NamibRand Nature Reserve

# Annual Game Count

# 24 May 2025

*Burchell's zebra sighted on Route 2 (Jessica Steyn)*

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Edited by: Nils Odendaal – Chief Executive Officer

# Contents

# 1. Introduction

This report analyses the data collected and summarizes the results from the annual game count held on the NamibRand Nature Reserve and the neighbouring farms Vreemdelingspoort, Draaihoek, Toskaan and Excelsior on 24 May 2025.

In the days leading up to the annual game count, all participants were briefed on procedures. Warden Jessica Steyn visited several concessionaires and engaged with participants directly to explain the count methodology, as well as to allocate teams for the various game count routes.

NamibRand Nature Reserve has a long-term average annual rainfall of 70 mm. This year, the Reserve received an average of 56.7 mm, significantly higher than the previous year's average of just 4.3 mm. This notable increase in rainfall led to a marked improvement in vegetation, which in turn attracted wildlife back onto the Reserve. In contrast, many animals had migrated elsewhere in search of better grazing conditions in 2024.

This year, the number of animals recorded per route ranged from 19 to 348 individuals, including bird sightings, contributing to a total of 1,890 animals observed. There was an actual total of 668 oryx and 684 springbok. This marks a notable increase from May 2024, when 557 oryx and 119 springbok were counted. Burchell's zebra numbers also rose from 273 in May 2024 to 369 in May 2025.

In 2024, most animals moved southward in response to better rainfall in that area. This year, distribution was more balanced across the Reserve, though the northern areas still had higher concentrations of wildlife. Oryx were predominantly found in the dune areas, while springbok and Burchell's zebra were found on the open plains.

It is important to note that this method is best suited for monitoring large plains species such as oryx, springbok and Burchell's zebra. It is less effective for detecting smaller species like steenbok or animals with more specific habitat preferences, such as kudu or mountain zebra. Carnivores are generally monitored using alternative methods, including camera traps and the mark-and-recapture technique.

Population figures derived from the count are estimates rather than definitive totals. Wildlife management at NamibRand is guided not by population estimates alone, but by trends in animal numbers and distribution patterns. This specifically means that we focus on whether populations are increasing or decreasing, and where animals are concentrated across the landscape. These insights are drawn directly from observed sightings and not from estimated totals. The total difference in the overall population estimate has increased between 2024 and 2025 by 78%.

## 2. Summary

Data collected during the May 2025 game count was entered into our database and analysed.

The table below summarizes all animals counted, including animals seen at a distance farther than 500 m. This gives an idea of what was actually seen on the count.

*Table 1. Total number of animals seen*

| Total number of animals per species | | | | |
|---|---|---|---|---|
| **Mammals** | | | **Birds** | |
| **Oryx** | 669 | | **Ostrich** | 58 |
| **Springbok** | 685 | | **Ludwig's bustard** | 6 |
| **Kudu** | 1 | | **Rüppell's korhaan** | 20 |
| **Burchell's zebra** | 369 | | **Greater kestrel** | 9 |
| **Hartebeest** | 5 | | **Rock kestrel** | 2 |
| **Giraffe** | 8 | | **Pale chanting goshawk** | 4 |
| **Mountain zebra** | 8 | | **Black-chested snake eagle** | 3 |
| **Warthog** | 1 | | **Black crow** | 8 |
| **Ground squirrel** | 6 | | **Lappet-faced vulture** | 8 |
| **Mongoose** | 4 | | **Burchell's courser** | 1 |
| **Baboon** | 6 | | | |
| | | | | |
| **Carnivores** | | | | |
| **Bat-eared fox** | 8 | | | |
| **Jackal** | 1 | | | |

The table below shows the total number of animals counted per route.

*Table 2. Total number of animals counted on each route*

| Total animals counted per route - 2025 | |
|---|---|
| **1** | 99 |
| **2** | 108 |
| **3** | 227 |
| **4** | 242 |
| **5** | 73 |
| **6** | 348 |
| **7** | 130 |
| **8** | 324 |
| **9** | 19 |
| **10** | 320 |

The table below gives the total number of animals seen per route under 500 m. This is the amount used to calculate population estimates (See Count Methodology on page 8).

*Table 3. Total number of animals counted on each route, under a distance of 500m*

| Total animals counted per route (less than 500 m) - 2025 | |
|---|---|
| **1** | 97 |
| **2** | 104 |
| **3** | 227 |
| **4** | 242 |
| **5** | 73 |
| **6** | 348 |
| **7** | 130 |
| **8** | 324 |
| **9** | 19 |
| **10** | 320 |

The results of the 2025 game count are as follows:

## Objective 1: Population and Biomass Estimates:

### Population estimates:

*Table 4. Total number of animals counted and the **estimated** population (please note that a zone represents the area of each game count route)*

| Total estimated numbers of game (Zone 1-10) – May 2025 | | |
|---|---|---|
| **Species** | **No. Counted** | **Estimate 2025** |
| **Oryx** | 668 | 7346 |
| **Springbok** | 684 | 9760 |
| **Kudu** | 1 | 3 |
| **Steenbok** | 0 | 0 |
| **Burchell's zebra** | 369 | 1616 |
| **Hartebeest** | 5 | 32 |
| **Total** | **1727** | **18758** |
| **Giraffe*** | 8 | 16 |
| **** Total numbers known*** | | |

## Biomass estimates:

*Table 5. Wildlife biomass estimates*

| Total wildlife numbers and wildlife biomass on NamibRand for May 2025 (Zone 1-10) – 224 209 ha) | | | | |
|---|---|---|---|---|
| **Species** | **Mean mass (kg)** | **Estimated wildlife numbers from May 2025 game count** | **Species biomass (kg)** | **Biomass per ha (kg)** |
| **Oryx** | 220 | 7346 | 1616226 | 8.65 |
| **Springbok** | 38 | 9760 | 370887 | 1.99 |
| **Burchell's zebra** | 300 | 1616 | 484752 | 2.60 |
| **Total** | **558** | **18723** | **10447165** | **13.24** |

## Objective 2: Wildlife Distribution and Density

*Table 6. Total number of animals counted per 100 km on each route and the respective density percentage per zone*

| Total number of animals counted per 100 km per route - 2025 | | | | |
|---|---|---|---|---|
| **Route** | **Route length (km)** | **Total number of animals** | **No of animals counted/100 km** | **% of total animals counted/per 100 km (zone)** |
| **1** | 54 | 97 | 180 | 5% |
| **2** | 53 | 104 | 196 | 5% |
| **3** | 55 | 227 | 413 | 11% |
| **4** | 47 | 242 | 515 | 13% |
| **5** | 67 | 73 | 109 | 3% |
| **6** | 35 | 348 | 994 | 26% |
| **7** | 58 | 130 | 224 | 6% |
| **8** | 51 | 324 | 635 | 17% |
| **9** | 53 | 19 | 36 | 1% |
| **10** | 59 | 320 | 542 | 14% |
| **Total** | **532** | **1884** | **3844** | |

## Objective 3: Population change

Table 7. *The overall population estimate for 2025 increased by 78%*

| Total estimated numbers of game (Zone 1-10; May 2023 - May 2025) | | | | | |
|---|---|---|---|---|---|
| **Species** | **May-24** | | **May-25** | | **Percentage change** |
| | **No. Counted** | **Total estimated number** | **No. Counted** | **Total estimated number** | |
| **Oryx** | 557 | 4532 | 668 | 7346 | 28 |
| **Springbok** | 119 | 1654 | 684 | 9760 | 81 |
| **Kudu** | 0 | 0 | 1 | 3 | 0 |
| **Steenbok** | 0 | 0 | 0 | 0 | 0 |
| **Burchell's zebra** | 273 | 1263 | 369 | 1616 | 4 |
| **Hartebeest*** | 5 | 5 | 5 | 5 | 0 |
| **Total** | **949** | **10954** | **1727** | **18730** | 78 |
| **Giraffe*** | 16 | 16 | 16 | 16 | 0 |
| **** Total numbers known*** | | | | | |

**Note that the trends or changes in the population are calculated based on the actual number of animals seen. So, while the overall population estimate is just an estimate, the percentage change of the population cannot be disputed as it is based on the actual number of animals seen.**

# 3. Count Methodology

The primary objectives of the game count are to determine the density and distribution of game and to estimate the total number of animals in each area. For this reason, the survey methodology used combines the *road strip count* and *game distribution map* techniques. In layman's terms, these can be explained as follows:

## Road Strip Count

Road strip count is one of the most effective methods when counting in a relatively open and homogenous landscape. For the purposes of the count, the total area is divided into game count zones, each with its own standardized route, as shown in Figure 1 on page 10.

The game count zones are divided into mostly homogenous habitats, where possible, because the visibility of animals differs in each habitat. Each route forms a strip transect through its zone within which the animals are counted. A transect width of 1 km is used (500 m on either side of the road). During the count, all animals on either side of the road are recorded, and the distances (at right angles) from the vehicle/road to the animal or group of animals is recorded. These distance records are important as they shape the effective strip width (ESW) values, which are automatically adjusted each year when data is entered into the database.

The length of the transect (distance travelled) and its relation to the area represented in the zone is used to calculate the area correction factors for each zone, i.e. area represented/route length = area correction factor. The respective effective strip width (ESW) values and transect width then determines the relevant species correction factors, i.e. transect width (1000 m) divided by (ESW x 2) = species correction factor.

The area correction factor adjusts the number of animals seen, based on the percentage of the area sampled and assumes all animals within 500 m of the transect line are detected. So basically, the area correction factor multiplies the number seen based on the percentage of the area sampled and assumes all animals within 500m of the transect line are detected.

The species correction factor then adjusts this estimate based on the detection curve (ESW) for the species. In other words, the species correction factor compensates for the likelihood that the farther an animal is away from the car, the less likely it will be seen.

The correction factors and route distances used in the 2025 game count methodology, along with the area represented per zone can be seen in Table 5 below.

