



Irrigation Efficiency and Drought Management

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Outline

1. Why irrigation efficiency matters?
2. Planning your irrigation system
3. Water restrictions and drought response
4. Grants

Why irrigation efficiency matters?

1. Impacts on turf
2. Costs to community
3. Preparing for the future

Impacts on Turf







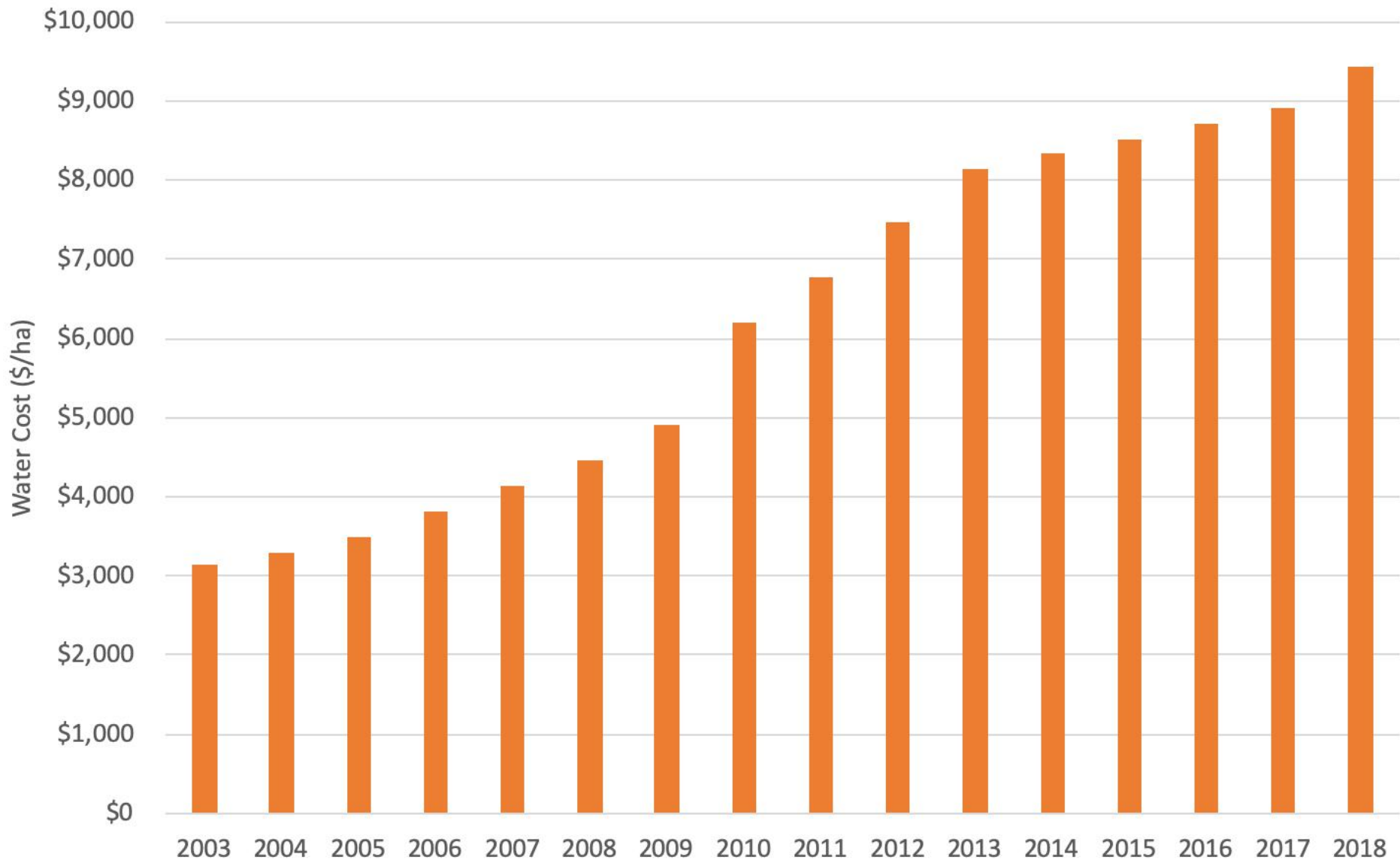
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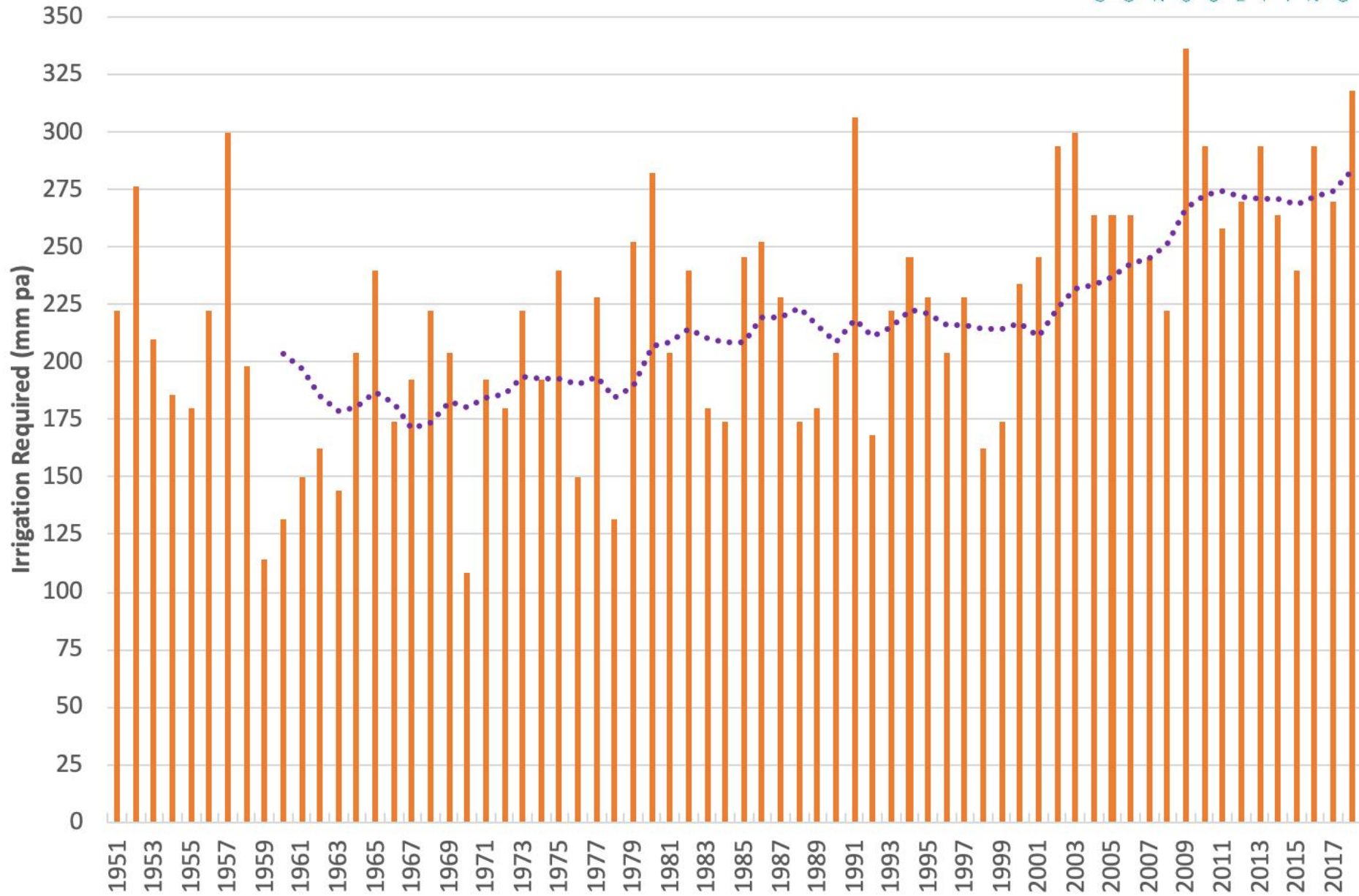
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Costs to Community

