

Watering Heritage Gardens and Trees

Introduction

What are heritage gardens and why do they matter?

Heritage gardens include designed landscapes which are on the Victorian Heritage Register or on a local government Heritage Overlay. Many gardens and trees provide a setting or context for other heritage places also. Gardens and trees are included on the Heritage Register because they are of cultural significance – aesthetic, archaeological, architectural, cultural, historical, scientific or social – to Victoria. Gardens are identified in local government planning schemes in the Heritage Overlays for their cultural heritage significance to the local area.

Gardens of places like Government House, Como, Ripponlea, Werribee Park, Bishopscourt and many more cannot be managed for drought in the same way that non-heritage gardens are. Heritage gardens are often large and can contain expansive lawn areas, shrubberies containing seldom-grown plants and mature trees. Many of them are valued for their shade, their quiet relaxing spaces and their ‘greenness’, especially in summer. These significant characteristics need particular care in times of drought. These guidelines identify ways to minimise the impact of drought and the long term effects of climate change on gardens and trees.



Above: Gardens and tree plantings make a significant contribution to the heritage values of these terraces in South Melbourne. In times of drought and water restrictions, these important landscapes can be preserved by weed removal and mulching, pruning overgrown shrubs and hedges, aerating compacted soils and applying grey water to increase soil moisture. St Vincent's Place, South Melbourne.

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The Place To Be

Why do heritage gardens need to be managed differently to non-heritage gardens during droughts?

Much helpful information has been written about 'water-wise' gardens. Recommendations for 'water-wise' gardens generally include removing high water requirement plants, reducing lawn areas etc. Such changes are not necessarily appropriate for heritage gardens because of their special character, design, significant features, and - often - significant plant collections.

Changes implemented to reduce water usage should not alter the key elements of heritage gardens. Remember that many of our oldest gardens have experienced several droughts in their lifetime and many of their plants have developed strong survival mechanisms. However the effects of climate change and the drought we are now experiencing means that subsoil moisture is at an historic low and is likely to become even lower. When water is available, water as deeply as possible to try to restore sub-soil moisture.

Monitor your garden to learn what works, so you can make better informed decisions.

What are the important elements to preserve in a heritage garden?

Establish priorities for use of water. Generally trees, especially healthy mature trees, should be the top priority. Sacrifice trees that are on the decline or are senescent. Plant healthy, young replacement trees of the same species nearby before the old tree has to be removed. Permits from the local council or Heritage Victoria may be required for removal or replacement of trees.

Ways to reduce water requirements

How can watering be reduced without changing important plantings?

- Enrich the soil with as much organic matter as possible to improve its water holding capacity.
- Mulch garden beds and trees with 2.5 – 5 cm of any organic material (leaves, straw, compost, clippings, chippings etc.) Apply mulch to damp soil to prevent evaporation. Check to ensure mulch is not depleting the nutrient levels in the soil. If plants are looking starved, apply fertiliser. However in dry years it may be wise to limit the available nutrients in the soil. This will reduce new growth on plants and keep their water requirement to the minimum.
- Keep weeds to a minimum as they steal valuable moisture.

If the soil is hydrophobic, consider at the start of each growing season applying a wetting agent (preferably mixed with a plant tonic) to the whole garden – lawns, shrubberies and trees – at the start of each growing season. This mixture will enable water to be readily absorbed into the soil. Plant tonic adds to the general health of the plants, and adding it can be repeated during the growing season. Apply by attaching the container to the hose.

How can watering techniques be improved?

- Improve efficiency of water application by watering between evening and early morning.
- Water less often but more thoroughly to encourage the development of deep rooted plants, which will better withstand dry periods.
- Instal sub-mulch irrigation - the most efficient way of applying water to the soil and keeping it there.
- Take steps to limit or prevent run-off by means of contour mounds or furrows.

Efficient watering systems

Use drippers to apply water directly to the root system. This is highly recommended to avoid waste of water. The spacing of dripper lines will depend on the soil type and the plant, but about 0.5m apart is common. The organic content of the soil should be increased. After the irrigation lines have been laid out, mulch the area and control any weeds. Fertilizers may be needed to maintain healthy plants. Root growth chemicals and soil wetting agents may also be beneficial.



