Weed and Pest Management Plan

Draft 0a

November 2017

Introduction

The objective of this management plan is to assist in the control of weeds, pest animals and diseases within the Shire of Serpentine Jarrahdale. Its primary focus is natural area reserves, providing a description of the environmental values, management issues and past control actions for each area, and recommends control methods for common weeds, pest animals and diseases within the Shire. Finally, the plan sets out an indicative ten-year plan to guide the management of the Shire's natural area reserves.

Although this document is entitled "Weed and Pest Management Plan", it might be considered a biosecurity plan. Biosecurity is the management of the risks to the economy, the environment, and the community, of pests and disease entering, emerging, establishing or spreading. A pest is any species, strain or biotype that had an impact (i.e. significant negative consequences), or poses a likely threat of having an impact, and therefore includes both weeds (pest plants) and pest animals. A disease, on the other hand, means the presence of a pathogenic agent in a host and/or the clinical manifestation of infection that had an impact (i.e. significant negative consequences) or poses a likely threat of an impact, and includes micro-organisms, disease agents, infectious agents and parasites. Pests and diseases may be exotic to Australia, or endemic (native to Australia or established and unlikely to be eradicated). This document could therefore be alternatively called a "Pest and Disease Management Plan".

Biosecurity, as well as the management of pests and diseases which have already established a presence in the locality, also comprises the prevention of new entries and the eradication of recent arrivals before they can become established. These aspects are the responsibility of state and federal government, while the management of established pests and diseases is the responsibility of land managers. Land managers also play a critical role in surveillance, and can report anything unusual or strange to their local or state government agencies. State and federal legislation can mandate the obligatory management of certain weeds, pests and diseases if they are judged to create sufficient impact.

This management plan addresses the control of a number of introduced pest plants, animals and diseases which are the responsibility of land managers and cause sufficient impact to require management. Included under the heading of diseases, as a factor that affects health, is mistletoe, which occasionally requires management to protect the health of significant trees, despite being an important native species.

Section 1 addresses management of weeds and pests according to land tenure and use, divided into natural area reserves, road reserves (with or without remnant vegetation), parks and gardens, and private property, and also discusses coordination with Landcare SJ Inc and the Peel Harvey Biosecurity Group.

Section 2 discusses the management of specific weeds, animal pests and diseases.

Section 3 includes past expenditure, a ten-year forward plan and annual work plans.

1. Management According to Land Tenure and Use

This section addresses the management of weeds, pest animals and diseases according to land tenure and use, divided into natural area reserves, road reserves (with or without remnant vegetation), parks and gardens, and private property, and also discusses coordination with Landcare SJ Inc and the Peel Harvey Biosecurity Group.

1.1 Natural Area Reserves

Natural area reserves are crown land vested with the Shire for a variety of purposes, which have remnant vegetation in good or better condition (based on the Keighery vegetation condition scale), and/or have other significant environmental features such as waterways or revegetated areas. Weeds, pest animals and diseases in these areas are managed by the Natural Reserves Coordinator from specific budgets for weed control and dieback management, with (in some areas) additional management and revegetation by Landcare SJ Inc., subject to funding from external grant bodies. Some reserves included in this section are primarily managed by Operations as unmanaged reserves, with some works (such as weed control) occasionally funded from the Natural Reserves budgets.

Byford

1.1.1 Brickwood/Briggs Park Reserve (R17490, R51101, R37404)

Lot numbers	L5567 Mead Street, L111 Mead Street, L48 Turner Road, L106 Gordin Way (Byford)
Area	49.9834 ha, 1.4321 ha and 1.6857 ha (45.5276 ha remnant vegetation)
Vesting purpose	R17490: Recreation R51101: Environmental conservation, recreation, community centre and purposes ancillary thereto R37404: Aged Persons Home (not vested with the Shire)
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Declared Rare Flora Priority Fauna Bush Forever Site 321 Excellent to Very Good condition vegetation
Important features	Consists of marri woodland, banksia woodland and clay-based wetlands Contains 3 monitoring quadrats which are regularly surveyed Significant for conservation as one of the largest remaining areas of particular TEC High and increasing recreational pressure as being surrounded by urban developments Contains Briggs Park ovals, recreation centre, BMX track, etc

	Adjacent to Graceford retirement centre, the remainder of which lot also contains significant remnant vegetation R51101 includes a cottage which is proposed for community use Additional management activities frequently carried out by Landcare SJ Inc. Friends of Brickwood Reserve was formed in 2014 and have monthly Bushcare days in winter and spring to carry out weed control and revegetation with Landcare SJ assistance Frequent target of community anxiety about fire hazard Neighbouring developers often desire to reduce their fire hazard by vegetation management in the reserve Nutrient runoff from ovals can be an issue, and invasion by turf grasses Other issues include arson and illegal dumping and clearing / vegetation damage Has populations of kangaroos and quenda
Management priority	Very High
Management issues	Recreational facilities are managed by Operations, including mowing of ovals and management of gardens Recreational pressure from surrounding urban developments Weeds include watsonia, love grass, veldt grass and turf grass escaping from ovals Sandy rise with banksia woodland has a dieback free zone Foxes are known to live in the reserve Domestic cats from nearby developments are also an issue Rabbits can be problematic
Past management actions	Water analysis Revegetation Weed control (watsonia, lovegrass, bulbous weeds, woody weeds, broadleafs & grasses, turf grass) Feral animal control (foxes, cats, rabbits) Dieback control Miscellaneous infrastructure works (limestone on firebreaks, drainage issues sorted out, fencing, firebreaks, control burning)
Usual treatment plan	Weed control is cyclical, usually two years out of three, approx. $3,500 per treatment Feral animal control as required, approx. $3,500 per treatment Dieback control about every three years, approx. $6,000 per treatment Revegetation subject to funding, usually two years out of five, approx. $2,500 per treatment
Desired future treatment plan	Budget of $12,000 per year, every year, to be divided between weed control two years out of three, feral animal control as required, dieback control every third year (due 2019/20), and revegetation two years out of five Infrastructure works including expansion of limestone on firebreaks

1.1.2 Old Rifle Range Reserve (R10164)

Lot number	L2857 Linton Street North (Byford)
Area	15.4187 ha (7.9542 ha remnant vegetation)
Vesting purpose	Recreation and Community Uses
Land use	Recreation and conservation
Conservation values	Good condition vegetation (eastern section)
Important features	Consists of scarp-type marri, jarrah and wandoo woodland and shrubland Contains 2 monitoring quadrats which are regularly surveyed Two sections, east and west of Linton Street Western section has memorial grove, scout hall and country club, eastern section (up scarp) has vegetation Links to Darling Range regional park at eastern end High recreational pressure from illegal access by 4WDs, trail bikes, quad bikes etc
Management priority	High
Management issues	Illegal access by motorised vehicles, with associated damage to fences and gates and vandalism, erosion on tracks and illegal dumping Mistletoe has been a significant issue in the western part of the reserve The eastern bushland has dieback and a dieback free zone Upper slopes have some agricultural weeds, such as cape tulip and paterson's curse, while edges have garden escapes and woody weeds
Past management actions	Mistletoe removal (funded by a State NRM grant), with associated possum boxes, fencing and revegetation Weed control (winter weeds) Dieback control Vehicle access signs Fencing repairs, firebreaks, buffer burning Fauna monitoring with motion sensitive cameras
Usual treatment plan	Mistletoe removal is not a priority Weed control is periodical, every few years, costing approx. $1,500 per treatment Dieback control about every three years, approx. $6,000 per treatment
Desired future treatment plan	Budget of $5,000 per year, for five years out of ten, to be divided between periodical weed control and dieback control every third year (due 2019/20)

1.1.3 Oscar Bruns Reserve (R10385)

Lot number	L61 Butcher Road, Darling Downs
Area	3.8977 ha (1.8338 ha remnant vegetation with understorey)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Bush Forever site 449

	Very Good condition vegetation in remnant area, Degraded in remainder
Important features	Consists of marri-jarrah woodland with some wandoo Contains 1 monitoring quadrat which is regularly surveyed Behind truck stop, rarely accessed by public Adjoined by poultry farm and abattoir on west, escaped animals sometimes enter Access road to rear lots (including poultry farm) passes through the southern end of the reserve Cleared area has been revegetated Recreational pressure will increase with semirural developments to the west
Management priority	Medium
Management issues	Significant amount of woody weeds Other weeds include lovegrass, freesia, watsonia, cotton bush and arundo
Past management actions	Cable location Weed control (lovegrass, arundo, watsonia, freesia, woody weeds including eucalypts, tagasaste, wattles) Seed collection Revegetation Dieback control
Usual treatment plan	Weed control is cyclical, usually two years out of three, approx. $2,000 per treatment Dieback control about every three years, approx. $1,500 per treatment Revegetation subject to funding, usually one year out of five, approx. $2,500 per treatment
Desired future treatment plan	Budget of $3,000 per year, every year, to be divided between weed control two years out of three, dieback control every third year(due 2017/18), and revegetation one year out of five

1.1.4 Rainforest Reserve (R20165), Rainforest Drainage Reserve (R37907) and Park Road Reserve (R35260)

Lot number	L808, L1789, L1790 Park Road, L2684 Byford Drive, L2504 Park Road (Byford), L25 Byford Drive (freehold)
Area	1.9222 ha (1.1365 ha remnant vegetation), 0.0701 ha (overstorey only), 0.2046 ha (overstorey only), 0.2173 ha (remnant trees and revegetation)
Vesting purpose	Recreation, Drain
Land use	Recreation and conservation, drainage
Conservation values	Threatened Ecological Community Very Good to Good condition vegetation, Completely Degraded in recreational areas
Important features	Consists of marri woodland Largest POS in the old part of Byford Very high recreational pressure Contains recreational facilities such as tennis courts Contains drainage basins and constructed creekline Frequently a target of community anxiety about fire hazard
Management priority	Medium

