Botanic Gardens Australia & New Zealand 8th Congress

22-25 October 2017
Adelaide Botanic Garden

Botanic Gardens of SOUTH AUSTRALIA

BGANZ Congress

Adelaide 2017

Creating a plan to manage your trees

Presenter:
Luke Dawson

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Outline

Background and overview of tree management

☑ **Values and benefits provided by trees**

☑ **Issues faced by our trees**

☑ **Challenges faced by trees owner/manager**

☑ **Different aspects of tree management**

Creating a plan to manage your trees

☑ **Effective tree management**

☑ **Understanding our tree population**

☑ **What do we want from our plan**

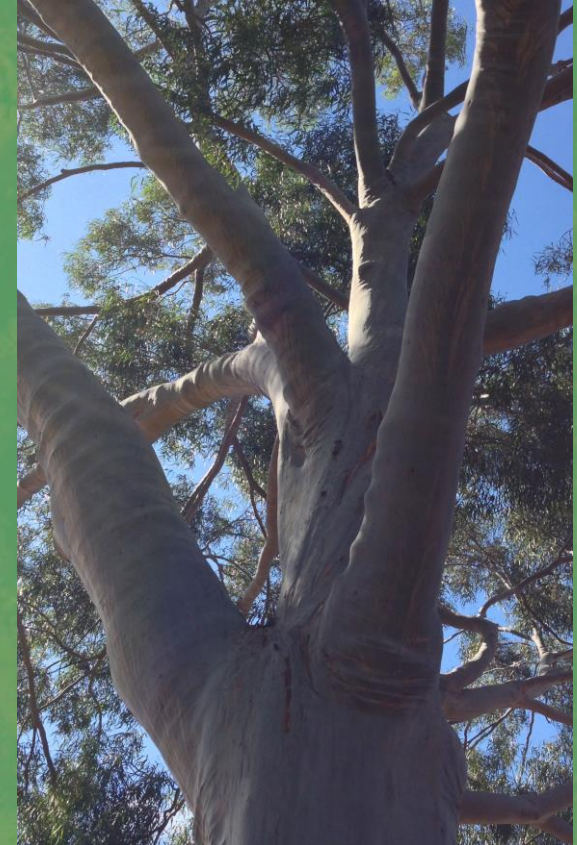☑ **Tree Inventories**

☑ **GIS Systems**

Values and Benefits of Trees

Trees are *dynamic assets* that provide a range of values and benefits including:

- Environmental
- Ecological value
- Aesthetic
- Social, Community and Personal benefits
- Immediate and long term economic
- Amenity value
- Structural diversity to the landscape

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Issues faced by trees

Trees face a range of issues that can result in reduced health/structure and even life expectancy. Such issues include:

- Pests/disease
- Development pressures
- Soil compaction
- Mechanical damage
- Storm damage
- Poor pruning techniques

Mechanical damage e.g. Mower damage

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Development/Construction e.g. Works within TPZ

Pest & Disease e.g. Myrtle rust

Poor pruning e.g. Epicormic growth after lopping

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS
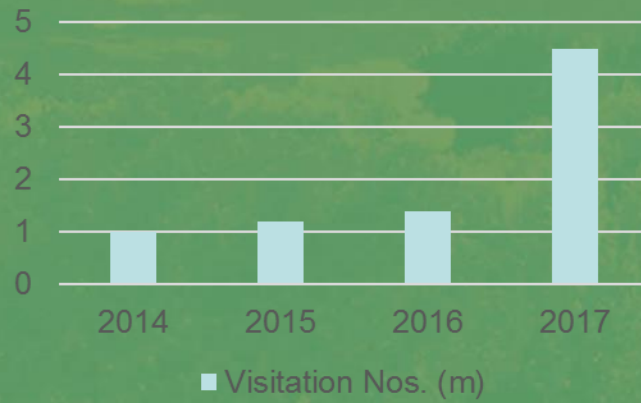
Challenges faced by tree owner/managers

Tree owners and managers also face challenges. These may include:

- **Limited budgets**
- **Increased pressure on limited resources**
- **Establishment of new/young trees**
- **Managing senescing and over mature trees**
- **Managing risk**
- **How to prioritize works**

Tree Maintenance Budget

120,000	
100,000	
80,000	
60,000	
40,000	
20,000	
0	

2014　2015　2016　2017

—— Budget $

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Park Visitation

Visitation Nos. (m)