Notes on grey water

Take care when using 'grey water' because of the long term effects of some household detergents. For information on suitable laundry detergents for grey water use refer to <http://www.lanfaxlabs.com.au/laundry.htm>

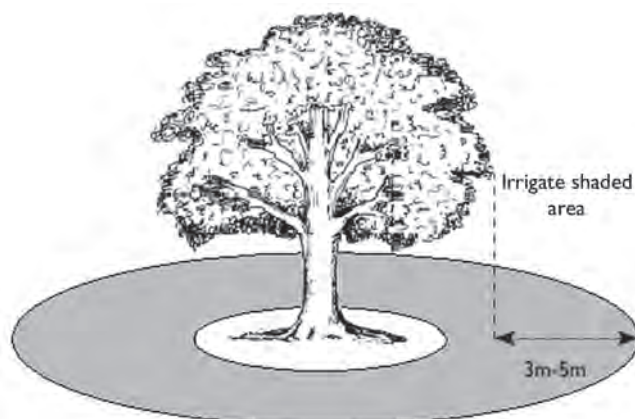
Notes for specific garden elements

Trees

- Mature trees are often the most significant feature in historic gardens and their care in dry times should take priority. Valuable information on their care, mulching and watering is available on www.treelogic.com.au.
- Keep mulch clear of tree trunks and plant stems to avoid possible fungal problems. Remove turf from around trees, aerate the soil and then add mulch.
- Keep trees as healthy as possible.
- Reduce possum damage by using possum guards to isolate trees.
- When water is available, water deeply.
- When water is limited, water one tree at a time. It is better to give all the household grey water to one tree each day rather than a bucket each to several trees.

Drawing courtesy of
Treelogic Pty Ltd,
www.treelogic.com.au

Watering Trees



Water containers

Apply mulch to the canopy edge and at a depth of 100-150mm, set back from the tree trunk, to help the survival and growth of trees.

Councils often use heavy plastic road barriers filled with water and with dripper hose attached, as a slow-release watering system at the base of valued trees. Supplementary watering and the addition of drippers below the mulch should also be considered. Before applying the mulch, compacted soils should be aerated to aid water filtration and control diseases and pests. Here a possum band has been put up to prevent damage to the tree.



Photo courtesy of City of Melbourne.

Shrubberies

- Mulch is essential.
- Keep shrubs healthy by regular pruning and fertilising when necessary. Do not over fertilise as this will produce excess growth requiring more water.
- During the summer prune only as necessary. A heavy cut back can often stimulate excessive growth which uses up moisture.
- Keep a register of all shrubs and trees. If particular shrubs or trees are not readily available, consider propagating replacements in the event of plant loss, or request that a specialist nursery propagate them.

Lawns

Keep lawns as healthy as possible so that they benefit from any rain that falls.

Measures to help your lawn include:

- Consider replacing with a drought resistant grass such as Windsor-green, Santa-Anna, Bluegrass, Greenlees Park and Wintergreen. For further information visit www.sgaonline.org.au/info_lawns.html.
- Use warm climate grasses, e.g. Kikuyu (see below) or Buffalo grass.
- Set your mower so that only one third of the leaf area is removed at any one time. This should leave a blade length of 10 to 15 mm which is sufficient to protect the soil surface and reduce evaporation.
- Keep lawns as aerated as possible. To avoid soil compaction, do not use as a car park. Consider using an aerator to ensure that water is absorbed and does not run off.
- Remove weeds.

Right: Kikuyu is a warm climate grass. It is seen here with drought-tolerant plants *Yucca filamentosa* (left) and Pink Rhamphiolepis (right). Note the dripper hose.



Learn from experience

- Monitor the water requirements of the plants in your garden.
- If plants die, determine why they died, and replant according to what you have learnt.
- If plant loss is a result of drought and a lack of moisture, replace plants with the same species and improve watering efficiency for the replacement plants.
- When replanting, group plants with similar water requirements together. For example, plant hydrangeas and other water-demanding plants in areas that drain slowly.