*Table 5. Total count areas per zone (ha), route distances, area correction factors, effective strip widths and species correction factors for each species within each zone*

| Count areas, area correction factors, effective strip widths and species correction factor for 2025 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Route no.** | **Total area per zone (ha)** | **Area represented per route** | **Route distance (km)** | **Area correction factor** | **Species** | **Effective strip width (m)** | **Species correction factor** |
| 1 | 18072 | 12513 | 54 | 2.32 | Oryx | 212 | 2.36 |
| | | | | | Springbok | 228 | 2.19 |
| 2 | 18310 | 13779 | 53 | 2.60 | Oryx | 181 | 2.76 |
| | | | | | Springbok | 246 | 2.03 |
| | | | | | Burchell's zebra | 233 | 1.20 |
| 3 | 27039 | 26424 | 55 | 4.80 | Oryx | 208 | 2.40 |
| | | | | | Burchell's zebra | 500 | 1.20 |
| 4 | 21038 | 20996 | 47 | 4.47 | Oryx | 353 | 1.42 |
| | | | | | Springbok | 400 | 1.25 |
| | | | | | Burchell's zebra | 500 | 1.20 |
| 5 | 18038 | 17491 | 67 | 2.61 | Oryx | 325 | 1.54 |
| | | | | | Springbok | 250 | 2.00 |
| | | | | | Burchell's zebra | 288 | 1.20 |
| 6 | 19352 | 11589 | 35 | 3.31 | Oryx | 63 | 7.95 |
| | | | | | Springbok | 63 | 7.94 |
| | | | | | Burchell's zebra | 17 | 1.20 |
| 7 | 28343 | 18833 | 58 | 3.25 | Oryx | 204 | 2.45 |
| | | | | | Springbok | 80 | 6.25 |
| | | | | | Burchell's zebra | 45 | 1.20 |
| 8 | 22452 | 19291 | 51 | 3.78 | Oryx | 350 | 1.43 |
| | | | | | Springbok | 300 | 1.67 |
| | | | | | Burchell's zebra | 370 | 1.20 |
| 9 | 21710 | 21125 | 53 | 3.99 | Oryx | 80 | 6.25 |
| 10 | 29855 | 24721 | 59 | 4.19 | Oryx | 94 | 5.32 |
| | | | | | Springbok | 168 | 2.97 |
| | | | | | Burchell's zebra | 75 | 1.20 |
| **Total** | **224209** | **186762** | **532** | | | | |

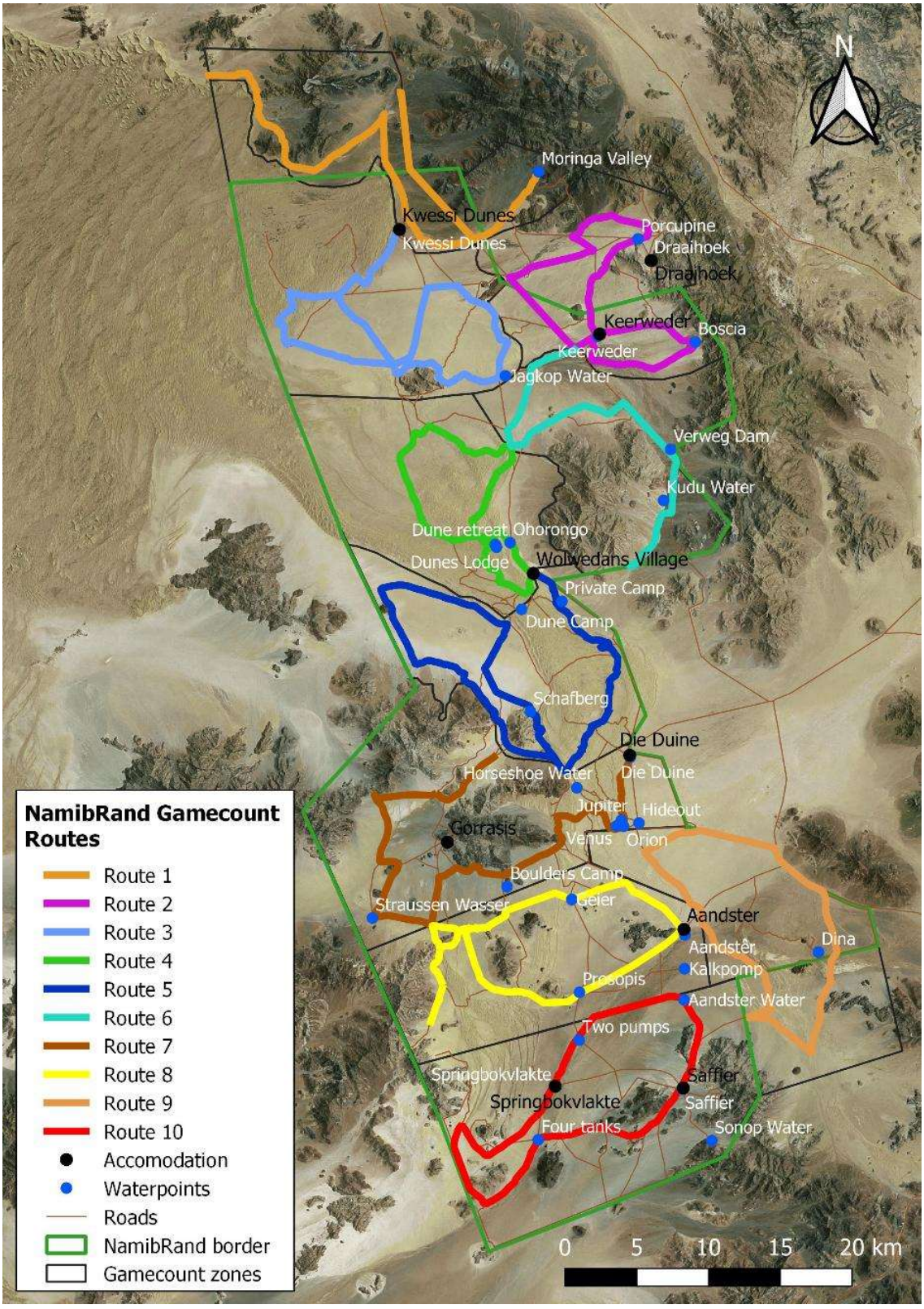


*Figure 1. Game count area ten routes used*

## Game Distribution Maps

To determine and show the distribution and density of game in the various zones of the count area, monad grids are used to map the locality of the animals counted. Each route is supplied with a map containing the monad, with reference numbers, of the zone in which that route is set as seen in the image below.

During the count the monad grid number in which the animal counted is seen is recorded. This grid number is then used to map the distribution of each recorded animal.

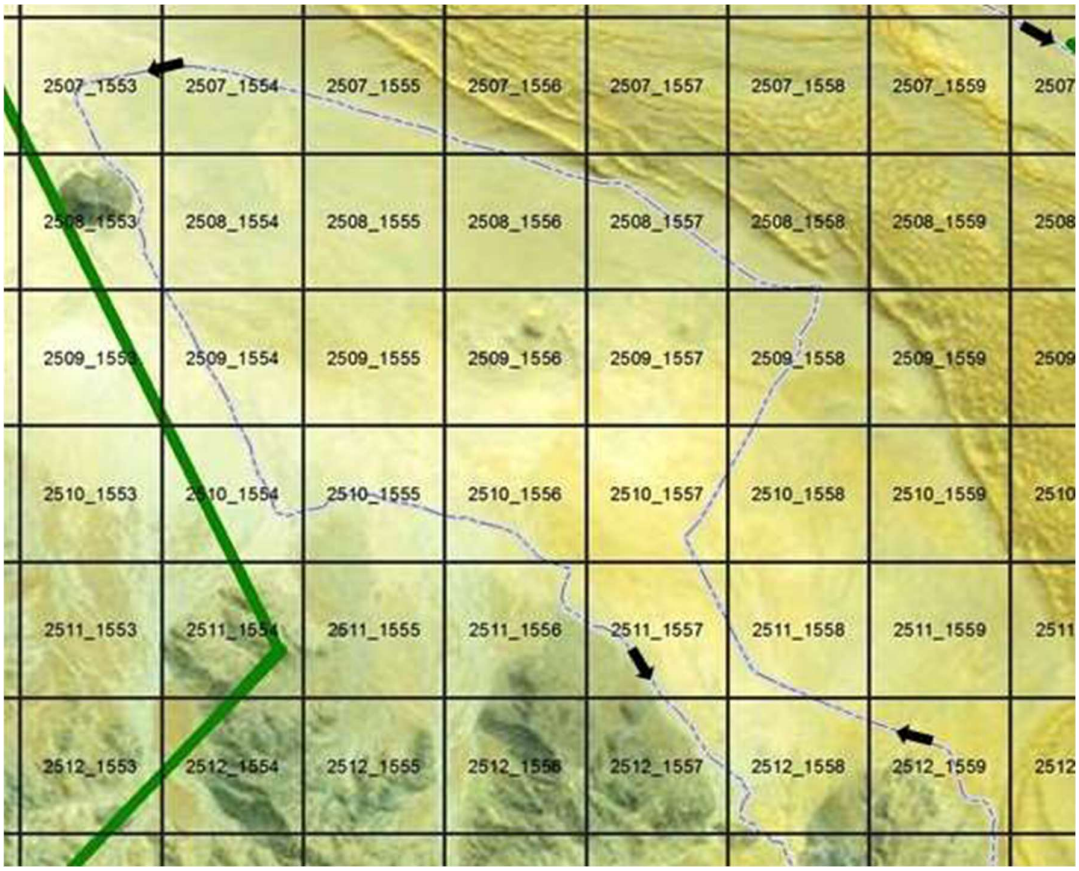


*Figure 2. Example of the monad map with grid numbers*

# 4. Objectives and Results – May 2025:

## Objective 1: Population and Biomass Estimates

### Population estimates:

The population estimate for individual species in the total count area is derived from the actual number of animals seen during the count and the relevant species and area correction factors that are applied to that number. The actual number of animals seen is multiplied by the relevant area and species correction factors to calculate the population estimates.

