

## Chapter 6. Browsing capacity

By using the browse tree equivalent (BTE) from the BECVOL (Smit, 1996) model, the browsing capacity was calculated for three browse heights:

- less than 1.5 m for browsers such as impala
- between 1.5 m and 2 m for browsers such as kudu and eland
- between 2 m and 5 m for giraffe

The BTE is the total available browse of the woody stratum, calculated for each plant community, and Bynespoort Game Park as a whole (Table 6.) (Fig 21-26)

As can be seen in table 6, the total BTE for the entire area is 7139.9 (Fig 21).

At a height of less than 1.5 m where impala and nyala browse, there is an available BTE of 856 (Fig 22). At a height of between 1.5 m and 2 m, where kudu and eland browse, there is an available BTE of 1529 (Fig 23). Between 2 m and 5 m, where the giraffe browse, there is an available BTE of 6506. By using the browsing equivalents used in Swart (1995), the BTE of impala and nyala together adds up to 66.45. This is well below the available 856. For kudu and eland the total BTE for the current numbers is 106, which is well below the available 1529. The present number of giraffe (26), require 98.8 BTE, where there is 6505 available (Fig 24).

Not all of the BTE which is available is utilisable to the ungulates, a plant is never totally stripped of twigs, branches, bark, and leaves, and protective mechanisms by plants against browsers, such as the productions of tannins, other secondary metabolites, and thorns, also prevent a total effective browse. The insect herbivore factor is also not taken into account, as much of the available plant material is utilised, by this, the largest group of herbivores.