Management issues	Recreational facilities are managed by Operations Recreational pressure Weeds include lovegrass, veldt grass and other grasses Mistletoe has been an issue, as in all of old Byford Community anxiety about fire hazard Drainage areas were revegetated by Byford Progress Association Significant edge effects around boundaries and along tracks
Past management actions	Weed control (veldt grass, lovegrass) Mistletoe removal Revegetation Strategic burning
Usual treatment plan	Weed control is cyclical, three years out of ten, approx. $1,500 per treatment Revegetation subject to funding, usually one year out of five, approx. $1,000 per treatment Requires more attention
Desired future treatment plan	Budget of $1,500 per year, for eight years out of ten, to focus on more extensive weed control and revegetation

Mundijong and Whitby

1.1.5 Mundijong Oval Reserve (R4486)

Lot number	L232 Cockram Street, Mundijong
Area	6.0422 ha (2.0775 ha remnant vegetation)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Declared Rare Flora Bush Forever site 360 Very Good to Good condition vegetation
Important features	Consists of marri woodland Regular walk-through monitoring surveys Contains largest recorded population of particular DRF Contains recreational facilities including oval, clubhouses, old tennis courts, netball courts, playground Links to important corridors along Mundijong Rd and railway High recreational pressure due to location in central Mundijong Frequent target of proposed recreational development Historically contained unofficial BMX facilities, which were removed and the vegetation fenced off
Management priority	High
Management issues	Recreational facilities are managed and grassed areas mown by Operations Access is required through vegetation for maintenance of drainage along southern and western boundaries Some woody weeds, mostly nonindigenous plantings Other weeds include lovegrass, watsonia and other geophytes

Past management actions	Weed control (watsonia, lovegrass) Cable location Fencing Drainage maintenance
Usual treatment plan	Weed control is cyclical, usually two years out of three, approx. $2,000 per treatment
Desired future treatment plan	Budget of $3,500 per year, for five years out of ten, for weed control two years out of three

1.1.6 Bella Cumming Reserve (R6168)

Lot number	L59 Keirnan Street Mundijong
Area	2.0234 ha (2.0234 ha remnant vegetation)
Vesting purpose	Recreation and Parklands
Land use	Conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Bush Forever site 350 Very Good condition vegetation
Important features	Consists of woodland of marri, jarrah and banksia Contains 1 monitoring quadrat, which is regularly surveyed Currently low use as on the outskirts of semirural Mundijong Recreational pressure will increase when developments occur to the north Links to important corridor along railway Historically was reserved as a cemetery
Management priority	Medium
Management issues	Weeds include love grass, veldt grass and woody weeds Has a dieback free zone Recent control burn around edges Adjacent road verge has significant woody weed (Victorian teatree) issues
Past management actions	Weed control (veldt grass) Dieback control Feral animal control Controlled perimeter burn Fauna monitoring with motion sensitive cameras
Usual treatment plan	Weed control is cyclical, usually one year out of three, approx. $3,000 per treatment Dieback control about every three years, approx. $3,000 per treatment Requires additional feral animal control
Desired future treatment plan	Budget of $4,500 per year, for six years out of ten, to be divided between weed control one year out of three, feral animal control as required, and dieback control every third year (due 2018/19)

1.1.7 Tonkin Street Flora Reserve (R22020) and Mundijong Scout Hall Reserve (R36369)

Lot numbers	L205 and L180 Baskerville Road, L213 Baskerville Road (Mundijong)
Area	2.1824 ha (2.1824 ha remnant vegetation), 0.4 ha (overstorey only)
Vesting purpose	Protection of Indigenous Vegetation, Hall
Land use	Recreation and conservation, hall site (Men's Shed)
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Very Good to Good condition vegetation
Important features	Consists of banksia woodland with emergent jarrah, very diverse understorey Contains 1 monitoring quadrat which is regularly surveyed Northern end contains old scout hall which has been designated for SJ Men's Shed Increasing pressure for clearing around Men's Shed for expansion and fire protection Limited but increasing recreational pressure as within semirural Mundijong which will eventually be subdivided Occasional target of community anxiety about fire hazard
Management priority	High
Management issues	Pressure from Men's Shed, who have expressed interest in functioning as a Friends group but might manage more for fire hazard than biodiversity Weeds include love grass, veldt grass and other grasses Has a dieback free zone Management of fuel reduction burns
Past management actions	Weed control (veldt grass, winter weeds) Feral animal control (foxes) Dieback control Fauna monitoring with motion sensitive cameras
Usual treatment plan	Weed control is cyclical, usually two years out of three, approx. $2,500 per treatment Feral animal control as required, approx. $1,000 per treatment Dieback control about every three years, approx. $2,500 per treatment Requires more attention
Desired future treatment plan	Budget of $3,500 per year, for eight years out of ten, to be divided between weed control two years out of three, feral animal control as required, and dieback control every third year (due 2018/19)

1.1.8 Mundijong Tip Reserve (R23011)

Lot number	L512 Watkins Road Mundijong
Area	2.8739 ha (0.3845 ha remnant vegetation)
Vesting purpose	Sanitary Site
Land use	Material storage and conservation

Conservation values	Threatened Ecological Community Environmentally Sensitive Area Declared Rare Flora Bush Forever site 360 Very Good to Degraded condition vegetation
Important features	Consists of marri woodland Historically was a waste transfer station and landfill Cleared area currently used for Shire storage of raw materials and green waste for mulch Adjoins nature reserves, western bund is over boundary No recreational use but occasional illegal dumping Pressure on remaining vegetation from proposed future uses
Management priority	Medium
Management issues	Cleared area managed by Operations Potential conflict with current and proposed uses, which are and will mostly be contained to the cleared areas Site is proposed to become a formalised transfer station, with associated fence upgrades around the cleared areas and other infrastructure Weeds include love grass, veldt grass, castor oil
Past management actions	Weed control on western boundary of cleared area
Usual treatment plan	NA Requires more attention
Desired future treatment plan	Budget of $1,500 per year, for five years out of ten, for weed control

1.1.9 Manjedal Brook Reserve (R37934)

Lot number	L5001, L2697, L2689 Keirnan Street Whitby
Area	20.4758 ha (trees along creekline but not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Degraded condition vegetation (canopy only)
Important features	Consists of streamline vegetation dominated by flooded gum and paperbark High and increasing recreational pressure from adjacent Whitby development Important corridor connecting Whitby Falls (Darling Range regional park) to railway corridor Originally a permanent stream, which has become seasonal Previous frequent revegetation by Landcare SJ Inc., which may have been affected by development
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Recreational pressure Woody weeds on creekline, including figs and blackberry

	Multiple other weeds (understorey absent) including cotton bush, blackberry, arum lily Rubbish from development sites and illegal dumping
Past management actions	Weed control (cottonbush, blackberry, *Eucalyptus camaldulensis*, apple of Sodom, fig, dolicho pea, lovegrass) Revegetation, prior to Whitby development Firebreaks
Usual treatment plan	Weed control is cyclical, usually two years out of four, approx. $2,500 per treatment Revegetation subject to funding, usually two years out of five, approx. $2,000 per treatment Requires more attention, particularly with increasing recreational pressure
Desired future treatment plan	Budget of $3,500 per year, for seven years out of ten, for weed control and revegetation

Oakford, Oldbury and Darling Downs

1.1.10 King Road Pony Club (R36950)

Lot number	L427 King Road Oldbury
Area	25.7658 ha (16.019 ha remnant vegetation)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Very Good to Good condition vegetation
Important features	Consists of banksia woodland with some marri woodland Contains 3 monitoring quadrats which are regularly surveyed Contains pony club infrastructure, including club house and sheds, arenas, parking and cross-country course, as well as old buildings and infrastructure not associated with the pony club Primarily managed by the Peel Horse and Pony Club (excluding a portion of bushland) Recreational pressure from cross-country course through the vegetation (including the dieback free zone) Firebreak maintenance may have been the source of dieback around the reserve boundaries
Management priority	High
Management issues	Recreational facilities are managed by user group Conflict between user group and conservation Dieback management (can't keep users out of dieback free) Weeds include love grass, veldt grass
Past management actions	Weed control (veldt grass) Feral animal control Dieback control Firebreaks
Usual treatment plan	Weed control is cyclical, usually two years out of four, approx. $7,000 per treatment Feral animal control as required, approx. $2,500 per treatment

	Dieback control about every three years, approx. $10,000 per treatment Requires more attention
Desired future treatment plan	Budget of $9,500 per year, every year, to be divided between weed control two years out of three, feral animal control as required, and dieback control every third year (due 2018/19) Potential revegetation site

1.1.11 Pony Place Reserves (R41485)

Lot numbers	L1401, L1393, L1402, L1367 Foxton Drive Oakford
Area	20.0721 ha (17.6596 ha remnant vegetation)
Vesting purpose	Public recreation and community hall
Land use	Hall, recreation and conservation
Conservation values	Threatened Ecological Community Conservation Category wetland Water body Environmentally Sensitive Area Very Good to Good condition vegetation
Important features	Consists of banksia woodland with paperbarks Contains 1 monitoring quadrat which is regularly surveyed Contains community hall and bridle trails Recreational pressure from illegal access by trail bikes and vehicles Little community access beyond hall and trails
Management priority	Low
Management issues	Recreational facilities are managed and grassed areas mown or slashed by Operations Motorised vehicles on trails Weeds include arum lily, veldt grass and woody weeds
Past management actions	Weed control (arum lily) Feral animal control Dieback control Fencing Firebreaks, control burning
Usual treatment plan	Weed control is cyclical, usually one year out of three, approx. $2,500 per treatment Feral animal control as required, approx. $2,500 per treatment Dieback control about every three years, approx. $8,000 per treatment Requires more attention
Desired future treatment plan	Budget of $9,500 per year, for six years out of ten, to be divided between weed control every second year, feral animal control as required, and dieback control every third year (due 2017/18)

