



CITY OF CAPE TOWN
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Urban Baboon Programme

Annual Population Census

2020/2021

PREPARED FOR:

City of Cape Town

DATED:

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PREPARED BY:

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1 INTRODUCTION

NCC Environmental Services was awarded the Urban Baboon Programme tender for the City of Cape Town (CoCT) in October 2020. As part of the programme, an annual count of the baboon population census is conducted.

The population census was previously conducted in May and June to align with the CoCT's tender year (July to June) and financial cycle. This report however presents a synopsis of the count data for July 2020 to September 2021 and provides a detailed breakdown as of the end of September 2021.

2 METHODOLOGY

The annual count is a total count during which each individual is recorded. The count is therefore an enumeration of the baboon population including all of the baboon troops within the CoCT contract. Within each baboon troop, the troop structure is broken down into different age and sex classes. The following categories are used to determine the different age classes:

Adult male (AM):	Muscular nose ridges fully developed, canines fully descended, shoulder mantle present, testicles fully descended. Physical bulk and neck thickness increase (>8 years).
Adult female (AF):	Sexual skin swells/ deflates with menstrual cycle. Nipples obvious and elongate in mature females; may show dappled colour in older females. Has had at least one offspring (> 6 years).
Sub-adult male:	Larger than AF; canine/s project beyond the tooth row but not fully descended (often uneven length); testicles not fully descended, appear flat/slightly rounded from behind; the body is angular in shape and lacks bulk (5 - 8 years).
Sub-adult female:	First sexual cycle begins; small oestrous swelling may be present; small button-like nipples present; has not had offspring; smaller and sligher than AF (5 – 6 years).
Immatures:	Includes juveniles (1 - 5 years) and infants (0 – 1 years)
	<u>Juveniles</u> : distinguish large juveniles from sub-adults
	Large juvenile male: same size/smaller than AF; canines do not extend beyond the tooth row.
	Large juvenile female: nipples not obvious; smaller than AF.

Infants: includes 2 categories - Brown & Black

Brown: Hair grey/ brown; skin dark; eyebrows change colour to brown; clings to belly but also rides on back (6 – 12 months).

Black: Hair black (natal coat); skin, ears, nose, and scrotum (males) pink; clings to belly of female (0 – 6 months).

3 RESULTS

As of September 18, 2021, the total count for the baboon population on the Cape Peninsula (excluding those living within the Cape Point section of Table Mountain National Park) is 495. This total includes the Plateau Road (PR) troop (21 baboons).

The baboon population which borders on urban areas has shown a general increase since June 2016 from 404 baboons to 474 baboons presently (**Fig. 1**). This trend is evident in both the northern and southern subpopulations, though growth in the northern subpopulation is stronger (**Fig. 2**). While growth in the two subpopulations was relatively constant between June 2019 and June 2020, there was an overall increase during the current reporting period.