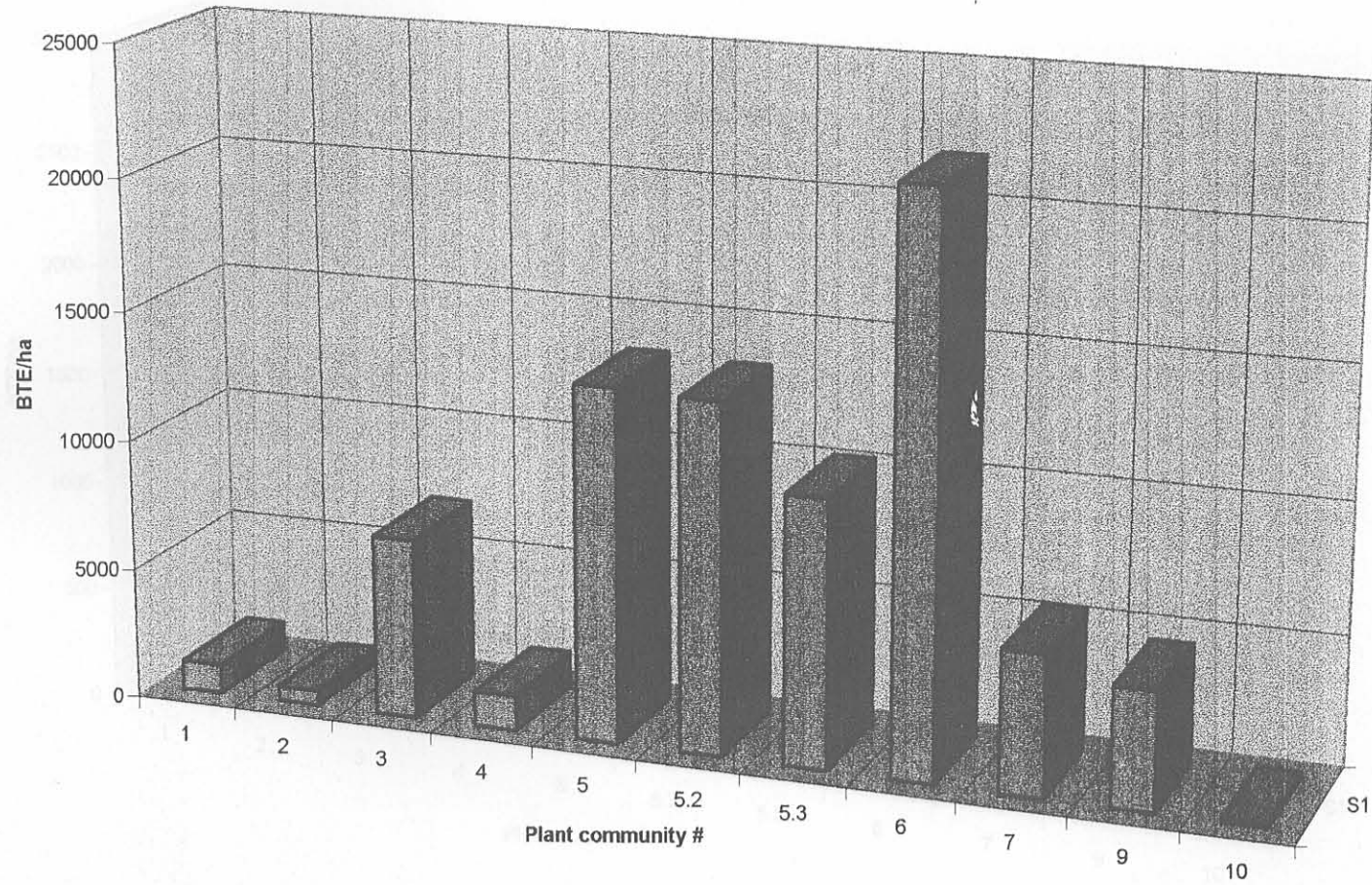


Fig 21: Browse tree equivalent for the plant communities of the Bynesport Game Park

