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Status and distribution of desert-dwelling elephants in the Hoarusib, Hoanib, and Uniab River drainages, Kunene Region, Namibia

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Summary

We compiled data from our research (2006-2024) along with published accounts dating back to 1975 on the desert-dwelling elephant population in our study area of Skeleton Coast National Park and western Kunene region. This includes the Hoarusib River, Hoanib River, and Uniab River sub-populations. Our analysis of the data reveal the profound influence that human-caused elephant mortality has had on the population over this time period. An initial precipitous decline occurred due to wartime poaching in the 1980s. That was followed by four decades of low-level but demographically significant human-caused mortality of adult elephants, which in addition to natural mortality and a low reproductive rate, prevented recovery of these sub-populations to pre-war levels (Figure 1). However, while there are now fewer elephants in the study area than during the 1980s war period, our recent data and observations reveal the following promising trends:

- 1) there have not been any documented human-caused mortalities in the study area since 2021,
- 2) seven calves were born in the Hoanib River sub-population during the past year (May 2023-April 2024) and six are surviving as of 15 April 2024,
- 3) a recent (April 2023) brief migration of the entire Hoanib sub-population over to the lower Hoarusib River, and their return to the Hoanib, indicates that knowledge of this migration route has not been lost in the Hoanib sub-population,
- 4) communities and NGOs are giving serious consideration to a potential translocation of elephants into the Hoarusib River to bolster elephant numbers there.