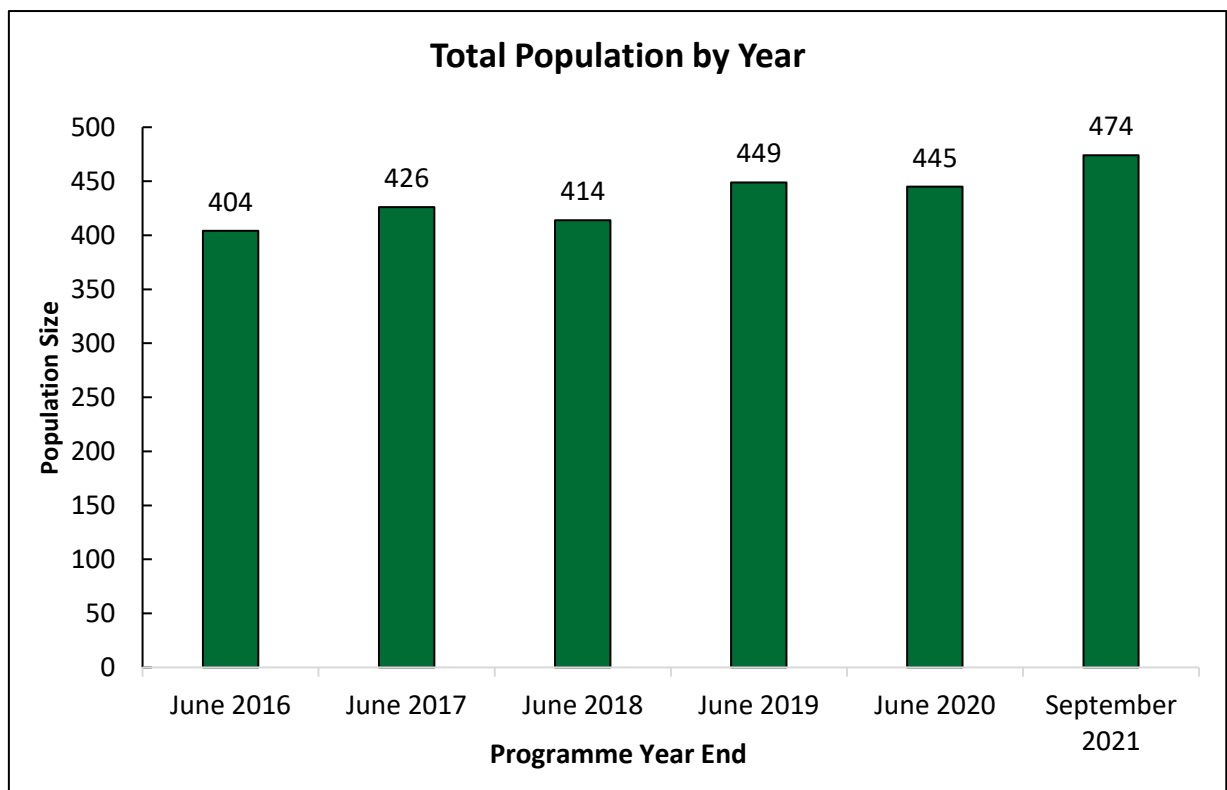


Figure 1. Total annual population counts for the baboon population on the Cape Peninsula, excluding the Plateau Road Troop as it does not border urban areas.

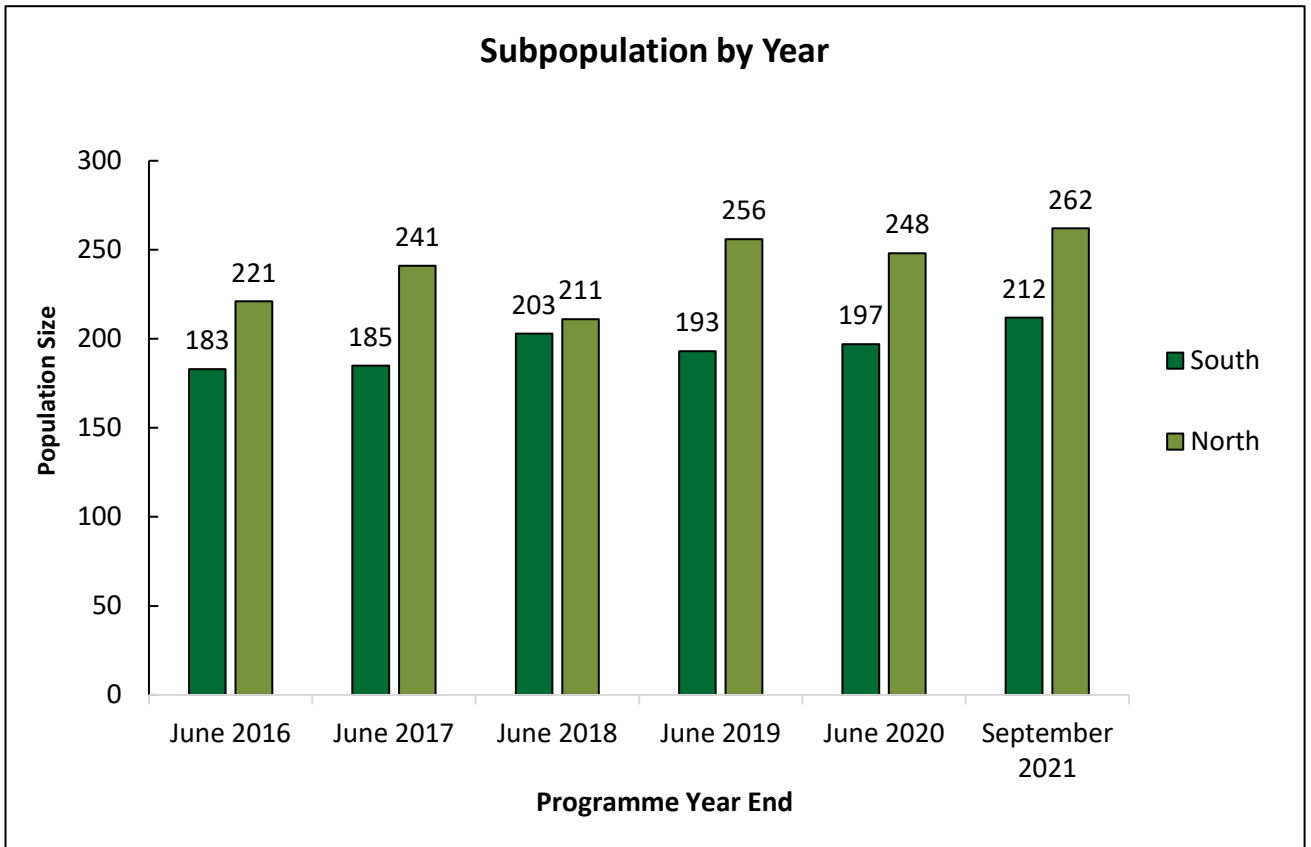


Figure 2. Total annual population counts for the baboon population by subpopulation, excluding the Plateau Road Troop.