Some dry garden survivors

- Spring flowering bulbs play an important part in a dry garden as they are dormant through the driest months.
- Notice shrubs and trees that appear to survive dry times in your area and consider planting them if they were available at the time your garden was created. Such plants could be *Choisya ternata*, Hibiscus 'Wilders White', *Plumbago capensis*. Viburnum (*Laurustinus*) and Lilacs appear to survive dry conditions well. Shade provided by trees, mulched beds and a wise selection of hardy plants, e.g. Flag Iris (*Iris x germanica* cv.) will still provide colour and an attractive garden requiring low water use.
- Consider using warm climate grasses, Kikuyu and Buffalo, which are more tolerant to dry and hot conditions than most turf species. Many plants in historic gardens are very drought tolerant, eg species of Yucca and Pink Rhipirolepis. Consider placing more sensitive plants in the shade to reduce water stress.

Right:
Flag Iris grows well in shade from an attractive Wallangaura White Gum (*Eucalyptus scoparia*)



Government assistance

Through the Victorian Government's initiative Our Water Our Future, the Department of Sustainability and Environment offers a number of rebates to householders to help provide water for use on gardens or trees. These include rebates of between \$150 and \$1000 for the installation of rainwater tanks and \$500 for new grey water systems. Small rebates are also available for the purchase of mulch and water saving garden equipment. For further information on the Water Smart Gardens and Homes Rebate Scheme see www.ourwater.vic.gov.au or contact the DSE Customer Service Centre on 136 186.

Right:
Buda Garden, Castlemaine



The Smart Water Fund is a Victoria-wide source of seed funding for innovative water saving, water recycling or bio-solids management projects in the planning, design, construction or operation stages. It is also available for research and development projects. The Fund is open to everyone – individuals, community groups, business, research and development organisations and industry. Funding Guidelines are at www.smartwater.com.au

Are heritage gardens exempt?

Although historic parks and gardens are not exempt from water restrictions, Heritage Victoria can provide the owners or managers of parks and gardens included on the Victorian Heritage Register with a letter to their water company supporting a request for a dispensation. If you would like to receive a letter of support to accompany your request for a dispensation from the current water restrictions, please contact Heritage Victoria at heritage.victoria@vic.gov.au or telephone 03 9637 9475.

Check the Heritage Council web site for details of gardens on the Victorian Heritage Register www.heritage.vic.gov.au

Additional reading

Brookes M. and Barley R. 1992, *Plants Listed in Nursery Catalogues in Victoria 1855 – 1889 for the Ornamental Plant Conservation Association of Australia* (OPCAA) c/o Royal Botanic Gardens, Melbourne.

CSIRO Division of Soils, 1986, *When should I water?* [Detailed information on all aspects of garden watering.]

Handreck, K. 2001, *Gardening Down-Under: A guide to healthier soils and plants* [A useful book written for Australian conditions. The 43 pages on water summarise the previous reference “When should I water?”]

Van Dok, W. 2002, *The Water-Efficient Garden: a guide to sustainable landscaping in Australia*, rev. ed., Water-efficient Gardenscapes, Glen Waverley, Vic. [Detailed information about water efficiency planning and design, and how to improve the soil’s ability to harvest water, irrigation and rainwater tanks.]

Walsh, K. 2004, *Waterwise gardening*, 3rd ed., Reed New Holland, Sydney. [Covers design, mulching, soil improvement and plant selection, mainly for Southern Australia.]

Online Information

Drought resistant grass species
www.sgaonline.org.au/info_lawns.htm

- Fact Sheets on Trees
- Watering Mature Trees
- Mulch for Trees
- Tree maintenance during the colder months (use the Search box on p.2 to find these sheets)
www.treelogic.com.au

Information on suitable laundry detergents for grey water use: www.lanfaxlabs.com.au/laundry.htm

Helpful hints on saving water and drought-resistant gardens: www.southeastwater.com.au

Practical hints on saving water in the garden:
www.savewater.com.au

Gardens on the Victorian Heritage Register and updates to these guidelines: Heritage Council of Victoria and Heritage Victoria’s website:
www.heritage.vic.gov.au

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For more information contact Heritage Victoria on 9637 9475 or at www.heritage.vic.gov.au

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