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS
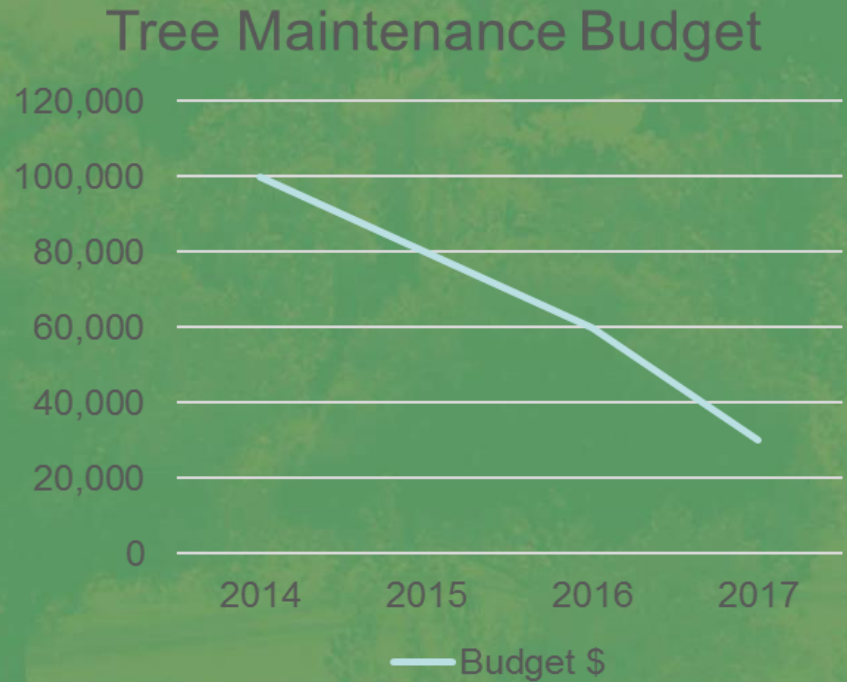
Aspects of tree management

Tree management comes in many different forms and comprises many different types of work. These may include:

- Tree planting and young tree maintenance
- General tree pruning works
  (both reactive and proactive)
- Managing the growing environment
- Assessing and managing tree risk
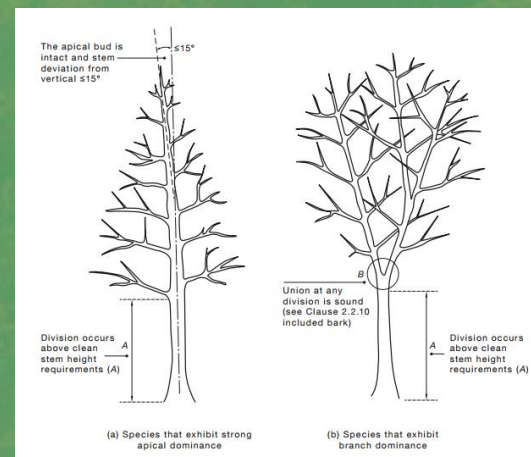

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Tree planting and young tree maintenance

Source: AS2302-2015

✅ **NATSPEC -*Specifying Trees* (Clark, 2003) in relation to guidance for the supply and purchasing of trees.**

✅ **AS2302-2015 Tree Stock for Landscape further guides the standards required when growing and selling trees and plants.**

✅ **Formative pruning of structural defects will improve structure.**

✅ **Trees can be shaped to fit their growing environment.**

✅ **Pruning wounds are minor and close quickly**

✅ **Future pruning costs are reduced and tree life expectancy can be increased.**

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

General Tree Pruning

Pruning can be undertaken as a reactive response (i.e. following damage) or as a proactive measure.

Correct pruning of trees delivers real benefits for condition and long term potential.

Poor pruning techniques deliver a proven increase in tree hazards over time and can greatly reduce tree life expectancy.

AS4373-2007 Pruning of Amenity Trees specifies methods for pruning of trees and gives guidance on correct and uniform practices.

