

TurfSustain

*A guide to turf management
in Western Australia*



Sports Turf Technology



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TurfSustain is a practical guide to sustainable turf management. It contains current information and proven case studies on all aspects of turf management including grass and soil types, fertiliser, irrigation, mowing, renovation, weeds and pests.

Using industry best practice knowledge, the guide is a useful resource for turf practitioners to assist in making informed decisions on turf management.

TurfSustain is an important link between the turf industry, research institutions and government agencies responsible for protecting the environment and is presented as an easily accessible 'hands on' field reference.

The model below shows how current information gained from investigation and practical research can be linked together to achieve a sustainable turf industry.



INTRODUCTION



Perth's population has doubled in the last 30 years and now more than 70% of Western Australians live in the metropolitan area. This rapid growth has placed considerable pressure on the natural environment. Climate changes, water conservation and water pollution risks are now important environmental issues faced by turf managers.

Climate change

The south-west of Western Australia has experienced significant climate change since the mid 1970s. Winter rains have decreased by up to 20%, particularly in early winter, with fewer rain days and less rain on wet days. Stream flows have been reduced by 50%, which has had a dramatic effect on inflow into storage dams used to supply scheme water.

Water conservation

With a declining rainfall trend predicted, water conservation is now a major public issue. Recent dry winters have seen dam levels drop below 30% of capacity, resulting in the introduction of stage 4 scheme water restrictions in 2001 and daylight water restrictions for councils.

There also are major concerns for ground water supplies. The Gnangara mound, which is the largest superficial aquifer in the Perth area, has declined significantly due to increased water extraction and the reduced recharge caused by extensive pine plantations.

Groundwater contributes to approximately 60% of Perth's drinking water and also sustains a number of dependent ecosystems on the coastal plain such as wetlands.

Water pollution

Water pollution is another major environmental issue. Recent major algal blooms that resulted in fish deaths in the Swan and Canning rivers have highlighted the problems caused by nutrient leaching and runoff.

Sustainability

Water conservation and pollution are some of the many environmental issues facing the metropolitan area that have raised the community's awareness of the importance of sustainability.

Sustainability is defined as the simultaneous achievement of economic, social, and environmental goals. Our future depends on sustainable policies and practices being implemented by governments, industry and the community.



Good irrigation practice – note the even coverage

Turf industry

The turf industry comprises council parks and gardens, golf courses (private and public), home lawns, turf farms, landscape gardens, bowling greens, schools and tennis courts. The turf industry has a very high profile in Western Australia, particularly Perth.

The estimated area of turf in metropolitan Perth is 13 500 hectares, a large proportion of which is public open space (UWA has proposed a detailed study to accurately determine the total area of turf in Perth).

The Turf and Landscape Industry Association (TLIA) estimates that the industry employs around 12 000 people and contributes over \$500 million per year to the Western Australian economy.



An example of good fertiliser practices – accurate placement of fertiliser on the active sports surface (right side)



Poor irrigation practice – over irrigation causing runoff


It is estimated that the total water use on parks and recreational areas alone is approximately 48 GL per year, which is over 10% of the total ground water used in Perth (State Water Strategy 2003).

The sustainable management of these areas through better irrigation and nutrient management is important to the community and our environment.

TurfSustain aims to assist turf managers to achieve sustainable practice and reduce the impact of maintenance activities on the environment.



An example of poor fertiliser practices – inaccurate placement of fertiliser on road



DID YOU KNOW?

It has been estimated that there is between 5 000 and 7 000 hectares of irrigated turf in parks and public open space in the Perth metropolitan area.

HINT!

Adopting good maintenance practices will help secure a sustainable future for our parks. Poor turf management practices could lead to stringent regulations and restrictions being imposed to protect the environment.