

Table S1: Management Units at Mountain Zebra National Park and their description

Unit numbers	Vegetation units	Plant communities	Description
1	Mountain highland plains	<i>Eragrostis lehmanniana</i> - <i>Eragrostis curvula</i> grassland	This grassland is found on the western and eastern sections of the rugged mountain highland plains. The dominant growth form of this grassland is the herbaceous stratus (canopy cover varies from 50% to 70%).
3	Mountain highland drainage lines	<i>Searcia lucida</i> - <i>Diospyros lycioides</i> woodland	This grassland is associated with the altitudinal range, and climatic gradient together with a more intricate pattern of differing soil conditions, gives rise to a complicated vegetation pattern. This resulted in a dense <i>Merxmuellera disticha</i> -dominated tussock grassland (0.3 m height) and shrub representatives (0.3 m–1.3 m tall).
4	Middle plateau midslope	<i>Carissa macrocarpa</i> - <i>Rhigozum obovatum</i> shrubland and <i>Pentzia globosa</i> - <i>Searsia longispina</i> shrubland	These shrublands are located on the footslopes, midslopes, and steep northern and north-western midslopes of the rolling middle plateau. The woody layer is not very prominent with only a few trees (<4 m tall) covering an estimated 2% of the area, while the shrubs (1.5 m–2.5 m tall) cover between 15% and 30% of the area. The herbaceous layer (0.5 m–0.7 m tall) is the most prominent layer, covering between 50% and 60% of the area.
5	Middle plateau plains	<i>Enneapogon scoparius</i> - <i>Acacia karroo</i> woodland	This woodland is characteristic for plateau midslopes of the rolling middle plateau. Average tree canopy cover is between 1% and 50%, with a height of more than 3 m. The shrub layer covers between 5% and 25% of the area and is approximately 1–3 m in height. The average canopy cover of the herbaceous layer is estimated to be between 15% and 50% of the area, with an average height of 0.35 m.
6	Middle plateau scarps	<i>Searsia lucida</i> - <i>Buddleja glomerata</i> shrubland	This shrubland is found on the very steep higher midslopes and middle plateau scarps. Tree and shrub canopy cover are estimated to be between 15% and 40% with an average height of 1.8–2.2 m, while the canopy cover of the herbaceous layer is estimated to be between 30% and 50% of the area, with an average height of 0.3–0.6 m.

7	Valley bottomland plains	<i>Pentzia incana-Eragrostis lehmanniana</i> Forbland and <i>Pentzia globosa-Eragrostis obtusa</i> forbland	These forblands are found on the lower footslopes and midslopes of the undulating valley bottomland plains. The vegetation consists mainly of grasses and dwarf shrubs with no tree layer present. The shrub layer has an average height of 0.3 m and canopy covers between 25% and 30% of the area, while the herbaceous layer height is between 0.1 m and 0.3 m, with a 25%–60% coverage.
8	Valley bottomland midslopes	<i>Sporobolus africanus-Enneapogon scoparius</i> grassland	This grassland is found on the lower footslopes and midslopes of the valley bottomland plains. The vegetation consists mainly of grasses and dwarf shrubs with no tree layer present. The shrub layer has an average height of 0.3 m and covers between 25% and 30% of the area, while the herbaceous layer height is between 0.1 m and 0.3 m, with a 25%–60% canopy coverage.
9	Valley bottomland drainage lines	<i>Aristida adscensionis-Chloris virgata</i> grassland	This grassland is situated on the floodplains/old cultivated fields in the valley bottomland plains. The tree layer, which is taller than 3 m, has a canopy cover between 1% and 50%, the shrub layer (1 m to 3 m tall) between 5% and 25%, and the herbaceous layer (0.2 m to 0.5 m tall) between 15% and 50%.
11	Oldlands	Transformed	Annual and pioneer plant species.

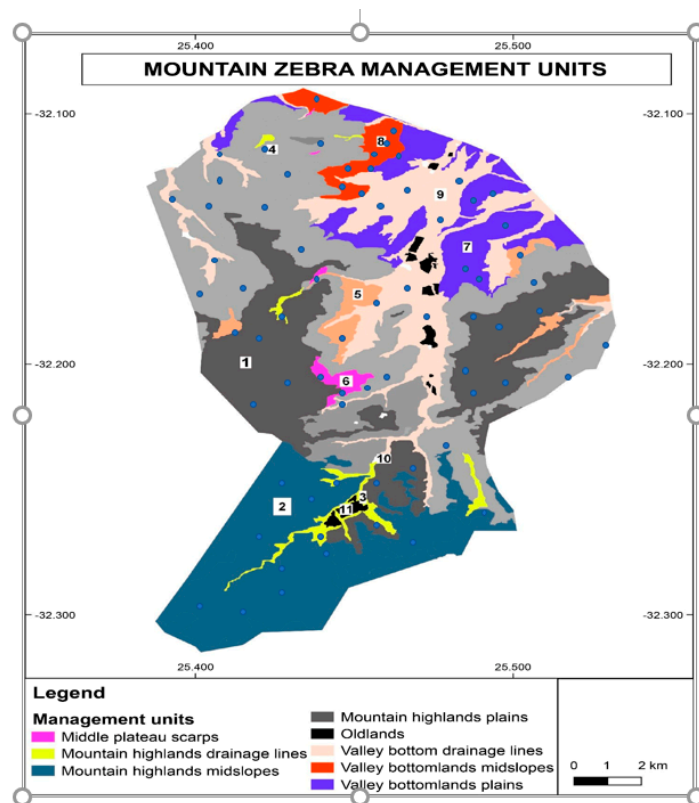


Figure S1 Location of the study area showing biomass distribution across the vegetation units in the Mountain Zebra National Park, South Africa.