

QUAGGA PROJECT ASSOCIATION (INCORPORATED UNDER SECTION 21)

Co-coordinator's Report (incorporating Stud Book Manager's report) **August 2015**

ASSETS UPDATE & SECT 21 Co:

- 121 animals in 10 locations
- Cash in bank as per treasurers report

QUAGGAS BORN:

- 8 recorded in studbook for 2015 so far but still need to record animal details for 1 foal at Bontebok Ridge and foals at Pampoenvlei

ANIMAL DEATHS:

- No deaths noted)

QUAGGA HERD PHOTO UPDATE:

- Some foal photos still need to be collected (especially at Pampoenvlei) and entered.

ANIMAL CAPTURES & MOVEMENTS:

- 3 animals sold from Boland Landbou for R20K gross approx R12K net
- There is still a surplus amount of stallions at Boland Landbou and we could remove another 3 when a home can be found for them – these animals are lightly striped and are quagga like and not zebra like.
- Stripy mare and two of her foals need to be removed from Bontebok Ridge and sold. Setting this up for September. Also excess stallions at Bontebok Ridge need to be moved to new home (also unstripy and not zebra like).

TOTAL HERD UPDATE

- Below the current herd update as at 28 February 2015

Current Herd as per 24 August 2015

<u>Now At</u>	<u>QuaggaName</u>	<u>Studboo</u>	<u>Date of Birth</u>	<u>Sire</u>	<u>Dam</u>	<u>Sex</u>	
Arc en Ciel	Jemya	84	2007-01-10	Bernard	Truida	F	
	Mary	159	2011-12-01	Tom	Truida		
	Suzanne	189	2013-08-15	Tom	Jemya		
	Tamara	199	2014-10-01	Tom	Mary		4
Arc en Ciel	Tom	60	2005-10-15	Etienne	Marjean	M	
	Oliver	98	2008-01-11	Bernard	Truida		
	Craig	167	2012-01-02	Tom	Jemya		
	Fernando	198	2014-10-10	Tom	Jemya		4
						Total	8
Boland Landbou	Lucia	92	2008-01-20	Ike	Marilyn	F	
	Lizette	112	2009-04-04	Douw	Strelza		2
Boland Landbou	Douw	54	2003-11-05	Etienne	Tracy	M	
	Lance	180	2012-10-01	Douw	Lucia		2
Boland Landbou	DM12	198	2012-02-02	Douw	Marylin	M/F	
	DM13	184	2013-02-02	Douw	Marylin		
	DL13	199	2013-12-01	Douw	Lizette		3
						Total	7
Bontebok Ridge	Tracy	18	2000-02-14	Luke	Mariette	F	
	Margaret	33	2003-03-22	Ike	Strelza		
	Stripes	151	2011-01-21	Tim	Margaret		
	Katja	147	2011-05-01	Eric	Nelmarie		
	Emma	168	2012-01-05	Tim	Tracy		
	TM14	208	2014-03-01	Tim	Margaret		6
Bontebok Ridge	Tim	21	2003-01-08	George	Jeanetta	M	
	Ben	121	2009-06-11	Tim	Tracy		
	Peter	139	2010-12-28	Tim	Tracy		
	Red	211	2014-07-01	Tim	Tracy		4
Bontebok Ridge	Laurent	157	2011-10-12	Douw	Lucia	M/F	
	TM12	170	2012-02-14	Tim	Margaret		
	TT13	186	2013-06-24	Tim	Tracy		