S: Actual number of animals seen*
A: Area correction factor
B: Species correction factor
*known numbers

**Formula for calculating population estimates***
**(S x A) x B=P**

Please note that where the total numbers of species with small populations are known (e.g. for introduced species such as giraffe), the known totals are used for the final population estimates in reference to the above calculated estimates.

For example, the probability of seeing large animals such as zebra over a great distance is much higher than the probability of seeing a smaller animal such as a springbok. Therefore, the correction factor used for zebra would be lower than the correction factor for springbok.

The total estimates per species and per zone are then combined for all zones to determine the total population estimate for each plains game species in the total count area (see Table 1 below).

*Table 1. Total number of animals seen and the estimated numbers*

| **Total estimated numbers of game (Zone 1-10) – May 2025** | | |
|---|---|---|
| **Species** | **No. Counted** | **Estimate 2025** |
| **Oryx** | 668 | 7346 |
| **Springbok** | 684 | 9760 |
| **Kudu** | 1 | 3 |
| **Steenbok** | 0 | 0 |
| **Burchell's zebra** | 369 | 1616 |
| **Hartebeest*** | 5 | 32 |
| Total | **1727** | **18758** |
| **Giraffe*** | 8 | 16 |
| **** Total numbers known*** | | |

## Biomass estimates

Population estimates are multiplied by the mean weight of the species and divided by the total count area (ha) to calculate the estimated biomass per species.

E: Estimated wildlife numbers
M: Mean mass per species
H: Total number of hectares
B: Biomass estimate

**Formula for calculating biomass estimates**
**(E x M) ÷ H = B**

Biomass estimates are important in terms of managing habitat conditions and inter-species competition. Please note that agricultural Livestock Units (LSU) are not used for determining the biomass of wildlife species, due to differences between domestic and wild animals. These types of animals are different in aspects such as grazing/browsing patterns and agricultural stocking. LSU are also in a fenced system opposed to the open, unfenced system within the Reserve.

Table 6.1 and Figure 3 show the biomass estimates for this year, while tables 6.2 and 6.3 below show the comparison in biomass estimates for this year and previous years.

*Table 6.1 Wildlife biomass estimates*

| **Total wildlife numbers and wildlife biomass on NamibRand for May 2025 (Zone 1-10) – 224 209 ha** | | | | |
|---|---|---|---|---|
| **Species** | **Mean mass (kg)** | **Estimated wildlife numbers from May 2025 game count** | **Species biomass (kg)** | **Biomass per ha (kg)** |
| **Oryx** | 220 | 7346 | 1616226 | 8.65 |
| **Springbok** | 38 | 9760 | 370887 | 1.99 |
| **Burchell's zebra** | 300 | 1616 | 484752 | 2.60 |
| **Total** | **558** | **18723** | **10447165** | **13.24** |

Figure 3 illustrates the biomass composition of the different species across the total count area for the 2025.

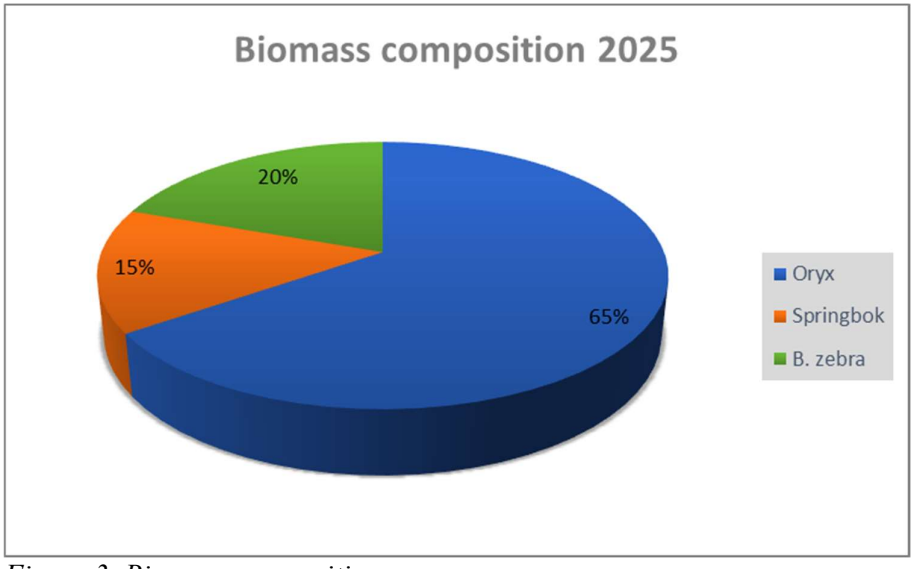


*Figure 3. Biomass composition*

*Table 6.2 Wildlife biomass (2023) percentage change compared to 2025*

| Wildlife biomass on NamibRand for May 24 and May 2025 (Zone 1-10) – 224 209 ha | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Wildlife species** | **Mean mass (kg)** | **May-24** | | | **May-25** | | | |
| | | **Estimated wildlife numbers from May 2023 game count** | **Species Biomass (kg)** | **Biomass per ha (kg) TOTAL** | **Estimated wildlife numbers from May 2025 game count** | **Species Biomass (kg)** | **Biomass per ha (kg) TOTAL** | **Biomass percentage change** |
| **Oryx** | 220 | 4532 | 996970 | 5.34 | 7346 | 1616226 | 8.65 | **62.11%** |
| **Springbok** | 38 | 1654 | 62858 | 0.34 | 9760 | 370887 | 1.99 | *490.04%* |
| **Burchell's zebra** | 300 | 1263 | 378995 | 2.03 | 1616 | 484752 | 2.60 | *27.90%* |
| **Total** | | **7449** | **4156631** | **7.70** | **18723** | **2471866** | **13.24** | *71.80%* |

*Table 6.3 Wildlife biomass estimates from 2023-2025*

| Total wildlife biomass estimates (kg/ha) on NamibRand May 2023 to May 2025 | | | | | |
|---|---|---|---|---|---|
| **Wildlife species** | **May-23** | **May-24** | **% change from May-23** | **May-25** | **% change from May 24** |
| **Oryx** | 16.60 | 5.65 | *-65.94%* | 8.65 | *53.09%* |
| **Springbok** | 0.87 | 0.35 | *-59.64%* | 1.99 | *463.82%* |
| **Burchell's zebra** | 4.77 | 7.11 | *49.11%* | 2.60 | *-63.48%* |
| **Total** | **22.24** | **13.11** | ***-41.04%*** | **13.24** | ***0.95%*** |

## Objective 2: Wildlife Density and Distribution

To calculate the population density, the actual number of animals per species counted in each zone is divided by the respective route length and then multiplied by 100 to get the total number of animals seen per 100 km.

S: Actual number of animals seen
R: Length of route
K: Wildlife density (animals seen per 100 km driven)

Formula for calculating wildlife density
$(S \div R) \times 100 = K$

For this report, wildlife distribution is based on the number of animals seen in each monad. During the game count, each sighting is marked in the corresponding monad. This data is then used to map the distribution of the animals (i.e., where animals were seen).

Please note that all animals counted (**actual numbers**) were used in the calculation (mapping) for the total wildlife distribution. The maps below show the total wildlife species distribution and density distribution. These densities were calculated using the formula prescribed above.

Please note that the data is indicated on a gradient from light (low values) to dark (high values).

The rain values were added to the maps to indicate where and how much rain was recorded; the bigger the circle, the more rain that occurred there.

