



Natural Grass v Synthetic Turf Study Report

- Background
- Demand and Capacity
- Local Environment**
- Sport Specific Requirements
- Broader Environment
- Social Impact
- Health Impact
- Life Cycle Cost
- Acknowledgments and Further Information
- Sport Dimensions

Local Climatic and Environmental Considerations

Chapter 5 of the Natural Grass vs. Synthetic Turf Surfaces Study Final Report

Related topics: facility

An additional key component of the decision making process is the local climatic and environmental factors which affect the local region. In particular the water supply, rainfall events and other weather conditions. Western Australia has been experiencing a period of drought conditions and in some areas access to a reliable water supply for irrigating sports grounds has been limited. These considerations are elaborated on below.

Water Supply

There are two principle water supplies available for irrigating natural grass sports facilities in Perth. Water Corporation is responsible for "Scheme" water and The Department of Water is responsible for bore water. Reclaimed water, storm water and other alternatives are available for irrigation in varying capacity across the state. Local waste water treatment schemes may be available in regional areas. In some regional areas it is understood that potable water is currently being transported in to maintain sports grounds due to a shortage of water from usual sources.

The majority of natural grass sports surfaces are watered using ground water bores managed by the Department of Water. Licences are issued to users, generally through Local Government. The licence conditions state the quota and conditions of usage. Generally bore water used for irrigating sports fields is allowed on 3 days per week between the hours of 6.00 pm and 9.00 am with further irrigation subject to exemption permit. There is no charge for bore water other than an annual licence fee and pumping costs (as at December 2011). Ground water areas are at their sustainable limit and it is understood that it is unlikely that bore licences will be granted for new users or increased for existing users.

Water Corporation 'scheme water' is available for use for irrigating sports grounds subject to water wise measures similar to the use of bore water. Irrigation is permitted on 3 days per week between the hours of 6.00 pm and 9.00 am with further irrigation subject to exemption permit. The cost of scheme water for 2011/12 is \$1.72 kL with additional charges depending on the size of the water supply metre.

Further and current information on water supply costs, watering times options is available from www.watercorporation.com.au and www.water.wa.gov.au

Irrigation Requirement

The irrigation requirement for both warm and cool season's natural grass, for varying quality of natural sports turf, has been calculated using the models developed as part of the 'Code of Practice – Irrigated Public Open Space'[1].

The 'Turf Quality Visual Standard' (TQVS) classification system was developed in the Code of Practice. The TQVS system has 4 classifications of natural turf and is shown in the table below.

Table 1: Turf Quality Visual Standard Classification System

TQVS Classification	Description	Comment
1	Elite Sports Turf	International/National Level Sport: e.g. WACA, Subiaco Oval, Perth Oval
2	Premier Sports Turf	State/Regional/District Level Sport: e.g. Leederville Oval, Baseball Park, Fremantle Oval
3	Local Sports Turf	Local Level Sports: e.g. local based sports grounds'
4	Passive Recreational Turf	Non-Sports Turf: e.g. Community parks/Passive reserves

The irrigation requirement for elite sports turf is higher than that for premier or local sports turf. Likewise the irrigation requirement for cool season grasses is higher than that for warm season grasses.

High irrigation requirement occurs in conditions where there is least rainfall and high evapotranspiration (Etc). For Perth this is in the warmer months from September to March as illustrated in Figure 1 below.