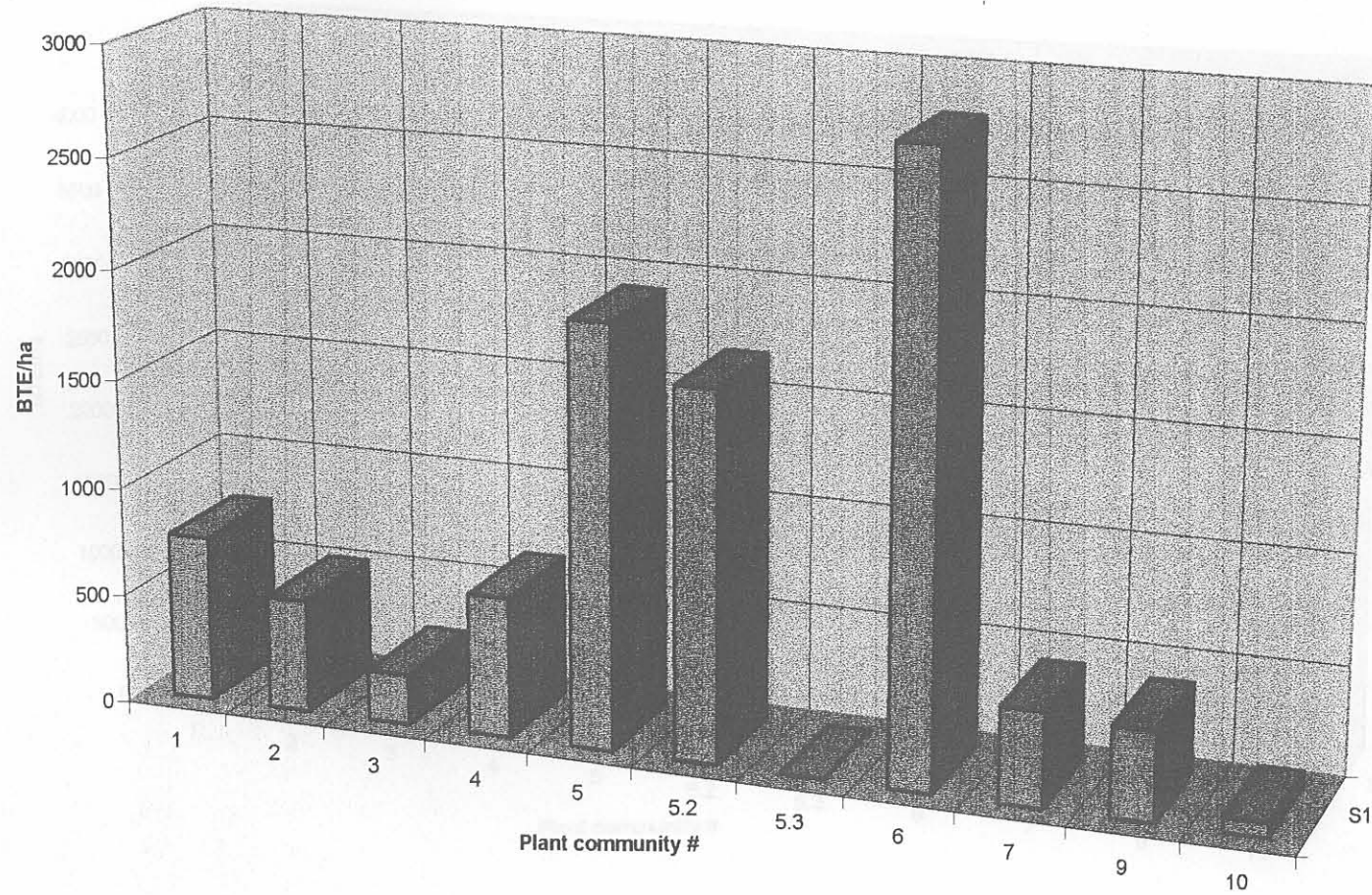


Fig 22: Browse tree equivalent below a height of 1.5m for the plant communities of the Bynespoort Game Park

