

# A SCHEME FOR DIFFERENTIATING AND DEFINING THE DIFFERENT SITUATIONS UNDER WHICH LIVE RHINOS ARE CONSERVED

Nigel Leader-Williams<sup>1</sup>, Robert A. Brett<sup>2</sup>, Martin Brooks<sup>3</sup>, Ian Craig<sup>4</sup>, Raoul F. du Toit<sup>5</sup>, Richard H. Emslie<sup>6</sup>, M. H. Knight<sup>7</sup>, Mark R. Stanley Price<sup>8</sup>, Olive Stockil<sup>9</sup>

<sup>1</sup>Department of Biosciences, University of Kent, Canterbury, Kent, CT2 7NJ, United Kingdom

<sup>2</sup>Upper Moulton Cottages, Boath, Ardross, Ross-shire IV17, OXJ, Scotland

<sup>3</sup>Head: Scientific Services, Natal Parks Board, PO Box 662, Pietermaritzburg 3200, South Africa

<sup>4</sup>Lewa Downs, Private Bag, Isiolo, Kenya

<sup>5</sup>WWF Zimbabwe Programme Office, PO Box CY 1409, Causeway, Harare, Zimbabwe

<sup>6</sup>AfRSG Scientific Officer, PO Box 662 Pietermaritzburg 3200, South Africa

<sup>7</sup>National Parks Board, Scientific Services, PO Box 110040, Hadison Park, 8306 Kimberley, South Africa

<sup>8</sup>African Wildlife Foundation, PO Box 48177, Nairobi, Kenya

<sup>9</sup>S.V.C, PO Box 396, Chiredzi 21, Zimbabwe

## INTRODUCTION

Rhinos are being conserved under an increasing range of management systems. These systems have attracted a variety of names and acronyms among different users and constituencies. Unfortunately, the same names (eg. sanctuary) and acronyms (eg. IPZ) have sometimes been applied to entirely different systems, while several terms have also been used for essentially the same situation (eg. outlier, straggler, doomed). Furthermore, terms such as *captive* and *wild*, and *in situ* and *ex situ* are being used in a continuum that has caused increasing confusion and ambiguity. In turn, it becomes difficult for those wishing to understand or implement policy, or for those evaluating the effectiveness of different management strategies, to do so when there is confusion over terminology. Similar confusion exists in the much wider, non-rhino context, where definitions and responsibilities for *ex situ* and *in situ* conservation have been recently been proposed (Anon, 1996).

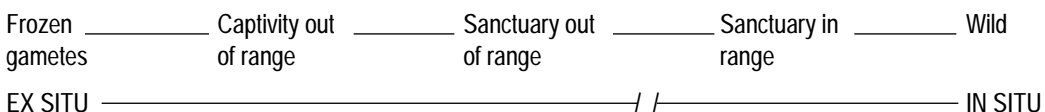
The African Rhino Specialist Group (AfRSG) has attempted to prevent the situation for rhinos to become further confused during their last two meetings, by pro-

ducing a scheme and appropriate definitions that allow differentiation of the various management systems. In 1994, AfRSG adopted definitions for rhino protection areas *in situ*. In 1996, AfRSG developed a decision tree as the basis for defining all management systems under which live rhinos currently exist in the wild and in captivity. This paper combines the outcome of these two meetings, to present a holistic and generic scheme that defines alternative management systems.

## PREVIOUS SCHEMES FOR CLASSIFYING MANAGEMENT SYSTEMS

An early proposal (Stanley Price, 1993) provided options for maintaining rhinos that ranged from frozen gametes through to animals in the wild, and from *ex situ* to *in situ* (Figure 1). This proposal was useful in starting to define the different management systems under which rhinos are conserved. Nevertheless, the proposal was not sufficiently inclusive, and did not cover the full range of management systems for live rhinos. This proposal caused a partial response from AfRSG in 1994, by refining definitions for rhino protection areas (see later in Table 2).

Figure 1. An early scheme of classifying situations under which rhinos may be conserved (from Stanley Price, 1993).



A later scheme was developed by the captive breeding community for their latest breeding plans (Foose, 1995). This scheme reflected the belief of the captive breeding community that all surviving wild rhinos are under some form of intensive management. Furthermore, the captive breeding community is moving towards larger and more natural conditions for rhinos under their management, and this trend is occurring both inside (in situ) and outside (ex situ) countries of origin. Accordingly, the captive breeding community proposed the following broad categories:

- Wild: should now be called *Intensively Protected* in situ (symbolized as IPZ)
- Captive: should now be called Intensively Managed Population (symbolized as IMP)

This proposal incorrectly assumes that all surviving rhinos are now under some kind of intensive treatment. In fact, most rhinos are conserved in areas where the levels of management of the rhinos is low to moderate (see Table 1). Furthermore, the proposal wishes to abandon commonly used and understood terms of *wild* and *captive*. In addition, the proposal encompasses the following: an over-arching acronym IPZ that has already been adopted for a specific type of rhino protection area, an Intensive Protection Zone; and, the use of *sanctuary* out of context, when this has long been used for a specific type of rhino protection area (see later in Table 2). AfRSG responded to this proposal in 1996, by producing a decision tree (Table 1) and refining definitions for all other management systems for live rhinos (Tables 3, 4).

