PHVA 12.2.96
Otjiwarongo

# OVERVIEW OF PAST, PRESENT AND FUTURE FOR NAMIBIA'S LIONS

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"And somewhere lions still roam
All unaware in their magnificence
Of any weakness"

(Anon. undated: Alice Merz's house, Lewa Downs, Kenya)

## PAST AND PRESENT DISTRIBUTION AND STATUS

Prior to Shortridge (1934) who recorded lion in most of the northern half of the country and partly in the east, west and south (Fig. 1), there are no quantitative records of the distribution of lions in Namibia. The earliest record of lion numbers in Etosha comes from a 1926 census when 200 lions were said to occur in Etosha and 10 in the neighbouring Owambo (Berry 1980). Figures for the rest of the country are not available. Joubert and Mostert (1975) estimated the country's lion population at 500 of which 90% occurred in Etosha National Park. Subsequent estimates are:

1980 = 700
1985 = 600
1990 = 510 to 580
1993 = 370 to 430
1994 = 320 to 340 (see Fig. 2).

Lions were hunted for sport and destroyed when they threatened humans or domestic animals. Anecdotes exist about the size of lion prides in Namibia: W. Rusch is said to have photographed an aggregation of 42 lions at Agab water-hole in Etosha (Gaerdes 1975). A similar group totalling 37 lions was seen on the 19th Latitude road and 28 lions were recorded at Leeubron water-hole, both in Etosha (Berry unpublished data). An analysis of records (Berry 1981) kept at the Etosha Ecological Institute (n = 356 observations on 2 562 lions) showed that mean pride or group size was 7,2 (range 2 - 37, SD + - 4,5). Mean number of cubs in a litter (n = 126 litters) was 2,7 (range 1 - 5, SD + - 1,0) (Berry et al. 1981). Only adult and sub-adult lions were considered for population estimates.

Five Etosha lion prides were monitored from 1981 - 88 (Berry unpublished data). This was during a dry phase. They had a mean territory of 582 km² (range 420 - 960 km²). Etosha is 22 270 km² minus 5 990 km² barren salt pans = 16 280 km² of habitat theoretically suitable for lions (Fig.3). Assuming a mean pride territory of 582 km², then Etosha can accommodate approximately 28 prides of 7 lions each which would give a theoretical population of 196 lions in a dry phase. The 1994 estimate of lion numbers in Etosha was 180 - 200, which tallies closely with the calculated population. Presuming that lion pride territories become smaller during a wet phase (when primary production and consequently prey numbers increase), then Etosha's lion

population would increase accordingly. During 1974 - 78, a wet phase, between 285 - 400 lions were estimated to inhabit the plains system of Etosha (Berry 1981). The number of woodland lions was then unknown, but estimated in 1989, a dry phase, to be 191 - 266 (Stander 1991).

FUTURE OF LIONS IN NAMIBIA

Having become classified in 1995 as "Protected Species" under the Nature Conservation Ordinance (No. 4 of 1975), all lions destroyed must be reported within 10 days. The Ministry of Environment and Tourism (MET) should for the first time be able to monitor the number of lions killed annually. During the 30-year period 1965 - 94 at least 1 000 lions were reported destroyed on farmland bordering Etosha (Etosha Ecological Institute records). The number may have been considerably higher than this because prior to 1995 farmers were not legally obliged to report the killing of lions.

Rainfall appears to be a primary determinant of lion cub survival and therefore of future population potential. Namibia has proven to be an arid to semi-arid country where rainfall is as yet unpredictable and highly variable, with "droughts" being common and good rainfall years the exception. Moreover, at present only Etosha (22 270 km²) and the Khaudom Game Reserve (about 4 000 km²) have viable lion populations in the long term. Etosha's lions are virtually isolated whilst Khaudom's lions still have access to lions in Botswana. It appears that free-living lions in Namibia have little chance of surviving outside these two conservation areas -- as long Etosha and Khaudom are secure.

Seen in relation to the rest of the continent, Namibia has probably less than 1% of the total lion population of Africa (not more than 350 lions in Namibia) out of estimates ranging from 30 000 (Nowell & Jackson 1995 in prep.) to 89 000 (Cousins & Ferreras 1995 in prep.). Namibia is now at the south-western periphery of Africa's lion distribution (Fig. 4), with Etosha's population virtually isolated (Fig. 2). Why then are the 1% of Namibia's lions so important ? Firstly, to Namibia they are a major attraction to the tourists visiting Etosha where lions form an invaluable and irreplaceable asset in terms of the Park's spectrum of wildlife (280 000 tourists visited Namibia in 1993, generating about N$500 million, and 120 000 of these visitors went to Etosha). Secondly, Etosha lions are one of the few, if not the only free-living population in Africa which is up to the present FIV-free. This makes them invaluable as a reference for future veterinary and biological studies.

