Progress Report STP 2019-052 (FY 2019-2020)

Shifting soil fungal communities in response to fire and weed management in urban banksia woodlands

BCS Fire Science

Project Core Team

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Issues arising from habitat fragmentation are exacerbated by a warming and drying climate, land use changes and invasive species. To maintain biodiversity, various management methods are employed, such as prescribing burning or herbicide application. Many of these strategies are macro-organism focused, with less attention paid to microorganisms. Soil fungi play instrumental roles in ecosystem functioning, yet in many ecosystems little is known about how soil fungi respond to prescribed burning and weed control. The Swan Coastal Plain's *Banksia* woodland is one such ecosystem where there is a gap in knowledge. This project will help fill that knowledge gap and better inform management decisions.

A range of field and greenhouse experiments are being undertaken. Soils have been collected from a) sites with different 'time since fire', b) sites immediately post fire, and throughout the year, and c) a weed control/fire management study. Investigation of soil fungal community compositional changes, using molecular tools will be undertaken in relation to the factors at these sites.