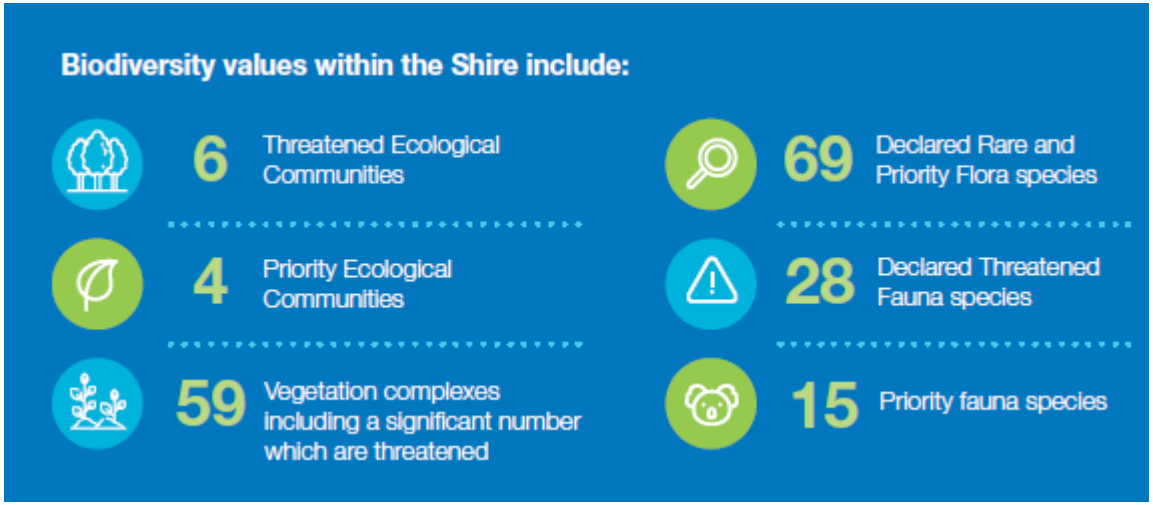
Integrated weed Management

Shire Assets

Legislative requirements

- *Biodiversity Conservation Act 2016*
- *Biosecurity and Agriculture Management Act 2007*
- *Road Traffic Act 1974*
- *Bushfires Act 1954*
- *WA Occupational Health and Safety Act 1984*
- *Health (pesticide) regulations*



Road safety

Under the *Road Traffic Act 1974*, local governments are responsible for designing, building and maintaining an extensive road network and for ensuring the safety of all road users. Weeds can affect the safety of local roads by posing a fixed object hazard for oncoming traffic, reducing driver visibility and impeding the integrity of the road surface. Controlling weeds along roadsides helps to improve road safety, and reduce the number of vehicle crashes.

Weeds growing on road shoulders can affect the drainage of the road leading to pot holes and poor and unsafe road surfaces.

Bushfire protection

Weeds that grow in parklands, open space, bushland reserves and along roadsides all have the potential to increase fuel loads and therefore create a fire hazard. Under the *Bushfires Act 1954*, local governments, along with DFES and DBCA, are responsible for managing fire in these areas and may do this by controlling weeds to reduce fuel loads. This is particularly important in the Shire, where weed control in bushland reserves and roadsides that adjoin residential areas is undertaken to protect lives and property from the threat of bushfires.

Integrated Weed Management Plan

Natural | Connected | Prosperous

Photo of Barrett St reserve following 2012 burn

Post fire weed control

Weed species can often germinate first after a fire, utilising newly available nutrients in the ash bed well before new native species re-sprout or germinate from seed. After a fire or prescribed burn is an opportune time to control weeds, as weeds are actively growing and therefore take in herbicide very effectively. The bush is easier to physically move through, the weeds are easier to spot in an open and burnt landscape and there is often a lesser chance of off-target damage because the weeds are up and thriving while the natives are dormant below ground. This provides the opportunity to remove a greater majority of the weed population than would otherwise be the case and, importantly, stop the weed populations from dramatically increasing in a boom flowering and seeding year. Weed control should be undertaken after the target species are actively growing (i.e. re-sprouting or germinated and with a reasonable amount of leaf surface area). This is usually before, or soon after, the first rains of autumn. Appropriate planning and sufficient resources are needed prior to burning to ensure appropriate follow up weed control can be carried out.

Steam treatment

The Shire has trialled steam weeding for weeds on footpaths and around garden beds in town centres. It works by heating water under pressure to 98-103 degree Celsius then applying the water to the surface of the leaves. The heat and force break down the cell structure killing the crown of the plant within a matter of hours or days. Successful on annuals, this control has little effect on the root system of plants with rhizomes, bulbs or corms as the boiling water only penetrates approximately 5mm below the ground surface. In most situations where the weed crown has died repeated treatments on a regular basis are necessary to maintain weed free pavements and roadsides.

The steam weeding uses a truck and diesel motor to heat the steam which can be both loud and smelly in its application and requires traffic management. The application process is expensive in comparison to other weed treatment options and requires regular follow up treatments. There are limited services available within the Shire.

