Progress Report STP 2019-052 (FY 2020-2021)

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.

Analysis on soils collected from different areas of fire and/or herbicide management has been undertaken. Bioinformatics have been completed and the fungal, bacterial, archaeal and eukaryotic diversity have been described. How these change across banksia woodland and under various fire and herbicide regimes is currently being investigated.