

# Hydroscape

## Floating aerators boost impact of landscapes

To most people the relaxing sound of steadily running water or the cooling effect of a fountain blowing in the breeze is purely in the subconscious. However, if the landscape designer can achieve those reactions without it being apparent then that is the difference between a good landscape design and a great one. The more those reactions are stimulated by the surroundings, the more lasting its impact will be.

Landscape architects utilise colour, shade, light, plant shapes and sizes to create the visual impact of a landscape. But they also include the aroma of plants and flowers, the sound of running water or leaves in the wind, the coolness of a shady spot or gentle breeze. These are the impressions that often make a landscape stunning and unforgettable.

Water features are one of the most useful landscape tools that involve these other senses. More than any other landscape element, water features are as functional as they are attractive. A waterfall or fountain not only provides beauty; it also serves to clean water naturally by adding oxygen as it moves. With the addition of illumination, the benefit of a fountain can be extended into the night with spectacular effect.

These are some of the reasons why so many landscapes and golf courses include water features. Unfortunately, all the nice things about water features can become detrimental to a landscape without proper design and maintenance. The most atmospheric reflecting pool can turn into a foul-smelling, algae-covered lagoon in a matter of months. The fertilisers we use to keep the surrounding area green and healthy can turn a pond into an oxygen-deprived eyesore.

Too often water features are overlooked in maintenance programmes. Like any other aspect of landscape maintenance, there are a variety of ways to keep water features in shape. Fountains are just one of those ways; they are widely recognised for their ornamental value, but for the land-

scape and irrigation maintenance industry they have great practical value as well. Droplets distributed through the air by fountains dissolve oxygen as they fall, a process called aeration.

Cascading sprays create waves as they impact the water surface. These waves mix and circulate water as they head toward shore. The net effect is a healthy; naturally balanced body of water.

Dissolved oxygen produced by aeration is a major factor in controlling pollution in lakes, ponds and other bodies of water. Aerobic bacteria that biodegrade organic pollutants need the oxygen. Without sufficient oxygen, these bacteria can't keep up and water becomes foul. Pollutants ruin the visual impact of a landscape and create an unpleasant odour - an odour that can spread as the water is distributed by an irrigation system.

Organic pollutants, commonly including run-off fertiliser from golf courses and parks, provide nutrients for algae and other aquatic weeds to survive. In the summer months, when shallow water warms and most fertiliser is applied, conditions are right for an explosion of algae growth called a bloom. The bloom may cover the entire surface of the pond, eventually dying and settling to the bottom as sludge.

Warm surface water not only holds less oxygen than colder water, it is a better medium for an algal bloom. One way to keep the sun from causing a warm layer of water on the surface, known as thermo stratification, is to keep the water circulating. Fountain aerators bring up cooler water from as deep as 35 metres to mix with warmer surface layers.

Besides being unsightly, algae can clog irrigation equipment if the lake is used as an irrigation reservoir. Copper sulphate and various other chemicals used to control algae and weeds in water are effective, but some of these products can harm turf grasses or nearby ornamentals if included in irrigation water. Algacides and aquatic



herbicides often need to be applied repeatedly during the growth season.

Lake water treated with some aquatic herbicides can only be applied safely to turf several days after water is treated. If there is a drought during the interval and this water is vital for irrigation purposes, damage may result.

Where chemicals are necessary for weed and algae control, aerators can help distribute them throughout the body of water through wave action and mixing. With a seriously infested pond herbicides or mechanical removal of the weeds may be the only solutions. The idea is to prevent such serious infestation in the first place. Natural water cleanup

through aeration offers preventative maintenance; stopping pollution before more serious problems arise. Algae, weeds and odours are the obvious result of poorly aerated water. "With aeration, you can clean up algae and still use the water to irrigate without worrying about killing grass", notes Peter Roberts, MD of Hydroscape. "You'll no longer have sticking irrigation valves and other equipment. Over the years an irrigation system will load up with organic materials, causing system breakdown."

Peter Roberts company distributes Aqua Control floating fountains and aerators in the UK. The self-contained units require no foundation, no plumbing and no external pump. They can be anchored anywhere in a lake or pond. A single waterproof power line connected to an on-shore Power Control Centre is the only installation necessary. Dependent on motor size, a fountain aerator can pump water into the air at a rate of up to 3,000 litres per minute and can add approximately 1 kg. of dissolved oxygen per hour, per unit of motor horsepower, effectively mixing water layers to a depth of 35 metres, while adding oxygen to the water. Roberts suggests, that as a "rule of thumb" when sizing a fountain aerator, two horsepower of pump capacity per surface acre would be a good guideline. Units range from a half to twenty five horsepower.

Floating aerators can be



Peninsular barracks, Winchester