

## White rhino body condition

Assessing the condition of your animals is very important. An optimal body condition is not only important for the animal's health and well-being, but also for its reproduction rate. The body condition is basically an indication of the overall health of the animal. A very thin or very thick animal is prone to different health risks. In this article we will focus on how to assess the body condition score of white rhinos.



### **Changes in body condition**

Before assessing a rhino's condition, you must know more about the rhino itself. Behaviour and sex-based differences between individuals have an effect on the body condition. For example, when a female is pregnant or has a calf, her nutritional demands grow and she might lose condition. Territorial males fending off competitors might lose condition when females are on heat.

Body condition can also decrease when an animal is sick. Thus, the early identification of an animal losing condition is important to initiate diagnostic and therapeutic steps to prevent the animal from getting very sick.

Changing seasons/weather conditions also play an important role. Especially in a country like Namibia animals are subjected to regular droughts. When there is less food available during the dry season it obviously has a major impact on the nutritional intake, and thus the animal's condition (animals use up more energy foraging than they may take in). Attempts at maintaining a normal body core temperature during severe cold spells will also cause a higher energy expenditure.

An animal that is too fat is, just like in humans, also not healthy. When an animal is fat it becomes lazy, its fertility is reduced, and the heavier weight causes an increased wear and tear on the joints.

### **Body regions for assessing condition**

The body score of an animal is estimated by assessing different body regions. In rhino, one looks first of all at the general appearance of the individual. Also observe its level of activity, interest in its surroundings etc., since a sick or malnourished animal is likely to be less active and alert. Then specifically observe the neck, shoulder, ribs, spine, rump and abdominal area to evaluate the levels of fat and muscle coverage of an animal. This is used to assess whether an animal is of a healthy weight, too thin, or too fat i.e. to establish a body condition score.

Figure 1 shows the important regions of the body one must look at when assessing the body condition score.

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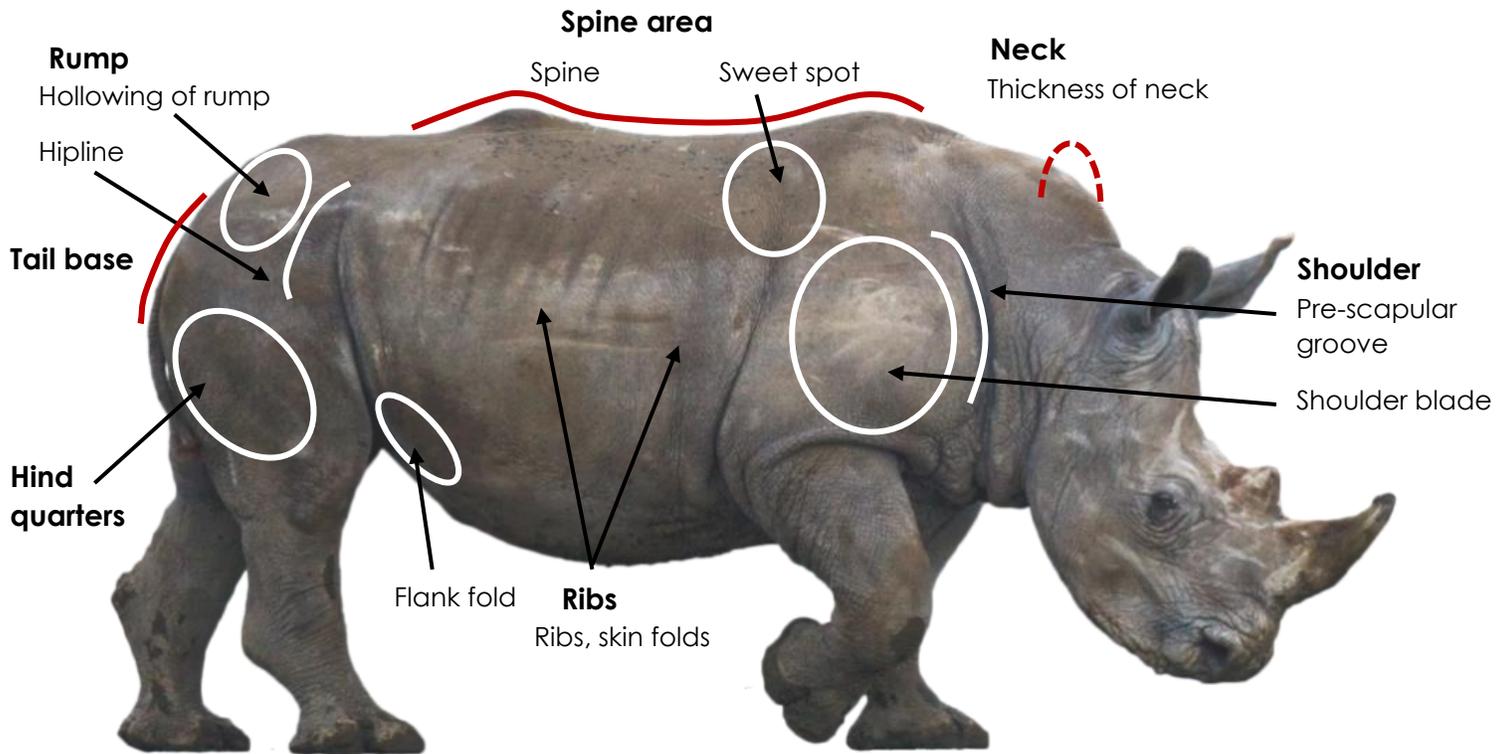