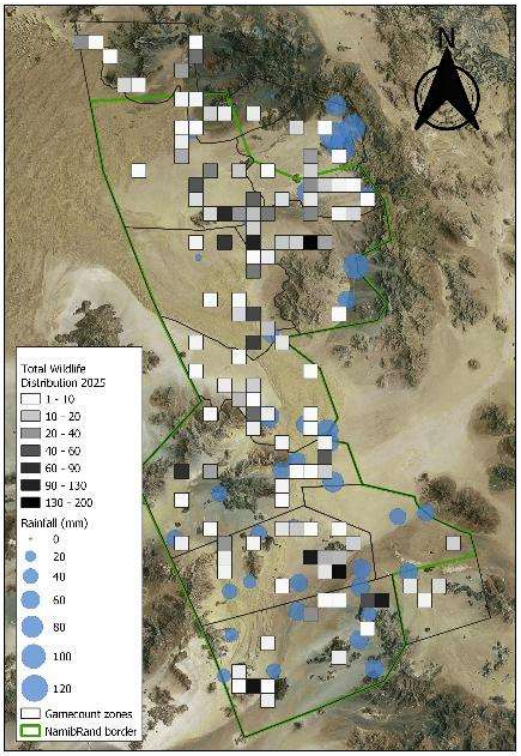


*Figure 4.1 Total wildlife distribution*

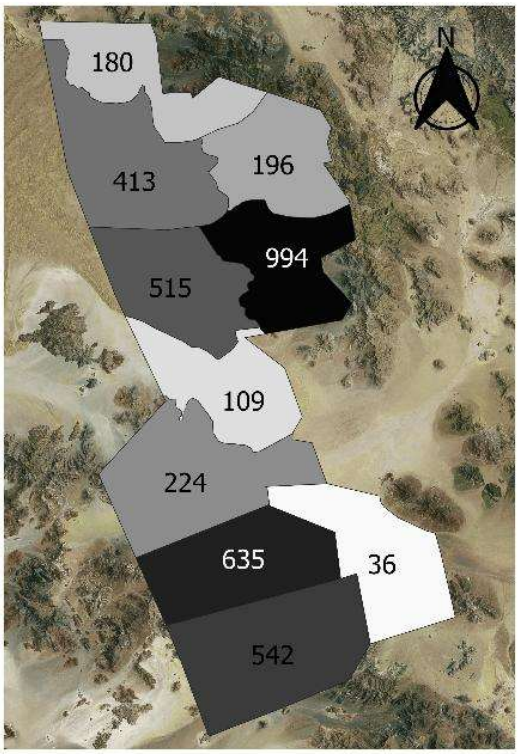


*Figure 4.2 Total wildlife density*

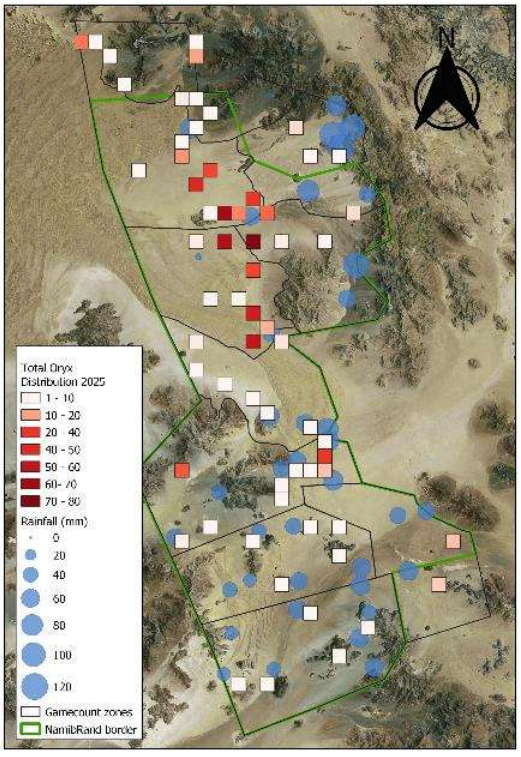


*Figure 4.3 Distribution of oryx*

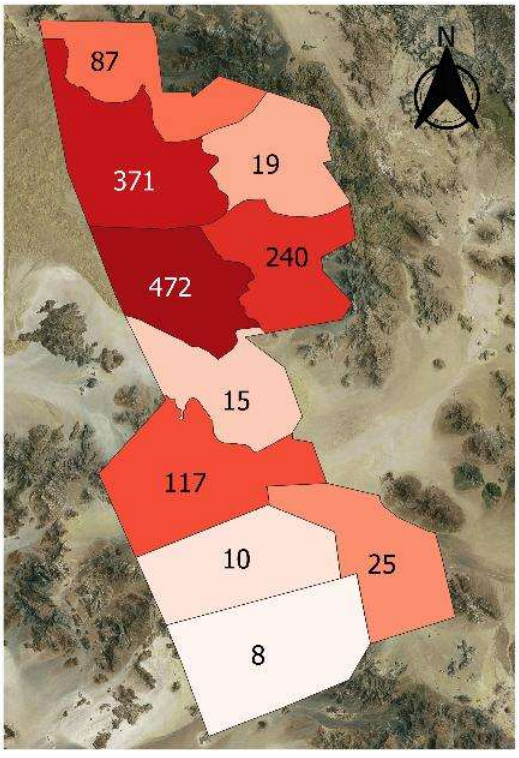


*Figure 4.4 Density of oryx*

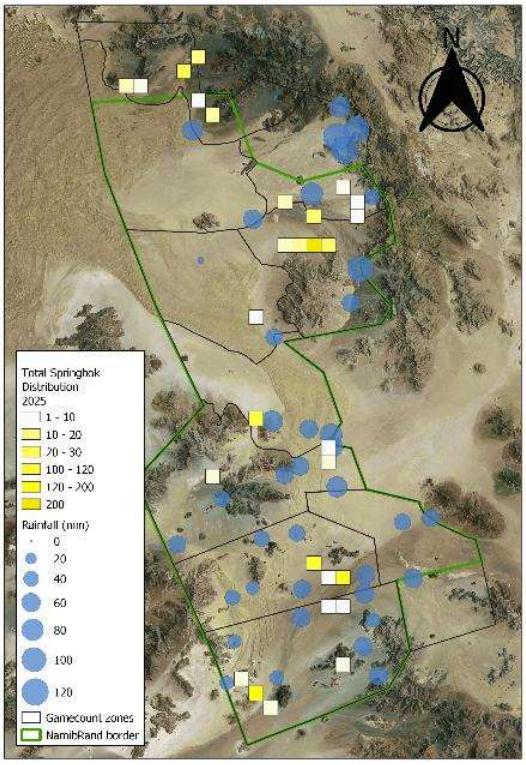


*Figure 4.5 Distribution of springbok*

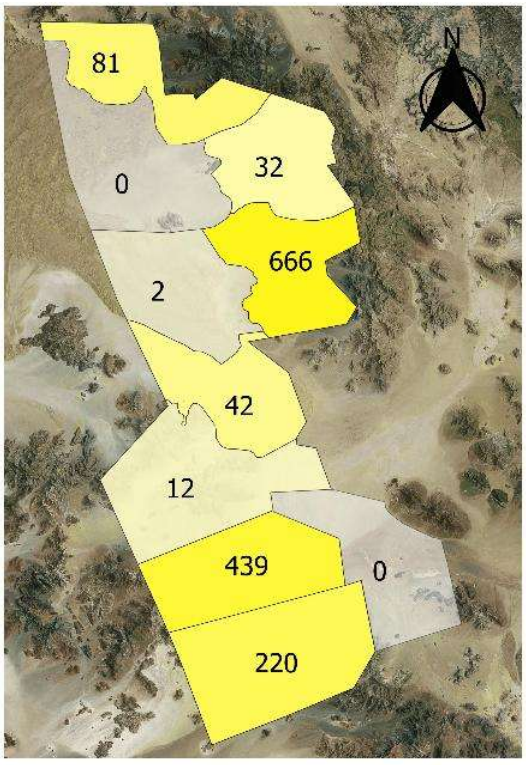


*Figure 4.6 Density of springbok*

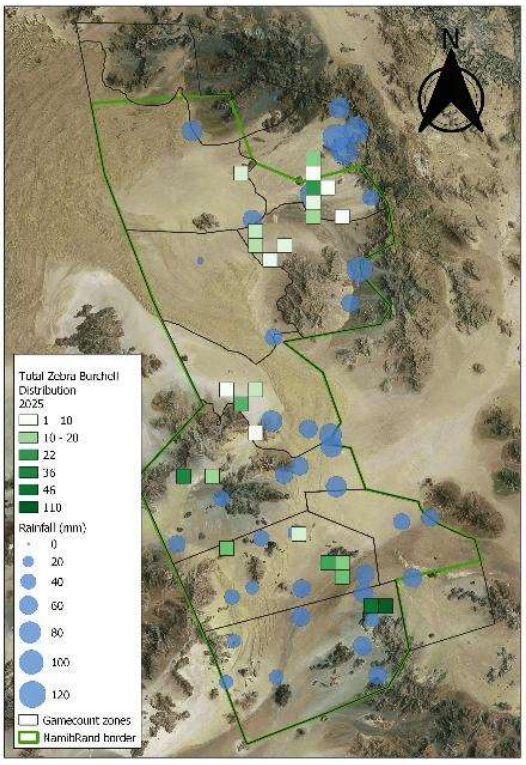


*Figure 4.7 Distribution of Burchell's zebra*

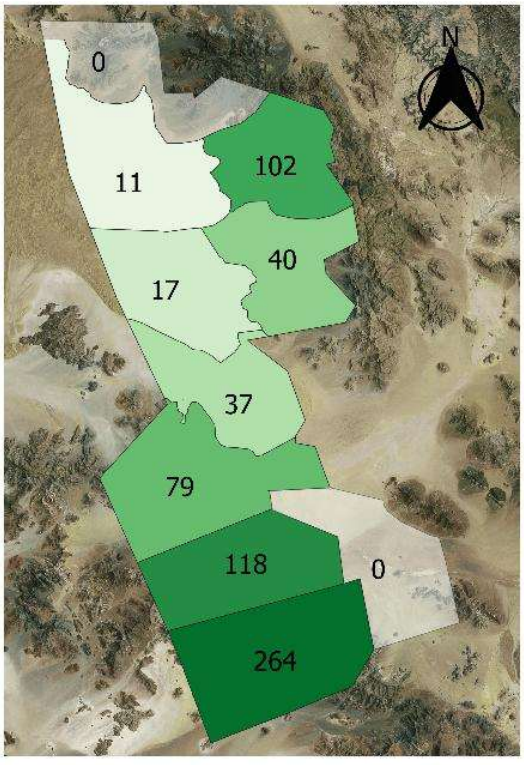


*Figure 4.8 Density of Burchell's zebra*

The population densities (animals per 100 km driven) and actual number seen for oryx, springbok and Burchell's zebra per zone are shown in tables 7.1-7.3 below.

*Table 7.1 Oryx*

| Oryx | | | |
|---|---|---|---|
| **Route** | **Route length** | **Actual number seen** | **Density** |
| **1** | 54 | 47 | 87.04 |
| **2** | 53 | 10 | 18.87 |
| **3** | 55 | 204 | 370.91 |
| **4** | 47 | 222 | 472.34 |
| **5** | 67 | 10 | 14.93 |
| **6** | 35 | 84 | 240.00 |
| **7** | 58 | 68 | 117.24 |
| **8** | 51 | 5 | 9.80 |
| **9** | 53 | 13 | 24.53 |
| **10** | 59 | 5 | 8.47 |
| **Total** | **532** | **668** | **125.56** |

*Table 7.2 Springbok*

| Springbok | | | |
|---|---|---|---|
| **Route** | **Route length** | **Actual number seen** | **Density** |
| 1 | 54 | 44 | 81.48 |
| 2 | 53 | 17 | 32.08 |
| 3 | 55 | 0 | 0.00 |
| 4 | 47 | 1 | 2.13 |
| 5 | 67 | 28 | 41.79 |
| 6 | 35 | 233 | 665.71 |
| 7 | 58 | 7 | 12.07 |
| 8 | 51 | 224 | 439.22 |
| 9 | 53 | 0 | 0.00 |
| 10 | 59 | 130 | 220.34 |
| **Total** | **532** | **684** | **128.57** |

*Table 7.3 Burchell's zebra*

| Burchell's zebra | | | |
|---|---|---|---|
| **Route** | **Route length** | **Actual number seen** | **Density** |
| **1** | 54 | 0 | 0.00 |
| **2** | 53 | 54 | 101.89 |
| **3** | 55 | 6 | 10.91 |
| **4** | 47 | 8 | 17.02 |
| **5** | 67 | 25 | 37.31 |
| **6** | 35 | 14 | 40.00 |
| **7** | 58 | 46 | 79.31 |
| **8** | 51 | 60 | 117.65 |
| **9** | 53 | 0 | 0.00 |
| **10** | 59 | 156 | 264.41 |
| **Total** | **532** | **369** | **69.36** |

Table 8 below shows the total wildlife density for all game species combined in each count zone and Figure 5 shows the percentage distribution in each zone.