1.1.12 Craghill Way Reserve (R34460)

Lot number	L1374 Craghill Way Oakford
Area	3.2681 ha (2.2326 ha remnant vegetation, no understorey)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Degraded condition vegetation
Important features	Consists of pricklybark woodland with spearwood One of only a few areas in the Shire to have *Eucalyptus todtiana* Intended for equestrian use but rarely accessed as in a semirural area with bridle trails
Management priority	Low
Management issues	Dominant weeds include gladiolus, arum lily, bridal creeper, love grass and veldt grass Multiple other weeds as understorey absent
Past management actions	None
Usual treatment plan	NA Requires attention
Desired future treatment plan	Budget of $5,000 per year, for six years out of ten, for weed control and revegetation with possible control burning

1.1.13 Darling Downs Trail Network Reserves (principally R35601, R35603, R35701, R35702, R35706 and others)

Lot numbers	R35601: L3057, L3321 Masters Road Darling Downs R35603: L3058, L3388, L3972, L3445, L3550, L3580, L3783, L3581, L3551, L3784 R35701: L3264, L3067, L3263 (Evening Peal Court Darling Downs), L3391, L167 R35702: L3068 Tulloch Way Darling Downs R35706: L3069 Rowley Road Darling Downs, L3181, L3626, L807
Area	1.0701, 9.9377, 33.3842, 0.7224, and 6.0881 ha (2.1619 ha remnant vegetation, more with scattered native trees)
Vesting purpose	Public recreation
Land use	Recreation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 266 Degraded condition vegetation
Important features	Consists of flooded gum and paperbark Equestrian reserve with attached network of bridle trails Managed in association with the Darling Downs Residents Association Contains recreational infrastructure, including storage sheds and trotting track, arenas and cross-country course Contains a created wetland, and a portion of the Birrega drain
Management priority	Low

Management issues	Recreational facilities are managed by user group (Darling Downs Residents Association) Landcare SJ Inc. used Federal grant funding to construct a wetland and ongoing weed control and revegetation from various funding sources Ensure actions of DDRA are consistent with approved activities and maintenance of environmental values
Past management actions	Weed control (cottonbush) Revegetation of constructed wetland Bridle trail brochures Fencing Removal of fallen trees and branches Resurfacing of track and arenas Slashing
Usual treatment plan	Weed control is cyclical, usually three years out of five, approx. $1,500 per treatment Revegetation subject to funding, usually seven years out of ten, approx. $5,000 per treatment Requires more attention in areas not managed by the user group
Desired future treatment plan	As required for specific issues. $10,000 per year is provided to the Darling Downs Residents Association to manage these reserves (starting in 2018).

Jarrahdale

1.1.14 Jarrahdale Sports Oval (R6428)

Lot numbers	L2658, L4438, L4434, L2657 Millars Rd Jarrahdale, L2658
Area	18.149 ha (13.5619 ha remnant vegetation)
Vesting purpose	Recreation and Camping
Land use	Recreation and Conservation
Conservation values	Very Good condition vegetation
Important features	Consists of jarrah-marri forest Contains 1 monitoring quadrat which is regularly surveyed Oval is primarily used for a few annual events Low recreational pressure outside the event timetable Contiguous with other areas of state-managed vegetation
Management priority	Low
Management issues	Recreational facilities are managed and grassed areas mown by Operations Impacts from users during events Controlled burning with adjacent DBCA lands Very few weeds
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.15 Korribinjal Brook Reserve (R36434, R36436, R42251)

Lot numbers	R36434: L2604 Medulla Road Jarrahdale R36436: L2603 Medulla Road Jarrahdale R42251: L4022 and L4017
Area	0.8235, 0.426, and 4.1761 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Water Course Degraded condition vegetation (canopy only)
Important features	Consists of flooded gum, paperbark and marri Regular walk-through monitoring surveys Low recreational pressure (in semi-rural area) but highly valued by users Occasional target of community anxiety about fire hazard Regular revegetation and weed control by Landcare SJ and Residents Group until 2013, using external funding Has a walk trail and some infrastructure (eg bridges, crossings) Upper reaches of an important water course
Management priority	Medium
Management issues	Weeds include cotton bush, love grass, veldt grass, other grasses, bridal creeper Woody weeds an issue, especially olives, needs progressive revegetation to replace function in bank stabilisation
Past management actions	Weed control (lovegrass, cottonbush, grasses, olives, bridal creeper) Revegetation Burning, firebreaks
Usual treatment plan	Weed control is cyclical, usually nine years out of ten, approx. $3,000 per treatment Revegetation subject to funding, usually three years out of five, approx. $2,500 per treatment
Desired future treatment plan	Budget of $5,000 per year, every year, for weed control and revegetation

1.1.16 King Jarrah Circle Reserve (R45659)

Lot number	L4490 King Jarrah Circle Jarrahdale
Area	3.5319 ha (1.7153 ha remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Degraded condition vegetation (canopy only)
Important features	Consists of jarrah and marri Low recreational pressure as in a semirural area
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Multiple minor weeds as understorey absent
Past management actions	Dieback control

Usual treatment plan	Dieback control about every three years, approx. $4,500 per treatment
Desired future treatment plan	Budget of $4,500 per year, for three years out of ten, for dieback control (due 2017/18)

Serpentine

1.1.17 Serpentine Sports Reserve (R19134)

Lot number	L778 Karnup Road Serpentine
Area	46.3777 ha (10.0823 ha remnant vegetation)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Water Course Declared Rare Flora Bush Forever site 375 Very Good to Good condition vegetation
Important features	Consists of marri woodland, banksia woodland and clay-based wetlands Contains 3 monitoring quadrats which are regularly surveyed Contains two equestrian ovals used by the pony club and polocrosse club, clubhouses and storage sheds Half of golf course shares the reserve, with associated infrastructure Cross country course passes through vegetation, including the dieback free zone Regular additional management by Landcare SJ Inc., including weed control, revegetation and feral animal control Adjacent to railway reserve vegetation corridor with high conservation values
Management priority	Very High
Management issues	Recreational facilities are managed and grassed areas mown by Operations Conflict between users and conservation Dieback management, particularly cross country course through dieback free zone Weeds include love grass, veldt grass, watsonia, woody weeds Rehabilitation of old sand pit Foxes and rabbits are of concern Serpentine Bushland Group used to manage Paul Robinson Reserve for many years Regular revegetation and weed control by Landcare SJ Inc. and local school until 2014
Past management actions	Weed control (lovegrass, watsonia, veldt grass, broadleafs) Feral animal control (foxes, rabbits) Dieback control Remove dead trees and stumps Revegetation Track delineation

Usual treatment plan	Weed control is cyclical, usually every year, approx. $3,500 per treatment Feral animal control as required, approx. $2,000 per treatment Dieback control about every three years, approx. $7,000 per treatment Revegetation subject to funding, usually seven years out of ten, approx. $2,000 per treatment
Desired future treatment plan	Budget of $8,000 per year, every year, to be divided between weed control two years out of three, feral animal control as required, dieback control every third year (due 2017/18), and revegetation seven years out of ten

1.1.18 Scrivener Road Old Gravel Reserve (R26079)

Lot numbers	L303 and L304 Firns Road Serpentine, L502
Area	14.0776 ha (14.0776 ha remnant vegetation)
Vesting purpose	Gravel
Land use	Conservation
Conservation values	Environmentally Sensitive Area Very Good to Good condition vegetation
Important features	Consists of jarrah-marri forest Small areas south of the main body of the reserve Historical extraction of gravel in L304 Low recreational pressure as in rural area Proposed to be ceded to adjacent national park
Management priority	Low
Management issues	Dieback management Some minor weeds
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.19 Scrivener Road Reserve (R26080)

Lot numbers	L2272, L1913 (Scrivener Road, Serpentine)
Area	129 ha (122.19 ha remnant vegetation)
Vesting purpose	Gravel
Land use	Past and proposed gravel, conservation
Conservation values	Threatened Fauna Very Good to Good and Completely Degraded (cleared areas) condition vegetation
Important features	Consists of jarrah-marri forest Contains 3 monitoring quadrats which are regularly surveyed Has excellent quality gravel which is proposed for use but opposed by community One of only a few areas in the State where all three black cockatoo species have been recorded nesting

	Recreational pressure from illegal access by 4WDs and trail bikes, firewood cutting and rubbish dumping Proposed to be ceded to adjacent national park after proposed gravel extraction and subsequent rehabilitation
Management priority	Medium
Management issues	Illegal access, firewood collection and rubbish dumping Dieback management Some weeds around gravel pit, including lavender Installation of cockatubes around gravel pit
Past management actions	Weed control
Usual treatment plan	Weed control is cyclical, usually two years out of ten, approx. $2,500 per treatment
Desired future treatment plan	Budget of $2,500 per year, for two years out of ten, for weed control

1.1.20 Serpentine Cemetery Reserve (R10661)

Lot number	L162 South Western Highway Serpentine
Area	2.4417 ha (1.4893 ha remnant vegetation)
Vesting purpose	Cemetery
Land use	Cemetery and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Declared Rare Flora Bush Forever site 371 Good condition vegetation
Important features	Consists of marri woodland Contains 2 monitoring quadrats which are regularly surveyed Vegetation surrounds cemetery on three sides Cemetery is almost full but no approval to expand into existing vegetation Adjacent to Serpentine River
Management priority	High
Management issues	Community facilities are managed by Operations Highly visible and important area for community Weeds include watsonia, freesia, arum lily, love grass, veldt grass, winter grasses, woody weeds
Past management actions	Weed control (watsonia, lovegrass, arum lily, freesia, tagasaste, acacias)
Usual treatment plan	Weed control is cyclical, usually two years out of ten, approx. $2,500 per treatment Requires more attention
Desired future treatment plan	Budget of $3,000 per year, for six years out of ten, for weed control