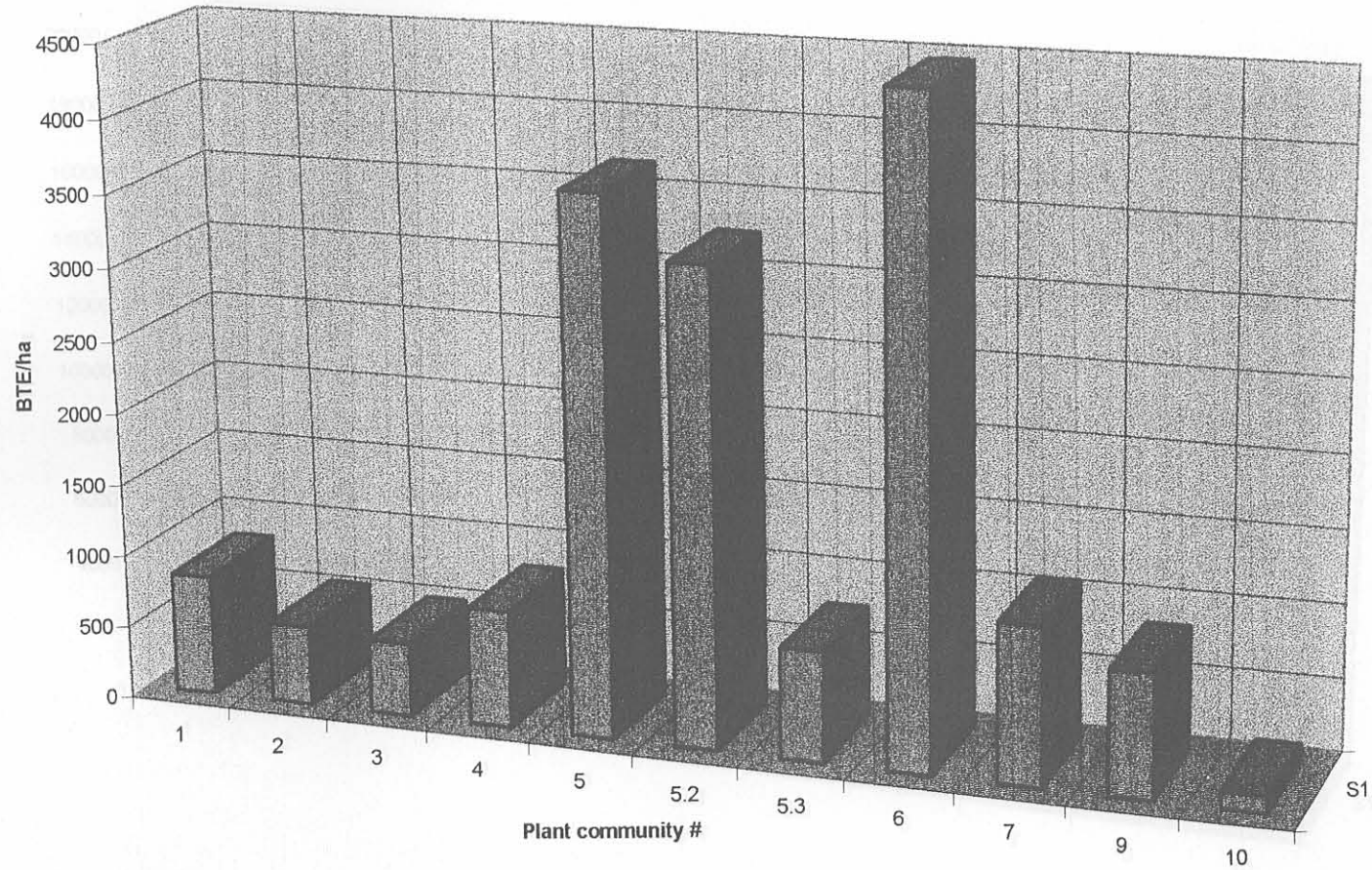


Fig 23: Browse tree equivalent below a height of 2m for the plant communities of the Bynespoort Game Park

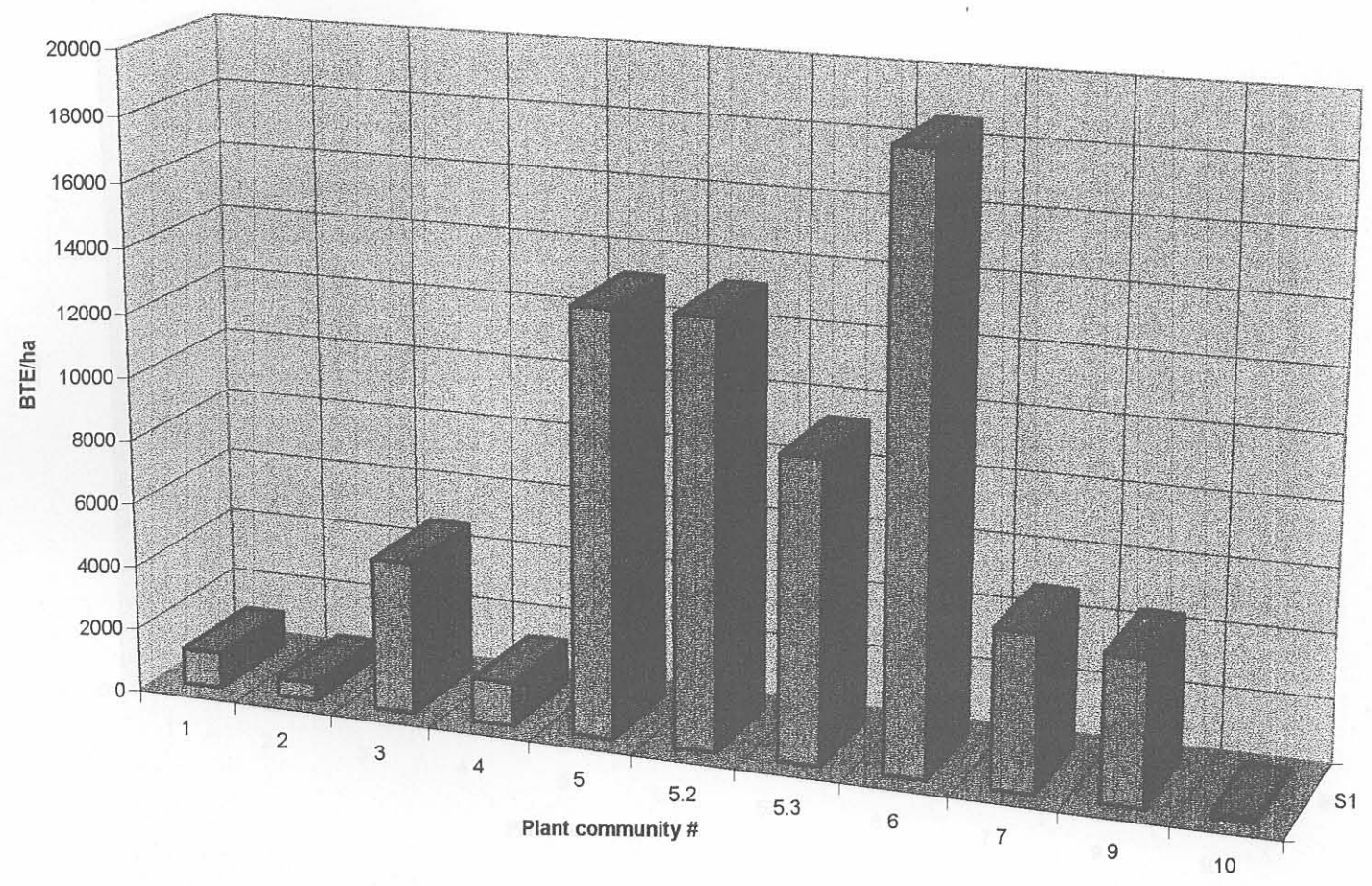


Fig 24: Browse tree equivalent below a height of 5m for the plant communities of the Bynesport Game Park

