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Agenda Item #10  
REPORT #RWSC 2008-11

**REPORT TO REGIONAL WATER SUPPLY COMMISSION  
MEETING OF WEDNESDAY, 21 MAY 2008**

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SUBJECT      WATER USE AND CONSERVATION UPDATE 2008

PURPOSE

To provide a review of current water use trends, to examine the implications of climate change for water demand, and to provide information and recommendations for a planned adaptive strategy including landscape water use management.

BACKGROUND

Based on the "2004 Review of the Strategic Plan for Water Management", the Regional Water Supply Commission established an adaptive approach to demand management. Since 2004, significant changes have occurred in regional growth patterns and projections, and in the market for plumbing fixtures and appliances that use water. New information on the potential impacts of climate change on future water demand, and on integrated and adaptive management approaches, have also become available since 2004. This new information is examined in the context of strategic planning for water management in the "Water Use and Conservation Update 2008" report (**Attachment 1**). The report also addresses tasks relating to demand management that were referred to staff by the Regional Water Supply Commission over the past several months, including recommendations based on the April 2007 "Review of Landscape Ordinances Report". Under an adaptive approach, a water use and conservation update report will be provided annually to the Commission to monitor progress toward the strategic objective and to recommend adaptations where appropriate.

REPORT

The "Water Use and Conservation Update 2008" report includes analysis and discussion of landscape water conservation measures, trends and projections of regional growth and water demand, climate change, integrated resource management and strategic planning approaches. The discussion is summarized in this report.

As presented in Figure 1, total water use since 1995 is largely unchanged despite the 10.6% increase in population served. This is evidence of the success of the demand management program in changing behaviour and attitudes towards water in the community.

The findings of the "Review of Landscape Ordinances Report" were evaluated to identify measures used in communities with water supply constraints similar to those in Greater Victoria. The most common landscape water conservation measures are public awareness programs, universal metering, watering schedule restrictions, conservation-oriented water rate structures and mandatory landscape standards for new development. Typical elements of landscape standards aimed at water conservation are minimum topsoil depth, limitation of lawn area, and the use of drought-tolerant plant materials.

Population in the CRD water service area is growing more rapidly than projected under the "rapid growth" scenario used in the 2004 Review of the Strategic Plan. Serviced population is now projected to continue to grow at an average of 0.9% annually until 2020, then slow to an average of 0.2% annually until mid-century. The market share of water efficient plumbing fixtures and appliances is also increasing faster than was anticipated in 2004. Based on this new information, and the assumptions that the current demand management programs are continued and that climate remains constant, average annual water demand is projected to remain roughly constant for the next fifty years (Figure 2). However, seasonal outdoor water use is projected to increase from one quarter to one third of total annual demand. Climate change is likely to further increase seasonal demand and to increase the risk of a supply shortfall due to the potential for several consecutive dry years.

Integrated management of water supply, wastewater, storm water and energy may introduce significant new opportunities and challenges in coming years. Water Services staff are participating in the CRD wastewater treatment project team, which is examining water and energy recovery from wastewater for beneficial uses. Landscape design elements that retain water on site, including deep topsoil layers and the diversion of roof leaders to rain gardens, can reduce demands on water supply and storm water infrastructure. Planning for higher density development can substantially reduce the intensity of water and energy use per capita.

With no significant near-term risk of water demand exceeding available supply in Greater Victoria at the current level of demand management, a planned adaptive model for managing water use is appropriate to manage risks due to regional growth and climate change. This model, which was endorsed by the Commission following the 2004 review of the strategic plan, is fundamentally similar to the soft path (backcasting) approach recommended by the Water Advisory Committee and the Gorge Waterway Initiative.

Given that climate change may result in greater outdoor water use it is proposed to develop water conservation oriented landscape standards suited to Greater Victoria, in consultation with local municipalities and other CRD departments. Work would be undertaken in 2009 subject to budget approval. To complement the development of standards, CRD education resources to land owners, developers, landscape designers and practitioners would be expanded to support landscape standards as they are implemented.

#### FINANCIAL IMPLICATIONS

The budget for developing landscape standards and educational resources will be presented as part of the 2009 budget.

#### RECOMMENDATION

That the Regional Water Supply Commission receive this staff report for information.