1.1.21 Clem Kentish Reserve (R9157)

Lot number	L57 Wellard Street Serpentine
Area	4.5254 ha (0.3735 ha remnant vegetation)

Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Good condition vegetation
Important features	Consists of marri woodland Regular walk-through monitoring surveys Contains recreational facilities, including oval, club house, tennis courts, tractor museum, skate park, playground and informal BMX track High recreational pressure due to small area and high use of remainder of reserve Close to Serpentine River and railway line corridors
Management priority	Low
Management issues	Recreational facilities are managed and grassed areas mown by Operations Conflict with other uses of reserve Weeds include lovegrass, veldt grass, other grasses, watsonia, freesia Some issues with health of marris
Past management actions	Weed control
Usual treatment plan	Weed control is periodical, usually one year out of ten, approx. $1,000 per treatment Requires more attention
Desired future treatment plan	Budget of $2,000 per year, for three years out of ten, for weed control

1.1.22 Karnup Road Flora Reserve (R18662)

Lot number	L796 Karnup Road Serpentine
Area	1.1584 ha (0.6767 ha remnant vegetation)
Vesting purpose	Indigenous vegetation / Protection of flora
Land use	Conservation
Conservation values	Threatened Ecological Community Good to Degraded condition vegetation
Important features	Consists of clay-based wetland Contains 1 monitoring quadrat which is regularly surveyed No recreational use as in rural area beside major road High impact from wide firebreak in small area
Management priority	Medium
Management issues	Weed issues, including love grass, veldt grass, watsonia and other geophytes, woody weeds (particularly *Eucalyptus camaldulensis*), encroaching pasture grasses
Past management actions	Weed control (lovegrass, watsonia, cottonbush, grasses and woody weeds in firebreaks)
Usual treatment plan	Weed control is cyclical, usually three years out of ten, approx. $1,000 per treatment Requires more attention
Desired future treatment plan	Budget of $1,500 per year, for five years out of ten, for weed control

1.1.23 Wattle Road Nature Reserve (R36433)

Lot number	L2597 Wattle Road Serpentine
Area	0.9667 ha (0.9667 ha remnant vegetation)
Vesting purpose	Conservation of flora
Land use	Conservation
Conservation values	Threatened Ecological Community Declared Rare Flora Very Good condition vegetation
Important features	Consists of marri woodland with jarrah and banksia Regular walk-through monitoring surveys No recreational use as in semirural area and isolated by road Some historic planting of nonindigenous species
Management priority	Medium
Management issues	Some weeds around edges, including love grass, veldt grass and watsonia Some woody weeds, mostly planted nonindigenous species Illegal removal of grasstrees
Past management actions	Revegetation, one year out of ten
Usual treatment plan	Requires more attention for weed control and controlled burn
Desired future treatment plan	Budget of $3,000 per year, for three years out of ten, for weed control

1.1.24 Serpentine River Middle Reserve (R29540)

Lot numbers	L71 (near Livingstone Road), no lot numbers up to Hall Road
Area	4.1228 ha (4.1228 ha remnant vegetation, amount of understorey unclear)
Vesting purpose	Public recreation
Land use	Conservation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 371 Vegetation condition unknown
Important features	Consists of riparian vegetation dominated by flooded gum and paperbark Extends along Serpentine River from Hall Road downstream to Livingstone Road in several non-consecutive lots Cleared and managed by adjacent landowner No recreational use as access difficult
Management priority	Low
Management issues	Unknown – could have lantana, blackberry, figs etc
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required if accessible

1.1.25 Serpentine River West Reserve (R34598)

Lot numbers	L1322 Lowlands Road Mardella
Area	0.6752 ha (0.6752 ha remnant vegetation, amount of understorey unclear)
Vesting purpose	Public recreation
Land use	Conservation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 371 Vegetation condition unknown
Important features	Consists of riparian vegetation dominated by flooded gum and paperbark Extends along Serpentine River upstream from boundary of Lowlands Managed by adjacent landowner No recreational use as access difficult
Management priority	Low
Management issues	Unknown – could have lantana, blackberry, figs etc
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required if accessible

1.1.26 Serpentine River East Reserve (R42543)

Lot number	L4013 Richardson Street Serpentine, L4371
Area	3.9205 ha (3.9205 ha remnant vegetation, amount of understorey unclear)
Vesting purpose	Public recreation
Land use	Conservation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 371 Vegetation condition unclear
Important features	Consists of riparian vegetation dominated by flooded gum and paperbark Extends along Serpentine River from South Western Highway downstream to Richardson Street in several non-consecutive lots Focus of Landcare SJ Inc. federally funded weed control and revegetation Foxes are of concern Water rats have been found trapped in marron pots
Management priority	Low
Management issues	Weeds include lantana, blackberry, figs etc

Past management actions	Weed control (blackberry, lantana, Brazilian pepper, figs, arum lily, watsonia, vinca, bridal creeper, cottonbush, nightshade, grasses, broadleafs, bulbs, woody weeds) Revegetation
Usual treatment plan	Weed control is cyclical, usually one year out of two, approx. $5,500 per treatment Revegetation subject to funding, usually one year out of five, approx. $5,000 per treatment
Desired future treatment plan	Budget of $3,000 per year, for five years out of ten, for weed control and revegetation

Keysbrook and Hopeland

1.1.27 Yangedi Road Airfield Reserve (R25911)

Lot number	L164 Yangedi Road Hopeland
Area	64.7421 ha (40.9174 ha remnant vegetation mapped, 32.9052 ha measured)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 378 Very Good to Good vegetation condition
Important features	Consists of banksia woodland, marri woodland and wetlands Contains 1 monitoring quadrat which is regularly surveyed Contains the airfield and associated clubhouse and hangars, controlled by the Serpentine Sports Aircraft Builders Club Contains infrastructure for water bombers Contains lease area for Bureau of Meteorology radar facility Club now understands that expansion into bushland is not approved and restricts access Club is enquiring to purchase reserve Fire risk is a concern for SABC
Management priority	High
Management issues	Recreational facilities are managed by user group, including mowing of native understorey between runways Conflict with user group over desired expansion and perceived risk of vegetation Dieback management Weeds include love grass, veldt grass Management of hazard reduction burns and associated weed control
Past management actions	Weed control (lovegrass) Feral animal control (foxes, rabbits) Dieback control Parking signs and delineation of parking areas
Usual treatment plan	Weed control is cyclical, usually one year out of three, approx. $8,000 per treatment

	Feral animal control as required, approx. $1,000 per treatment Dieback control about every three years, approx. $9,500 per treatment
Desired future treatment plan	Budget of $10,500 per year, for seven years out of ten, to be divided between weed control one year out of three, feral animal control as required, and dieback control every third year (due 2019/20) Controlled burn on selected perimeter areas

1.1.28 Myara Brook Reserve (R23778)

Lot number	L73 (Elliott Road, Keysbrook)
Area	10.3725 ha (8.8484 ha remnant vegetation)
Vesting purpose	Conservation / River diversion
Land use	Conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 426 Good to Degraded condition vegetation
Important features	Consists of marri woodland with some wandoo, and riparian vegetation dominated by flooded gum and paperbark Regular walk-through monitoring surveys Upland vegetation in good condition, riparian has very little understorey and is dominated by weeds, especially watsonia Local community group (Keysbrook Environment Group) and Landcare SJ Inc carry out regular weed control and revegetation
Management priority	Medium
Management issues	Weeds include watsonia, love grass, veldt grass Wandoo decline
Past management actions	Weed control (watsonia) Revegetation
Usual treatment plan	Weed control is annual, approx. $400 per treatment Revegetation subject to funding, usually nine years out of ten, approx. $4,000 per treatment Assistance available to community group on request, but group prefers to manage reserve themselves with Landcare assistance
Desired future treatment plan	Budget of $5,000 per year, every year, for weed control and revegetation

Reserves Requiring Occasional Treatment

1.1.29 Old Serpentine School Reserve (R6080) Serpentine

Lot number	L118 Gordon Road Serpentine
Area	2.5952 ha (2.5952 ha remnant vegetation)
Vesting purpose	Park & Recreation

Land use	Recreation and conservation
Conservation values	Environmentally Sensitive Area Water Course Bush Forever site 371 Degraded condition vegetation (canopy only)
Important features	Consists of flooded gum forest with some paperbarks Connects Serpentine Cemetery to the Serpentine River Adjacent to Serpentine River
Management priority	Medium
Management issues	Brownfield grassed areas slashed by Operations Weeds include arum lily, black Revegetation and weed control carried out by Landcare Two riffles installed by Shire and Landcare SJ Inc. Use by trail bike and bmx riders and construction of jumps, leading to rubbish dumping and impacts on revegetation
Past management actions	Weed control (arum lily, blackberry, lantana, cottonbush, olives) Revegetation Riffle construction
Usual treatment plan	Weed control is cyclical, usually two years out of five, approx. $2,000 per treatment Revegetation subject to funding, usually two years out of five, approx. $4,500 per treatment
Desired future treatment plan	Budget of $2,000 per year, every year, for weed control and revegetation

1.1.30 Lang Street Reserve (R6814) Jarrahdale

Lot number	L1153 Jarrahdale Road Jarrahdale
Area	0.5871 ha (0.2615 ha remnant vegetation)
Vesting purpose	Recreation
Land use	Recreation and conservation
Conservation values	Good to Degraded condition vegetation
Important features	Consists of open paddock and wetland/streamline teatree thicket Adjacent to Gooralong Conservation Park (DBCA) and Watercorp land
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations on request, otherwise managed by adjacent landowner Weeds include cotton bush in paddock and blackberry in vegetation
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.31 Arboretum Reserve (R7257) Mundijong