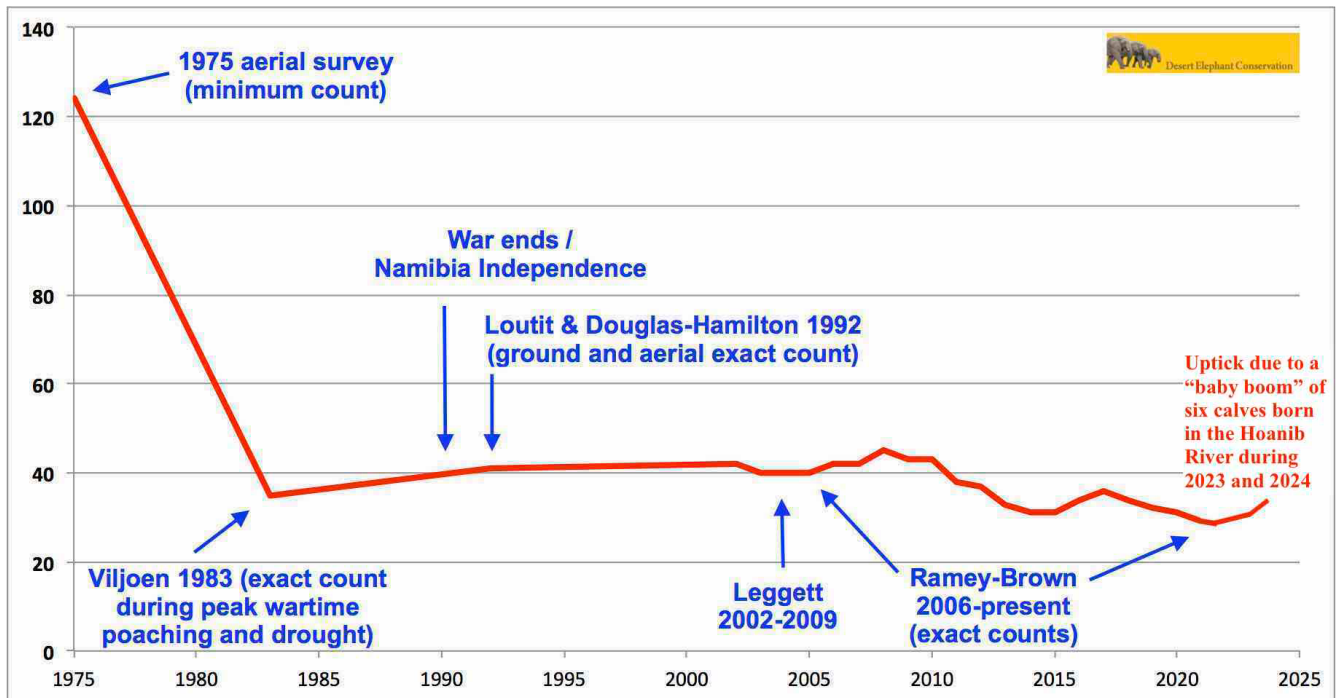


Figure 1. Elephant trends in the Hoarusib and Hoanib subpopulations: 1975-2024



Figure 2. One of six elephant calves born into the Hoanib River subpopulation in 2023 and 2024.

A) Hoarusib River elephants = 9 total.

The home range and migration routes of these elephants include: Skeleton Coast National Park, and the conservancies of Sesfontein, Puros, Okondjombo, Ombujokanguindi, Otjiu-West, and Ongongo. Only nine elephants remain in the entire Hoarusib River drainage west of Opuwo, as of April 2024. There have not been any changes since 2022. (Please refer to our 2021 report for details about mortalities through December 2021.) The elephants remaining in the Hoarusib drainage are described as follows:

Upper Hoarusib Group (=7) (range: Ongongo, Otjiu-West, and upper Hoarusib gorge):

- 3 females breeding-age (14, 22, 27 years) (None has yet produced a surviving calf)
- 1 female juvenile (10 years)
- 1 male sub-adult (18 years)
- 2 males breeding-age (28, ~37 years)

Lower Hoarusib (=2) (range: from the coast into upper Hoarusib gorge):

- 2 males (22, 24 years)

= 9 total

During our January 2024 field trip, we were not able to conduct a full survey due to recent flooding in the Hoarusib River, but we have received reliable reports from colleagues living and working in the area.

The Upper Hoarusib group of seven is what we also refer to as the “orphan group” as there is no matriarch leading the group. One of the seven is a breeding age male (~37 years) who may provide some protection and guidance. They mostly inhabit the Ongongo and Otjiu-West area and the gorge above Puros, however they make occasional visits to the gorge below Puros.

In the lower Hoarusib River there is not a single breeding-age female remaining. With the death of the last two adult females WKF-16 (Left Fang/Skewetand) in 2018 (shot), and WKF-7 (Franny) in 2019 (possibly illness), the entire breeding herd is gone. Both young bulls of the **Lower Hoarusib** were observed in the Hoanib floodplain in late April 2022.

Of the three breeding-age females in the **Upper Hoarusib Group of 7**, none has produced a surviving calf. Two have had calves that died soon after birth, while the oldest female (27 years) has never had a calf that we know of, and we believe she may be sterile. This sub-population is in effect, reproductively extinct. The only practical means by which to reverse this situation would be to capture and translocate several small family groups from nearby (e.g., Kamanjab area) for release along the lower Hoarusib River, to augment the reproductive base of the population. We are currently in discussions with IRDNC, TOSCO, and local conservancies, on a potential translocation of surplus elephants from the Kamanjab area to reverse the decline of the Hoarusib subpopulation.

B) Hoanib River (west of Sesfontein) = 25 elephants total.

The home range and migration routes of these elephants include: Skeleton Coast National Park, Sesfontein Conservancy, and the northern edge of Palmwag Concession Area.

The 25 elephants in the Hoanib sub-population are described as follows:

- 10 females of breeding age (12, 13, 14, 14, 18, 20, 24, 25, 29, ~37 years of age)
- 2 male juveniles (11, 13 years of age)
- 11 calves (1m, 1m, 1m, 7m, 8m, 8m, and 4, 5, 5, 7, 8 years of age)
- 2 males of breeding-age (~32, ~39 years of age)

During the course of our 19-year study, elephants from the upper Hoanib catchment (upstream of Khowarib Schlucht), or from the mountains north of Warmquelle (Otjomatempa area), have not been documented to overlap in range with the Hoanib elephants west of Sesfontein. While there may have

been historic movements between these areas, our observations and data indicate that these are now separate sub-populations. The loss of older female and male elephants with long-acquired knowledge of the landscape and migration routes is likely to have contributed to this isolation, along with the increase in human presence which may hinder elephant movement. The small number of breeding-age bulls in the Hoarusib, Hoanib, and Uniab subpopulations is of immediate concern due to the potential for inbreeding.