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS
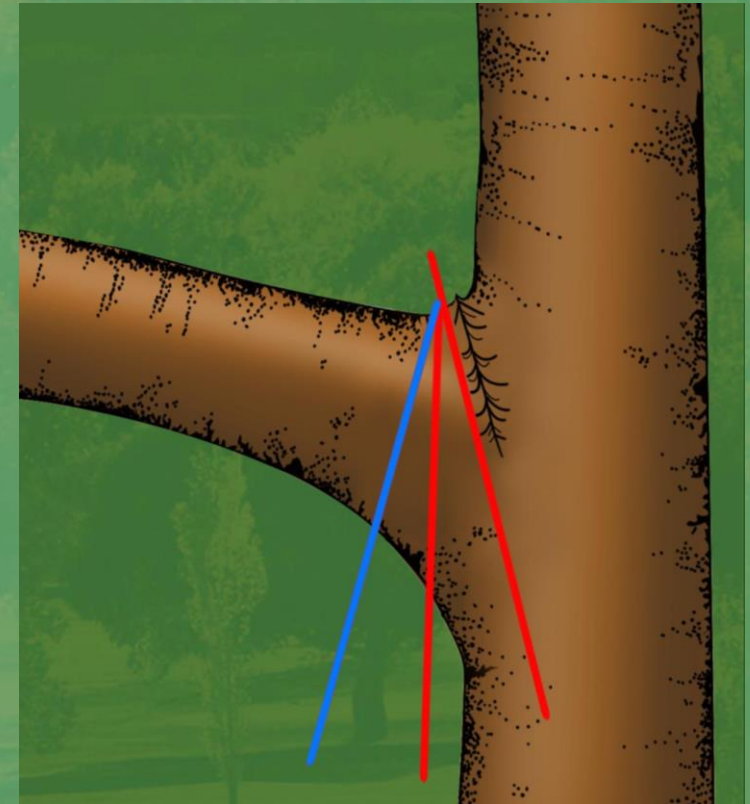
Managing the growing environment

Maintaining a soil environment that is conducive to tree root development is vital for trees of all ages. This can be achieved through:

- Mulching
- Irrigation
- Restriction of damaging activities

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Managing Tree Risk

- A Hazard is the item or issue that could cause harm (i.e. a tree defect)
- Risk is the potential for the hazard to cause harm (i.e. likelihood)

- A dead tree with no assets (e.g. paths, seats, car parking etc.) in the fall zone

  = lower risk

- A dead tree near access road

  = higher risk

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Effective Tree Management

Only through understanding our tree population and the challenges we face can we successfully manage our trees.

- Balancing costs versus benefits.
- Balancing benefits versus risk.
- Having dynamic processes and management systems.

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS
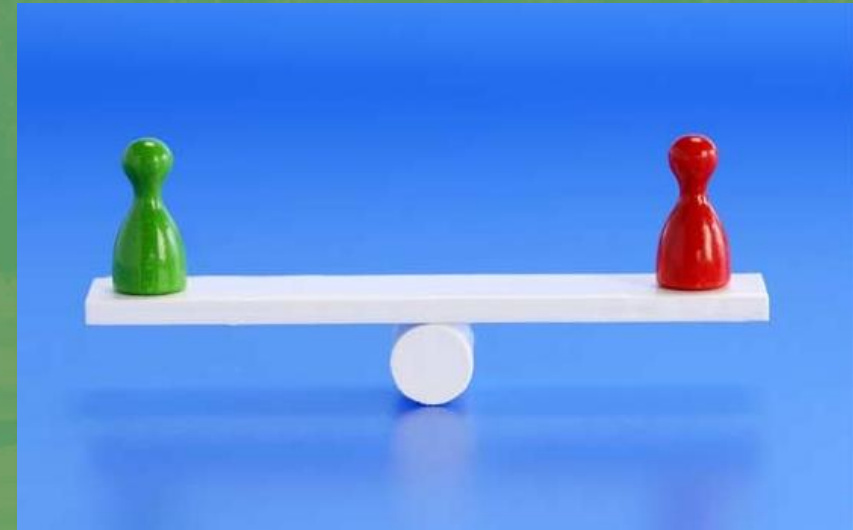
Tree Inventories

Tree inventories provide important information on your tree population and are a vital component of their successful ongoing management. An inventory must be:

- Contain relevant data for the tree population being assessed
- Be easy to access and use
- Dynamic
- Have good output

An inventory can be as basic as a spreadsheet or form part of a more complex asset management system.

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Works & Budget Management

To adequately manage tree works and budget you need to know:

- **What works are required**
- **The estimated costs of works**
- **The priority in which works are required**

Managing Life Expectancy & Succession

To adequately manage the age range and life expectancy of your tree population you need to know:

✅**The approximate age and range of tree maturity.**
✅**Their life expectancy**
✅**Species performance**

ArborPlan
Software Systems for Treescape Management

UWA, UWA Sports Park - Useful Life Expectancy** (1301 Trees)

264 Trees (20.29%)
289 Trees (22.21%)
217 Trees (16.68%)
5 Trees (.38%)
53 Trees (4.07%)
281 Trees (21.6%)
192 Trees (14.76%)