*Table 8. Total number of animals counted per 100 km for each route*

| Total number of animals counted per 100 km per route | | | |
|---|---|---|---|
| **Route** | **Route length (km)** | **No of animals counted/100 km** | **% of total animals counted /100 km** |
| 1 | 54 | 97 | 5% |
| 2 | 53 | 104 | 6% |
| 3 | 55 | 227 | 12% |
| 4 | 47 | 242 | 13% |

| | | | |
|---|---|---|---|
| 5 | 67 | 73 | 4% |
| 6 | 35 | 348 | 18% |
| 7 | 58 | 130 | 7% |
| 8 | 51 | 324 | 17% |
| 9 | 53 | 19 | 1% |
| 10 | 59 | 320 | 17% |
| Total | **532** | **1884** | |

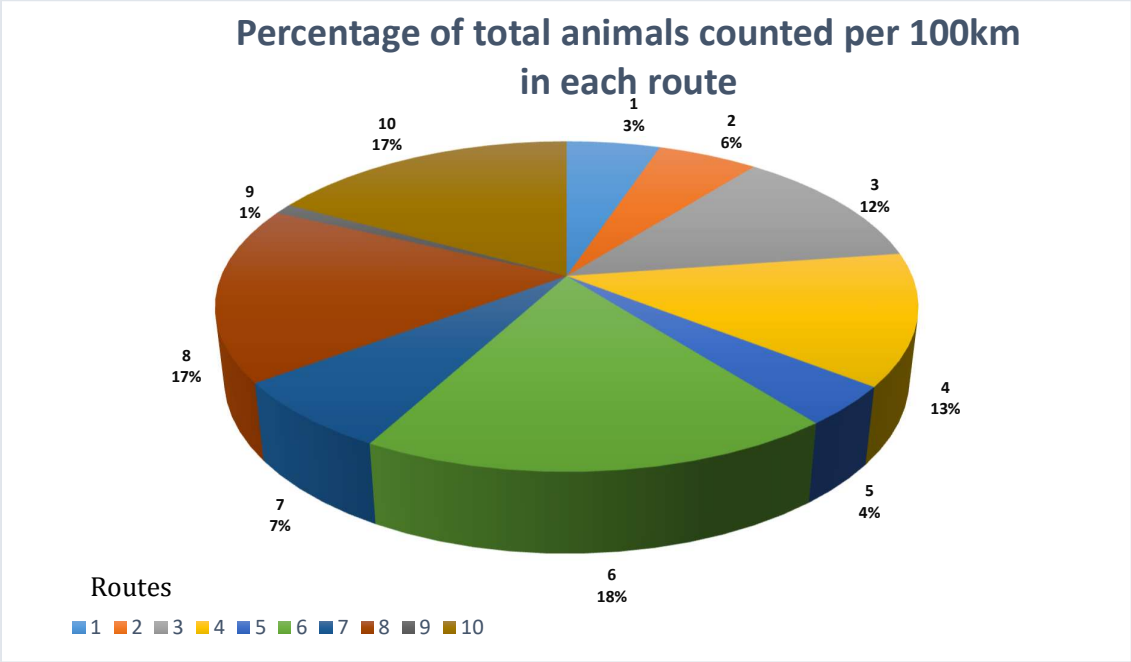


*Figure 5. Population density percentages throughout the total count area*

The total wildlife numbers for all species combined per count zone in 2025, compared from 2020 to 2025, are shown in Table 9.

*Table 9. Total number of animals counted per 100 km for each route compared from 2020 to 2025*

| Route | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|
| **1** | 15 | 275 | 513 | 234 | 32 | 97 |
| **2** | 142 | 212 | 240 | 445 | 78 | 104 |
| **3** | 354 | 130 | 204 | 329 | 82 | 227 |
| **4** | 8 | 533 | 273 | 661 | 207 | 242 |
| **5** | 35 | 244 | 196 | 282 | 53 | 73 |
| **6** | 182 | 83 | 356 | 122 | 79 | 348 |
| **7** | 320 | 360 | 120 | 191 | 151 | 130 |
| **8** | 75 | 340 | 39 | 114 | 252 | 324 |
| **9** | 269 | 64 | 155 | 62 | 75 | 19 |
| **10** | 25 | 129 | 248 | 155 | 166 | 320 |
| **Total** | **1425** | **2370** | **2344** | **2595** | **1175** | **1884** |
| **Average** | **142.5** | **237** | **234.4** | **260** | **118** | **188** |

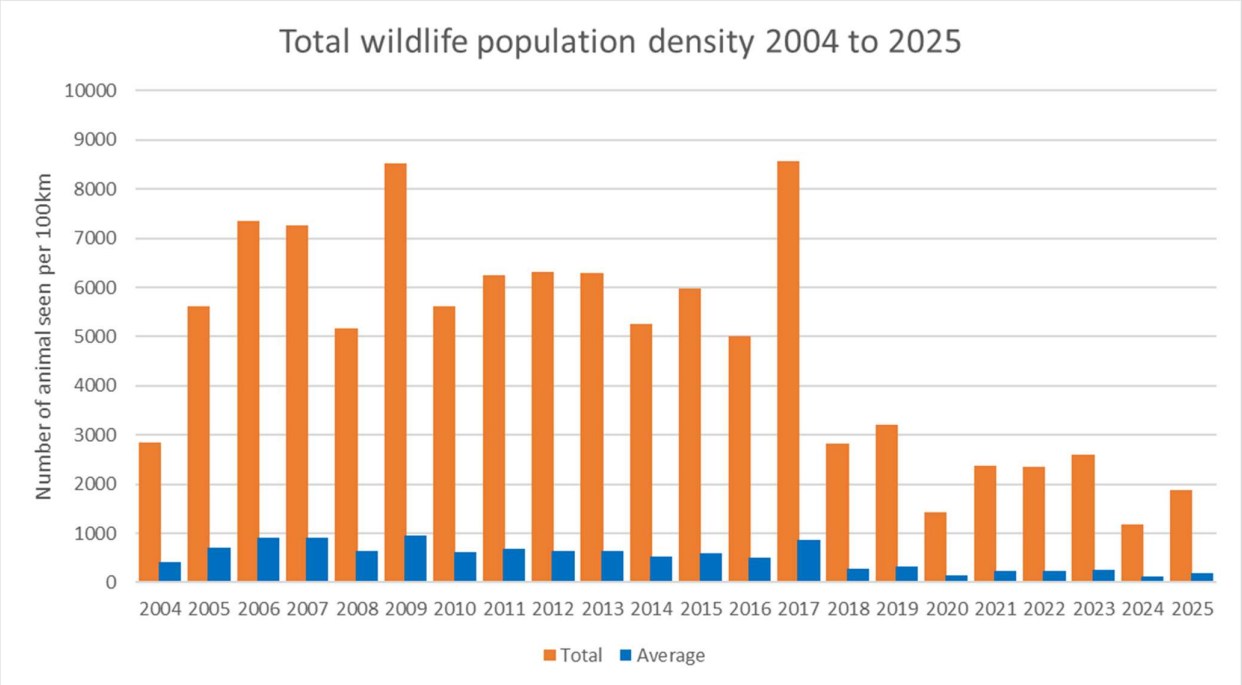


*Figure 6.1 Total wildlife population changes from 2004-2025*

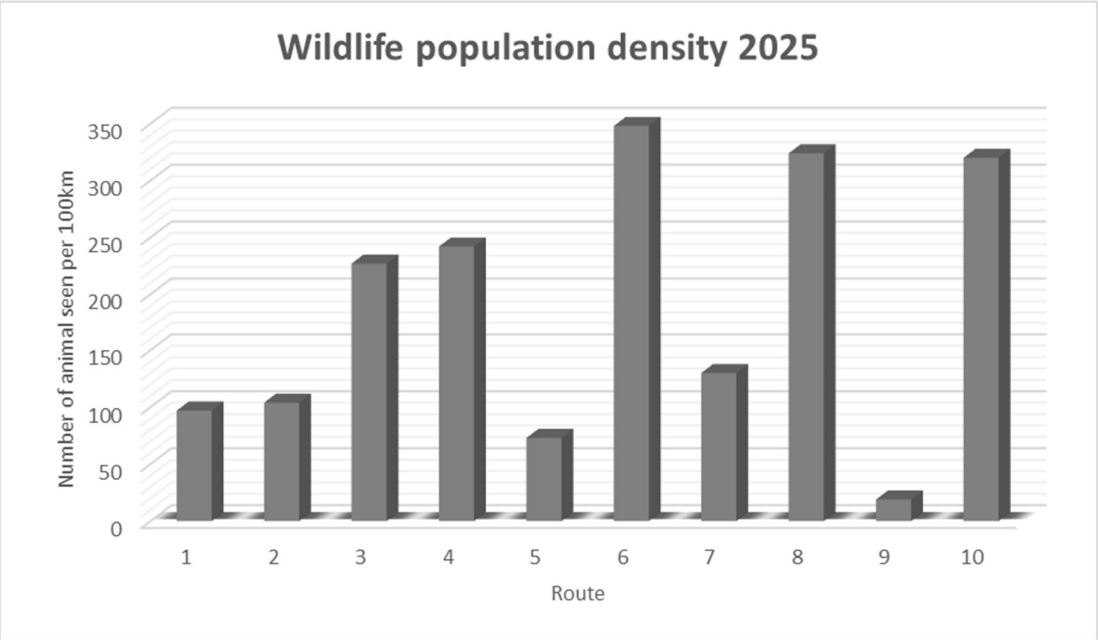


*Figure 6.2 Wildlife population density per route for 2025*

## Objective 3: Population Change

The total estimated numbers of animals for the 2025 count are compared to those from previous years to illustrate the population change and are shown in Tables 10 and 11 below. The overall population estimate has increased by 78%.