Table 1. Age and sex class structure of the baboon troops in September 2021.

Troop	Adult Male	Adult Female	Sub-adult Male	Sub-adult Female	Immatures	Total
Da Gama	2	16	1	2	34	55
Waterfall	2	16	0	7	27	52
Smitswinkel	2	13	4	4	19	42
GOB	2	8	0	3	16	29
Slangkop	2	12	2	3	15	34
South Subtotal	10	65	7	19	111	212
Zwaanswyk	1	7	1	0	11	20
Tokai	10	24	9	8	59	110
Mountain 1	1	18	1	5	26	51
Mountain 2	1	9	2	0	12	24
Constantia 1	2	10	1	2	25	40
Constantia 2*	1	6	0	2	8	17
North Subtotal	16	74	14	17	141	262
TOTAL	26	139	21	36	252	474
<i>Plateau Road**</i>	<i>1</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>14</i>	<i>21</i>

*Following the suspected death of the alpha male, the Constantia 2 Troop individuals rejoined the Constantia 1 Troop in approximately September 2020. However, a new Constantia 2 Troop split formed shortly after. **Plateau Road Troop is included here but is classified differently as it does not border on urban areas.

The age and sex class structure of the of the individual troops remained relatively similar to last year’s structure (**Table 1**). This year however there has been an overall increase in the number of adult males in the population (26 vs. 21), an increase in the number of subadult females (36 vs. 20) and an increase in immatures (252 vs. 240).

Subadult males in the population have remained the same (21 in both years) and adult females decreased slightly (139 vs. 143). See the annual count report from 2019/2020 for further details:

<https://baboons.org.za/index.php/management/cape-peninsula/urban-baboon-programme-reports/send/20-2020/212-2020-annual-baboon-count-of-troops>

Table 2. Annual causes of known baboon mortality since June 2013

CAUSE OF MORTALITY	END JUNE TOTALS									July – August 2021*	Total Deaths by Cause	% Average Annual Deaths (total population)
	2013	2014	2015	2016	2017	2018	2019	2020	2021			
Management	17	10	8	4	11	8	4	5	1	1	69	1.9%
Human-Induced	5	3	23	13	5	8	17	11	14	4	103	2.6%
<i>Direct**</i>	5	3	4	8	2	7	8	10	11	4	62	1.5%
<i>Indirect***</i>	-	-	19	5	3	1	9	1	3	0	41	1.1%
Natural	19	21	22	8	27	28	18	30	18	1	192	5.1%
PLOHP****	-	-	-	-	-	7	-	-	-	-	7	0.2%
Unknown	5	9	5	8	7	13	6	6	3	0	62	1.7%
Total Deaths	46	43	58	33	50	64	45	52	36	6	433	
Total Population	368	383	379	404	426	414	449	445	474			

*The mortalities included in this report (July 2020 to August 2021) have been split in the table for consistent reporting. Mortalities between July 2021 and August 2021 have been excluded from the % average annual deaths figure. **Management:** baboons euthanised following the BTTG3 guidelines. **Human-induced: **Direct** – baboons killed by shooting, poisoning, dog attacks, motor vehicle collisions, etc. *****Indirect** – electrocutions, human-related fires. This category also includes baboons seriously injured by the above causes and subsequently euthanised. **Natural:** baboon-on-baboon altercations, infanticide, etc. This category also includes baboons seriously injured by above causes and subsequently euthanised. ******PLOHP:** Private landowner hunting permit. **Unknown:** occasionally a baboon carcass is found and the cause of death cannot be determined. This category includes baboons euthanised for seriously injuries which resulted from an unknown cause.

The highest average percent of annual mortalities were due to natural causes (5.1%), followed by human-induced causes (2.6%), management (1.9%) and unknown causes (1.7%) (**Table 2**).

Known mortalities for this reporting period were lower than the average since 2013 (~36 vs. 48). There were fewer than average mortalities related to management (1 vs. ~8), natural deaths (18 vs. ~21) and unknown causes (3 vs. ~7).

The number of human-induced deaths however was higher than average this year (14 vs. ~10). The difference in these mortalities can be accounted for during the period when the field teams did not have paintball markers to assist in keeping the baboons out of the dangerous urban area. During the approximate five-week absence of paintball markers, five baboons, that we are aware of, died of direct human-induced causes.

