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The nature and extent of wildlife ranching in Gauteng province, South Africa

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Received 6 June 2003. Accepted 4 August 2003

A survey of the nature and extent of wildlife ranching in the province of Gauteng was conducted during 2001. The survey was an empirical investigation of game-fenced properties. These included provincial nature reserves and privately owned wildlife ranches or nature reserves as well as game-fenced properties owned by the South African National Defence Force (SANDF), and mining companies in Gauteng. Questionnaires were completed for 89 properties. This represents more than 90% of game-fenced properties larger than 50 ha in the province. The properties covered a total of 115 913 hectares. This is 6.8% of the province's surface area. There is a concentration of wildlife ranches in the northern part of the province, which accounts for 70% of the game-fenced properties surveyed. Data were also collected on consumptive and non-consumptive wildlife utilization. Information on wildlife species and numbers are also presented. Wildlife ranching contributes to a limited extent to the economy of the province and, unlike most other provinces, it seems as if ecotourism rather than hunting is the primary revenue earner for the majority of Gauteng ranches. Of concern is the discrepancy between official perceptions and the facts on the ground concerning wildlife ranching in the province.

Key words: economy, ecotourism and hunting, game-fenced properties, Gauteng, ranching.

Wildlife ranching is a recognized agricultural enterprise and a fast-growing sector of the agricultural industry of South Africa (Stroleny-Ford 1990; Bothma 1995; Eloff 1996; Van der Waal & Dekker 1998). The wildlife industry has shown extraordinary growth during the past 40 years and is currently the only growing, extensive livestock industry in South Africa (Eloff 2000). Areas enclosed by game fences increase annually and there is a great demand for wildlife sold privately and at various wildlife auctions (Eloff 2000). During the past 30 years the wildlife industry has developed into a multi-million Rand industry (Van der Waal & Dekker 1998) and has become a major earner of foreign currency with positive benefits for employment creation, ecotourism and biodiversity (Eloff 1996). At present there are approximately 9000 commercial game-fenced ranches in South Africa covering an area of more than 17 million ha (Eloff 2000). Multi-species animal production systems have ecological and economic benefits (Dekker 1999).

Prior to 1994 South Africa comprised four provinces but the new provincial boundaries resulted in nine provinces with most traditional wildlife ranching regions outside the province of Gauteng. Data are available for the wildlife industry and its value to South Africa (Eloff 1996) as a whole. However, these data are not representative of the nature and extent of the wildlife ranching industry in Gauteng. Therefore, it is not possible to evaluate or determine the extent of wildlife ranching in Gauteng.

This study investigated game-fenced properties in Gauteng and included provincial nature reserves, municipal reserves, privately owned wildlife farms and game-fenced properties belonging to the South African National Defence Force (SANDF) and mining companies. Only properties 50 ha or

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larger were included since this is the minimum requirement for the introduction of more than one species of wildlife onto the property as stipulated by the Gauteng Provincial Government (Department of Agriculture, Conservation, Environment and Land Affairs – DACEL).

The objective of this study was to investigate the extent, ownership and nature of the wildlife ranching industry in Gauteng, and to compare the findings with provincial records.

Data were collected by means of a questionnaire. The questionnaire was limited to 11 questions. Respondents had the option of returning the completed questionnaire by post, facsimile, or providing the information telephonically or electronically.

In the absence of a comprehensive list or register for game-fenced properties in the province it was difficult to identify all potential respondents. The following sources were used to compile an initial list of game-fenced properties:

- The Transvaal Game Association and the South African Game Ranchers Association were requested to supply information on their members who owned property in Gauteng.
- Various municipal authorities were contacted for information on municipal reserves.
- The Directorate Nature Conservation of Gauteng supplied a list of all properties in the province, which had exemption permits for wildlife.
- The SANDF Logistic Support Services provided information on game-fenced properties owned by them.
- Mining companies supplied information on their wildlife ranches.
- Gauteng Directorate of Nature Conservation provided information on all Provincial Nature reserves.
- Rural police stations were contacted and requested to share information on game-fenced properties in their areas of jurisdiction. The Stock Theft Unit of the South African Police Services that investigates poaching cases, supplied information on the location of wildlife ranches.
- Numerous tourism authorities, private tour operators and hunting outfitters were contacted and requested to supply information on Gauteng destinations that were game-fenced.
- Outdoor and wildlife magazines as well as various regional travel brochures were consulted for information.
- Information was also gathered through personal observation and the respondents themselves.