Lot number	L66 Watkins Road Mundijong
Area	3.8817 ha (not classified as remnant vegetation)
Vesting purpose	Arboretum
Land use	Arboretum and conservation
Conservation values	Environmentally Sensitive Area Water Course Degraded condition vegetation (canopy only)
Important features	Consists arboretum plantings with little natural vegetation and paddock/grassland understorey Sometimes grazed by a shire resident's sheep or cattle
Management priority	Low
Management issues	Grass slashed by Operations Weeds include cottonbush, grassy weeds, watsonia, cape tulip
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues Fences need repair and/or replacement Tidy up dead trees and branches, possible control burn

1.1.32 Summerfield Road Reserve (R15363) Serpentine

Lot number	L117 Summerfield Road Serpentine
Area	1.0117 ha (not classified as remnant vegetation)
Vesting purpose	Recreation
Land use	Recreation
Conservation values	Degraded condition vegetation (canopy only)
Important features	Consists of open paddock with scattered marris
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include watsonia, lovegrass
Past management actions	Weed control (watsonia, lovegrass)
Usual treatment plan	Weed control is periodical, usually one year out of ten, approx. $1,000 per treatment Requires more attention
Desired future treatment plan	Budget of $1,500 per year, for three years out of ten, for weed control

1.1.33 South Crescent (R30054) Byford

Lot numbers	L2841 Edward Crescent, L4050 South Crescent Byford
Area	0.1937 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Water Course

	Degraded condition vegetation (canopy only)
Important features	Consists of marri canopy with weedy understorey and garden plants Connects to Rainforest Reserve and vacant Ministry of Education land
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include lovegrass, veldt grass, watsonia
Past management actions	Drainage works Liaison with residents for adjacent tree management
Usual treatment plan	Requires more attention
Desired future treatment plan	Budget of $1,500 per year, for three years out of ten, for weed control

1.1.34 Eton Hills Reserve (R36695) Serpentine (Also known as McKay Drive Reserve)

Lot number	L149 McKay Drive Serpentine
Area	5.0012 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Water Course Degraded condition vegetation (canopy only)
Important features	Consists of woody weeds (acacias) over weedy understorey, with large numbers of grasstrees on hillside Very steep hill
Management priority	Low
Management issues	Weeds include cotton bush, paterson's curse, woody weeds Restriction of vehicle access (fencing, gates)
Past management actions	Weed control (paterson's curse, cottonbush)
Usual treatment plan	Weed control is cyclical, usually two years out of ten, approx. $2,000 per treatment Requires more attention
Desired future treatment plan	Budget of $3,500 per year, for five years out of ten, for weed control

1.1.35 Bowyer Place Reserve (R37634) Byford

Lot number	L2670 Beenyup Road Byford
Area	0.284 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and drainage
Conservation values	Water Course Degraded condition vegetation (canopy only)
Important features	Consists of marris over weedy understorey
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include lovegrass, veldt grass, watsonia

Past management actions	Weed control on request
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.36 Tallagandra Reserve (R40340) Serpentine

Lot number	L1357 Coffey Road Serpentine
Area	6.0095 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation
Conservation values	Completely Degraded condition vegetation (open paddock)
Important features	Consists of open paddock with some edge plantings and revegetation strips
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include lovegrass, veldt grass Revegetation by Landcare SJ Inc. Local group (Coffey Road Reserve Group) assist with weed control, watering and mowing
Past management actions	Weed control Ripping Revegetation
Usual treatment plan	Weed control is cyclical, usually two years out of five, approx. $800 per treatment Ripping preceding revegetation, approx. $$550 per treatment Revegetation subject to funding, usually two years out of five, approx. $3,500 per treatment
Desired future treatment plan	As required for specific issues

1.1.37 Beenyup Brook Stream Reserves (R51491 (Kalimna), R41304, R41489, R32044, R45945 (trotting complex), R40246 (Byford on the Scarp), R44646) Byford

Lot numbers	R51491: L502 Abernethy Road, L503 Kardan Boulevard R41304: L169 Renaud Way, L168, L159 Malarkey Road R41489: L163, L161, L160 Briggs Road R32044: L144 Briggs Road R45945: L4489 Thatcher Road R40246: L2940 South Western Highway, L1003 R44646: L4677 Lazenby Drive, L4048, L4292, L219 Homestead Place, L217, L218
Area	R51491: 4.556 ha (not classified as remnant vegetation) R41304: 4.0716 ha (0.3668 ha remnant vegetation) R41489, R32044, R45945: 5.5462 ha, 1.3203 ha, 2.0869 ha (not classified as remnant vegetation) R40246: 3.1275 ha (not classified as remnant vegetation) R44646: 6.8728 ha (not classified as remnant vegetation)

Vesting purpose	R51491: Public recreation and drainage R41304, R41489, R32044, R45945, R40246, R44646: Public recreation
Land use	R51491, R45945: Public recreation and drainage R41304, R41489, R32044, R45945: Public recreation (bridle path) R40246, R44646: Public recreation
Conservation values	R51491, R40246: Environmentally Sensitive Area Water Course Degraded condition vegetation (canopy only with some revegetation) R41304, R41489, R32044, R45945, R44646: Water Course Degraded condition vegetation (canopy only)
Important features	R51491: Consists of vegetated watercourse (primarily *Melaleuca preissiana* and *Eucalyptus rudis*) with drainage basins and revegetation R41304, R41489, R32044, R45945, R44646: Consists of vegetated watercourse (primarily *Melaleuca preissiana* and *Eucalyptus rudis*) R40246: Consists of vegetated watercourse (primarily *Melaleuca preissiana* and *Eucalyptus rudis*) with revegetation Part of an important watercourse corridor from hills to reserve west of Hopkinson Road
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include cottonbush, watsonia, typha, woody weeds (palms, Japanese pepper, figs), morning glory, grasses, bulbous weeds R51491: Recreational pressure (within urban development) R41304, R41489, R32044, R45945: Recreational pressure (bridle path within trotting complex) R40246: Recreational pressure (adjacent to urban development) R44646: Recreational pressure (within peri-urban development) Revegetation and weed control by Landcare SJ Inc., Byford EnviroLink and Shire
Past management actions	Weed control (palm trees, Japanese pepper, figs, watsonia, cottonbush, morning glory, grasses, typha, broadleafs, bulbous weeds) Revegetation Bridle trail management, tree management Fencing for access control
Usual treatment plan	Weed control is annual, approx. $3,000 per treatment Revegetation subject to funding, annual, approx. $2,000 per treatment Requires more attention
Desired future treatment plan	Budget of $5,500 per year, every year, for weed control and revegetation

1.1.38 Chestnuts Reserve (R45703) Jarrahdale

Lot number	L4495 (Chestnut Road to Coral Vine Loop)
Area	1.1624 ha (0.3183 ha remnant vegetation)
Vesting purpose	Public recreation
Land use	Recreation and conservation
Conservation values	Degraded condition vegetation (canopy only)
Important features	Consists of marri and jarrah over weedy understorey
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Occasional weed issues, including cottonbush, lavender
Past management actions	None
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.39 Pure Steel Lane Reserve (R46312) Mundijong

Lot number	L174 Pure Steel Lane Mundijong
Area	5.9455 ha (not classified as remnant vegetation)
Vesting purpose	Drainage
Land use	Drainage and recreation
Conservation values	Environmentally Sensitive Area Water Course Degraded to Completely Degraded condition vegetation (open paddock with scattered trees)
Important features	Consists of open paddocks with scattered trees, both remnant and planted
Management priority	Low
Management issues	Brownfield grassed areas slashed by Operations Weeds include cotton bush, melons, lovegrass
Past management actions	Melon control by GreenCorps
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.40 Paterson Street Reserve (R46799, R46851 east of railway) Mundijong

Lot number	R46799: L4372 Watkins Road Mundijong R46851: L500
Area	1.3592 ha and 0.9808 ha (not classified as remnant vegetation)
Vesting purpose	Parks and recreation, museum and community centre Parks and recreation
Land use	Civic purposes, museum, parks and recreation Parks and recreation, conservation

Conservation values	Threatened Ecological Community Environmentally Sensitive Area Bush Forever site 350 Degraded condition vegetation (canopy only)
Important features	Consists of marri woodland with some jarrah Contains recreational and community facilities, including playground, skatepark, picnic area and bbqs, war memorials, old railway station/hall, multiple use pathways
Management priority	Medium
Management issues	Grassed areas mown by Operations Weeds include veldt grass, lovegrass, watsonia, woody weeds High recreational pressure (town centre)
Past management actions	Weed control (woody weeds, veldt grass, lovegrass, watsonia)
Usual treatment plan	Weed control is cyclical, usually one year out of three, approx. $4,500 per treatment
Desired future treatment plan	Budget of $4,500 per year, for three years out of ten, for weed control

1.1.41 Wungong Brook Reserve (R47573) Darling Downs

Lot number	L4801, L4803 South Western Highway Darling Downs
Area	5.644 ha (3.5325 ha remnant vegetation)
Vesting purpose	Public recreation
Land use	Public recreation and conservation
Conservation values	Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 266 Degraded condition vegetation (canopy only)
Important features	Consists of riparian vegetation of paperbarks and flooded gum, understorey absent Important corridor connecting Wungong Regional Park to other areas to the west
Management priority	Medium
Management issues	Grassed areas mown by Operations Recreational pressure from peri-urban developments Weeds include cottonbush, woody weeds (including olives and figs), blackberry, arum lily
Past management actions	None
Usual treatment plan	Requires more and intensive attention and investigation
Desired future treatment plan	Budget of $5,000 per year, for eight years out of ten, for weed control

1.1.42 Jarrahdale Cemetery Buffer Reserve (R47759) Jarrahdale

Lot number	R47759: L5029 Atkins Street Jarrahdale R626 (cemetery): L4504 and L4522 Atkins Street Jarrahdale

