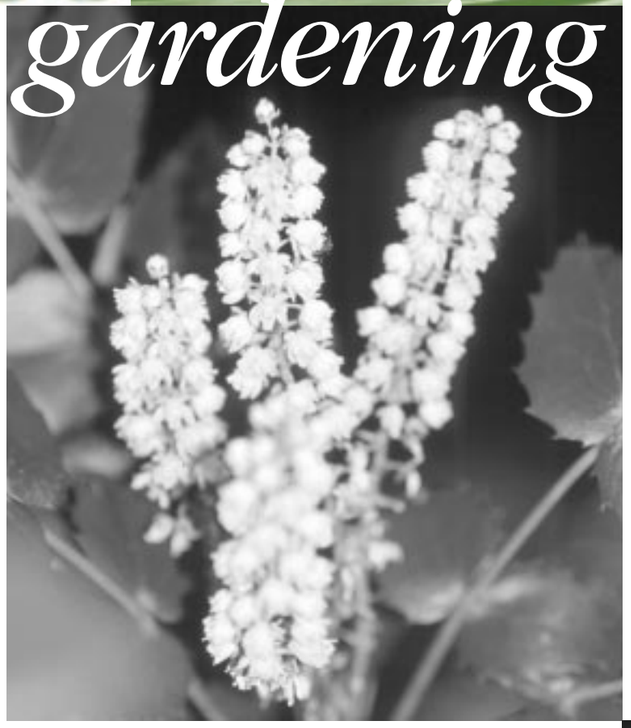
waterwise gardening

By Judith Cowan

Large photo: Michael LeGeyt; small photos & drawings: Judith Cowan



We dwell in the midst of a coastal temperate rainforest. As a result, our landscape expresses the abundance of water in the types of plants that grow here (a proliferation of mosses, ferns and herbaceous perennials), in lush growth and with a long growing season. Vancouver has cool, wet winters and warm, dry summers. The majority of the rain falls during winter and spring, often leaving the summer months in a state of drought-like conditions.

The Lower Mainland places the greatest demand on its water supply when the reservoirs are at their lowest. During the summer the regional district implements sprinkling regulations in order to conserve water. These restrictions are necessary to control the demand for water and to heighten public awareness of the preciousness of this essential resource. Using the principles of waterwise gardening will help to prevent unnecessary wastage, ensuring clean water for present and future generations.

What is waterwise gardening?

Waterwise gardening is not synonymous with xeriscaping, which is the term used for landscaping in areas that have extended periods of drought and dry weather (for example, the southwestern United States). Waterwise gardening is a more appropriate description for gardening in mesic climates like ours and incorporates the collection and storage of rainwater, the improvement of soil health, the establishment of proper maintenance techniques and the selection of suitable plant species to create healthy, beautiful gardens.

Collection and storage of rainwater

As rain falls onto city streets, it quickly flows along curbs and gutters into the storm sewers. By capturing and holding the rain, water can seep slowly downward through the soil to be drawn up by the root systems of plants.

Contour the land to slow the speed of runoff. Excellent examples are the terracing of hills or slopes and the creation of roadside swales.

Plant in Layers: Layered vegetation intercepts a greater amount of rainfall than a single layer, such as lawn. Plant a diversity of groundcovers, shrubs and trees.

Rain Barrels: The City of Vancouver's Water Works Department has designed a rain barrel to collect rainwater from roofs as an irrigation source for gardens in periods of dry weather rather than drawing on the City's reservoirs. The cost of the rain barrels is subsidized by the City; they are available for purchase by Vancouver residents at 604-323-7710.

Clockwise from above right: *Dull oregon grape* (Mahonia nervosa); *Salal* (Gaultheria shallon); *a City of Vancouver rainbarrel and Cascara* (Rhamnus purshiana).

Permeable Paving: Standard paving systems are usually placed on a layer of sand, which is impervious to the movement of water. Permeable paving is set on coarse gravel, allowing water to seep through the larger air spaces and into the soil.

Soil Health

Composting builds up organic matter in soil, thereby increasing its ability to retain water. By composting lawn clippings, leaves and other green waste, important nutrients, minerals, bacteria and microorganisms are recycled into the soil.

Mulching protects soil from drying out, prevents the loss of nutrients through leaching, and inhibits the growth of annual weeds. Mulches (leaves, straw) should always be applied when the soil is moist as they keep the soil temperature and moisture availability constant at the time of application. Green manures, such as winter rye, grown as a cover crop during winter prevent loss of nutrients through leaching and are dug under in spring to provide a source of nitrogen for plants.

Photo: Michael LeGeyt

Above: *Native plants like bunchberry* (Cornus canadensis) *are ideally adapted to our climate.*

Soaker hoses and drip irrigation direct water to plant roots and reduce the loss of water through excessive evaporation by releasing water at or below soil grade.

Water sparingly: Roots that have to search for water grow deeply, which helps them through extended periods of drought. Plants that are adapted to dry summers do not need to be watered during dry weather once their root systems are established.

Plant Selection

Waterwise gardening is responsive to the conditions throughout the year and uses plants that thrive in periods of both inundation and drought. Select plants that prefer acidic soil conditions, resist root rot from persistent winter rains and can tolerate dry summer weather.

Native plants, which are uniquely adapted to both our wet winters and dry summers, have little dependence on supplemental water during dry weather. They also express the ecology of our region and portray the beauty of the Lower Mainland's indigenous plant communities. Ornamental species from similar climates, such as the Pacific Rim, European coastal areas and wet regions of the Mediterranean Basin, will also thrive in our landscape.

Maintenance Techniques

Proper planning can reduce the amount of time and effort expended on tending and watering gardens. Maintain a regular schedule of care, and plant thickly to create shade and to smother the growth of weeds. Restrict the amount of time controlling plants that aggressively compete for light, moisture and nutrients by using plants in associations that co-exist harmoniously. For example, coastal strawberry *(Fragaria chiloensis)* and kinnikinnik *(Arctostaphylos uva-ursi)* combine to form a lush, evergreen, water-thrifty alternative to lawn. The low maintenance waterwise garden requires less water, has stronger plants and benefits from improved soil.

The principles of waterwise gardening respond to local and regional conditions of climate and weather patterns, rainfall, topography and successional plant associations. By observing the landscape and working with it more sensitively, a deeper awareness for the natural processes that shape our surroundings develops. Not only do we create an improved environment for our plants but also a healthier environment shared by everyone.

Join Judith Cowan March 6 at VanDusen's Spring Garden Forum to learn more about waterwise gardening.