

Lessons for museums: Sovereign Hill



Left to right: Geoff Howard, MLA Ballarat East; Jeremy Johnson, CEO Sovereign Hill and Barry Hodge, Sovereign Hill Horseman fill the water tanker at the Official Launch of the Sovereign Hill Smart Water Project.

The Challenge

Recognised as Victoria's leading tourist attraction and outdoor museum, Sovereign Hill attracts nearly 500,000 visitors each year, including around 110,000 school children.

Some attractions at Sovereign Hill require high levels of water to operate, with an operating steam exhibit consuming up to 5,500 litres of water per day, a number of ornamental and heritage gardens, as well as a circulating gold panning creek. Reduced annual rainfalls and increases in water restrictions have put pressure on already stretched water resources, leading Sovereign Hill to investigate options for reducing drinking water use.

With nearly half a million annual visitors, Sovereign Hill also realised that it was in a perfect position to communicate information about water saving strategies and ideas.

The Project

Using a Smart Water Fund grant, Sovereign Hill invested in a reverse osmosis system for the two Cornish boilers in its steam operations display. Total dissolved solids are extracted by forcing dirty water through a semi-permeable membrane, leaving purified water suitable for reuse in the boiler. The 2,500 litres of wastewater collected is diverted to a dam and used for dust suppression.

Smart Water Fund

“Sovereign Hill has reduced annual water usage from 34 ML in 2003, to 18 ML in 2007 and is projected to use only around 14 ML in 2008. Water discharged to sewer from the steam operations department will drop by around 2,500 litres a day as a result of the reverse osmosis system.”

Surface stormwater is also captured, and a sedimentation pollutant trap connected to the stormwater outfall removes sand and gravel to fully recycle stormwater to storage tanks. The stored water is used for ornamental gardens, the gold panning creek, battery house, and road dust suppression. It is also used to top up adjacent dams, water animals and wash the stable of 50 horses.

Using the Community Water Grants scheme, Sovereign Hill has harnessed rainwater catchments from existing rooflines. The water is channeled into a series of tanks joined by a gravity-fed underground water pipe and used to water the gardens. The system has the capacity to hold approximately a million litres of water.

Gardening strategies include clustering valuable plants in specific gardens, removing non-essential plants and improving mulching and soil condition.

Realising its advantageous position in educating the community, Sovereign Hill has woven the story of its water savings into various education programs for school years 3-10. It also launched a new education session called ‘Water: more precious than gold’ for years 3-6 and developed a brochure about water saving initiatives for schools and general visitors.

The water saving program was launched at a ‘Water, more precious than gold’ symposium, where 30 participants discussed local water issues.

The Benefits

Sovereign Hill has reduced annual water usage from 34 ML in 2003, to 18 ML in 2007 and is projected to use only around 14 ML in 2008.

Water discharged to sewer from the steam operations department will drop by around 2,500 litres a day as a result of the reverse osmosis system, and the discharged water can now be recycled and reused in other non-potable water consumption areas. Combined with the use of tank water, drinking water consumption in this area can be reduced by up to 93 per cent. Reverse osmosis treatment also reduces the need for chemical treatment and reduces the amount of energy required to operate the boiler.

The installation of the gross pollutant trap has allowed Sovereign Hill to harvest from 6.5 acres of stormwater catchment area. If targets are reached, the stormwater system will allow Sovereign Hill to harvest 1.25 ML annually.

Sovereign Hill’s ongoing education program ensures visitors and a new generation of school children are educated about the importance of water conservation.

For more information on this project contact:

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For more information about the Smart Water Fund:

www.smartwater.com.au or Freecall 1800 882 432