A new approach to inform restoration and management decisions for apiculture

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Speaker Bio

After graduating in Science, Joanne worked for Murdoch University in the positions of Laboratory Demonstrator and Research Officer and for the Water Corporation as an Environmental Scientist. In these roles she worked in the area of aquatic and insect ecology. Driven by an interest in community education and sustainability she has also volunteered as an environmental educator for the City of Canning, local primary schools and community groups and as a laboratory technician for the Threatened Flora Seed Centre. Currently she is completing her PhD with the CRC for Honey Bee Products, at the University of Western Australia.

Presentation

The success of an apicultural operation depends on having enough floral resources over the year to maintain bee population numbers and produce substantial yields of high value honey. However, habitat loss has reduced the available resources for apiarists and is a key driver of poor colony health, colony loss, population decline and reduced honey yields. The biggest challenge for apiarists in the future will be meeting increasing demands for pollination services, honey and other bee products with a limited resource base. Targeted landscape and habitat restoration focusing on high-value or high-yielding forage could ensure adequate floral resources are available to sustain the growing industry and provide new economic opportunities for apiarists. Tools are currently needed to evaluate the likely productivity of potential sites for restoration and inform decisions about plant selections and arrangements and hive stocking rates, movements and placements. Here, we propose a new approach for designing sites for apiculture, centred on a model of honey production that predicts how changes to the site design (plant decisions) and hive management (hive decisions) affect the availability of resources for bees, the potential for bees to collect the resources, the consumption of resources by the colonies, and subsequently, the amount of honey that may be produced. The proposed approach and model are discussed with reference to a Western Australia case study area.