

PUBLIC PERCEPTION OF NATURE AND LANDSCAPE PREFERENCE:
APPLICATIONS FOR BIODIVERSITY CONSERVATION IN SINGAPORE

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ABSTRACT

Sustainable landscape planning has often been touted as a landscape-level solution to biodiversity conservation and ecosystem service provision in an increasingly urban world. Despite presenting this unique opportunity, creating sustainable landscapes require that planners concurrently tackle environmental and social issues such as facilitating public acceptance towards naturalistic habitats and its associated biodiversity in urban areas. Previous research has demonstrated a link between nature perception and the tendency to preserve nature, as well as the link between landscape preference and biodiversity conservation potential. This research aims to bridge these three concepts through quantifying public perception of nature in relation to landscape choices in Singapore and coming up with recommendations for biodiversity conservation at a landscape level.

This project also functions on the backdrop that biodiversity conservation potential varies significantly in landscapes with different levels of human interference, a trend which has patterns that are currently unknown in Singapore's context. Results from a biodiversity count across four landscape types in this project show that the number of species in more naturalistic landscapes (primary and secondary vegetation) was at least about eight times higher than the number of species harbored in manicured landscapes and urban areas.

Questionnaire results indicate that landscape preference tended towards manicured landscapes despite an overall tendency towards nature conservation which is best achieved in naturalistic habitats. As such, findings detected that intention to preserve nature may not necessarily

translate into landscape choices which would achieve biodiversity conservation purposes. On the contrary, reasons driving landscape choice were found to be aesthetic-based, especially aesthetics which focused on the amount of visual hues contained in the landscape.

However, specific education in ecology/ conservation as well as increased opportunities at first-hand experience in natural areas abroad were found to be factors which could influence landscape choice to encompass more naturalistic habitats. Landscape-level recommendations which would help to increase the number of species conserved in Singapore's urban environment, without disrupting aesthetic landscape choice are shown below:

- (1) Urban conservation should be targeted at native species which have shown adaptations to conditions in manicured landscapes and urban areas. Results from the biodiversity count revealed that these species could constitute as much as 50.39% of seed plants species to a lowest of 17.86% of mammal species. This suggests that "urban nature" could exist as a compromise between a balance of exotic and native species which have shown to be able to co-exist with varying degrees of inter-dependence.
- (2) Landscape preference can be broadened to include more naturalistic habitats through a) Increasing emphasis ecology/ conservation education and b) increasing opportunities exposure to natural areas abroad through educational trips.

Key words: Urban green space, Nature perception, Landscape preference, Tropical biodiversity