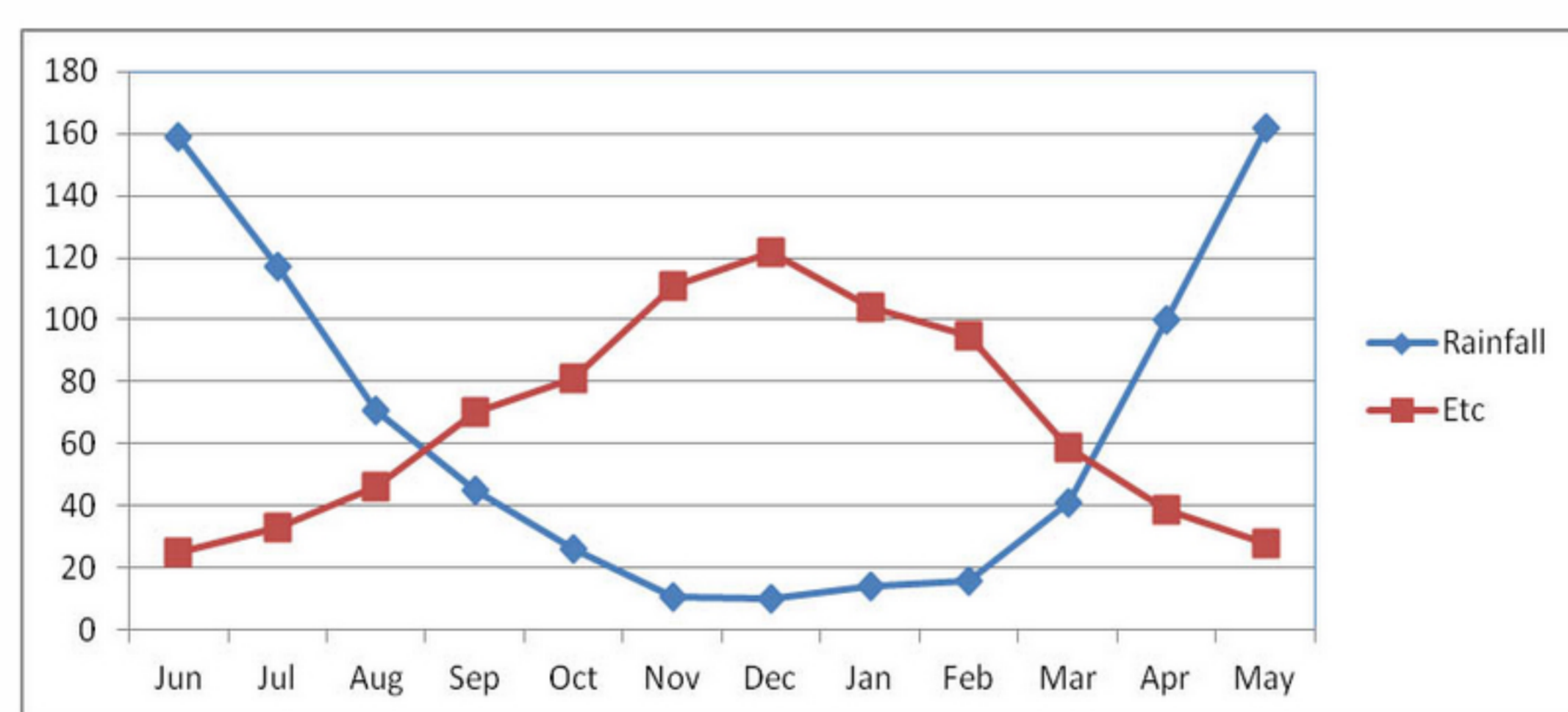


Figure 1: Relationship between Rainfall and Turf Water Requirement

Using climatic data for the Bureau of Meteorology weather station located at Perth Airport, the irrigation requirement for the 4 TQVS classifications of natural grass using cool and warm season natural grass has been calculated and can be seen in Table 2 below.

Table 2: Irrigation Requirements for the 4 TQVS Classification of Natural Grass

TQVS Classification	Description	Irrigation Requirement	
		Cool Season Turf kL / ha	Warm season Turf kL / ha
1	Elite Sports Turf	15,840	11,830
2	Premier Sports Turf	9,040	6,780
3	Local Sports Turf	7,520	5,520
4	Passive Recreational Turf	5,990	4,260

Warm season natural grass uses between 35 – 40% less water than cool season natural grass and irrigation requirements for local natural sports turf is approximately 50% less than elite natural sports turf.

Back to the Decision Making Guide

Step 2

[1] The Code of Practice – Irrigated Public Open Space can be accessed on the SA Water website www.sawater.com.au .

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Decision Making Guide

- Introduction
- Step 1 Trends and Capacity
- Step 2 Local Environment

The department	Funding	ClubsOnline	Sport	Recreation	Resources	Recreation Camps
Accessibility	Community Participation Funding	About ClubsOnline	Codes of conduct	Adventure Activity Standards	Audio	Enquiries
Annual reports	Community Volunteer Grants	Add your club	Coaching	Recreation Custodians	Events	Catering
Contact us	Community Sporting and Recreation Facilities Fund (CSRFF)	Club websites	Combat sports	Healthy Active Workplaces	Fact sheets	Holiday camps
Copyright	Community Sporting and Recreation Facilities Fund (CSRFF)	Clubs Online forum	High performance	Nature Play WA	Hot topics	Resources
Disability access and inclusion plan	Learning and development	Find a Club	Indigenous sport	Peak bodies	Information Centre	School Camps
Disclaimer	Regional	Ultimate Volunteer Reward	It takes the whole community to send an athlete to the Olympic Games	Recreation camps	Job Opportunities	
DSR logo	Scholarships		Officiating	Recreational Diving and Snorkelling Codes	News	
DSR Strategic Plan	Sports		Organisational development	Recreation Strategic Reform Agenda	Publications	
Freedom of Information	Trails		Play by the Rules	Tracks and trails in Western Australia	Research	
History	Special Trails Grant Round		Sports dimensions	Walking	Sport and Recreation Directory	
International Sporting Leave			State representatives	WActive Recreation Newsletter	Video	
Job opportunities			Working with children		Social media	
Minister			WA Sports Federation			
Position statements						
Privacy						
Regional services						
Resources						
Strategic Directions						
Strategic intent						
Western Australia						
What we do						



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