## DEFINITIONS USED IN THE DECISION TREE

The decision tree (Table 1) aims to classify a range of diagnostic features that cover all the management systems for live rhinos. The decision tree requires that a number of diagnostic features are first defined.

**Manipulated breeding** controls mating opportunities between individuals to achieve predetermined genetic goals using pedigree analysis.

Table 1: Decision tree for different types of rhino area  
Abbreviations: Breeding: unmanaged (U); manipulated (M); In (I) or out (O) of range; Space and density; natural (N) or compressed (C); Size of area: large (L); medium (M); small (S); very small (VS); very very small (VVS); Food supplementation: partial (P); full (F); Management intensity: low (L); medium (M); none (N)

	U	U	U	U	U	U	U	U	U	U	M	M	M	M	M	M
Breeding: unmanaged or manipulated	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	O
Space and density: natural or compressed	N	N	N	N	N	N	N	N	N	N	C	C	C	C	C	C
Size of area	L/M	L/M	S	S	S	S	S	L/M	S	S	VS	VVS	VVS	VS	VS	VVS
Food supplementation	—	—	—	—	—	—	—	—	P	P	P	F	F	F	F	F
Management intensity	L	L/M	M	M	N	N	N	N	H	H	H	VH	VH	N	N	VH
Definition	RCA	IPZI Conservanc	In range Sanctuary	In range Sanctuary	Out of range Sanctuary	Ranch	Ranch	Outlier	Semi-wild	Semi-wild	In range paddock	In range pen	In range paddock	Out of range pen	Out of range paddock	Out of range pen
Examples	Kruger, Hluhluwe, Kaziranga	Sinamatella, Save Valley	Nairobi, Solio	Nairobi, Solio	Addo	(Confidential)	(Confidential)	Kenya, Sumatra, Selous	Imire (Confidential)	Imire (Confidential)	Sungai Desun	Chipengali	Chipengali	Texas, Taman Safari	Texas, Taman Safari	City zoo
Generic classification	WILD										SEMI-WILD					CAPTIVE BREEDING

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Manipulated breeding excludes:

- the removal of individuals to minimise inbreeding protection areas (see Table 2).
- the introduction of additional individuals to free-ranging populations for the purpose of enhancing population viability for demographic purposes.

**In or out of range** refers to the known historical range of the subspecies, taxon or ecotype.

**Compressed** in the context of **space and density** implies that management creates a higher than natural density or less space per individual than under natural conditions, to the extent that any reproduction, or the survival of individuals, inevitably requires either selective removal of rhinos soon after successful breeding, or supplementary feeding.

**Size of area** is a relative categorisation to illustrate the variation encountered for different locations in which populations or groups or individuals occur or are kept, and it follows on from the definitions of rhino protection areas (see Table 2).

**Food supplementation** is categorised on a continuum from none through partial to full, irrespective of whether that supplementation is of natural or artificial food.

**Management intensity** is categorised on a continuum from low through medium to high, and refers to the extent of husbandry and veterinary intervention, and of the necessary adjustment to the size and composition of the population.

Table 2: Definitions of types of areas in which rhinos are protected.

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The following types of area may be set up for the protection of rhinos where breeding is not manipulated. These areas may not necessarily have any particular legal status, over and above that which the area already had beforehand. All these areas may be established around natural populations, or through translocation or reinforcement.

#### **Rhino conservation Area**

A medium to large sized area of state protected areas (PA), private or communal land in which the natural patterns of distribution and movement of the rhino cover the whole of the available area, which may be fenced or unfenced, and where staff are deployed at moderate to high density throughout the area specifically to protect the rhino population. Rhinos remain largely un-managed, other than ensuring adequate protection.

#### **Rhino Intensive Protection Zone (IPZ)**

A definite zone within a larger area of state PA, private land or communal land where law enforcement staff are deployed at moderate to high density specifically to protect the rhino population. The concentration of rhinos within an IPZ reflects natural patterns of distribution and movement, and is not the deliberate result of fencing or other methods of confinement.

#### **Rhino Sanctuary**

A small area of state PA, private land or communal land in which rhino are deliberately confined through perimeter fencing, the use of natural barriers or other methods of confinement, and where law enforcement staff are deployed at high density to protect the rhino population. The confinement of rhinos within a sanctuary permits close observation and relatively intense management of the rhino.

