

DETERMINING FACTORS FOR THE SUCCESSFUL RECRUITMENT OF *LEUCODENDRON ARGENTEUM* AT SILWERBOOMKLOOF NATURAL HERITAGE SITE

Leucodendron argenteum is an endangered species threatened due to loss of habitat. It is limited both in distribution and natural regeneration. The Silberboomkloof Natural Heritage Site (SBK) is found on the lower slopes of the Helderberg Mountain and is approximately 230 metres above sea level. *L. argenteum* are found on the southern slopes of the Helderberg Mountain. This population is the only population of this size growing naturally away from Table Mountain National Park. There has been no research up to now on this isolated population of *L. argenteum* at SBK and very little done on *L. argenteum* in general.

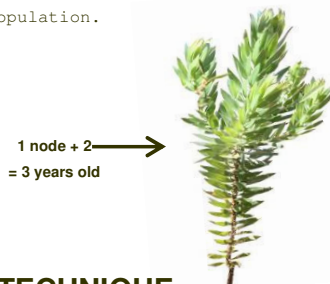
A variety of biotic and abiotic factors have been identified which could be influencing the recruitment success of *L. argenteum* at SBK. Biotic factors identified include pre and post-disposal predation, distribution, density and height of surrounding vegetation, age, sex ratios and flower production. Aspect, slope, soil characteristics and climatic variables are the abiotic factors identified. Due to time constraints only a few factors have been selected for research at this stage. Results will be practically applied towards successfully managing the population at SBK and ultimately improving the probability of germination of *L. argenteum* in the future.

Gane, J.A. Biodiversity Management Branch, Environmental Resource Management Department, City of Cape Town. Julie.gane@capetown.gov.za



METHOD

A control site at TMNP containing a productive population of *L. argenteum* will be correlated with the population of *L. argenteum* at SBK. Once the site is chosen, the quadrat will be chosen subjectively amongst a cluster of trees that has a characteristic age range for that particular population.



AGEING TECHNIQUE

Branches arise in clusters from immediately below the previous year's inflorescence. Therefore the age of each tree is measured by counting the number of nodes adding on an additional two years to compensate for germination time.



Figure 1. Recent age data collected from SBK

CONE ANALYSIS

Cone analysis will be done by using a 100m transect through each study site. Cones will be counted and a few collected for analysis. The number of viable seeds per cone will be counted and multiplied by the average number of cones per tree. Therefore an average number of seeds per parent plant can be quantified. The number of cones showing signs of predation will be subtracted from this amount and the number of seeds left over will be available for release into the environment. This can help prove at which stage limiting factors for

CONCLUSION

Understanding seed dynamics will indicate seed mortality attributable to predation, which can be easily managed, and the environmental factors analysed will indicate suitability for successful germination. Information from this research will contribute to the conservation of *L. argenteum* and can provide information for the management of other populations in danger of degradation.