- An Internet search was also done.

It is known that the percentage of questionnaires generally returned by post can be very low. It is for this reason that an attempt was made to contact each landowner or manager personally, either by a visit or telephonically.

Information supplied by farmers with respect to their neighbours and wildlife ranches in their vicinity resulted in the inclusion of many farms that were not part of any official record. Landowners and land managers were generally very helpful and did not hesitate to assist. Their attitude, when approached by a 'conservation agency', was positive. Of all the landowners approached there were only a few (<5%) who, after numerous requests and reminders, failed to respond. For this reason the only ownership category that is incomplete are the privately owned properties. Nonetheless, the data are sufficient to have the exercise qualify as a census rather than a sample or survey. Respondents gave varied wildlife number estimates. This survey did not verify these numbers but considering the grassland nature of many areas and fairly recent introductions of wildlife to properties, these estimates are considered adequate for this census.

Categories of ownership

The largest category in terms of ownership was privately owned ranches. These properties constituted 67.6% of the total number of hectares. The second largest owner category was provincial nature reserves, which accounted for 17.2% (Table 1). The smallest owner category was mining companies which owned 3.5% of game-fenced properties in the province. The total area covered by all categories was 115 913 ha. This is 6.8% of the surface area of the province.

Wildlife ranch size analysis

Of the 89 properties surveyed, 61(70%) were smaller than 1000 ha (Table 2). In Gauteng there are only three game-fenced properties larger than 5000 ha. The mean size of wildlife ranches is 969 ha (S.D. = 336, $n = 89$). Distribution is negatively skewed with 70% of the properties smaller than the mean. If the median is used as a more reliable measure of central tendency then the median wildlife ranch size is 654 ha. By comparison, 69% of wildlife ranches in the Limpopo Province were smaller than the mean of 1717 ha and the median was calculated to be 1150 ha (Van der Waal & Dekker 1998).

Table 1. Game-fenced properties in Gauteng grouped according to ownership categories, showing vegetation types coverage for different owner categories.

Owner category	No. of properties	Area (ha) (%)	Grassland	Savanna	Old lands
Provincial nature reserves	5	19 901 (17,7)	61	34	5
Municipal nature reserves	6	6 453 (5,5)	61	39	0.005
SANDF	6	6 624 (6,0)	77.5	20.8	1.6
Mining companies	4	4 100 (3,5)	44	55	1
Private wildlife ranches	68	78 331 (68,0)	46	50	4
Total	89	115 409 (100,0)	57.9	39.8	2.3

Spatial distribution within the province

There was a concentration of wildlife ranches in the northern part of the province, notably the Cullinan and Wonderboom districts. The northern sub-region, which is also the largest sub-region, is predominantly savanna and accounts for 70% of the wildlife ranches in Gauteng. Eastern Gauteng contains 9% of the game-fenced properties and southern Gauteng 3%. There is another concentration of wildlife ranches in the western sub-region (Krugersdorp area) where 18% of the provinces' wildlife ranches are to be found. The proportion of game-fenced properties by biome in the province is 52% and 48% for savanna and grassland respectively (Table 1).

Activity analysis

Ecotourism activities and accommodation facilities provided 40% of the income of Gauteng respondents (Table 3) whereas in the Limpopo Province 35% of ranches derived an income from these activities (Van der Waal & Dekker 1998). In Gauteng, 13% of the wildlife ranches have conference facilities, and hunting and wildlife viewing were the most commonly practised activities. The average number of activities offered per ranch was 3.2.

Only half of those who listed hunting as an activity actually allowed hunting in practice, therefore commercial hunting is limited to approximately 20 ranches in the province. Benson (1986a) in a

Table 2. Game fenced property sizes.