This Workshop should examine as one of the options for future lion management in Namibia, the possibility of re-introducing lions into conservation areas where they occurred historically. The two critical requisites for survival of free-ranging lions are a natural prey base of sufficient medium to large size prey plus suitable habitat large enough to accommodate prides. If these two critical parameters are not met, then the likelihood of successful re-introductions are small.

I want to appeal to all participants at this Workshop, including farmers, conservationists, veterinarians and species experts, to set aside personal agendas and differences they may have and concentrate their expertise on attempting to establish viable management plans and policies for free-living lion and cheetah in the long term, for Namibia in particular and possibly of use in other parts of Africa.

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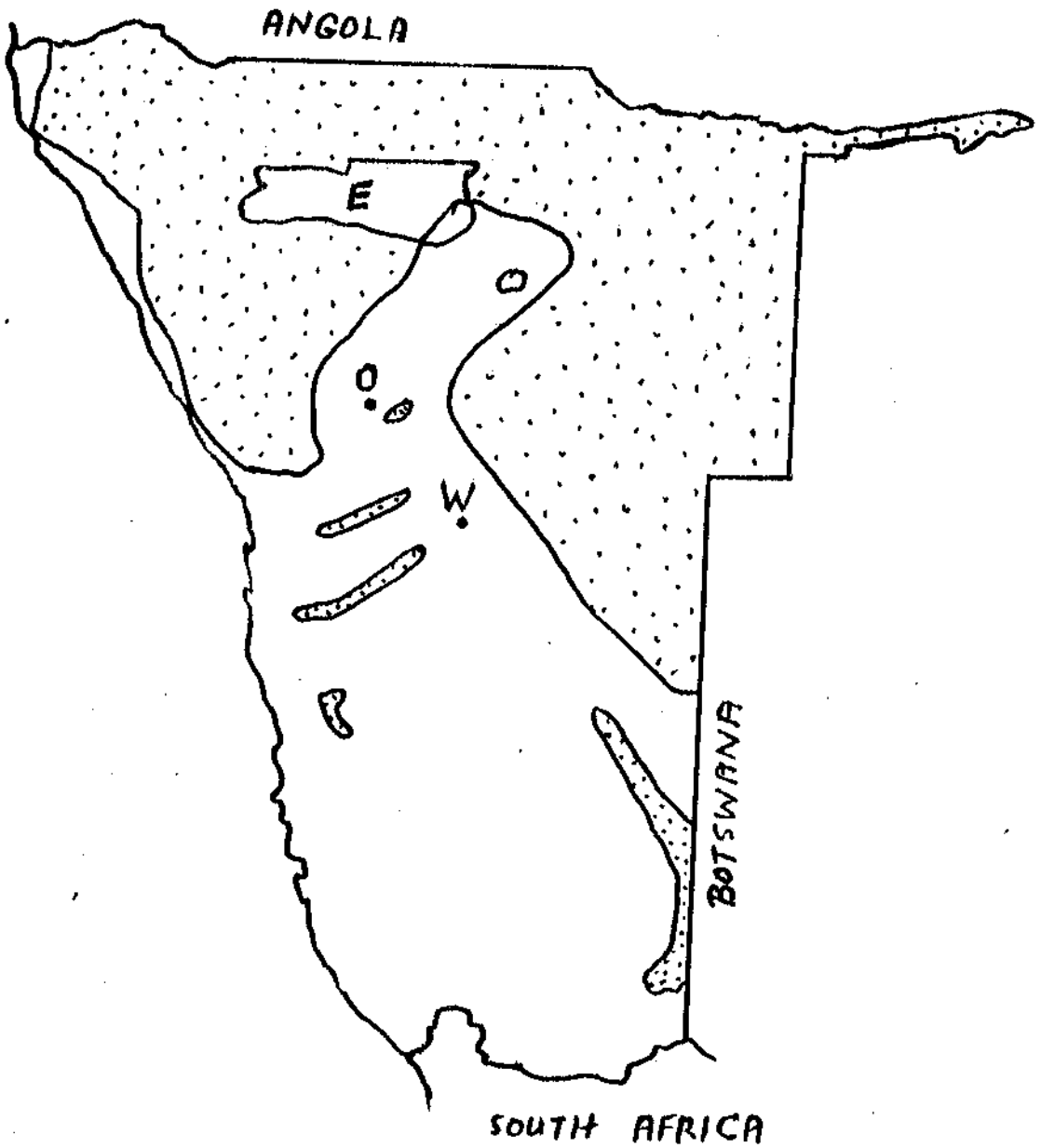
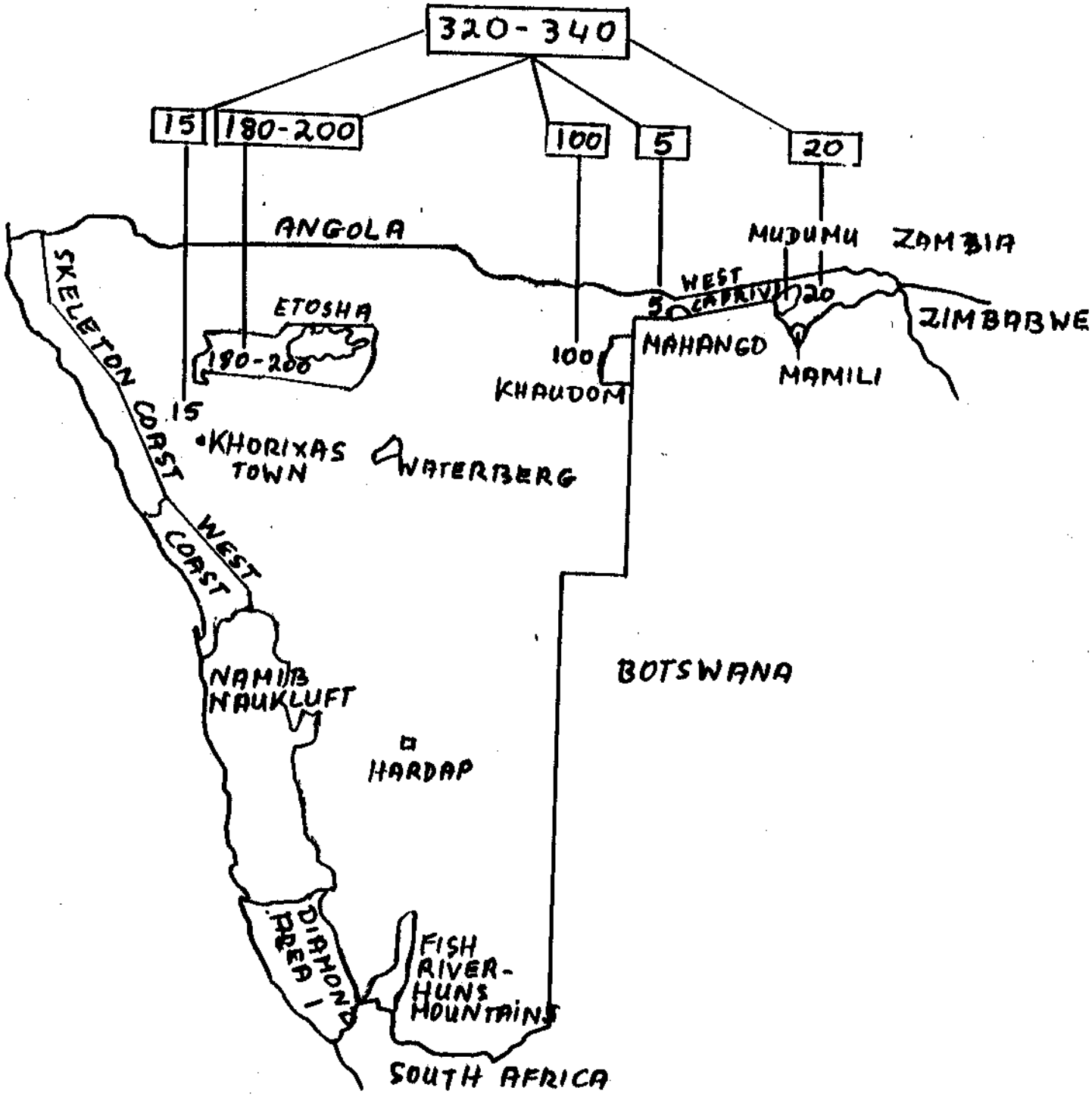
Fig. 1

Distribution of lions in Namibia, according to Shortridge (1934)




E = Etosha
O = Otjiwarongo
W = Windhoek

Fig. 2




MAP OF NAMIBIA SHOWING THE MAJOR STATE-CONTROLLED CONSERVATION AREAS AND ESTIMATES OF LION NUMBERS (1994)

Fig. 3

Etosha National Park, showing unsuitable and suitable habitat for lions

Area : 22 270 $Km^2$


Suitable : 16 280 $Km^2$
Unsuitable : 5 990 $Km^2$

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356 observations on 2562 lions
Mean group size = 7,2 (2-37)
126 litters = mean 2,7 (1-5)

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Mean territory = 582 $Km^2$ (420-960)
Theoretically 28 prides x 7 lions = 196 lions
(1994 field estimates = 180-200 lions)

Fig. 4
Approximate distribution of lions in Africa
(from Cousins + Ferreras, 1995 unpublished data)