WORKING PROJECT TITLE	Habitat loss, exotic plant invasions and restoration: testing the effect of three way interactions on flower visitor assemblages in an agricultural landscape
CORE TEAM MEMBER	Prof. Stefan Foord
ACADEMIC LEVEL OF THE PROJECT	M.Sc. or PhD
PROJECT BACKGROUND	Habitat loss and exotic plant invasions together with global climate change comprise the biggest threats to biodiversity. How these drivers interact to effect change in biological communities is currently one of the most important questions in biology. Working for Water manages one of the largest restoration projects globally. Quantifying the impact they have in restoring ecosystems is key to their long term sustainability. Here we propose to study the effect of invasive alien plant clearing on flower visitor assemblages at different elevations on the southern slopes of the eastern Soutpansberg mountain range. The region is characterized by some of the highest rainfall and rapid commercial agricultural development, mainly in the form of Macadamia orchards, in a matrix of afforestation, banana and avocado orchards. This has resulted in considerable habitat loss, with natural vegetation remaining as small and isolated islands. These islands consist of a mix of alien and native vegetation. We aim to design a study at three elevations (600-700 m,

	900–1000 and 1100-1200), in remnants of various sizes and levels of infestation. Surveys will be conducted in these throughout the year to identify flower visitors and the species they visit. Subsequently, alien plants will be removed and the effect on flower visitation monitored over a three year period to establish the response to land use and elevation. The functional and taxonomic response of assemblages to size of fragments, elevation and land scape context will be tested for interactions and will include a network approach.
FURTHER READING	Simba, L. D., Foord, S. H., Thébault, E., Van Veen, F., Joseph, G. S., & Seymour, C. L. 2018. Indirect interactions between crops and natural vegetation through flower visitors: The importance of temporal as well as spatial spillover, Agriculture Ecosystems & Environment 253:148-156. Grass I, Meyer S, Taylor PJ, Foord SH, Hajek P, Tscharntke T (2018) Pollination limitation despite managed honeybees in South African macadamia orchards. Agriculture. Ecosystems & Environment 260: 11-18. doi:https://doi.org/10.1016/j.agee.2018.03.010 Nel L, Pryke JS, Carvalheiro LG, Thebault E, van Veen FF and Seymour CL. Exotic plants growing in crop field margins provide little support to mango crop flower visitors. Agriculture, Ecosystems and Environment, 250: 72-80.

KEY CONTACTS	Stefan Foord c: **084 811 6711** e: **stefan@foord.co.za**
CONTACT DETAILS OF CORE TEAM MEMBER	Stefan.foord@univen.ac.za