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Bontebok Ridge	TE14	212	2014-09-01	Tim	Emma	M/F	
	TS15	218	2015-01-20	Tim	Stripes		
							5
							Total 15
Elandsberg Farm	Whity	25	2002-01-08	Shaun	Jeanetta	F	
	Joy	28	2002-09-11	Luke	Mariette		
	Marlene	38	2004-05-31	Ike	Marcelle		
	Anna	73	2006-05-10	George	Leslie		
	Sandy	85	2007-10-10	George	Leslie		
	Cynthia	83	2007-12-09	George	Jeanetta		
	Simone	101	2008-12-28	Duncan	Whity		
	Julie	127	2010-01-06	Duncan	Joy		
	Jackie	163	2011-12-21	Duncan	Joy		
Corlie	190	2013-09-20	Troy	Monica			
							10
Elandsberg Farm	Duncan	42	2001-10-24	Luke	Lulu	M	
	Frank	37	2004-07-05	Etienne	Tracy		
	Josh	64	2005-05-12	Duncan	Whity		
	Elan	99	2008-01-12	George	Joy		
	Troy	118	2009-01-10	George	Jeanetta		
	Garth	173	2012-07-21	George	Monica		
	DJ14	209	2014-06-01	Duncan	Joy		
	Julian	222	2015-07-01	Josh	Julie		
							8
Elandsberg Farm	FJ11	162	2011-12-20	Frank	Jacqui	M/F	
	JJ11	166	2011-12-29	Josh	Jeanetta		
	FM12	169	2012-01-05	Frank	Marlene		
	DW13	183	2013-02-01	Duncan	Whity		
	TE13	204	2013-12-12	Troy	Marlene		
	JS14	225	2014-02-01	Josh	Simone		
	JJ14	210	2014-07-01	Josh	Julie		
							7
							Total 25
Groote Schuur	Gabi	47	2004-11-20	Paul	Erina	M	
	Gordon	69	2006-01-03	Paul	Erina		
	Khumba	140	2010-01-11	Eric	Ria Rita		
	Hermon	158	2011-11-12	Eric	Ria Rita		
	Enya	165	2011-12-28	Eric	Lydia		
							5

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							Total 5
Kosierskraal	Marjean	19	2000-09-18	Luke	Lulu	F	
	Suzi	58	2005-01-09	Etienne	Tracy		
	Michelle	125	2010-10-01	Frank	Ryna		
	Nonnie	179	2012-10-01	Robin	Marjean		
	Noel	205	2013-12-25	Robin	Marjean		
							5
Kosierskraal	Robin	44	2004-01-11	Luke	Amanda	M	
	Gio	145	2011-04-28	Robin	Erna		
	Vusi	152	2011-08-01	Robin	Marjean		
							3
							Total 8
Pampoenvlei	Elizabeth	22	2001-05-11	Shaun	Monica	F	
	Rebecca	34	2003-07-20	George	Leslie		
	Nicola2	68	2006-03-01	Ryan	Meintjie		
	Rosie	134	2010-08-14	Ryan	Rebecca		
							4
Pampoenvlei	Ryan	15	1999-01-05	Shaun	Monica	M	
	Henry	52	2005-01-20	Luke	Elizabeth		
	Raulene	82	2007-05-25	Ryan	Elizabeth		
	Logan	136	2010-10-10	Henry	Nicola2		
							4
Pampoenvlei	RE11	153	2011-08-15	Ryan	Elizabeth	M/F	
	RE12	175	2012-09-09	Ryan	Elizabeth		
	RR12	176	2012-09-15	Ryan	Rebecca		
	HN12	177	2012-10-01	Henry	Nicola2		
	HR13	191	2013-09-27	Henry	Rosie		
	RE13	192	2013-10-07	Ryan	Elizabeth		
	RR13	195	2013-11-07	Ryan	Rebecca		
	XX	222	2014-01-01				
	XY	223	2014-01-01				
	XZ	224	2014-01-01				
							10
							Total 18
SMA	Susan	124	2009-01-08	Douw	Sandra	F	
	Frances	114	2009-06-29	Frank	Marlene		
	Derica	135	2010-01-09	Douw	Sandra		
	Frederica	203	2013-12-10	Freddy	Derica		
							4