Area	0.7634 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Public recreation
Conservation values	Degraded condition vegetation (canopy only)
Important features	Consists of jarrah-marri forest with no understorey Surrounds cemetery on three sides Buffer vegetation is all revegetation
Management priority	Low
Management issues	Community facilities are managed and areas slashed by Operations Sensitive location next to cemetery Weeds include cottonbush, nightshade
Past management actions	Weed control Tree management
Usual treatment plan	NA
Desired future treatment plan	As required for specific issues

1.1.43 Clondyke Lake Reserve (R48228) Byford

Lot number	L115 Clondyke Drive Byford
Area	3.2538 ha (not classified as remnant vegetation)
Vesting purpose	Public recreation
Land use	Public recreation
Conservation values	Environmentally Sensitive Area Water Body Degraded to Completely Degraded condition vegetation (open park with scattered trees, shrub thicket and weed area)
Important features	Consists of grassed park with lake, scattered trees (mainly marri), a shrub thicket and area of weeds (registered Aboriginal site) Has naturally occurring and planted trees and vegetation
Management priority	High
Management issues	Recreational facilities are managed and grassed areas mown by Operations High recreational pressure (surrounding urban development) Managed park in iconic location Water supply required to keep artificial lake filled Weeds include lovegrass, cottonbush
Past management actions	Weed control (paspalum, cottonbush, lovegrass)
Usual treatment plan	Weed control is periodical, usually one year out of ten, approx. $200 per treatment Requires more attention
Desired future treatment plan	Budget of $3,000 per year, for five years out of ten, for weed control

1.1.44 Cardup Brook Reserves (R49312 west of Highway, R48455 Byford Scarp) Byford

Lot numbers	R49312: L8015, L8025 Culham Vista, L8019, L8017 Cardup Siding Road Byford R48455: L116 Coulterhand Circle, L425
Area	R49312: 8.3319 ha (2.26554 ha remnant vegetation) R48455: 5.0316 ha (2.22274 ha remnant vegetation)
Vesting purpose	R49312: Foreshore management R48455: Public recreation and foreshore management
Land use	Foreshore management, recreation, conservation
Conservation values	R49312: Environmentally Sensitive Area Water Course Bush Forever site 351 Degraded condition vegetation (canopy only) R48455: Environmentally Sensitive Area Conservation Category Wetland Water Course Bush Forever site 271 Some Good condition vegetation, some Degraded (canopy only)
Important features	R49312: Consists of open grassland with scattered remnant flooded gum and paperbarks with some revegetation Weeds include cottonbush Runs along the southern side of the brook; water course and northern side is in private ownership, and has more vegetation than the reserve R48455: Consists of marri-wandoo woodland with mostly intact understorey and scattered flooded gum, with some revegetation and constructed drainage Weeds include arum lily, watsonia, lovegrass, blackberry, woody weeds, dolicho pea, freesia Forms part of an important corridor linking Cardup Nature Reserve to the hills
Management priority	Medium
Management issues	R49312: Grassed areas slashed by Operations Multiple-use path along creekline R48455: Provides drainage for Scarp estate High recreational pressure (surrounding peri-urban and urban development)
Past management actions	Weed control (cottonbush, arum lily, watsonia, lovegrass, blackberry, woody weeds, dolicho pea, freesia)
Usual treatment plan	Weed control is cyclical, usually four years out of ten, approx. $4,000 per treatment Requires more attention
Desired future treatment plan	Budget of $4,000 per year, for six years out of ten, for weed control

1.1.45 Unspecified reserves

Management issues	Treatment is often spread over a number of reserves, or may occur on reserves other than those specified here, and so cannot be assigned to any particular area Other expenses may be for actions on numerous reserves, such as cameras for fauna monitoring, seed collection, or mistletoe control
Past management actions	Weed control (lovegrass, watsonia, Victorian teatree, caltrop, cottonbush, black wattle, vinca, passionflower, lavender, morning glory, climbing weeds, arum lily, blackberry) Revegetation (jute matting) Dieback control Feral animal control (foxes and rabbits) Limestone for firebreaks Mistletoe control Pest and weed workshop Fauna cameras Weed books Fencing Tree management
Usual treatment plan	Weed control is cyclical, every year but fluctuating in value, approx. $9,000 per treatment
Desired future treatment plan	Budget of $12,000 per year, every year, for weed control and other actions as required

1.2 Road Reserves

The Shire manages over 900km of roads, with associated road reserve management. Some of these roads, particularly in rural areas, have significant remnant vegetation in their verges, and most have at least scattered trees. There are also a number of unmade road reserves, with varying degrees of vegetation and management. The road reserves are maintained, in general, by Operations, with consultation with the Natural Reserves Coordinator on issues of remnant vegetation management. Significant areas of bushland within road reserves, such as along Mundijong Road, are managed by the Natural Reserves Coordinator with (in some areas) additional management and revegetation by Landcare SJ Inc. The unmade roads are commonly unmanaged, and often leased to adjacent landholders.

1.2.1 Road reserves with remnant vegetation

Remnant vegetation on road reserves can vary from scattered trees to strips of bushland in good or better condition, such as is found along Mundijong Road. Significant areas of bushland within road reserves, such as along Mundijong Road, are managed by the Natural Reserves Coordinator with (in some areas) additional management and revegetation by Landcare SJ Inc. Unmade roads with remnant vegetation are commonly unmanaged.

Reserve	Mundijong Road Reserve (R23793)
Lot numbers	Duckpond Reserve: L214

	Road: L1724, L2145
Area	35.2815 ha (classified as remnant vegetation)
Vesting purpose	Government Requirements (vested with Public Transport Authority)
Land use	Road reserve, conservation
Conservation values	Threatened Ecological Community Environmentally Sensitive Area Conservation Category Wetland Declared Rare Flora Bush Forever site 360 Very Good to Good condition vegetation
Important features	Consists of marri woodland, clay-based wetlands, and sheoak woodland Significant for conservation as one of the few remaining east-west corridors on the Swan Coastal Plain Connects to Duckpond Reserve in the west, Mundijong Oval Reserve in the east, and the north-south corridor along the railway reserve Additional management activities frequently carried out by Landcare SJ Inc.
Management priority	Very High
Management issues	Threatened by future road expansion and the future Tonkin Highway intersection Weeds include lovegrass, veldt grass, bulbous weeds (including watsonia and babiana), arundo, woody weeds (including *Casuarina glauca*, *Eucalyptus camaldulensis*, wattles) Rabbits are an issue
Past management actions	Weed control (lovegrass, watsonia, veldt grass, wattles, cottonbush, broadleafs, *Casuarina glauca*, babiana, arundo, *Eucalyptus camaldulensis*) Revegetation Rabbit control
Usual treatment plan	Weed control annual, approx. $8,000 per treatment Revegetation subject to funding, usually one year out of five, approx. $1,500 per treatment
Desired future treatment plan	Budget of $8,000 per year, every year, for weed control and revegetation

1.2.2 Road reserves without remnant vegetation

Road reserves with no remnant vegetation, or with scattered trees and no understorey, are maintained by Operations, with consultation with the Natural Reserves Coordinator on issues of remnant vegetation management. Operations sprays the road shoulders, with some areas sprayed to the fenceline. Often the Natural Reserves Coordinator targets specific weed outbreaks along road reserves. The unmade roads are commonly unmanaged, and often leased to adjacent landholders.

Reserve	Road reserves without remnant vegetation
Management issues	Weed issues can be considerable, often with specific outbreaks that can be targeted

Past management actions	Weed control (garlic, cottonbush, lovegrass, evening primrose, acacias, Victorian teatree, watsonia, *Eucalyptus camaldulensis*) Revegetation
Usual treatment plan	Weed control is cyclical, every year but with varying expenditure, approx. $3500 per treatment Requires more attention
Desired future treatment plan	Budget of $7,000 per year, every year, for weed control

1.3 Parks and Gardens

Parks and gardens are areas of crown land vested with the Shire for public recreation (sometimes vested for other purposes), which often have little or no remnant vegetation, rarely have significant environmental features, and are used (or intended for use) by the community. Parks and gardens vary from landscaped areas of irrigated turf and gardens through to unirrigated landscaped areas and brownfield parks with no landscaping. Weeds, pest animals and diseases in these areas are managed by Operations (Parks and Gardens) as part of the usual management programs.

1.3.1 Managed parks and gardens

Managed parks and gardens include landscaped areas of irrigated turf and gardens, and unirrigated landscaped areas. Weeds, pest animals and diseases are rare in these areas due to their high level of management, but when they do occur are managed by Operations (Parks and Gardens) as part of the usual management programs.

1.3.2 Brownfield parks

Brownfield parks are areas with no landscaping or irrigation. Weeds, pest animals and diseases in these areas are managed by Operations (Parks and Gardens) as part of the usual management programs.

1.4 Private Property

Pest plants, animals and diseases also affect private property, and weeds on private property have a direct impact on the control measures for weeds on land managed by the Shire. Management can be voluntary, or enforced by government. The Shire can pass by-laws for pest species that do not appear in the state Declared Species Listing, which is focussed on weeds that have a significant detrimental impact on agriculture. Environmental weeds may not be on the list, and may require additional attention and enforcement. In the absence of by-laws, the Shire has limited influence over management on private property, but can encourage appropriate actions via the various enforceable legislation (such as state Declared Plants and federal Weeds of National Significance, which are required to be controlled). The Shire could also directly partner with the relevant State agency (currently the Department of Primary Industry and Regional Development) in establishing and enacting a compliance program for declared species. The Peel Harvey Biosecurity Group is also active in landholder negotiations, particularly in regards to control of cotton bush.

1.4.1 Legislative obligations

State and Federal legislation can oblige land managers to control weeds, pest animals or diseases. At the State level, once a plant or animal has been listed as a Declared Pest, land managers must control the pest on their land. State government bodies have the power (but rarely the resources) to compel management of Declared Pests, or to carry out control actions themselves at the landholder's expense. Recognised Biosecurity Groups (such as the PHBG) and local government have opportunities to influence what is a priority for compliance through partnerships with the Department.