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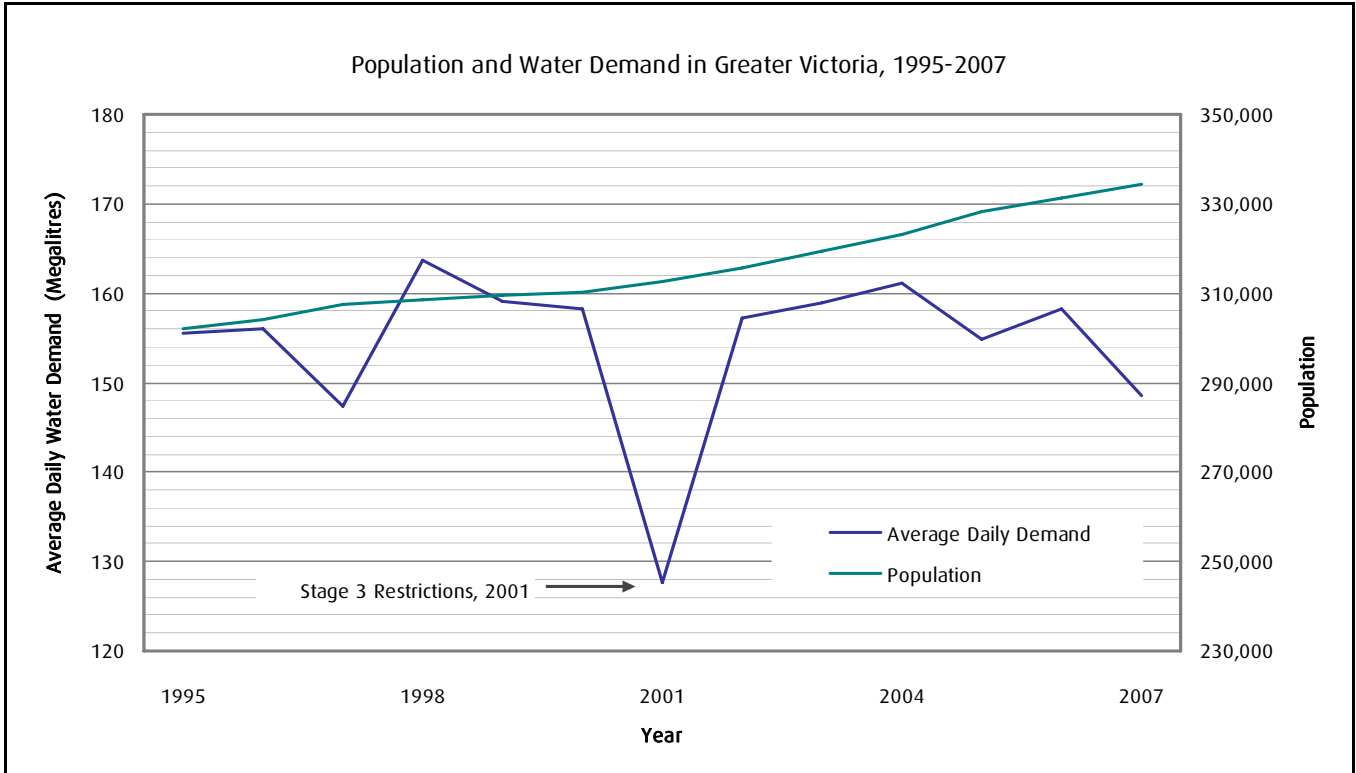


Figure 1. Population and Water Demand, 1995-2007

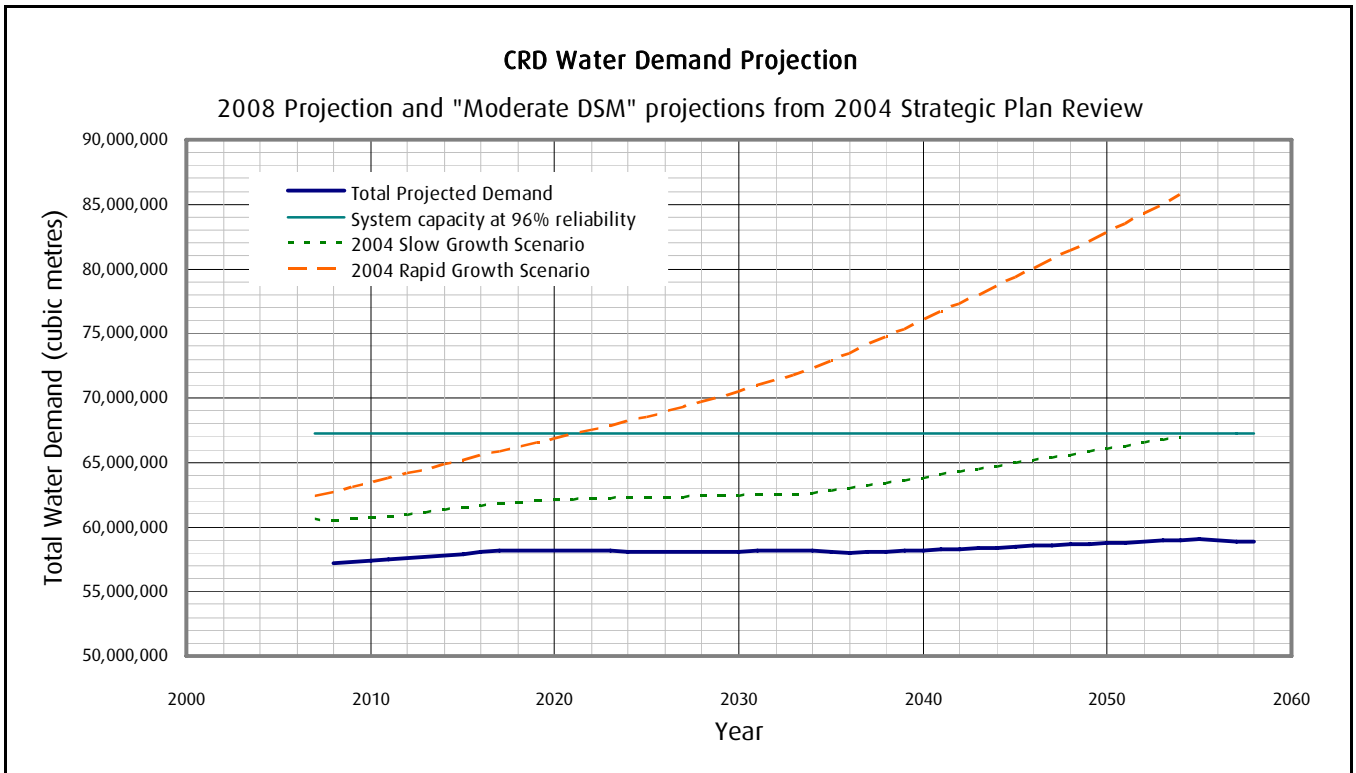


Figure 2. Updated Water Demand Projection