Water Cost - Low Use Field



Preparing for the Future



Planning your irrigation upgrade

1. Talk to your Council contact

- Standard irrigation requirements for new systems
- Sporting facilities plans/strategies
- Carrying capacity versus current and future use

2. Sequencing of works

3. Licensing and compliance

4. Design & Construct or separate design?

Sequencing Works

1. Low Cost Works

- Manage surface water – dish drains or mounds to stop run on
- Weed control

2. Irrigation

3. Amend soils & change turf cultivar

4. Slit drainage (if required)



PEAK WATER
CONSULTING

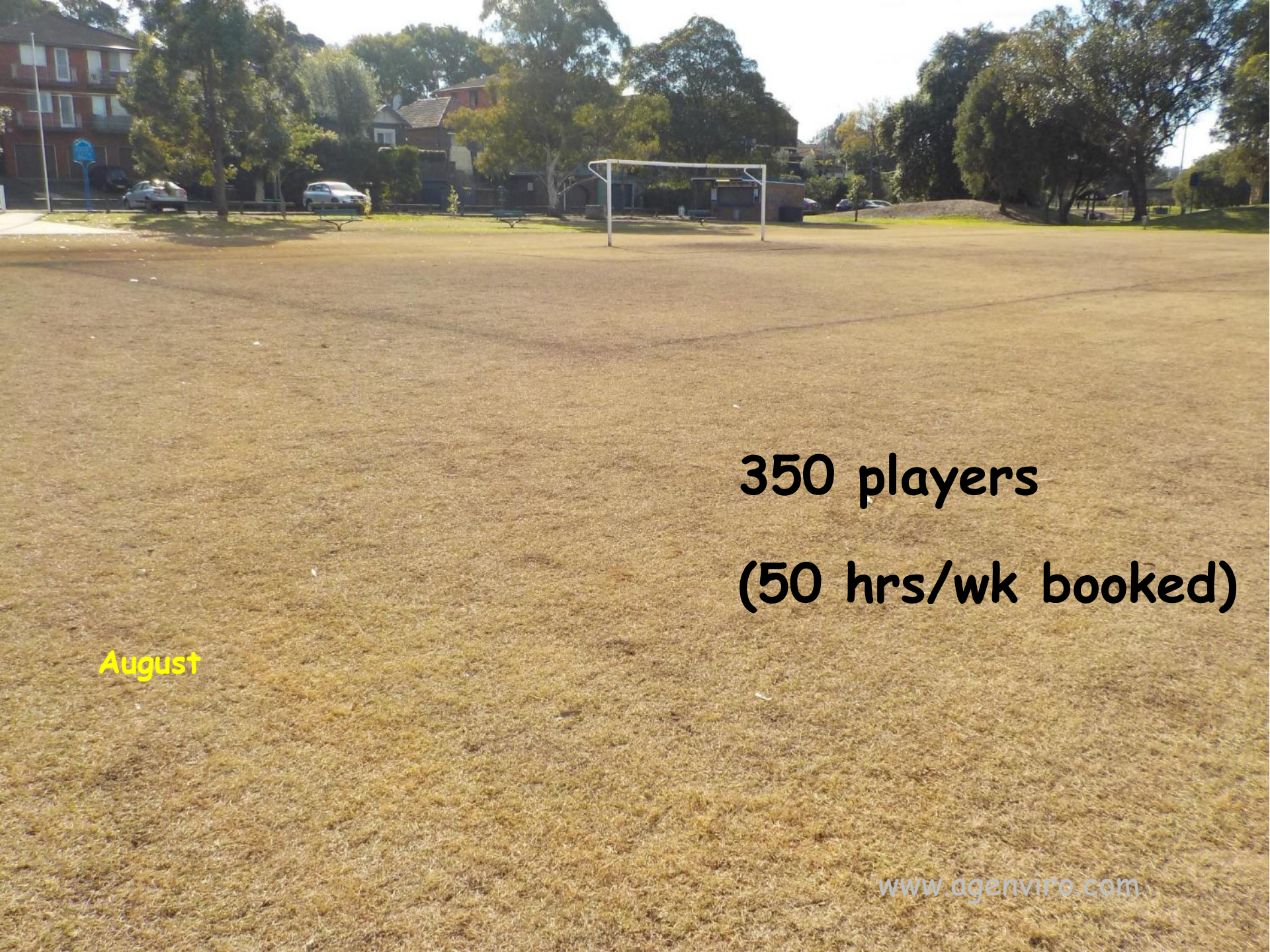
350 players/field (50 booked hours)

Drainage Installed



5 months
later





350 players
(50 hrs/wk booked)

August



November

www.agenviro.com

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Licensing & Compliance

- Hunter Water
 - Backflow requirements
 - Metering
- NSW Department of Fair Trading
 - Irrigation connected to potable water is “Specialist Work”
 - Must be undertaken by a licenced contractor
 - Contractors licence required to contract and advertise to do work




Design & Construct or separate design?

Double Field (1.6 ha). Average across 11 sites

Item	Design & Construct	Design	Difference
Evenness of Watering (Distribution Uniformity)	75%	90%	20% better
Water Use (ML pa)	5.88	4.22	28% saving
Annual Water Cost	\$13,940	\$10,000	\$3,940 pa
Run time to apply 5mm	16.3 hours	5.75 hours	65% decrease

Design means project is shovel ready

Water Restrictions and Drought Response

- 
- Storage Levels
 - Restrictions – What does it mean?
 - Managing turf and soils for drought



“Our water storages are at a 21 year low”