*Table 10. Population estimates from 2024 compared to 2025*

| **Total estimated numbers of game (Zone 1-10) – May 2024 - May 2025** | | | | | |
|---|---|---|---|---|---|
| **Species** | **May-24** | | **May-25** | | **Percentage change** |
| | **No. Counted** | **Total estimated number** | **No. Counted** | **Total estimated number** | |
| **Oryx** | 557 | 4532 | 668 | 7346 | 28 |
| **Springbok** | 119 | 1654 | 684 | 9760 | 81 |
| **Kudu** | 0 | 0 | 1 | 3 | 0 |
| **Steenbok** | 0 | 0 | 0 | 0 | 0 |
| **B. zebra** | 273 | 1263 | 369 | 1616 | 4 |
| **Hartebeest*** | 5 | 5 | 5 | 5 | 0 |
| **Total** | **949** | **10954** | **1727** | **18730** | 78 |
| **Giraffe*** | 16 | 16 | 16 | 16 | 0 |
| **** Total numbers known*** | | | | | |

The long-term total population estimates for oryx, springbok and Burchell's zebra are presented in Figure 7.1 below for all zones. Figure 7.1 shows the long-term actual population and total population estimate change compared to the average annual rainfall received for the same period. Please note that, as with the previous graphs, the data for this graph was taken from the total population estimates and from the maximum number of routes counted in each year.

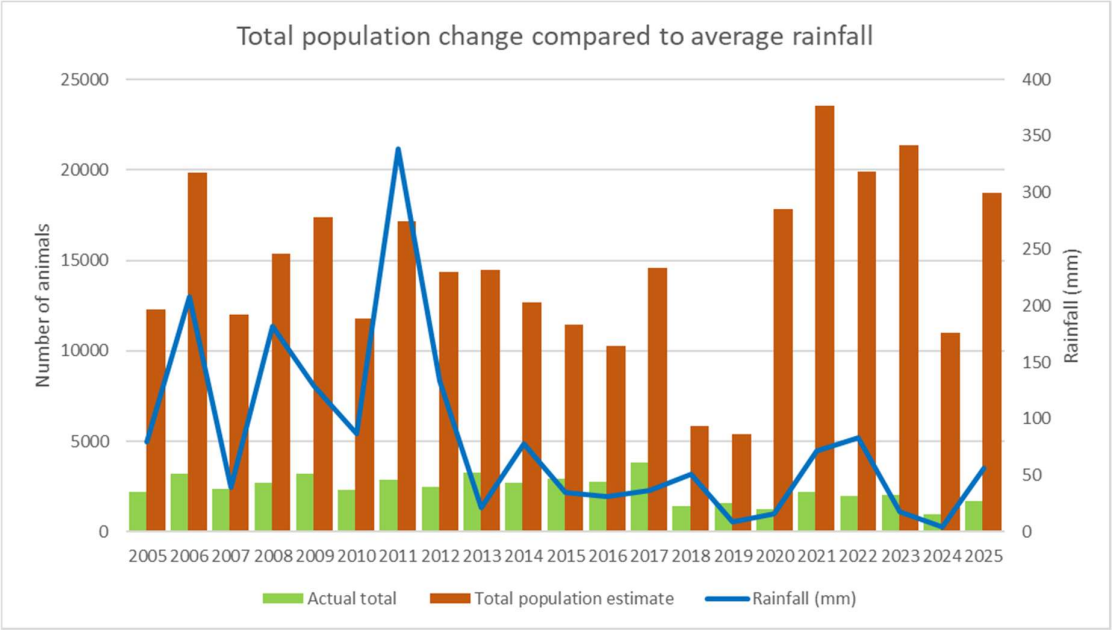


*Figure 7.1 Total population change from 2005 to 2025 compared to average rainfall for oryx, springbok and Burchell's zebra population*

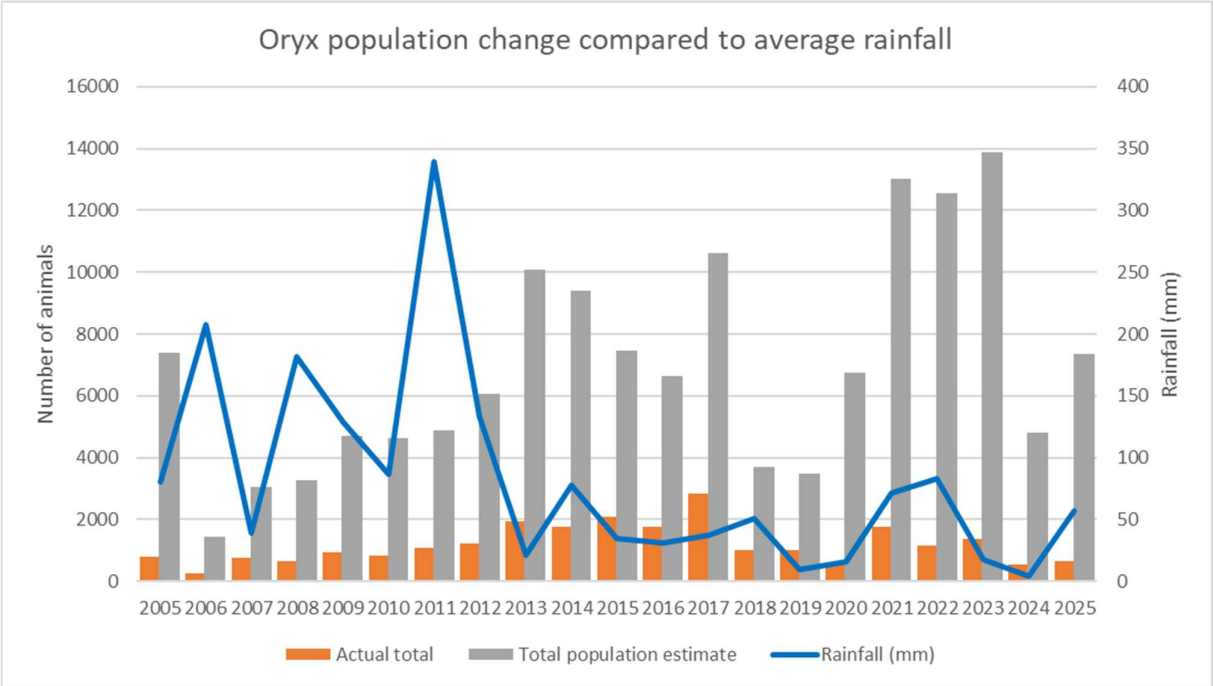


*Figure 7.2 Oryx population change 2005 to 2025 compared to average rainfall*

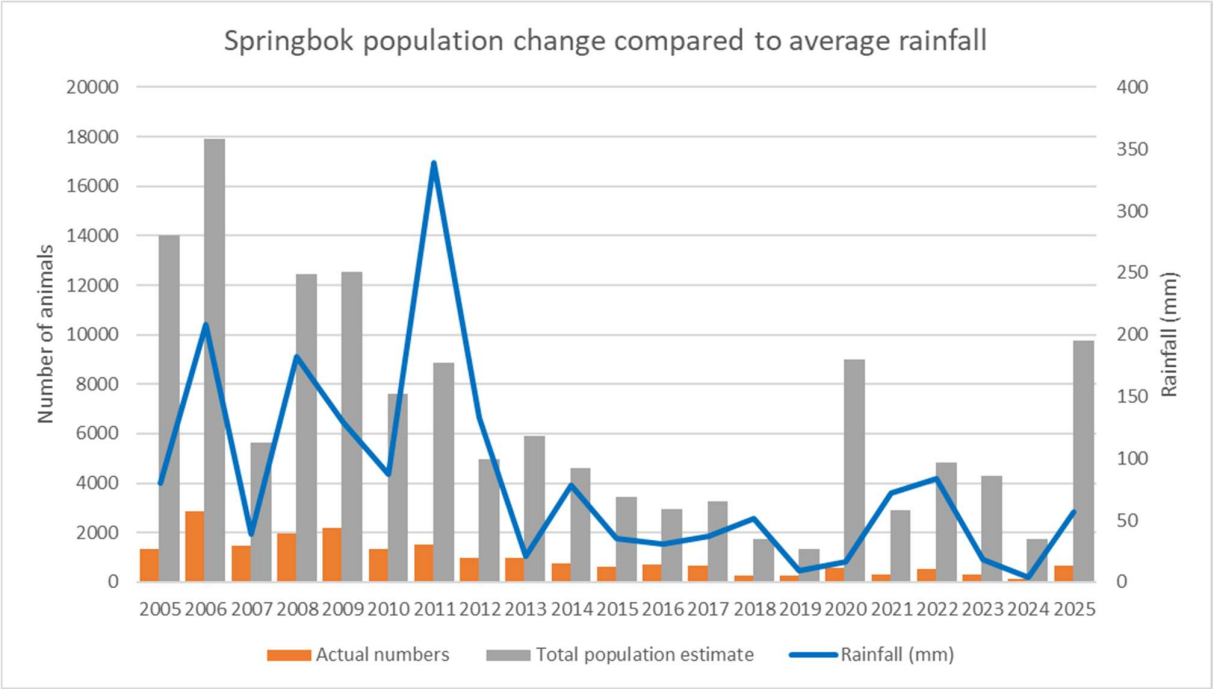


*Figure 7.3 Springbok population change 2005 to 2025 compared to average rainfall*

