

Bush fire management in high organic soils on the Swan Coastal Plain

Leask, J¹, Smith R.D.²,

1 Fire and Emergency Services Authority of Western Australia, PO Box P1174 Perth 6844

2 Fire and Emergency Services Authority of Western Australia, PO Box P1174 Perth 6844

The Swan Coastal Plain of Western Australia contains many areas of high organic soils, such as wetlands, peatlands and swamps which are very significant ecologically and have taken many thousands of years to develop. With the changing climate that is occurring in the south west of Western Australia, many of these high organic soils are being exposed to extended periods of drought which makes them susceptible to bush fires. This zone is also the primary commercial and industrial area of the State, and contains the State capital Perth, and consequently residential development is also occurring in the vicinity of these high organic soil sites.

The Fire and Emergency Services Authority of Western Australia (FESA) has identified the ecological significance of these sites and the associated complexity in suppressing fires when they occur. FESA is seeking to prevent fires entering these areas as a priority, but if fires do enter the organic soil sites FESA has identified suppression methods to enhance suppression and minimise the environmental and social impact. These fires can burn both on the surface and subterranean, are very difficult to suppress and may potentially burn for a number of months. Smoke which emanates from high organic soil fires has an unpleasant noxious odour and has impacted on adjacent communities requiring community health programs to be implemented.

A compounding problem is that many of these high organic sites also have a propensity to become acidic when disturbed by fire or by fire suppression methods that expose soils that have developed anaerobically to oxygen.

Key Words

Organic soils, fire suppression, acid sulfate soils