Alternative organic weed treatment

The Shire has trialled the use of several alternative weed control products including pine oil, pelargonic acid, slasher and bioweed, all of which are acidic treatments. The Shire staff have found some of these products difficult to use and irritating to the eyes of the operators. The products are expensive to buy as they require little dilution and often require several follow up treatments.

The Shire will continue to trial new alternative products as they become available.

Biological control

Biological control of the environmental weed bridal creeper was released in the Shire in 2009.

This control, released by the CSIRO, has been effective in managing this invasive environmental weed without the need for additional chemical control methods.

Manual Control

Methods include:

- **Complete removal** often contractors and or friends of reserve volunteers are able to hand pull and completely remove some weed species from Shire reserves.
- **Cut and paint technique** can be used for some vines and woody weed species which can be cut and the stump painted with chemical to prevent reshooting. This is often used in the bushland reserve by contractor and volunteer groups and provides a very targeted and effective control method.
- **Solarisation** uses physical barriers such as black plastic or weed mats to exclude sunlight, heating the soil and controlling weeds. Volunteer groups have used this method to control weeds close to waterways prior to revegetation of an area. This can be slow but works well in small areas that are able to be monitored regularly by volunteers.

Effective manual control requires specialised knowledge of plant ecology and root type, seed viability and dispersal, growing season and location.

The use of manual controls over the last five years have shown that while some species may be completely removed successfully, it takes a long-term commitment for effective containment or eradication.

Mechanical control

Within the Shire, slashing or mowing/brush cutting are mainly used to control grasses and some small herbs. However this control method requires ongoing repeated treatments and does not eliminate the weed, only its biomass. This type of control will often require traffic management, increases the risk of starting a fire and can cause damage or injury by throwing rocks and other objects.

Management Plans for Shire Reserve

The Shire has funded the preparation of Reserve Management Plans (RMPs) for a number of its reserves. Reserves are generally prioritised based on biodiversity conservation values and also the values placed on the reserve by the community. Weed management is generally a key focus of most RMPs, requiring a works program to direct future weed control works required within the reserve to protect the biodiversity values.

Chemical Application

When applying chemicals, all Shire operators and contractors follow requirements of the Occupational Health and Safety Act. Products are mixed and applied in accordance with the product label. Chemicals are applied in a safe and responsible manner and in accordance to label directions and best practice from the Western Australian Department of Health.

The Shire is aware that chemical use is often scrutinised by the public and is careful to ensure safety and public health obligations are met.

Shire staff performing chemical weed control course TLID2003 handle dangerous goods and hazardous substances. The training teaches staff to be aware of the dangers when using chemicals in concentrated form and spraying.

Shire Staff and contractors follow the Shire's safe work method statement. This meets the standards required under the

- *WA Occupational Health and Safety Act 1984*
- *WA Occupational Health and Safety Regulations 1996*
- *National Standard for Manual tasks 2007*
- *National Code of practice for the prevention of Musculoskeletal Disorders and performing manual tasks 2007*
- *Health (pesticide) regulations, Amendment Regulations 2016*

Staff are supplied with and wear the appropriate personal protective equipment, display signage and will only apply chemicals in the appropriate weather conditions.

New technologies

The Shire and contractors have been trialling shrouds on spray equipment to minimise spray drift and have installed wind-monitoring equipment on vehicles to ensure chemicals are only applied under appropriate weather conditions. The Shire's contractor is also trialling new nozzles and sensors on spray equipment that help detect the presence of weeds and only spray infected areas. This is useful for roadside areas and reduces chemical use.

Signage

When applying chemical, signage is displayed so people who wish to avoid the areas can do so. The signage also displays the name of the product that is being applied

Signage remains in place until the product has been applied and is touch dry in accordance with the Health (pesticide) Regulations 2016.