Figure 1 Important body regions for assessing body condition

### Neck

The neck should appear full and well-muscled. Be aware that male rhinos have a thicker neck than females. With a worsening body condition, the muscles in the neck waste away, making the neck narrower. The muscles in front of the shoulder blade hollow out, and the pre-scapular groove becomes more visible. In very thin rhinos the neck vertebra becomes visible.

### Shoulder

The shoulder blade should be well-covered by muscles and a fat layer. With loss of condition, the shoulder area becomes flattened. Eventually the shoulder blade becomes well-visible.

### Ribs

The ribs should be covered with thick skin folds. Note that often the ribs are slightly visible, this does not mean the rhino is in a bad condition! As the fat reduces, ribs become notably visible.

### Spine

The spinal area must be rounded, with muscles and fat 'filling' the gap between the ribs and spine. When condition worsens, the fat layer gets lost and the spine becomes more visible. Eventually the back will hollow out, and the spine seems to stick out more and more (Figure 2).

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*Figure 2 Spine as seen from the back of an animal. The red colouration indicates muscles/fat. The first picture shows a skinny animal; the spine is very noticeable, there is no fat and ribs will be visible. The second picture is ideal; the spine does not stick out too much, it is not hollow between the ribs and spine. The third picture shows an obese animal; the spine is very rounded by the fat.*

### **Rump**

The rump should be rounded without obvious body points sticking out. With loss of condition the hip bones become more visible and the muscles sink in (become hollow).

### **Abdomen**

The abdomen should appear well filled. When the rhino loses condition, the abdomen gets tucked in and the prominent (skin) flank fold becomes visible.

### **Tail base**

The tail base should look almost 'swollen', when the area narrows and appears bonier, it suggests a poor condition score.



*Figure 3 Sick white rhino bull, showing pronounced tail base and hip bones*



*Figure 4 The same rhino bull, clearly showing a prominent tail base*

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## **Body Condition Score system**

Several 'Body Condition Score' (BCS) systems have been developed for different species. Even though the systems differ somewhat, they all work with a numbering system, where the lowest number refers to the animal in worst condition, and the highest number the fattest condition. Many of them work with a scale from 1 to 5, some even from 1 to 9. These numbers are based on the assessment of several body regions on the animal.

Personally, we don't like to use large-numbered systems when assessing the body condition score in wildlife. We believe that the more numbers, the more complicated the assessment. In wildlife one often has to observe animals from a distance, and only for a short time before it walks off. We therefore like to work with a simple 4-scale system, whereby 1 is emaciated, 2 is thin, 3 is ideal and 4 is fat. This system yields more objective and repeatable results, even amongst different observers.

On the next page you will find a BCS scale from 1 (emaciated) to 4 (fat) in white rhinos.