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SMA	Freddy	96	2008-04-09	Etienne	Lydia	M	
	FF13	194	2013-11-05	Freddy	Francis		2
SMA	FF15	216	2015-01-05	Freddy	Francis	M/F	
	FD15	220	2015-02-01	Freddy	Derica		
	FS15	221	2015-02-16	Freddy	Susan		3
						Total	9
Vlakkenhuiwel	Lydia	59	2005-12-10	Sebastian	Margaret	F	
	Ria Rita	77	2006-11-20	Sebastian	Margaret		
	Danelle	110	2009-03-04	Ettienne	Ria Rita		
	Nelmarie	108	2009-12-01	Ettienne	Margaret		
	Elanor	141	2010-05-11	Eric	Lydia		5
Vlakkenhuiwel	Jack	97	2008-09-25	Tim	Tracy	M	
	EN12	171	2012-05-01	Eric	Nelmarie		
	ER12	181	2012-11-01	Eric	Ria Rita		
	EL13	182	2013-01-01	Eric	Lydia		
	JE13	202	2013-12-06	Jack	Elanor		
	JN14	207	2014-02-01	Jack	Nelmarie		
	JD14	213	2014-10-01	Jack	Danelle		7
Vlakkenhuiwel	JL14	206	2014-01-11	Jack	Lydia	M/F	
	JE15	217	2015-01-15	Jack	Elanor		
	JR15	219	2015-02-01	Jack	Ria Rita		3
						Total	15
Wedderwill	Mariette	8	1994-05-20	Allan	Lulu	F	
	Amanda	80	2001-04-03	Alex	Melanie		
	Lysie	90	2007-12-28	Nico	Griet		
	Nina J	120	2009-11-25	Nico	Mariette		
	Fleur	143	2011-01-11	Mark	Llysie		
	Bess	172	2012-07-20	Mark	Mariette		
	NN14	225	2014-04-28	Niel	Nina		7
Wedderwill	Mark	62	2005-02-12	Luke	Mariette	M	
	Niel	106	2008-12-12	Nico	Ashley		2
Wedderwill	MM14	215	2014-09-22	Mark	Marriette	M/F	

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Wedderwill	ML14	214	2014-11-11	Mark	Lysie	M/F

2

Total 11

Grand Total 121

WEBSITE:

- Prof Harley's 'PEDIGREE' program, which can be downloaded by anyone from the quagga website, now gives some useful stats on ancestor contribution and inbreeding, as well as calculating generation number and assisting in drawing up the colourful pedigree maps which Bernard intends to include on the web pages of all our extant individuals.
- He has also written a program for calculating an ancestor's contribution to animals in the quagga project, which is quite revealing in showing a markedly biased contribution by our founders; here are some results:

Founders and number of descendants

Alex	465
Lulu	317
Melanie	291
Allan	265
Ike	118
Sokkies	105
Albert	86
Charlene	71
Marcelle	33
Megavolt	25
Tsjaka	21
Tandi	18
Howie	13
Ricky	11
Try Me	11
Brenda	9*
Fanie	9*
Betty	3*
Celeste	3*

* Lineage extinct

- Prof will in due course combine this program with the PEDIGREE program which is on the web site.

ARTICLES:

Prof Harley

- In March (following on the 'radio today' interview Prof Harley gave with Tim Neary in February) he gave a talk to the U3A at the Baxter theatre on the quagga project which went down very well - the place was packed - about 200 attendees.
- He also was visited in May by two enthusiastic young academics - Rasmus Heller, a geneticist

from Copenhagen, who is collecting genetic sample from some of our quaggas and hopes to do some whole genome sequencing to explore for adaptive genes, and Koen Beumer from Gotingen University in the Netherlands who has more sociological and historical interests in the general topic of revival of 'extinct' species; both were fascinated in the project and this can only help!

Tokai geneticist earns his stripes

KAREN WATKINS

You will usually find Eric Harley of Tokai hanging from a rope on a mountain or down on his haunches photographing flowers.

However another passion for this retired professor of chemical pathology, who mostly did research in human, animal, and plant genetics, is involved in reviving the quagga.

University of the Third Age (U3A) members were recently treated to an update on research by the Quagga Project.

Eric told the capacity audience at the Baxter Theatre, that DNA analysis has shown that in 1778 the quagga was not originally classified as a separate species. Equus quagga had greatly reduced striping over the hind part of the body and legs which was typically dark brown in colour with the legs remaining white.

Quaggas once inhabited the Karoo and southern Free State and as with other grazing mammals were ruthlessly hunted for their meat, skins and for fun. The last wild



University of the Third Age chairperson, Eve Dunnell, of Pinelands with Tokai geneticist, Professor Eric Harley.

quagga was shot in the late 1870s and the last quagga in captivity, a mare, died at Amsterdam Zoo on August 12, 1883. The name is derived from a Khoikhoi word for "zebra" and refers to its call, or bark.

About 30 years ago, taxidermist Dr Reinhold Rau (1932-2006) of Iziko-South

African Museum, sent a sample of dry tissue from a quagga foal for biochemical and immunological analysis. That was 1987 and the beginning of the Quagga Project. Eric was one of the dedicated people involved in it, others included zoologists, veterinarians, and museum personnel.