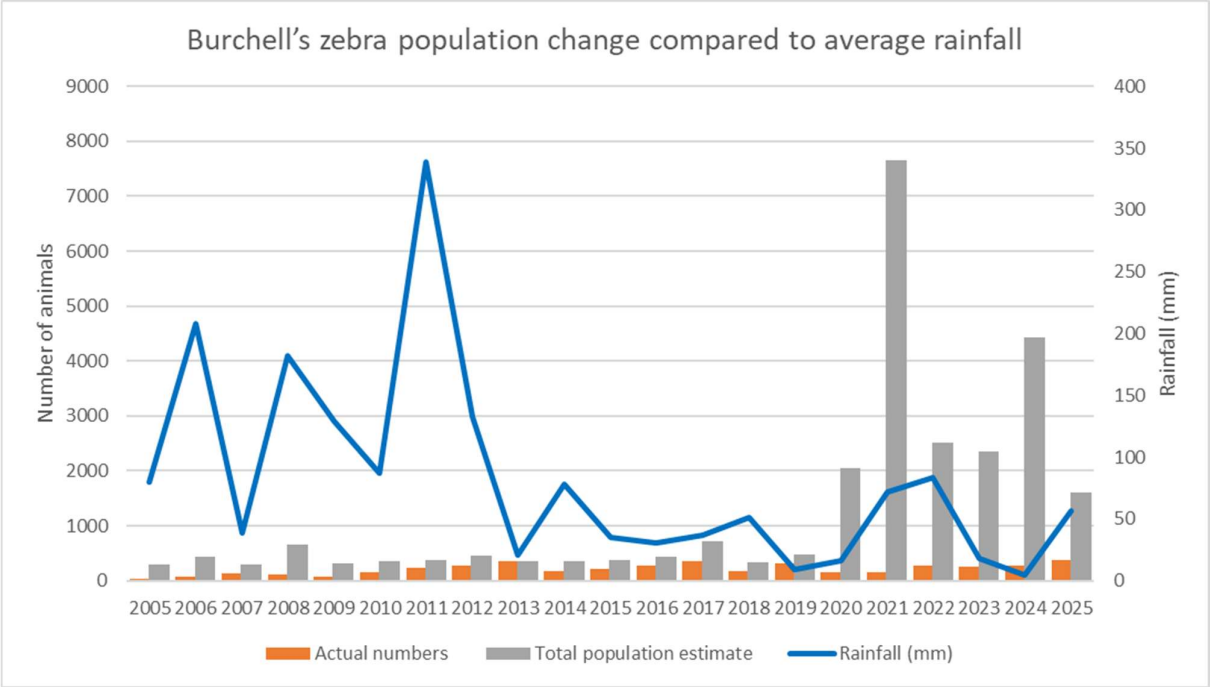


*Figure 7.3 Burchell's zebra population change 2005 to 2025 compared to average rainfall*

# 5. Discussion and Conclusions

**Total population change, distribution and densities**

The total population estimate increased by 78%. The total wildlife population estimate this year is 18,730, compared to 10,954 last year. The highest concentration of animals was in the northern part of the Reserve.

For resource management purposes, we use the actual number of animals seen instead of the estimates. This gives a better reflection of where and how many animals there are. Long-term data shows that the total estimated wildlife population has been on the increase since 2019, except for 2024, which had a decrease due to low rainfall and grazing availability. However, this year there was increase in the trend again. This trend is directly proportional to the annual average rainfall received in the total count area over the given years, as shown in Figure 7.1.

The total wildlife distribution for 2024 and 2025 is shown in Figure 8.1. There is a correlation between the wildlife distribution and the rainfall received this year. The figure highlights that wildlife moved from the south to the north.

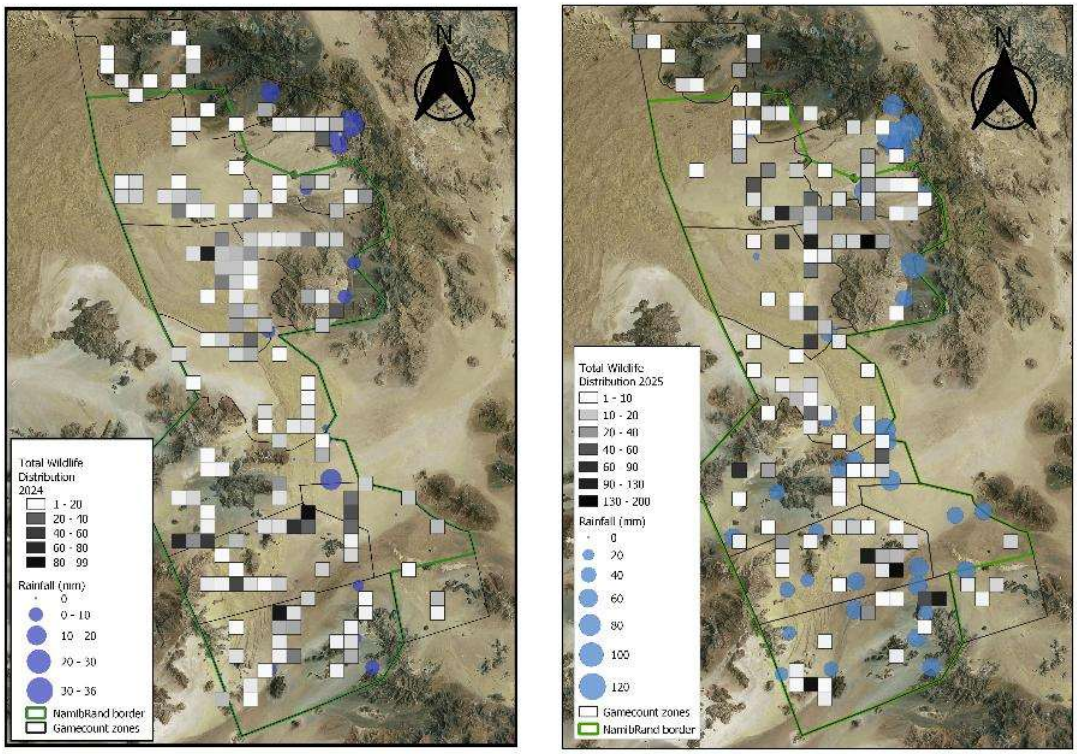


*Figure 8.1 Total wildlife distribution*

## Oryx

The 2025 oryx population estimate shows an increase of 28%. This year's estimate is 7346, up from last year's estimate of 4532.

The highest density of oryx was recorded in Zone 4, same as 2024, with 222 individual oryx counted. The highest concentration of oryx was seen in the northern part of the Reserve in the dune areas, as seen in Figure 8.2 on the right. This is because the dunes hold moisture for longer and the grass provides a bit more food availability for them.

The stronger, healthier oryx all moved to the National Park or other areas that received more rain. The oryx that remained on NamibRand where the ones who are either too young to migrate large distances or old ones that can't migrate as well.

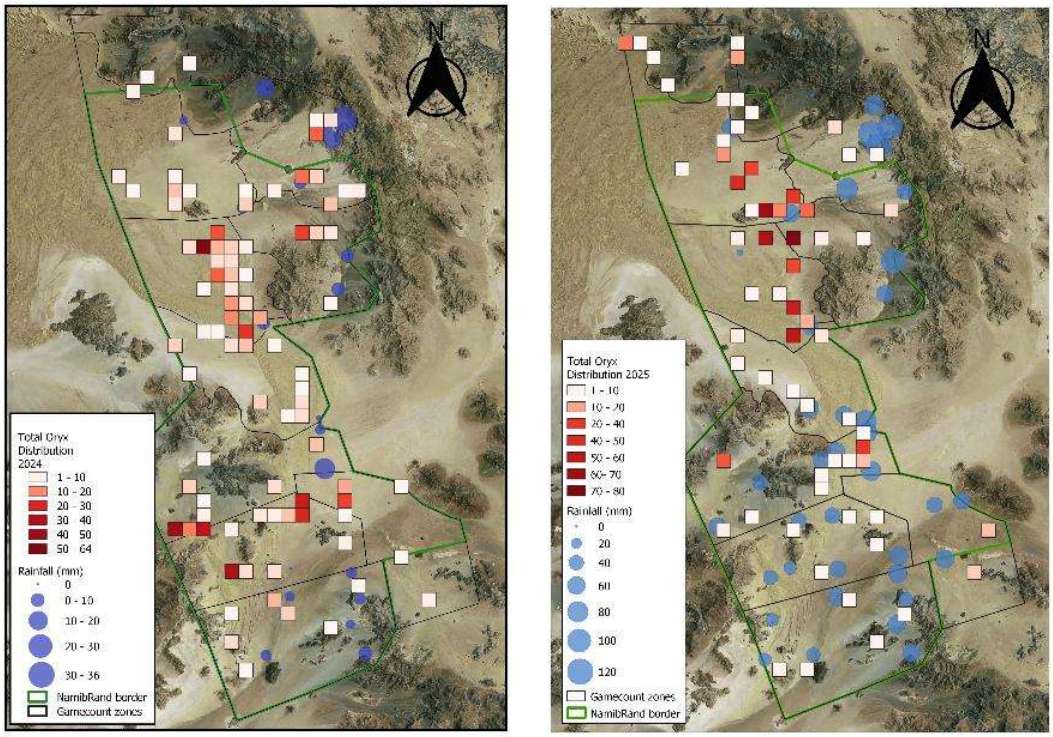


*Figure 8.2 Oryx distribution 2024 (l) and 2025 (r)*

## Springbok

The estimated number of springbok for this year is 9760, which is an increase of 81% from last year's estimate of 1654.

Like the oryx, the springbok were counted all over the Reserve, as seen in Figure 8.3, with the most springbok counted on Route 6.

