



Tathra Wildfire: Erosion impact assessment and use of the Collector App to guide community response

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Biography:

David Thompson has worked with the NSW Soil Conservation Service since 1988 serving at Gilgandra, Goulburn, Cooma, Wagga Wagga and Moss Vale. His experience has ranged from the traditional soil conservationist role of undertaking rural based erosion control earthworks projects, to working in the alpine zone of Kosciusko National Park when he was District Soil Conservationist at Cooma, to providing erosion and sediment control advice to major civil construction projects such as the Hume Highway Upgrade, and various civil construction projects in southern NSW. The main thing he has learned from his 31 years of experience, across these apparently different scenarios is that the erosion and sediment process is basically the same everywhere. In each situation you need to know how much energy is going to impact bare ground, what is the soils ability to resist that energy, and you can control the process with manipulation of the length and slope of the ground and that ground cover is the key control. He currently works out of Moss Vale and provides earthwork design and erosion and sediment control advice to fellow SCS staff and clients, and provides training to external clients and he loves passing on his knowledge to colleagues.

The Reedy Swamp Wildfire significantly impacted Tathra NSW on 18 March 2018. As part of the NSW Government response to the wildfires impact across the landscape the NSW SCS was asked to produce an Erosion Management Report to guide Government, Bega Shire Council and the Tathra community to undertake targeted action to help optimise government and community effort to rehabilitate the landscape.

The report showed the extent of the fireground impact, degree of damage, and undertook an assessment of severity of burn, slope length and grade coupled to soil types present to predict potential erosion hazard.

The field assessment reported on the potential sediment generation that would result from the burnt landscape (based on loss of ground cover). The report also provided guidance on the erosion and sediment control techniques available to provide immediate (though temporary) ground cover and medium term sediment control while natural ground cover reestablishes.

Due to the size of the fireground and the need for an immediate response a data collection process was devised to rapidly collect field data. The Collector App was employed to combine NearMap imagery (flown 19/03/18) with desktop erosion hazard assessment output (based on burn severity, slope length and grade, and soil types) to provide a guided path through the fireground so that a quick and accurate path could be determined to enable a targeted inspection of the high and severely burn areas. This accurate inspection process enabled the collection of GPS data that also includes site photo, fire ground description, and proposed erosion and sediment control technique with dimensions. This site specific data then enabled an accurate and quick costing of the rehabilitation project to be presented to funding bodies for support, as well as provide local community groups and Bega Valley Shire Council confidence to undertake rehabilitation projects over the last year. The Collector App data has enabled the project teams to quickly locate the control site and then install the recommended control.

Some photos of the site one year on from the wildfire are presented to show erosion and sediment control technique performance and some lessons learned for future responses are shared.