C) Uniab River Catchment: count not available for 2023 (last minimum count = 44 elephants in 2021.)

This subpopulation primarily inhabits the Palmwag and Etendeka Concession Areas and immediate surroundings during the dry season. The home range and migration routes of these elephants includes: Skeleton Coast National Park, Palmwag Concession, Etendeka Concession, Torra Conservancy, and #Khoadi//Hôas Conservancy.

The elephants of the Uniab subpopulation comprise two main groups: the **Kawaxab Group** that frequent the Palmwag concession area and also inhabit the mountains above Etendeka, and the **Achab Group** that have typically been found during the drought in mountains and valleys from Palm south to the Huab River. Since 2019, the Uniab elephants have mostly ranged outside of the Palmwag concession due to the extreme drought conditions and lack of forage. In 2021 and 2022 the Kawaxab Group were primarily located in the Okavariona Spring area, and the Achab Group was in the Arikana/Nigeria borehole area. In January 2024, the Achab group was observed and photographed in the Springbok River area by a local resident.

The young bull of the Achab Group that we identify as PM-5, has continued to frequent Wereldsend, the Springbok River area, and the Springbok Gate in the latter part of 2022, 2023 and early 2024, in search of water and food. On a couple of occasions he has caused damage to the water pipes and solar installations at the Wereldsend Research Station, as well as the fence and ornamental gardens at the Springbok Gate. However, consistent with findings of our previous research (Ramey et al. 2013), providing fresh water in upright 200 liter plastic barrels for the wandering bull has virtually eliminated his mischief at Wereldsend.

Our minimum count of 44 elephants in the Uniab sub-population from 2021 is the most recent count as of this writing, and we hope to have better success with a 2024 count later in the dry season.

The 2024 total is ~78 elephants for these three study areas.

By comparison, Viljoen (1987, 1988) documented 86 individuals in the same area in 1981, during the height of drought and poaching. During our 2021 and 2022 field seasons, all the elephants were in very good condition because of the amount of green vegetation that came up following the previous floods. This led to females coming into estrus and a “baby boom” of calves born between May 2023-April 2024.

However, of significant conservation concern is the low number of breeding age bulls remaining in the study area. This is critical for the following reasons: First, reproduction will cease if these last few bulls are killed or die prematurely. Second, with so few bulls remaining, the danger of inbreeding is increased. Third, there has been zero immigration of male elephants from the highlands or Etosha National Park into the Hoarusib and Hoanib since 2009. This we know for a fact because we can identify (photo IDs) every elephant in these subpopulations, and there are no new individuals.

It is important to emphasize that boreholes are critical for desert elephant survival in the Hoanib River. At the two lodges (Natural Selection’s Hoanib Valley Camp and Wilderness Safaris Hoanib Skeleton Coast Camp) the boreholes provide valuable drinking water for the elephants and supplement the two Presidential Boreholes that were built in the 1990s. Tourism at these camps and others nearby (e.g. Fort Sesfontein and Khowarib Lodge) lead to increased protection for these elephants and other

wildlife because of the additional “eyes on the ground” that tour operators provide in monitoring the elephants. In addition, tourist lodges and operators provide jobs and income for the local communities, adding value to wildlife. It is imperative that drinker pools, both at the lodges and at government-constructed sites, be periodically cleaned to ensure that concentrated use during the dry months of the year does not lead to fouling of the water or harmful blue-green algal blooms. Clean drinking water is imperative for healthy wildlife populations in the Hoanib.

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