Size category (hectares)	Number of wildlife ranches
50–1000	61
1001–2000	15
2001–3000	5
3001–4000	4
4001–5000	1
5001–6000	0
6000+	3

different study, stated that 75% of the survey respondents agreed that wildlife ranchers should be members of wildlife farming associations. In Gauteng only 5% of wildlife ranchers are members of wildlife associations. Although landowners appear to recognize benefits in such associations many do not belong to such organizations.

Wildlife numbers

Wildlife numbers have been summed according to the data given by respondents. No extrapolations have been made and the data summarized in Table 4 represent the total for all owner categories.

Domestic stock (cattle) was present on only 19% of wildlife ranches surveyed. In the national survey conducted by Behr & Groenewald (1990), 66% of their respondents kept both wildlife and cattle on the same land. Benson (1986a) stated that landowners are stock farmers first and wildlife ranchers second and thus concentrate their efforts on domestic livestock. Many ranchers specifically stated that they only kept a small herd of cattle to assist in tick control. In the Limpopo Province a combination of cattle and wildlife production was practised on 43% of wildlife ranches (Van der Waal & Dekker 1998).

Table 3. Wildlife ranch activities inclusive of wildlife sales and the frequencies with which they occur.

Activities	No. of ranches that offer activity	% Ranches that regard activity as economically most important
Hunting	39	22
Wildlife drives	37	35
Walking trails	35	15
Live wildlife sales	28	15
Bird watching	25	7
Mountain biking	17	5
Fishing	6	1
4x4 trails	6	–
Horse riding	4	–

Table 4. Estimates of wildlife numbers for game-fenced properties in Gauteng.

Species	Number
Blesbok	8206
Impala	7480
Burchell's zebra	2932
Kudu	2505
Blue wildebeest	2149
Red hartebeest	1970
Springbok	1959
Eland	1820
Waterbuck	1434
Black wildebeest	1373
Gemsbok	750
Ostrich	440
Mountain reedbuck	424
Nyala	359
Giraffe	286
Common reedbuck	232
Buffalo	199
Grey rhebuck	181
Sable	159
Tsessebe	140
Lion	140
Oribi	94
White rhinoceros	92
Bushbuck	80
Fallow deer	74
Hippopotamus	29
Klipspringer	25
Roan	20

Of the 89 game-fenced properties included in the survey only 51% had exemption permits. Exemption permits are permits issued by conservation agencies to landowners exempting them from utilization regulations. In the Limpopo Province, Van der Waal & Dekker (1998) found that 83% of the wildlife ranches had exemption permits. This low percentage of exempted ranches in Gauteng is possibly due to the fact that ranch sizes are relatively small and commercial hunting is limited.

The wildlife ranch industry is still in a growth phase. Numerous ranches encountered during the survey were in the process of either erecting a game fence or stocking with wildlife. The wildlife industry in Gauteng has evolved differently from wildlife industries in other provinces in that commercial hunting, although important, generally does not account for the same revenue as non-consumptive ecotourism activities. The reason for this is not clear, although it may be that hunting in Gauteng does not provide the same experience as more traditional savanna areas – particularly for

foreign clients – or it could be due to safety concerns, given high human densities.

Gauteng wildlife ranches are generally small and the concept of conservancies, of which there are few, should be appealing, and of great benefit in wildlife management to wildlife ranch owners. The economic growth of the ecotourism industry in the province has potential in market terms considering the close proximity of major centres and markets. Serious limitations in terms of space must ultimately curtail the growth of the industry. The wildlife industry in Gauteng is currently expanding and is a valuable contributor to the conservation effort in a province besieged by development, with few, small protected areas. To ensure efficient resource utilization, it is essential that all concerned parties recognize and coordinate their efforts so that the growth and development of the wildlife industry in the province can be planned according to its strengths and constraints.

DACEL should take note of this industry, in particular the numbers of species such as black wildebeest, white rhinoceros, tsessebe and oribi and may want to play a more active role in metapopulation management. Of concern is the fact that fallow deer have been recorded in the province. This species has major invasive potential and these populations should be investigated as to their origins, legality and decisions made on their future in the province.

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