Total storage
61.6%

↓ 0.8%
since last week

Our community's water use

September - 4,332 million litres

October - 4,752 million litres



Chichester 54.3%



Grahamstown 61.2%

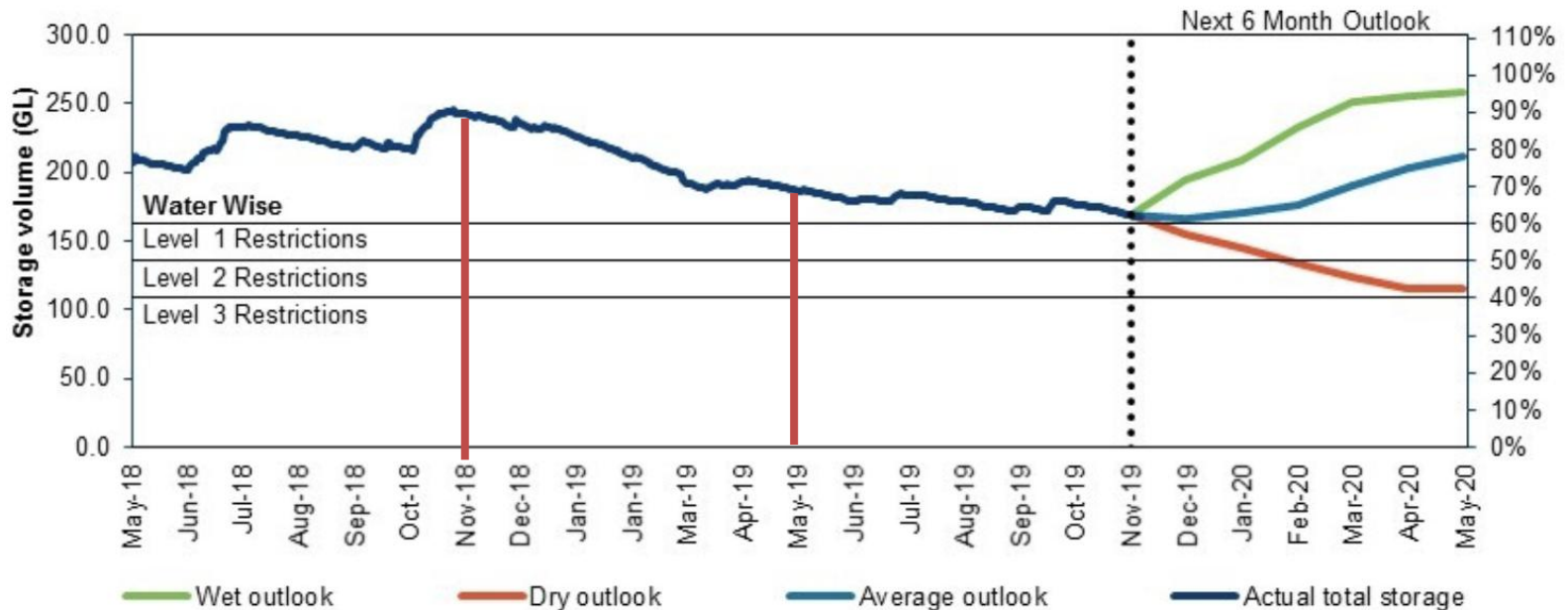


Tomago 67.3%



Anna Bay 54.8%

Hunter Water Storage and Outlook



Water Restrictions – What does it mean?

- All 6 Councils combined are the 2nd largest water user
- 75-80% of Council water use is outdoors
- **Sprinklers are banned. Requires an exemption to operate**
- Councils can apply to Hunter Water for exemptions
- Councils have the exemption requirements
- Each Council responsible for managing exemptions for their facilities

Water Restrictions

Restrictions Stage	Exemptions - What does it mean?
Stage 1	Reduced water use No watering between 10am and 4pm
Stage 2	Severe constraints “turf survival” Irrigation systems must have completed efficiency assessment
Stage 3	Total outdoor ban (only use non-potable water)

Stage 2 Restrictions

- Forecast for Jan-Feb 2020 if dry conditions continue
- Focus on turf survival compared to lush growth
- Must demonstrate prioritisation of facilities
- Irrigation systems must have completed efficiency assessment

Managing turf and soils for drought

- Reduce foot traffic impacts on turf
 - Location of training drills
 - Amount and frequency of training
 - Footwear
 - Location of sidelines
- Reconsider non-essential use and practices
- Manage expectations
 - Turf conditions
 - Water for turf recovery





August



October

Managing turf and soils for drought

- Coordinate with Council to manage turf and soils
 - Wetting agents
 - Weed control
 - Aeration (address compaction)



NSW EPA Organics Market Development Grants

1. Subsidised field assessments

- Independent, professional advice
- Assess site and provides recommendations
- Dr Mick Battam, AgEnviro Solutions

2. Subsidised Business Cases

- Have recommendations but need funding?
- Useful for grant applications
- Dr Paul Lamble, Peak Water Consulting

Questions



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Phone: 0418 873 509

A photograph of a sports field, likely a baseball or softball field, with a concrete path leading from the foreground towards the background. The grass is green on the left and brown on the right. A shovel is stuck in the ground on the right side. In the background, there are trees, a fence, and a small building.

180 mm

70 mm

Very sandy soils

SCG:

- Gravel layer
- Stabilising fibres
- Coconut fibre
- Maintenance staff and budget
- Water allowance



Add organic matter to profile

- Composted garden organics (<10mm fraction)



Soil Layering