1.4.2 Assistance for landholders

The Shire provides advice to landholders on the management of weeds, pest animals and diseases. The Shire is also a member of the Peel Harvey Biosecurity Group, which is active in landholder negotiations, particularly in regards to control of cotton bush. Known pest populations are reported to the PHBG, to be placed on a register. Landholders receive letters from the PHBG to alert them that they are in a hot spot and may be identified by the Department for remedial action.

The Shire runs two programs in conjunction with Landcare SJ Inc. to assist landholders with the management of weeds on their adjacent verges. Free verge herbicide is available to landholders for weed removal, and free verge plants can provide long-term weed suppression.

1.5 Coordination with Landcare SJ Inc. and Peel Harvey Biosecurity Group (PHBG)

Landcare SJ Inc manages weeds, pest animals and diseases in a number of Shire reserves, as well as revegetation, subject to availability of funding. The Peel Harvey Biosecurity Group is active in landholder negotiations, particularly in regards to control of cotton bush. The actions of these groups, despite providing some funding, greatly reduces the cost and workload of pest management for the Shire.

1.5.1 Landcare SJ Inc.

Landcare SJ Inc manages weeds, pest animals and diseases in a number of Shire reserves, as well as revegetation, subject to availability of funding. The amount of grant funding and volunteer and staff hours that Landcare has put into weed and pest management on Shire reserves over the years is so considerable that, in its absence, the Shire would have required a much larger budget to keep the reserves in their current condition.

Other programs run by Landcare SJ Inc include:

- Healthy Habitats program – direct assistance to landholders, including management of weeds, pests and diseases in privately owned bushland.
- Fox and rabbit baiting seasons – subsidised baits for landholders participating in coordinated seasons in spring and autumn. This program has been running since 2003 and is dependent on funding (currently funded until 2019). Available to all landholders who are eligible to bait.

- Trap hire – available to all landholders for foxes, rabbits and cats (the latter only if they are to be checked for ID and ownership).
- Opportunistic funding for coordinating events, e.g. trapping demonstrations.
- Free Verge Plant Program (funded by the Shire) – landowners within the Shire are eligible to apply for support in planting native seedlings along their verges. Landowners are also eligible for free chemical support in keeping their verges free from weeds and preparing the site for planting.
- Priority areas such as Brickwood Reserve and Mundijong Road Reserve where funding is regularly sought for weed control and dieback treatment.
- Focus on natural areas that have community groups involved in their management. There are potential future groups dedicated to new areas, e.g. Norman Road bushland attached to the new Whitby estate.
- Occasional opportunistic support, such as the current (2018) Peel Harvey Catchment Council Feral Pig Funding Program.

1.5.2 Peel Harvey Biosecurity Group (PHBG)

The *Biosecurity and Agriculture Management Act (2007)* (BAM Act) enables the Minister to recognise groups as Recognised Biosecurity Groups (RBGs) for the purpose of controlling declared pests at a landscape scale across tenure. RBGs provide a mechanism to enable landholders and managers to develop a coordinated approach to control and manage declared pests in their area.

The work undertaken by RBGs is intended to add value to pest control undertaken by individual landholders and is not intended to replace individual responsibilities.

RBGs, with the agreement and support of landholders in their prescribed area, can request the Minister for Agriculture and Food to levy rates on properties in the area to fund declared pest control activities. The Office of State Revenue (OSR) is responsible for issuing and collecting the Declared Pest Rates (DPR). Local government does not issue or collect the DPR, and every dollar raised in rates is matched by the State Government.

The Peel Harvey Biosecurity Group (PHBG) is a recognised biosecurity group operating across the local government areas of Serpentine Jarrahdale, Murray, Waroona, Harvey and Mandurah. The PHBG is currently consulting the community with regards to a proposed pest rate. The amount of work undertaken by the PHBG beyond June 2018 is completely dependent on whether the declared pest rate goes through, in the absence of other funding (start-up funding was provided by local government).

The vision of the PHBG is to *"See the impact of priority pests reduced to a minimal or acceptable level"*, and their mission is to *"Use the tools at our disposal to get priority pests onto the day-to-day agenda of anyone who lives, works or operates in our patch"*. The PHBG focuses its work on a provisional list of priority species, which currently includes cottonbush, Paterson's curse, apple of Sodom, cape tulip, arum lily, blackberry, doublegee, watsonia, rabbit, fox, pig, cat, rainbow lorikeet, wild deer, fruit fly and yabby.

2. Management of Specific Pest Plants, Animals and Diseases

This section describes the features of each species, recommended control methods, areas in which each species has been treated by the Shire, and the Shire's average expenditure for treatment.

2.1 Weeds

Weed control methods are of three main types: physical, chemical and biological. Physical methods involve the removal of the weed by physical or mechanical means, such as cutting, hand pulling, digging, mowing, tilling or burning. Chemical methods involve the use of herbicides. Biological methods involve the introduction of a weed's natural enemies, such as insects, pests, fungi or diseases.

Physical or mechanical weed control is often not appropriate for natural areas, as considerable off-target damage can occur. Hand pulling or digging can be useful for small infestations, particularly in highly sensitive areas or of herbicide-resistant weeds, and is most often carried out by Friends groups (not discussed in this document). Cutting and removal of woody weeds is often used in combination with chemical control (herbicide treatment of the cut stump).

Chemical weed control is generally considered to be the most effective and cost effective form of weed control, and usually causes the least environmental damage and disturbance. Herbicides can be selective (targeting a particular group of plants, such as grasses or broad-leafs) or nonselective, and can either destroy or reduce the growth of treated weeds. Use of herbicides in natural areas requires a skilled operator to eliminate or minimise off-target damage. Potential disadvantages include development of herbicide resistance in target species, damage to nontarget species and the broader environment (including soil residue and water contamination), and toxic effects on animals (including humans).

Biological control is the introduction of a weed's natural enemies, usually insects or diseases. Biological control can reduce the impact and spread of a weed, but not eliminate it. A significant investment (financial and temporal) is required, and control agents often take up to ten years to have a noticeable impact, but can be practical and effective. Not all weeds have control agents that would be safe for release, as great care must be taken to avoid off-target effects. The development and release of biological control agents is the responsibility of other levels of government, as a regionally coordinated approach is required

Specified weeds not listed in the following section have been treated in Old Rifle Range Reserve, Tonkin Street Flora Reserve, Manjedal Brook Reserve, Cardup Brook Reserves, unspecified reserves and road reserves. Average expenditure $1,000 per year, six years in ten.

Unspecified weeds (where the species is not detailed but may include weeds listed in the following sections) have been treated in Brickwood Reserve, Old Rifle Range Reserve, Oscar Bruns Reserve, Rainforest Reserve, Mundijong Oval Reserve, Bella Cumming Reserve, Tonkin Street Flora Reserve, Manjedal Brook Reserve, King Road Pony Club, Darling Downs Trail Network Reserves, Korribinjal Brook Reserve, Scrivener Road Reserve, Clem Kentish Reserve, Old Serpentine School Reserve, Tallagandra Reserve, Beenyup Brook Reserves,

Yangedi Road Airfield Reserve, Beenyup Brook Reserve, Paterson Street Reserve, Cardup Brook Reserves, unspecified reserves and road reserves. Average expenditure $15,000 per year, every year.

2.1.1 Cotton bush (*Gomphocarpus fruticosus*) Declared Pest

Weed features

Cotton bush is an escaped garden shrub, to 2m, which is usually found in disturbed, moist sites and can form dense thickets. It is the food source for the monarch or wanderer butterfly. It can be toxic to livestock; all parts are poisonous and the sap is a skin irritant.

Recommended control methods

Hand pull small plants, ensuring removal of as much root material as possible. Hand removing plants with mature fruits can lead to release and rapid spread of wind dispersed seed. Foliar spray with 1.5% glyphosate or cut and paint with 50% glyphosate. Optimum treatment September to December.

Areas identified and/or treated

Cotton bush has been treated in Manjedal Brook Reserve, Darling Downs Trail Network Reserves, Korribinjal Brook Reserve, Karnup Road Flora Reserve, Serpentine River East Reserve, Old Serpentine School Reserve, Eton Hills Reserve, Beenyup Brook Reserves, Cardup Brook Reserves, Mundijong Road Reserve, unspecified reserves and road reserves. Average expenditure $2,500 per year, every year.

2.1.2 Watsonia (*Watsonia* spp.)

Weed features

Watsonia species are garden escapes which spread by seeds and corms. The most serious environmental weeds are forms of *Watsonia meriana*, which are commonly found in wetter areas.

Recommended control methods

Wipe individual leaves with 10% glyphosate or spray dense infestations with 2,2-DPA 10g/L + Pulse. Apply just as flower spikes emerge at corm exhaustion. Use 2,2-DPA at 5g/L + Pulse when concerned about off-target damage. Optimum treatment September.

Areas identified and/or treated

Watsonia has been treated in Brickwood Reserve, Oscar Bruns Reserve, Mundijong Oval Reserve, Serpentine Sports Reserve, Serpentine Cemetery Reserve, Karnup Road Flora Reserve, Serpentine River East Reserve, Myara Brook Reserve, Summerfield Road Reserve, Beenyup Brook Reserves, Paterson Street Reserve, Cardup Brook Reserves, Mundijong Road Reserve, unspecified reserves and road reserves. Average expenditure $5,000 per year, every year.

2.1.3 Other bulbous weeds

Bulbous weeds in general have been treated in Brickwood Reserve, Serpentine River East Reserve and Beenyup Brook Reserves. Average expenditure $2000 per year, two years in ten.

Baboon flower (Babiana angustifolia)

Babiana species are garden escapes that form dense clumps and are common in the Perth hills and clay-based woodlands and wetlands of the coastal plain.