0   <5   5-10   10-15   15-25   25-50   >50

**Not related to hazard and risk assessment

THE UNIVERSITY OF WESTERN AUSTRALIA

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS
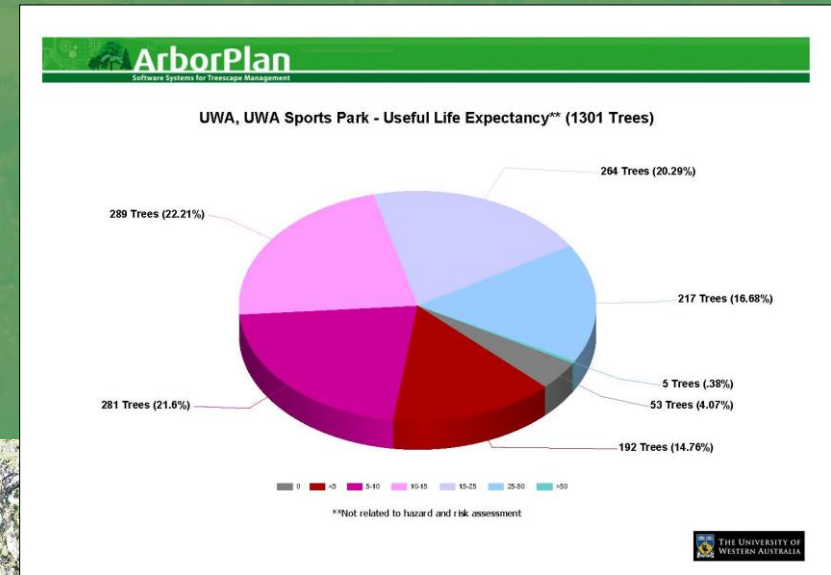
Tree Risk & Duty of Care

Consulting arborists typically have the training and experience to provide assessments of the risks posed by trees:

- **Tree risk assessors should at a minimum hold an AQF5 in Arboriculture.**
- **Tree risk assessors should use a documented, tested methodology in their assessment of tree risk.**
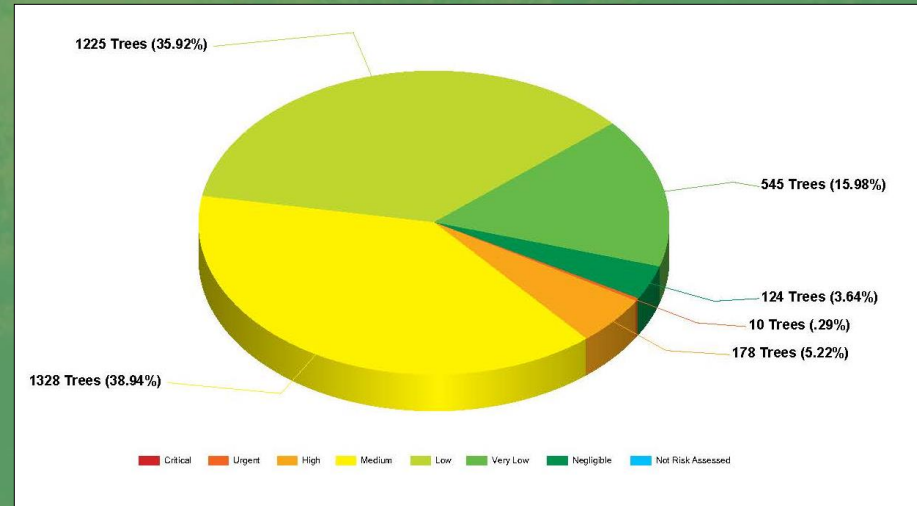- **ISA Tree Risk Assessment Qualification (TRAQ) &/or Quantified Tree Risk Assessment (QTRA) are examples of such methods.**

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Geographic Information Systems

GIS allows capture, manipulation and analysis of data in a spatial format. GIS can:

- **Identify the location of trees**
- **Show their attributes**
- **Provide distinct icons and symbols to represent tree populations**
- **Be easy to use and navigate**
- **Be live systems that show current data**

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Conclusion

Tree management is an ongoing process and therefore a plan for tree management needs to be:

- well considered and fit for purpose.
- useable by all parties involved in their management.
- reviewed, revisited and updated to ensure currency.
- A report is a moment in time not a management system.

Trees are dynamic….and so should their management.

ArborSafe
LEADERS IN TREE MANAGEMENT SYSTEMS

Thankyou for your time.

For any further information or to discuss your tree management issues

Please call us on 1300 ARBOR1 (1300 272 671)
or email enquiries@arborsafe.com.au

Sources: International Society of Arboriculture, Dr Alex Shigo, Modern Arboriculture, Standards Australia AS 4373 – 2007.