#### **Rhino Conservancy**

A relatively large fenced area of primarily private land, possibly some state PA, in which rhino live in land units that are under the control of two or more landholders, where staff are deployed at moderate to high density to protect the rhino population, and where the need for biological management is reduced. Conservancies aspire towards the fusion of commercial and community-based approaches under unified management obligations and policies to conservation, in support of conventional anti-poaching.

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## DEFINITIONS ARISING OUT OF THE DECISION TREE

The decision tree (Table 1) has provided a basis for defining all management systems under which Live rhinos are maintained. These definitions are presented separately for the following: areas where rhino are protected but not subjected to manipulated breeding (Table 2); areas where rhinos receive virtually no management, in terms either of protection or breeding

(Table 3); and, management systems in which rhinos are subjected to manipulated breeding (Table 4). The systems involving manipulated breeding (Table 4) have been given functional names that may require further refinement by the captive breeding community for the purposes of marketing. However, it is hoped that the captive breeding community will reconsider their use of overlapping terms and acronyms, and adopt the terms and definitions already developed by AfRSG in 1994 (Table 2) in the interests of uniformity.

Table 3: Definitions of types of areas and situations where rhinos are not intensively managed.

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The following areas and situations cover rhinos that are not under any form of intensive management, in terms of either protection or manipulated breeding.

### Rhino Ranch

A small area of private land in which rhino are deliberately confined through perimeter fencing, the use of natural barriers or other methods of confinement, but any law enforcement effort that may be present is not orientated specifically towards the protection of rhinos.

### Outlying Rhinos

Rhinos that occur in highly dispersed situations of largely enforced solitariness, either outside an area where any form of effective protection is offered or outside a ranch. (As a result, rhinos will be either under imminent threat of illegal exploitation or of losing habitat, and will not be in regular breeding contact with other rhinos. Such rhinos are the prime candidates for translocation to more secure situations where they will be in regular breeding contact with other rhinos.)

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## GENERIC DEFINITIONS OF WILD AND CAPTIVE BREEDING

A basis for a comprehensive definition for the commonly used terms of *wild* and *captive breeding*, together with an intermediate state of semi-wild, has emerged from the process of progressing through the decision tree (Table 1). These commonly used terms have been retained, despite the wish of the captive breeding community to abandon them (Foose, 1995). The reasons for this are three-fold. First, to retain primary emphasis upon rhino conservation in the wild, and to prevent attention and funds being deflected away from this overriding priority. Second, because the supposition that all surviving rhinos are now under intensive treatment is incorrect. Third, these terms are more widely used and understood than the alternative terms of *intensively protected* in situ (symbolised as IPZ) and *intensively managed populations* (symbolised as IMP) proposed by the captive breeding community (Foose, 1995).

**Wild:** Free-ranging rhinos, usually in large to medium (>10km<sup>2</sup>) generally in the historical range of

the taxon, living at natural density and spacing, without food supplementation, with only very occasional husbandry and veterinary intervention, and a natural breeding system.

**Semi-wild:** Rhinos, usually in small (<10km<sup>2</sup>) areas, either in or out of the historic range of the taxon, living at compressed density and spacing, with routine partial food supplementation, with a high management intensity, but with a natural breeding system.

**Captive breeding:** Rhinos, usually in small (<10km<sup>2</sup>) to very small areas, either in or out of the historic range of the taxon, living at compressed density and spacing, with partial or full food supplementation, with frequent levels of husbandry and veterinary intervention, and a manipulated breeding system.

## CONCLUSIONS

AfRSG commends this scheme for adoption by all those working with rhinos in Africa, in Asia and in captivity, to promote the standardisation of terminology.

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Table 4: Definitions of types of area where rhino breeding is manipulated.

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The following areas where rhino breeding is manipulated have been defined with functional names that may require further refinement by the captive breeding community for the purposes of marketing. However, it is expected that the captive breeding community will not choose names that overlap with those already adopted for rhino protection areas (Table 2).

**Paddock**

An area where manipulated breeding of rhinos is practised, in or out of range, and where rhinos are confined within a physical barrier, and normally of a size of more than 0.1km<sup>2</sup> and less than 10km<sup>2</sup>. The area will contain natural or modified vegetation, and rhinos will require partial supplementation of food and a high level of husbandry.

**Pen**

An area where manipulated breeding of rhinos is practised, in or out of range, and where rhinos are confined within a physical barrier, and normally of a size not exceeding 0.051 ha. Rhinos will be fully dependent upon supplemented food, and will require a very high level of husbandry and sanitation.

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The definitions will allow full evaluation of the different alternatives under which rhinos are kept.

(GCAP) and Global Animal Survival Plans (GASPs). *Around the Horn*, 3(1), 3—6.

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