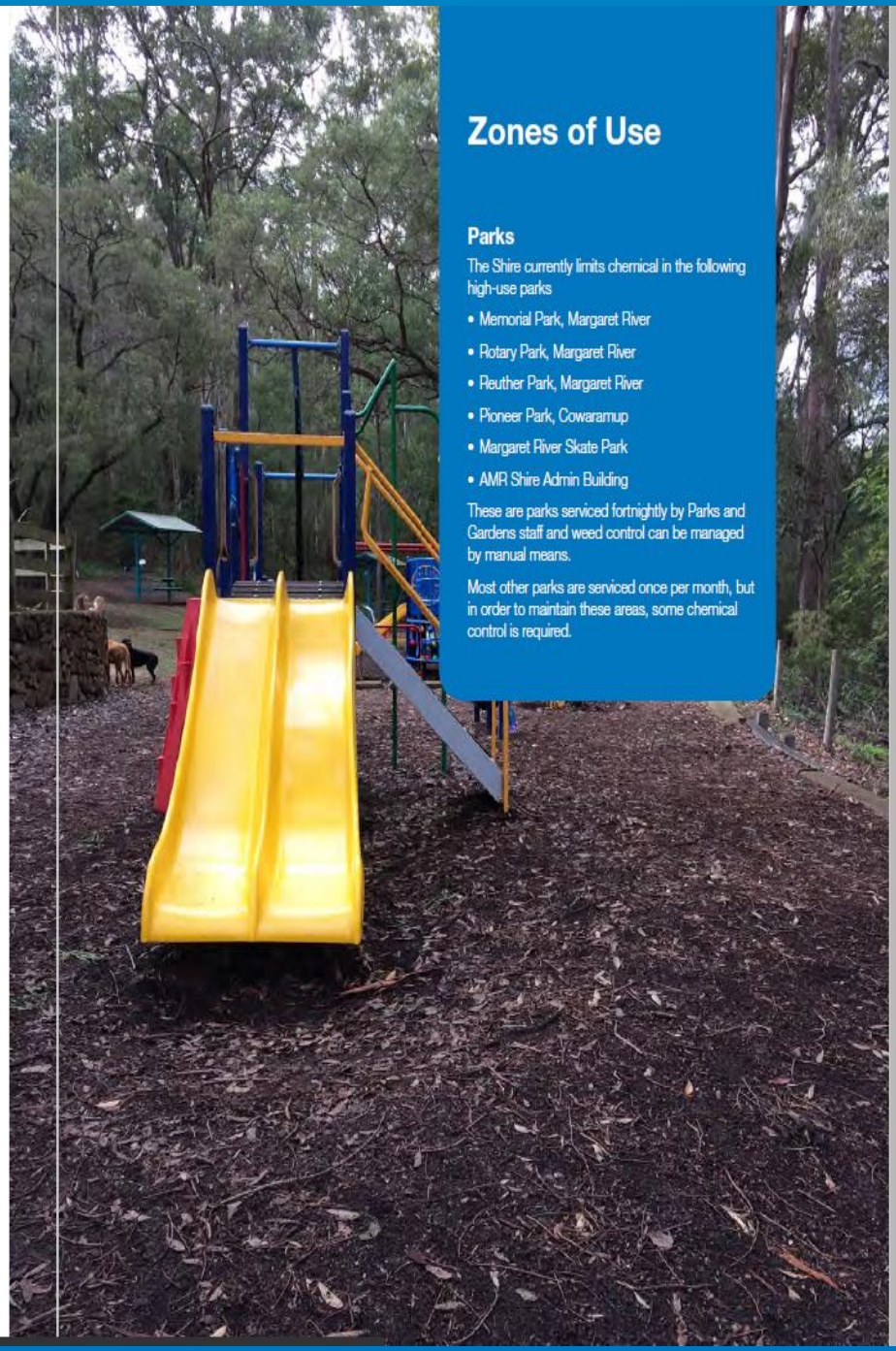
Advanced Warning

Weed control needs to be completed under suitable climatic conditions therefore it is not always possible to plan treatment in advance or provide advanced warning notices via letters to the public. Favourable weather conditions need to be utilised to ensure there is no off-target impacts due to wind drift and to ensure effective results.

Residents registered as multi-chemical sufferers will receive advanced warning, but this can only be achieved within a broad timeframe.

People on the Multi Chemical Sufferers list must contact the Shire on an annual basis to maintain their registration and to keep their contacts up to date. To register on the list requires medical evidence.

The Shire will still maintain the ability to spray in your area, but the resident will be more aware to avoid the area if they see signage.



Zones of Use

Parks

The Shire currently limits chemical in the following high-use parks

- Memorial Park, Margaret River
- Rotary Park, Margaret River
- Reuther Park, Margaret River
- Pioneer Park, Cowaramup
- Margaret River Skate Park
- AMR Shire Admin Building

These are parks serviced fortnightly by Parks and Gardens staff and weed control can be managed by manual means.

Most other parks are serviced once per month, but in order to maintain these areas, some chemical control is required.

Chemical control of Weeds in Augusta Margaret River Shire

Given the large number of reserves managed by the Shire, chemical free alternatives are not always feasible and a herbicide may be selected for use. Herbicides are applied in a safe and responsible manner and in accordance to label directions and recommendations from the Western Australian Department of Health.

It has been calculated that the Shire purchases less than 5% of the chemical/glyphosate sold by a single large retailer within the Shire. Glyphosate is a widely used product for home gardens through to large-scale agricultural industries.

The Shire uses glyphosate for weed management in natural areas, spot spraying in parks and gardens and weed spraying on kerbs, footpaths, medians and shoulders of rural roads. Other Chemicals are also be used at times, depending on the target species and setting.

Chemical control of weeds is necessary for the Shire to meet its obligations under the Biosecurity and Agricultural Management Act 2007, and Road Traffic Act 1974. It also protects the biodiversity values of road reserves and bushland areas and maintain the publics safety and aesthetic values of urban parks.

Weed Management Techniques

- Early prevention and treatment
- Good weed hygiene
- Post-fire weed control
- Manual removal
- Mechanical control
- Steam weed control
- Organic weed treatment
- Biological control
- Chemical control