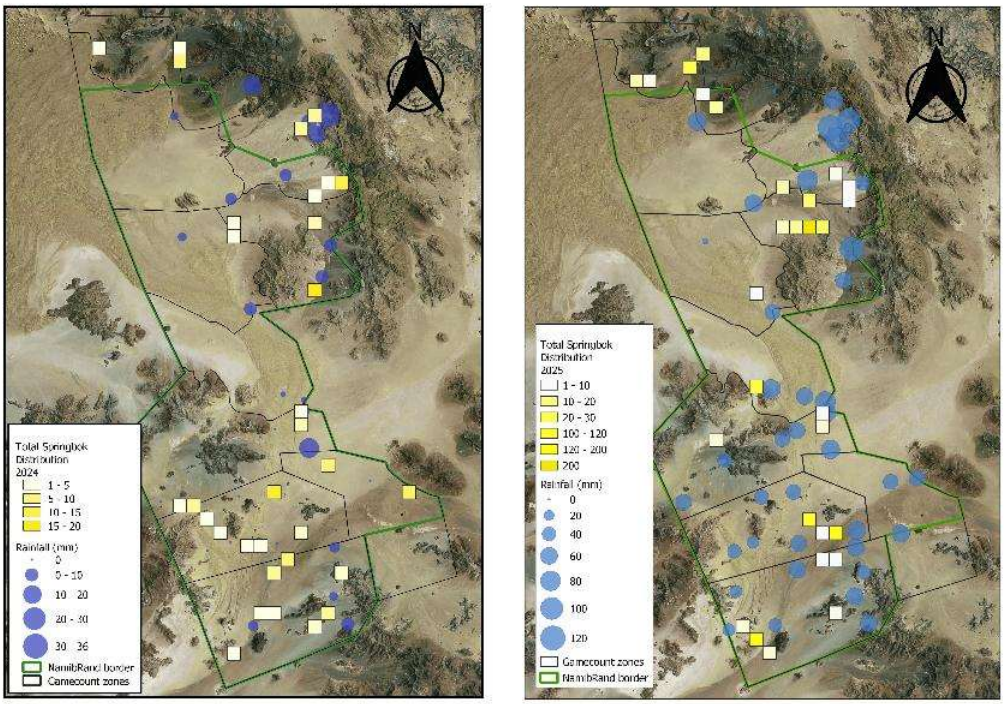


*Figure 8.3 Springbok distribution 2024 (l) and 2025 (r)*

## Burchell's Zebra

This year 369 Burchell's zebra were counted to give a total estimated population of 1616, compared to last year's estimate of 1263.

The Burchell's zebra population is well distributed throughout the Reserve, being mostly found in the open plains. They don't move into the dunes, as shown in the map. The highest number of zebras were counted in the southern part of the reserve.

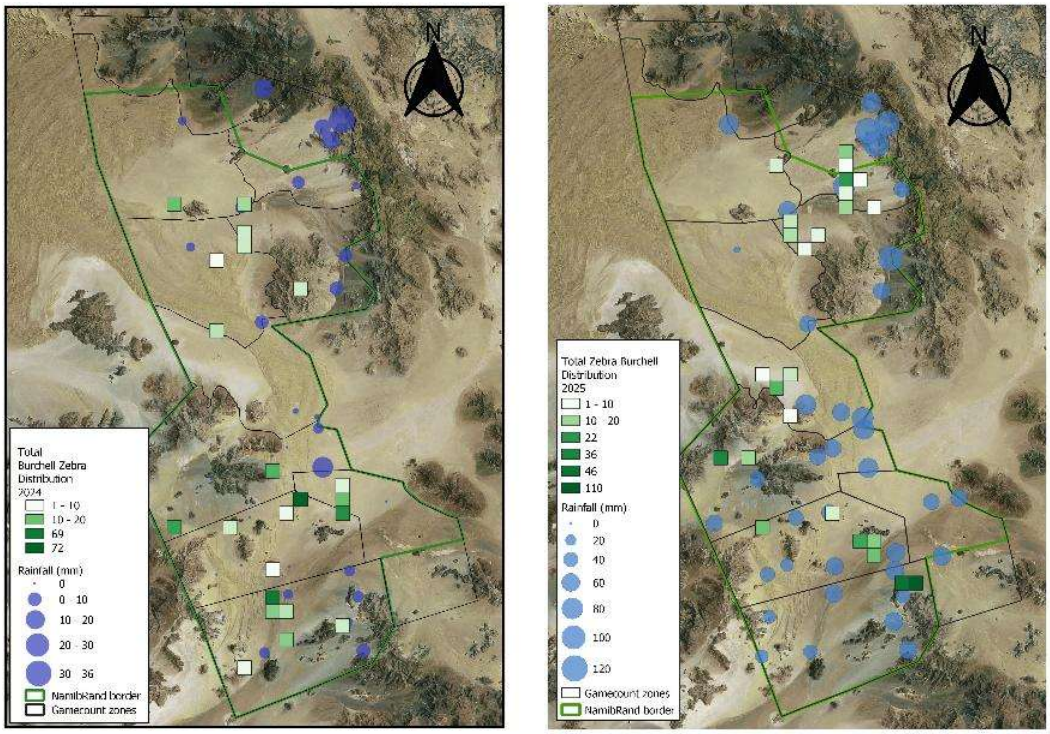


*Figure 8.3 Burchell's zebra distribution 2024 (l) and 2025 (r)*

## 6. Acknowledgements

The NamibRand Nature Reserve would like to thank all its concessionaires, stakeholders, neighbours and participants for their enthusiastic involvement in making this year's game count a success.

This year's participants were:
Route 1: Andre Steyn, Okeri Katjeringo
Route 2: Jessica Steyn, Michelle Rodgers
Route 3: Thensia Nuas, Ensley Simon, Lona Mukenga, Jeroldine Boois, Jacobs Swartbooi, Ana Kaunda
Route 4: Helena Namases, Nnuku Aluteni, Johannes Alweendo, Erkki Tanya
Route 5: Jonathan Nangombe, Emerson van Rooi, Kornelia Amakali, Selma Iyambo
Route 6: Elton Vries, Abraham Tsaobeb, Lydia Immanuel, Lazarus Absalom
Route 7: Albertine Kandjala, Jonah Ndeuludila, Johannes Nuuyoma, Daniel Shifika
Route 8: Martin Verwey, Chantell Verwey, Saima Nambinga, Uda Nakahamela
Route 9: Etienne Rossouw, Sanet Rossouw
Route 10: Elizabeth Johannes, Ruben Bonifacio, Moses Hanse

# 7. Appendix

**Results per count route per zone**

Tables 11.1 to 11.11 list the data collected on each route in May 2025, which were used as a basis for the analysis.

*Table 11.1*

| Route 1 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 55 | 47 | 85 | 257 |
| **Springbok** | 55 | 44 | 80 | 223 |
| **Total** | **55** | **91** | **165** | **480** |

*Table 11.2*

| Route 2 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 53 | 10 | 19 | 72 |
| **Springbok** | 53 | 17 | 32 | 90 |
| **Kudu** | 53 | 1 | 2 | 3 |
| **Hartebeest** | 53 | 5 | 9 | 32 |
| **Burchell**'s zebra | 53 | 54 | 102 | 168 |
| **Total** | **53** | **81** | **153** | **330** |

*Table 12.3*

| Route 3 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 53.7 | 204 | 380 | 2355 |
| **Burchell**'s zebra | 53.7 | 6 | 11 | 35 |
| **Total** | **53.7** | **210** | **391** | **2390** |

*Table 11.4*

| Route 4 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 54 | 222 | 411 | 1406 |
| **Springbok** | 54 | 1 | 2 | 6 |
| **Burchell's zebra** | 54 | 8 | 15 | 43 |
| **Total** | **54** | **231** | **428** | **1455** |

*Table 11.5*

| Route 5 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 70 | 10 | 14 | 40 |
| **Springbok** | 70 | 28 | 40 | 146 |
| **Burchell's zebra** | 70 | 25 | 36 | 78 |
| **Total** | **70** | **63** | **90** | **264** |

*Table 11.6*

| Route 6 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 34.7 | 84 | 242 | 2212 |
| **Springbok** | 34.7 | 233 | 671 | 6123 |
| **Burchell's zebra** | 34.7 | 14 | 40 | 56 |
| **Total** | **34.7** | **331** | **953** | **8391** |

*Table 11.7*

| Route 7 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 61 | 68 | 111 | 542 |
| **Springbok** | 61 | 7 | 11 | 142 |
| **Burchell's zebra** | 61 | 46 | 75 | 179 |
| **Total** | **61** | **121** | **197** | **863** |

*Table 11.8*

| Route 8 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 53.1 | 5 | 9 | 27 |
| **Springbok** | 53.1 | 224 | 422 | 1412 |
| **Burchell's zebra** | 53.1 | 60 | 113 | 272 |
| **Total** | **53.1** | **289** | **544** | **1711** |

*Table 11.9*

| Route 9 | | | | |
|---|---|---|---|---|
| **Species** | Route length | Total number counted | Density | Estimated population |
| **Oryx** | 53 | 13 | 25 | 324 |
| **Total** | **53** | **13** | **25** | **324** |

*Table 11.10*

| Route 10 | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 59 | 5 | 8 | 111 |
| **Springbok** | 59 | 130 | 220 | 1618 |
| **Burchell's zebra** | 59 | 156 | 264 | 784 |
| **Total** | **59** | **291** | **492** | **2513** |

*Table 11.11*

| Total number of wildlife | | | | |
|---|---|---|---|---|
| **Species** | **Route length** | **Total number counted** | **Density** | **Estimated population** |
| **Oryx** | 546.5 | 668 | 122.23 | 7346 |
| **Kudu** | 546.5 | 1 | | 3 |
| **Springbok** | 546.5 | 684 | 125.16 | 9760 |
| **Hartebeest** | | 5 | 9 | 32 |
| **Burchell's zebra** | 546.5 | 369 | 67.52 | 1616 |
| **Total** | **546.5** | **1727** | **314.91** | **18758** |