

Appendix I

Lindfield Park Road rehydration project

Appendix I is available on the WSAA website

wsaa.asn.au/publication/bushfire-recovery-case-study-7-drought-fires-floods-and-water-quality

LINDFIELD PARK ROAD REHYDRATION PROJECT

The Lindfield Park Road fire was active for 210 days, burning over 400ha of land and peat. Discussions led by the NSW Rural Fire Service with the Department of Planning Industry and Environment, NSW Health, the Environment Protection Authority and Port Macquarie-Hastings Council determined that the use of recycled water would be beneficial to address the environmental and health impacts associated with the peat fire. It is the first time that recycled water has been used to suppress fires in Australia.



210 days

the Lindfield Park Road fire was active



400 hectares

of peat burned under the surface



65 megalitres

of recycled water was used to rehydrate the area

Rehydrating the Lindfield Park Road site with recycled water 2019 (Port Macquarie-Hastings Council)

A fire started on 18 July 2019 in an area west and adjacent to Port Macquarie airport which became known as the Lindfield Park Road fire. The fire was active for 210 days, burning over 400ha of land and peat. One of the challenges with peat is it burns underground, so while it can appear to be contained on the surface and around the perimeter of the fire, there can be peat still burning underground.

The NSW Rural Fire Service (NSW RFS) initiated discussions with the Department of Planning Industry and Environment (DPIE), NSW Health, the Environment Protection Authority (EPA) and Port Macquarie-Hastings Council (PMHC) to determine the most

appropriate means to address environmental and health impacts associated with the Lindfield Park Road peat fire, which was continuing to burn environmentally sensitive areas.

PMHC set up an internal working group to assess operational capacity to provide water to suppress the peat fire, while balancing the responsibility to ensure continued water supply in a time of intense drought. Alternative solutions to the use of potable water were considered by the group, and advice was provided to the NSW RFS on the environmental risks, contingency options and preferences for water sourcing. Through extensive consideration and collaboration of all agencies, the use of recycled water was deemed appropriate given the prolonged drought and continuing spread of fires across the region.

PMHC implemented a recycled water rehydration project in response to this decision. Modifications to the Recycled Water Treatment Plant (RWTP) were undertaken to increase the daily output of recycled water for temporary bushfire suppression while continuing to supply all existing commercial customers. PMHC laid 3km of temporary pipeline hose connecting the RWTP to a 'site' identified by the NSW RFS, in association with other agencies at a cost of \$90,000. Over 65 megalitres of recycled water was used to rehydrate the area, and raise the ground water level.

Benefits and outcomes

According to NSW Health, this project resulted in significant improvements to air quality. This led to a reduction in the number of road closures in the vicinity of the fire, which had been intermittently occurring due to smoke over the road.

The use of recycled water for bushfire suppression achieved many positive results for PMHC and the wider community. During 2019, Port Macquarie experienced one of the driest years on record. With minimal rainfall and limited water extraction from the Hastings River, the total combined storage of their dams reached record low levels, resulting in the implementation of Level 4 Severe Water Restrictions as a first for the region. With numerous fires burning concurrently across the Port Macquarie-Hastings, there was considerable pressure on the already low potable water supply.

With the temporary pipe network delivering water direct to the peat fire and effectively controlling further outbreaks, NSW RFS resources could be redeployed to other fires. During the second half of 2019, the Port Macquarie-Hastings region lost approximately 26 properties to fire. This number could have been much higher had NSW RFS resources been required to continue to protect properties and operational land surrounding the Lindfield Park peat fire.

Through ongoing discussions with NSW RFS, NSW Health and the EPA, this project has provided an opportunity for future use of recycled water in firefighting capacities. In addition, internally, the modifications to the RWTP have increased the capacity to provide recycled water to commercial customers, further reducing future demand on the potable water supply.

More information

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