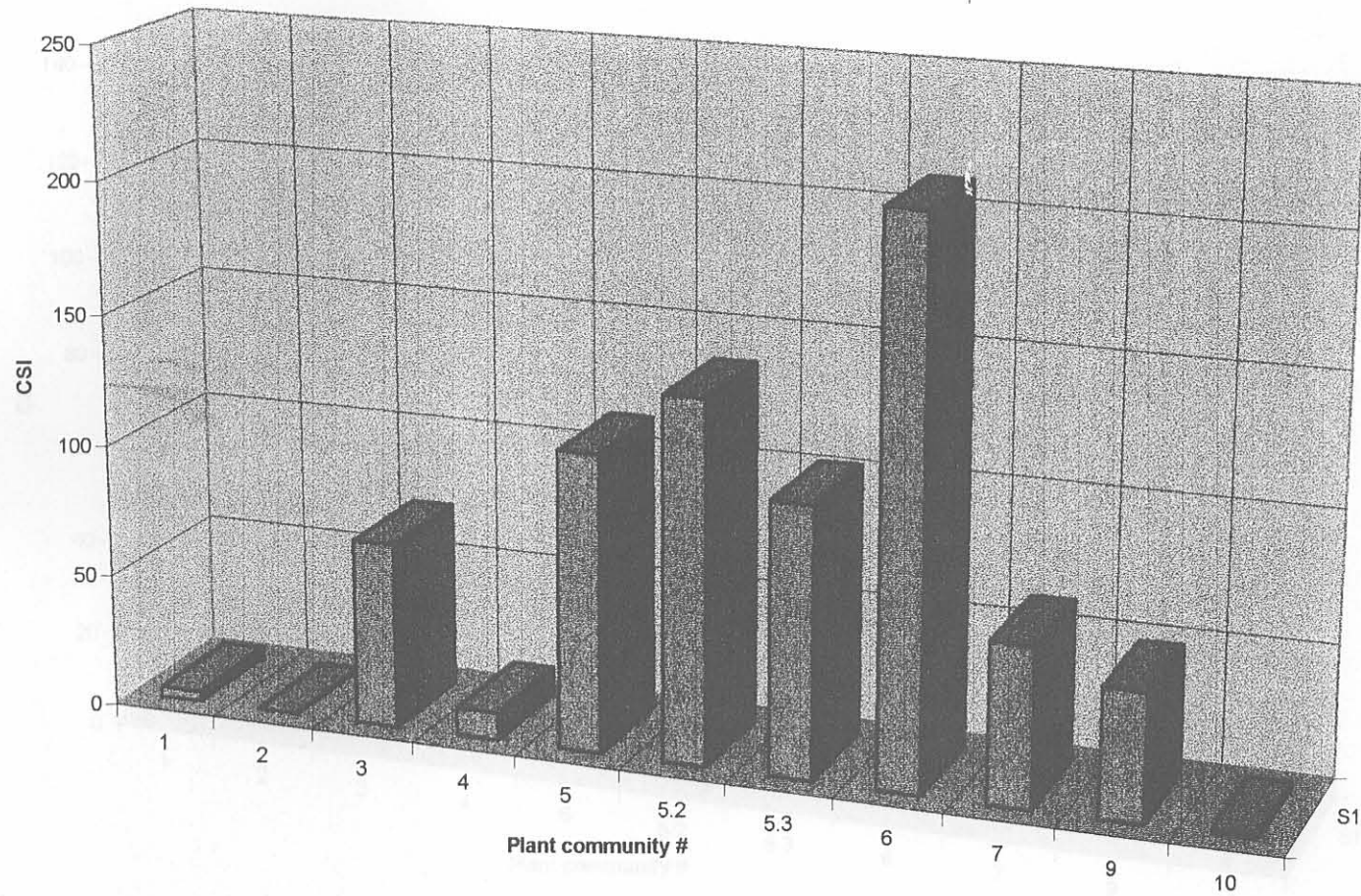


Fig 25: Canopied subhabitat index of trees with a minimum height of 2m for the plant communities of the Bynespoort Game Park