Their aim was recover by selective breeding, and retrieve the genes responsible for the characteristic colour and stripe patterning of the quagga, thereby producing a herd of zebras accurately representative of this supposedly extinct animal.

Starting with a selected founder population of 18 southern plains zebras from reserves in Etoosha and KwaZulu-Natal. They were chosen for their reduced striping over the rear of the body or legs, or for a tendency to a darker background colour.

The first foal was born in 1988 and the growing herd was later distributed between 10 to 13 localities to facilitate identification of pedigrees and to select appropriate grouping of individuals. Among these was Groote Schuur Estate, Batholomuis Klip and the Nuwejaars Wetland Special Management Area on the Agulhas Plains.

Over time animals were scored in terms of the number of stripes in five body areas, most importantly the upper hind region. Of secondary importance were the forelegs and then the hind legs. They were looking for unbroken stripes with no shadows. Those with heavier striping were removed from the program, their sale contributing to the funding of the programme.

After 24 years of selective breeding the project produced its fifth generation progeny, with 10 by the beginning of 2010. This enabled striping scores to be compared between wild plains zebra and the 18 founders and the original quaggas from the museum.

Eric said that a criticism of the project is that by recreating an extinct species the implication is that extinction is not forever. Therefore the decision was made to name those individuals with a degree of stripe reduction with the title of "Rau" quagga.

Eric stressed that what they are not doing was selecting for features arising from new, naturally occurring mutations, or cross-breeding zebras with other equines – horses and their relatives such as donkeys – to form hybrids called zeedonks, zonkeys and zorses (collectively "zebroids").

Eric also spoke of Charles Darwin... "What we thought was most relevant was his mentioning the occasional quagga with a few stripes on its hocks. This is useful since complete elimination of stripes on the hocks has been problematic," he said.

He said the final phase of the project is to introduce some "pure" Rau quaggas into one, as yet unidentified, locality.

This project has created, and continues to create much debate in schools and academia. It has also been the inspiration of the award-winning animation film *Khumba* which was released in English and Afrikaans in October 2013. The hero is a half-striped zebra, produced in Bergvliet by Triggerfish animation company and is the highest-grossing SA-owned film since the 1980s.

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- KEZIAH

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Andrew Bank, History HOD at UWC and co-editor of Kronos

- He wrote to me regarding an article submitted to the journal Kronos: Southern African Histories of which he is editor of a special issue coming out this November. The article entitled “The Micro-politics of Taxonomy and Restoration of Quaggas”, concerns the history of extinction and conservation in relation to the quagga and he was wanting to enquire whether we would be willing to provide a reader's report on the submission given the degree to which it showcases the Quagga Project and the importance from our point of view of ensuring that the information in the article is accurate and the argument cogent in relation to that project.

This document is some 50 pages long, and can be emailed to anyone wishing to read/ peruse it

- Prof Harley read the article and commented as follows
*“I have now read the article in detail. It is very comprehensive (if a little long) and gives an interesting point of view. It is also generally accurate. There were one or two points to comment on:
P2 L6 (and in more detail elsewhere) "lack the chestnut basic colour" - this is not quite correct, since we have, with the appearance of Rau quaggas, noticed an increase in the background brown colour such that this is similar to the least brown of the museum quagga skin specimen'; it is as if the pigment in the stripes has smeared out to give a uniform brown colour.
P8 L7 ...all three zebra species... would avoid confusion.
P35 L5 Cluver, not Chiver.”*

Colette Stott Picture Researcher | Image Library- The Cape Town Book

- *The Cape Town Book* is a contemporary social history of the City of Cape Town, which explores the landscape of the past – right up to the present day – through the city's geography, its people, and its communities
- *She obtained high level resolution pictures for the article she is writing which I am awaiting*

RESEARCH

- Bernard was visited by Rasmus Heller, geneticist from University of Copenhagen.
- He attended capture at Boland Landbou and we provided him with blood samples from these three animals.
- He wants to compare Rau Quagga DNA to Museum Quagga and Burchells Zebra.
- To complete the set Bernard has promised to obtain samples from two “top” animals to be included in this study