

TRAPPING SEDIMENT FOLLOWING BUSHFIRE AT MOUNT BOLD WATER RESERVOIR, SOUTH AUSTRALIA

R.Morris^{1,2}, S Calliss³, D. Dragovich⁴, M. Henderson^{2,5} and B. Ostendorf¹

1 School of Earth and Environmental Sciences, The University of Adelaide, Adelaide, SA; 2 Bushfire Cooperative Research Centre, Level 5/340 Albert Street, East Melbourne VIC; 3 SA Water House, 77 Grenfell Street, Adelaide, SA; 4 School of Geosciences, University of Sydney, NSW; 5 Science and Conservation, Department for Environment and Heritage, Adelaide, SA

Introduction

- Mount Bold is located 35km SE of Adelaide, Australia
- Bushfire occurred 11 Jan 07 burning 1700ha including part of the water reservoir reserve at Mount Bold (Figure 1)
- Total of 53 sediment traps installed using hay bales, coir logs and silt fencing (Figure 1)
- Emergency sediment traps installed due to predicted rainfall of 50mm
- After the fire 748.4 mm of rain fell in the year of 2007 at Mount Bold

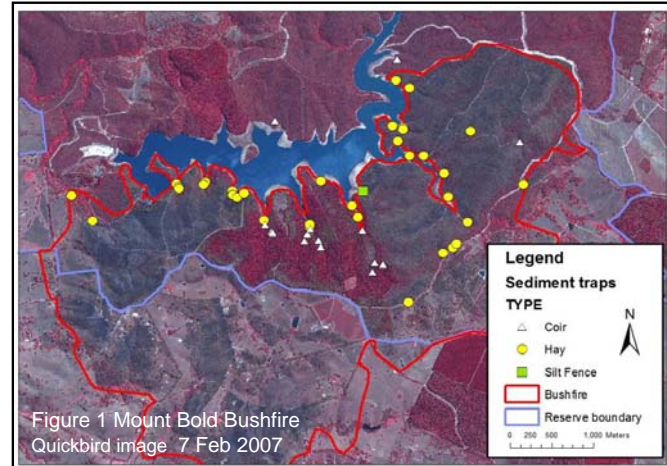


Figure 2 (LH) Algal growth adjoining hay bale sediment trap
Figure 3 (RH) Destroyed trap on steep slope

Results

- Over 130 cubic meters of sediment caught by the traps
- Over 49% of sediment traps had problems
- Water quality sample analysis from one site indicated no impact by the bushfire. Visual observations differ, showing turbid water and algal growth occurring in areas away from the sampling site (Figure 2)

Key Findings

- Steep narrow slopes require stronger traps such as rock gabions (Figure 3)
- Submerged traps still collected sediment (Figure 4)
- Wildlife destroy hay bales by eating the hay and creating homes in the traps
- Geotextile bags provide extra support and lengthen the life of hay bales
- Coir logs lasted much longer than hay bales
- Generally traps needed to be higher and wider than the existing creek bed (Figure 5)
- Silt fence required more support and additional fences to prevent the collapse (Figure 6)



Figure 4 (Above) Hay bale traps pre, during and post reservoir water level rise.
Figure 5 (LH Below) Traps needed to be larger than the creek channel



Figure 6a Silt trap before Figure 6b Silt trap after

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