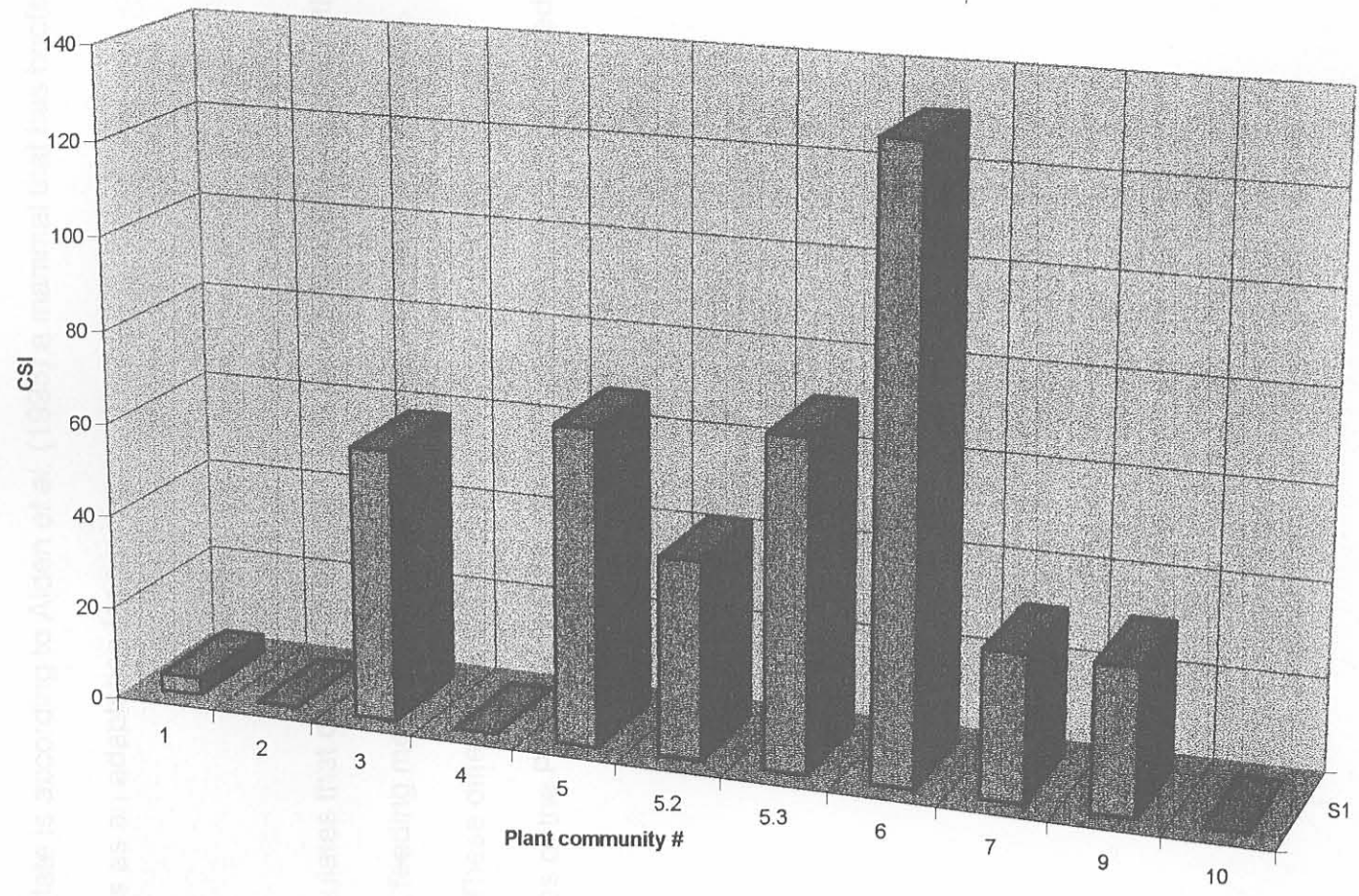


Fig 26: Canopied subhabitat index for trees with a minimum height of 4m for the plant communities of the Bynespoort Game Park