: 20/04/2017

Intended Crop: Crop 4  
 Crop Yield (kg/MT): 12

Soil Health Factors		Ranking	Value or Available Nutrients per hectare
Solvita-CO <sub>2</sub> Burst	8.5	Very Low	N + P <sub>2</sub> O <sub>5</sub> + K <sub>2</sub> O = 50.00
*WEOC (ppm)	152.0	Medium	Available Nutrients (kg/ha)
*WEDN (ppm)	11.8	Medium	N P K
C:N ratio	12.9	Optimum	14 85 166



## \*NUTRIENT ANALYSIS

Analysis	Units	Level Found
Nitrate-N	ppm	2.2
Ammonium-N	ppm	1.3
Total Inorganic N	ppm	4
Estimated Biological N	kg/ha	6
Estimated N for Crops	kg/ha	14
Phosphorus as P	ppm	38
Potassium as K	kg/ha	166
Calcium	kg/ha	185.92
Magnesium	kg/ha	145.6
Sodium	kg/ha	73.92
Sulfur as S	ppm	9
Boron	ppm	0.80
Iron	ppm	162
Manganese	ppm	16
Copper	ppm	0.54
Zinc	ppm	22.12
*PECEC		2.16

Ca:Mg	Ca+Mg:Al	Ca %	Mg %
1.28	0.64	19.2	15.0
4.5 to 8	>1.7		

Estimated Calcium Need (kg/ha) 473

## \*\*Nutrient Required (estimated) kg/ha

0	0	0	N-P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O
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## \*\*Additional Nutrient Need kg/ha

0	0	0	N-P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O
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## Notes and Recommendations

### USDA Cover Crop Recommendation

Suggested Cover Crop Blend:

70% Legume 30% Grass

\*Notes: WEOC is water extractable organic carbon and WEDN is water extractable organic nitrogen

All nutrients extracted using HGA organic acid extract. PECEC is plant effective CEC calculated using HGA

\*\*Brookside Laboratories, Inc. does not guarantee any recommendation as university calibration work has not been done

	B	C	D	E	F	G	H	I	J	K	L
ate: 2017/06/09											
	2016					2017					
Boer naam	Van	Tot	Bydrae	Date to do follow up	Status	Van	Tot	Bydrae	Date to do follow up	Status	
Calla Botha	13 April 2016	16 February 2016	R 11 500.00	out dated	0.0	13 February 2017	16 February 2017	R 11 500.00	15-Aug-17	3.8	
Pieter Brink	06 January 2016	31 March 2016	R 18 625.00	out dated	0.0	17 February 2017	31 March 2017	R 18 625.00	27-Sep-17	2.3	
Petrus Nel	05 September 2016	14 September 2016	R 2 088.12	13-Mar-17	8.9						
Nollie Stofberg	01 October 2016	17 October 2016	R 5 375.00	15-Apr-17	7.8						
Coenie Lategan	05 January 2016	10 January 2016	R 8 000.00	08-Jul-16	17.2						
Herman Kriel	15 January 2016	20 January 2016	R 9 000.00	18-Jul-16	16.9						
					1430.8						
Kleinjan Goosen	01 March 2016	01 April 2017	R 22 000.00	28-Sep-17	2.3						
Kevin Freudenberg	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
Tara Essenhig	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
Herman Kriel	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
Onbekend (Voorheen Jaco V	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
Jakobus Kriel	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
gel Dicey (Rora&Palmiet val	01 February 2017	15 February 2017	R -	14-Aug-17	3.8						
	03 April 2017	07 April 2017	R 6 000.00	04-Oct-17	2.1						
Pieter Crous	15 February 2017	24 February 2017	R -	23-Aug-17	3.5						
Nicolas Dicey	03 May 2017	24 May 2017	R 27 000.00	20-Nov-17	0.5						
	15 February 2017	24 February 2017	R -	23-Aug-17	3.5						
Neels Zeeman	03 April 2017	14 April 2017	R 21 000.00	11-Oct-17	1.9						
Charles Osche	03 March 2017	14 March 2017	R 4 230.00	10-Sep-17	2.9						
Boela Marais	01 March 2016	14 March 2016	R -	10-Sep-16	15.1						
Jakobus Viljoen	01 March 2016	14 March 2016	R -	10-Sep-16	15.1						
Jacques Viljoen	03 April 2017	07 March 2017	R 5 770.00	03-Sep-17	3.1						
Pieter Hartman	15 May 2017	31 May 2017	R 20 000.00	27-Nov-17	0.3						
Louis Lategaan	24 April 2017	03 May 2017	R 10 384.00	30-Oct-17	1.2						
Enrich Muller	04 May 2017	05 May 2017	R 1 923.00	01-Nov-17	1.2						
Daan Muller	01 March 2016	14 March 2016	R -	10-Sep-16	15.1						





1:73 022

Data Source: LandCare  
Date created: 2017/06/09

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## Being a steward in Extension

***Being an extension officer/steward/ LandCare official:***

**The role as a steward is the vital position we are in as extension officers to initiate, implement and maintain projects that will make/enable a change and gain sustainability in our development on this piece of the planet.**

**The ultimate extension/LandCare challenge is creating and enabling environment, stepping back and nurturing the development so that it becomes independent .**

**We must make a difference, there is no choice anymore, we must work very closely together and include the farmer on the entire journey. Together we can do it!**

# Thank you

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Francis Steyn  
Western Cape Government  
Agriculture



# Contact Us



Western Cape  
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BETTER TOGETHER.

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- Sustainable Resource Management: LandCare

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