During your assessment it is first of all important to take your time. Spend time with the rhinos, observe them and get to know them. To obtain consistent body condition scores requires practice, regular observations and knowledge of the anatomy. Try to always have a binocular or camera (with proper zoom) with you when assessing condition. It is advisable to take regular photos (ideally similar views of all animals) and compare these photos with ones taken at an earlier opportunity. This will give you an objective assessment of changes in the condition.

To keep track of the different BCS of rhinos, use a table like the one below, where each month a score (and photo) is taken. If you see changes in the BCS, note down the likely cause of this. If there is no likely cause, the rhino might be sick.

Rhino	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Remarks
<b>1</b>	2	2	2	2	3	3	3	3	3	3	2	2	Calved in Jan, good rains + grass cover in April. Poor grass cover in Nov
<b>2</b>	3	3	2	2	2	3	3	3	3	3	3	3	Residual pasture but drought conditions result in condition loss in March. Supplemental feeding from mid April, good condition recovery by June
<b>3</b>	3	3	2	2	1	1	2	2	3	3	3	3	14-month-old bull in same group as 2 above NOT picking up condition due to feeding competition – being pushed out. Fed at separate spot 100 m away from mid-June onwards
<b>4</b>													

For a black rhino body condition scoring system, we refer you to Reuter & Adcock (1998) – [Standardised body condition scoring system for black rhinoceros](#).

### CONDITION 1 –EMACIATED



Bony narrow neck, deep pre-scapular groove and well visible. Shoulders bony. Ribs are well visible. Spine prominent, groove between spine and ribs well visible. Rump is hollow, hip bones very prominent. Abdomen tucked in, flank fold well visible. Tail base thin and bony.

### CONDITION 2 – THIN



Narrow, flat neck, obvious pre-scapular groove. Shoulders flat, slightly bony. Ribs well visible. Spine prominent, groove between spine and ribs obvious. Rump is hollow, hip bones prominent. Abdomen tucked in, flank fold visible. Tail base slightly bony.

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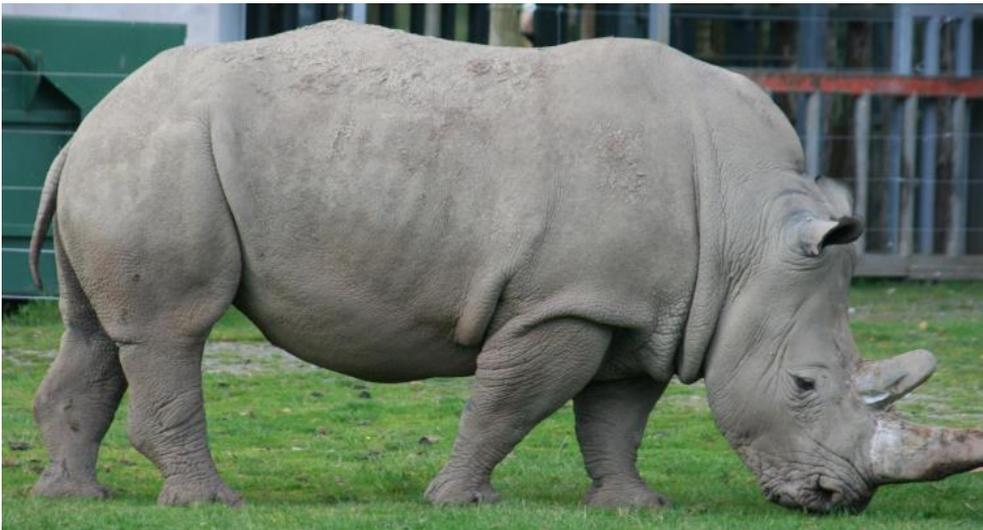
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### CONDITION 3 – IDEAL



Neck well-muscled and round, shoulders well-muscled and round. Pre-scapular groove slightly visible. Ribs are covered, spine is slightly visible and angular. Rump is flattened, hip bones slightly visible. Abdomen is filled, tail base rounded.

### CONDITION 4 – FAT



Neck and shoulders are thick and round. Ribs are covered, spine is rounded. Rump is rounded, hip bones covered. Abdomen is bulky. Tail base bulged.

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