

Our Commitment

The City of Stirling is committed to the responsible use and reduction of pesticides and is implementing a range of chemical free initiatives to manage weeds and pests. To help achieve this, the City follows the principles of Integrated Pest Management (IPM). This means the City is working to reduce reliance on chemicals while ensuring weeds and other pests are managed responsibly and that pesticides and herbicides are only used once all other feasible and reasonable options have been explored.

Given the large scale of land managed by the City, chemical free alternatives are not always feasible and a pesticide may be selected for use. In which case, they 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 City also notifies residents of pesticide use through a range of channels and maintains a Pesticide Notification Register.

For more information on the City's commitment to pesticide reduction and responsible use, please refer to the Draft Weed and Pest Management Policy and Pesticide Use Notification Plan.

Why is weed and pest management important?

Weed and pest management is an important service provided to the community because weed invasion threatens the biodiversity of our conservation reserves and affects the function, community use and amenity of our public spaces.

What control methods does the City use?

The City maintains large areas of land, including many facilities and assets. This means a variety of weed and pest control methods are needed to ensure effective treatment, these include:

- **Prevention:** alternative designs and management processes making it harder for pests to establish and complete their life cycle
- **Cultural controls:** modifying a pest's habitat to make it harder for pests to complete their life cycle, and providing enhanced habitats for natural enemies or competitors
- **Physical and mechanical controls:** steam, hand pulling, mechanical cutting, vacuuming and mulching
- **Biological control:** Introducing natural enemies of pests, and may include conserving habitat for natural enemies. Also includes the use of biological sprays
- **Chemical control:** Includes herbicides, fungicides and pesticides.

City Wide reduction Initiatives

Physical and Mechanical Controls

- The City applies steam to control weeds in hard infrastructure, including kerb lines and footpaths across 15 busy precincts including the Scarborough foreshore, Beaufort Street, Mirrabooka shopping areas and the Stirling City Centre. The City plans to extend the program to include road reservations adjacent to sensitive sites including aged care facilities, schools, child care centres and hospitals.
- Where possible, the City uses pesticide free methods including hand pulling, slashing and mechanical cutting of grass and weeds.
- The City ceased herbicide use on Caltrop outbreaks in 2016 and now predominantly removes Caltrop by hand, for example by vacuuming seeds.

Cultural Controls

Trials of seeded hydro mulching have reduced the impact of Caltrop and the City is now exploring an expansion of this trial.

Natural areas (bushlands, coastal areas, lakes, wetlands)

The City is home to unique bushlands, coastal areas, lakes and wetlands. Management and conservation of these areas is important to the City as it supports sustainable ecosystems, ongoing biodiversity improvements and habitat for wildlife. The City uses a range of methods to minimise weeds and pests in these areas, including:

Biological Control

- Introducing leaf hopper insects and rust fungus to provide effective control for certain creeping weeds

Chemical Control

- The use of selective herbicides, that do not affect native plants, for dense infestations of non-native grasses in bushland
- Spot-spraying for weeds with underground storage in the form of bulbs, corms and rhizomes and include Black Flag, Fumaria, Oxalis and Gazania
- Hand brushing cut trunk bases with herbicide to control feral trees and Pampas Grass
- The use of organic herbicides including vinegar, pelargonic acid and neem seed oil are being investigated to reduce reliance on chemically-derived herbicides such as glyphosate.

Physical and Mechanical Controls

The City's many dedicated conservation volunteers also help protect and conserve our natural area reserves, contributing almost 20,000 hours (or the equivalent of ten full time employees) each year. These efforts, along with City resources, resulted in more than 136 tonnes of environmental weeds being hand pulled and slashed in 2017/18.

Turf management

The turf renovation and maintenance undertaken on City sports fields, parks, golf greens and reserves aims to achieve the best performance of the turf, which helps to minimise weed infestation, pest and disease pressures.