Individual troop sizes shown in Table 3 illustrate the changes in troop numbers between December 2012 and September 2021.

- In the southern subpopulation, troop size variation ranged from a 21.6% decrease for the GOB Troop (see details in **Table 3**) to an 85.7% increase in the Waterfall Troop, with a 21.1% increase in the subpopulation overall.
- In the northern subpopulation, troop size variation ranged from a 20% decrease in the Zwaanswyk Troop to a 127.3% increase in the Mountain Troop, with a 46.4% increase in the subpopulation overall.

As a whole, the Cape Peninsula baboon population (excluding the additional Plateau Road and Cape Point troops) has increased by 33.9% over the decade. As the population is closed due to urban sprawl, has limited undeveloped low-lying areas for foraging and has no natural predators, a contraception plan is strongly recommended to slow the growth of the baboon population. This would aid in ensuring continued success in keeping baboon troops out of the urban area with the goal of a sustainable Cape Peninsula baboon population.

Table 3. Population data and percent of change for all baboon troops by contract year between December 2012 and September 2021

SOUTHERN TROOPS	Dec. 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	Sept. 2021	No. Change	% Change
Da Gama	54	42	43	46	52	52	55	48	48	55	1	1.9%
Groot Olifantsbos	19	20	19	16	17	23	29	23	25	29	-8	-21.6%
Misty Cliffs*	18	17	16	9	11							
Slangkop	33	37	40	35	41	40	44	43	42	34	1	3.0%
Smitswinkel Bay	23	21	22	24	29	33	35	31	35	42	19	82.6%
Waterfall	28	28	29	31	33	37	40	48	47	52	24	85.7%
SUBTOTAL	175	165	169	161	183	185	203	193	197	212	37	21.1%
NORTHERN TROOPS	Dec. 2012	June 2013	June 2014	June 2015	June 2016	June 2017	June 2018	June 2019	June 2020	Sept. 2021	No. Change	% Change
Constantia 1	60	70	69	77	81	63	46	64	68	40	-3	-5.0%
Constantia 2**						22	10	8	7	17		
Mountain 1	33	41	47	49	47	57	60	73	63	51	42	127.3%
Mountain 2***										24		
Tokai	61	64	70	62	65	69	75	91	92	110	49	80.3%
Zwaanswyk	25	28	28	30	28	30	20	20	18	20	-5	-20.0%
SUBTOTAL	179	203	214	218	221	241	211	256	248	262	83	46.4%
TOTAL	354	368	383	379	404	426	414	449	445	474	120	33.9%

*The Misty Cliff's Splinter Troop merged with the GOB Troop in January 2017. Four individuals from GOB later splintered again and were eventually relocated to a sanctuary in Feb/March 2020. **The Constantia Troop split into two troops in late 2015 and were counted separately from 2017 onwards. ***The Mountain Troop split into two troops in early 2021.

4 APPENDIX

EXPERIENCE OF CONTRACTED COUNTER

Kim Gordon – B.A. (Psych. & Comm. Sci.), PGD Nat. Con. Kim has four and a half years of field experience with wild primates. She worked as a research assistant and project coordinator at a vervet monkey field site in Kwa-Zulu Natal for one year and three months over three sessions between 2012 and 2015.

In addition, she carried out a university research project on Chacma baboons in Hermanus for three months in 2016. She was the field site manager and main researcher at a Zambian study site studying Kinda baboons from 2017-2018. She also worked as part of the CCT baboon management team at HWS for two years (2018-2020).

This is the second year that Kim is lead counter for the annual baboon population survey on the Cape Peninsula.

Table 4. Dates of troop counts undertaken during August and September 2021.

SOUTHERN TROOPS	Count 1	Count 2	Count 3
Da Gama	09/08/2021	11/09/2021	13/09/2021
GOB	21/08/2021	28/08/2021	13/09/2021
Plateau Road	01/08/2021	08/08/2021	13/08/2021
Slangkop	09/08/2021	28/08/2021	04/09/2021
Smitswinkel Bay	08/08/2021	21/08/2021	28/08/2021
Waterfall	04/09/2021	05/09/2021	10/09/2021
NORTHERN TROOPS			
Constantia 1	12/09/2021	12/09/2021	18/09/2021
Constantia 2	29/08/2021	29/08/2021	10/09/2021
Mountain 1	10/09/2021	10/09/2021	18/09/2021
Mountain 2	28/08/2021	10/09/2021	10/09/2021
Tokai	01/08/2021	29/08/2021	14/09/2021
Zwaanswyk	01/08/2021	29/08/2021	06/09/2021