Cultural Control

- The use of organic fertilisers and amendments such as Seamungus and Bactivate are used to keep the soil healthier with the addition of beneficial bacteria
- The use of soil and leaf tissue analysis, which is undertaken up to four times a year to ensure optimum health of the turf
- Topdressing soils with high organic makeup is also carried out to promote turf health

Chemical Control

- The use of spot pesticide control to target specific weeds with a 'weed wand' to minimise broad acre spraying

Monitoring

- The City undertakes surveys each year to record the extent of pest infestation, ensuring pesticides are only used where necessary.

Streetscapes and gardens

Regular maintenance of city-owned road verges, medians and gardens around city-owned facilities helps minimise weed infestation, pest and disease pressures.

Cultural Control

- The application of mulch to prevent weeds from growing
- The use of watering and supplements ensures vegetation health and can assist pest control

Chemical Control

- The reduction of glyphosate use by up to 40 per cent in road reservations during the past 10 years

Physical and Mechanical Controls

- The use of techniques to replace glyphosate, including 'Hot Steam Spray', has assisted the reduction of herbicide use from three to two times per year.

Trees

There are more than 300,000 trees in parklands and streetscapes across the City, their regular inspection, pruning and maintenance ensures early detection of diseases and pests.

Prevention

- Sourcing trees from accredited nurseries ensuring the healthiest possible stock, which increases resilience to pest and diseases
- Suitable species are selected for harsh WA climates

Cultural Control

- Staking young trees to ensure they develop strong trunks and roots, increasing resilience to diseases and pests
- The application of mulch around newly-planted trees to prevent weeds from growing
- Watering of newly-planted trees for the first two years, assisting with establishment and healthy growth that can assist with pest control

Physical and Mechanical controls

- The removal of bees by approved apiarists when swarming near a sensitive site.

City nursery

Many of the plants discussed above are grown in the City's nursery, which produces more than 50,000 plants and trees. This ensures local provenance, which means seeds are sourced locally and have already adapted to local conditions and individual habitats. The benefits of provenance include higher resilience to disease and pests.

Biological Control

- Biocontrol trials with predatory insects (i.e. ladybugs) to control pests, reduces the requirement for chemical control

Cultural Control / Prevention

- The maintenance of strict hygiene practices as part of its quality control under the Australian Nursery Industries Accreditation Program
- The use of native species to ensure the greatest natural resistance to pests and diseases.

Key terms

What is a pesticide?

The use of the term 'pesticides' is generic and includes herbicides, insecticides and fungicides

- Pesticides are defined as substances or organisms used to kill, incapacitate, repel or inhibit the growth of pests.

What is Integrated Pest Management (IPM)?

Integrated Pest Management (IPM) is based on the principle that weed and pest management should have minimal impacts to human health, the environment and other organisms. IPM is both a procedure and decision making process that combines the following key aspects:

Identification and Monitoring

IPM identifies the pest, its lifecycle and monitors pest populations throughout the year. This sets it apart from standard pest management which sprays chemicals on a scheduled basis.

Acceptable Threshold Levels

IPM sets tolerable pest population levels and tolerable levels of damage to aesthetics or functionality. Pest control will only occur if these thresholds are exceeded. This approach allows some seasonal pest populations to be controlled naturally by the environment.

Treatment Method Selection

If treatment is required, an IPM decision making process will determine the best method and timing based on the treatment being:

- Least-disruptive to natural enemies of pests and natural controls
- Least-hazardous to human health
- Least-toxic to non-target organisms
- Least-damaging to the general environment
- Least likely to reduce the environment's resilience to pests
- Most cost-effectiveness over the short and long-term.

What is the Pesticide Notification Register?

The City maintains a **Pesticide Notification Register** which includes a **No Spray Verge List**. This allows residents / ratepayers to register an adjacent City verge to be left untreated with pesticides (in return for the resident/ owner maintaining the verge in a weed free condition). Residents / ratepayers can contact the City on (08) 9205 8555 or emailing stirling@stirling.wa.gov.au to register.

For more information on the City's pesticide reduction initiatives, please contact Parks and Sustainability on (08) 9205 8555 or by emailing parks@stirling.wa.gov.au