Spot spray metsulfuron methyl 0.2 g/15L + Pulse or 2,2DPA 5g/L + Pulse. Apply just on flowering at corm exhaustion. Optimum treatment August to September.

Baboon flower has been treated in Mundijong Road Reserve. Expenditure $1,500 in one year.

Black flag (Ferraria crispa)

Black flag is a garden escape and a scattered and increasingly serious bushland weed which spreads by seeds and corms. It is easily distinguished by its apparently succulent foliage.

Hand remove very small populations in degraded sites. Sift soil to find all corms. Spray 2,2DPA 10g/L + Pulse when flowering. In degraded sites try glyphosate 1% + metsulfuron methyl 0.2g/15L + Pulse. Takes a number of years to control populations. Optimum treatment August to September.

Black flag has not been previously treated by the Shire.

Freesia (Freesia alba x leichtlinii)

Freesia is a popular, fragrant garden plant which has become a serious bushland weed.

Spot spray metsulfuron methyl 0.2g/15L + Pulse. Apply just on flowering at corm exhaustion. Optimum treatment July to August.

Freesia has been treated in Oscar Bruns Reserve, Serpentine Cemetery Reserve and Cardup Brook Reserves. Expenditure $1,500 in one year.

Gladiolus (Gladiolus spp.)

Nine species of Gladiolus, originally garden plants, have become naturalised in WA and spread by seeds and corms. The three most common are *G. angustus* (long-tubed painted lady, found on road verges and in bushland), *G. caryophyllaceous* (pink gladiolus, common in urban bushland and banksia woodlands) and *G. undulatus* (wavy gladiolus, common in wetter areas and spreading to adjacent bushland).

G. angustus – Spot spray metsulfuron methyl 0.2g/15L + glyphosate 1% + Pulse in degraded sites. Optimum treatment July to August.

G. caryophyllaceous – Wipe individual leaves with glyphosate 10% or spray dense infestations in degraded areas with 1% glyphosate just on flowering at corm exhaustion. Optimum treatment July to September.

G. undulatus – Spot spray metsulfuron methyl 0.2g/15L + Pulse, just on corm exhaustion. Physical removal can result in spread of cormels. Once the parent corm is killed cormels in the soil tend to lose dormancy and germinate. Optimum treatment July.

Gladiolus species have not been previously treated by the Shire.

Ixia (Ixia spp.)

Three species of Ixia, originally garden plants which frequently hybridise, have naturalised in WA and spread by seeds and corms. These species are *I. maculata* (yellow ixia, spreading into woodlands from old settlements and road verges), *I. polystachya* (variable ixia, spreading into bushland from old settlements) and *I. paniculata* (found around old settlements and on road verges).

Spot spray metsulfuron methyl 0.2g/15L + Pulse or 2,2DPA 5g/L + Pulse, just on flowering at corm exhaustion. Optimum treatment July to September (*I. maculata* and *I. paniculata*) or September to October (*I. polystachya*).

Ixia species have not been previously treated by the Shire.

2.1.4 Love grass (*Eragrostis curvula*)

Weed features

African lovegrass is a tufted perennial to 1m and is a serious weed of road verges and disturbed ground, which often invades adjacent bushland. It forms dense monocultures, creating large fuel loads and a fire hazard.

Recommended control methods

Cut out small plants or small infestations. Spray with 1-2% glyphosate when plants are green and actively growing. After fire, spray regrowth when 5-10cm high. Always requires follow-up treatment. Optimum treatment November to May.

Areas identified and/or treated

Lovegrass has been treated in Brickwood Reserve, Oscar Bruns Reserve, Rainforest Reserve, Mundijong Oval Reserve, Manjedal Brook Reserve, Korribinjal Brook Reserve, Serpentine Sports Reserve, Serpentine Cemetery Reserve, Karnup Road Flora Reserve, Yangedi Road Airfield Reserve, Summerfield Road Reserve, Paterson Street Reserve, Cardup Brook Reserves, Mundijong Road Reserve, unspecified reserves and road reserves. Average expenditure $7,500 per year, every year.

2.1.5 Veldt grass (*Ehrharta calycina*)

Weed features

Perennial veldt grass is a tufted perennial and is a widespread weed of roadsides and bushland on sandy soils. It is a significant fire hazard and is favoured by disturbance.

Recommended control methods

For small infestations, cut out plants ensuring crown removal. Do not slash. Spray with Fusilade Forte 13mL/L + wetting agent on actively growing and unstressed plants. For generic fluazifop-p (212g/L active ingredient) 8mL/L + wetting agent. Follow up in subsequent years. Use unplanned fires to spray regrowth and seedlings within 4-6 weeks of germination. Optimum treatment June to August (herbicide) or November to February (manual removal).

Areas identified and/or treated

Veldt grass has been treated in Rainforest Reserve, Bella Cumming Reserve, Tonkin Street Flora Reserve, King Road Pony Club, Paterson Street Reserve, Mundijong Road Reserve, unspecified reserves and road reserves. Average expenditure $3,500 per year, six years in ten.

2.1.6 Bridal creeper (*Asparagus asparagoides*) Declared Pest, Weed of National Significance

Weed features

Bridal creeper is one of the state's worst environmental weeds, and is extremely invasive. It was introduced as an ornamental, and its berries are spread by birds. Biological control agents are greatly reducing its fruiting and dominance.

Recommended control methods

Spray 0.2g metsulfuron methyl + Pulse in 15L water. Best results achieved when flowering. Biological control agents available. Optimum treatment July to August.

Areas identified and/or treated

Bridal creeper has been treated in Serpentine River East Reserve and Korribinjal Brook Reserve. Expenditure $500 in one year.

2.1.7 Arum lily (*Zantedeschia aethiopica*) Declared Pest

Weed features

Arum lily, introduced as a garden plant, is a widespread and conspicuous weed of primarily wet, swampy habitats and sometimes heathlands. It is toxic to stock.

Recommended control methods

For the most effective control spot spray metsulfuron methyl 0.4g/15L + 225mL glyphosate + Pulse. As glyphosate is non selective, only apply where there is no chance of off target application on native vegetation. Otherwise, spot spray metsulfuron methyl or chlorsulfuron 0.4g/15L + Pulse. Herbicide application can send some tubers into dormancy therefore any control program needs to continue for at least five years. Early management prevents flowering and seed set but may miss later sprouting tubers. Optimum treatment July to September.

Areas identified and/or treated

Arum lily has been treated in Pony Place Reserve, Serpentine Cemetery Reserve, Serpentine River East Reserve, Old Serpentine School Reserve, Cardup Brook Reserves and unspecified reserves. Average expenditure $1,500 per year, three years in ten.

2.1.8 Woody weeds

Woody weeds in general (species unspecified) have been treated in Brickwood Reserve, Oscar Bruns Reserve, Serpentine Sports Reserve, Serpentine River East Reserve, Beenyup Brook Reserves, Paterson Street Reserve, Cardup Brook Reserves, Mundijong Road Reserve and other road reserves. Expenditure $1200, seven years in ten.

Tree Lucerne, tagasaste (Chamaecytisus palmensis)

Tree Lucerne has been extensively planted for fodder and land rehabilitation. It seeds prolifically and has naturalised everywhere it has been planted, invading adjacent bushland. Seeds are poisonous to humans.

Hand pull seedlings where possible. For mature plants apply 250mL Access in 15L of diesel to basal 50cm trunk (basal bark). Foliar spray with 0.5g/10L metsulfuron methyl + Pulse. Optimum treatment March to September.

Tree Lucerne has been treated in Oscar Bruns Reserve and Serpentine Cemetery Reserve. Expenditure $500 in one year.

Black wattle (Acacia decurrens)

Black wattle is a garden escape found in high rainfall areas south of Perth on roadsides, creeklines and wasteland.

Hand pull seedlings, fell mature plants. Young plants may occasionally resprout. Apply 250mL Access in 15L of diesel to basal 50cm of trunk (basal bark) or cut and paint with 50% glyphosate or drill and fill. Older plants can be ringbarked. Optimum treatment June to September.

Black wattle has been treated in unspecified reserves. Average expenditure $5,000 per year, two years in ten.

Sydney golden wattle (Acacia longifolia)

Sydney golden wattle is a garden escape found on roadsides, creeklines, swamps and bushland. Cyanides in the leaves can lead to stock poisoning.

Hand pull seedlings, fell mature plants. Apply 250mL Access in 15L of diesel to basal 50cm of trunk or cut and paint or drill and fill with 50% glyphosate. Older plants can be ringbarked. Monitor site for recruitment from seedbank. Optimum treatment March to August.

Wattles in general (species unspecified) have been treated in Oscar Bruns Reserve, Serpentine Cemetery Reserve, Mundijong Road Reserve and other road reserves. Average expenditure $1,500 per year, four years in ten.

Victorian teatree (Leptospermum laevigatum)

Victorian teatree was introduced as a garden plant and often grown as a hedge, but has become a major bushland weed. Massive seed release follows damage or stress, including from herbicide, mechanical damage or fire.

Hand pull seedlings, fell mature plants. Resprouting has been recorded in some areas. Where resprouting has been observed, apply 250mL Access in 15L of diesel to basal 50cm of trunk (basal bark). Optimum treatment July to October.

Victorian teatree has been treated in unspecified reserves and road reserves. Expenditure $2,000 in one year.

Olive (Olea europaea)

Olive seeds are spread from plantations mainly by ravens, also by other birds and mammals. It is increasing in bushland and expected to become more common as it is being planted widely. Forms mixed age thickets that prevent native plant recruitment.

Hand pull or dig out seedlings and small plants ensuring removal of all roots. For mature plants cut to base and paint 50% glyphosate or apply 250mL Access in 15L of diesel to basal 50cm of trunk (basal bark). Monitor sites for seedling recruitment. Optimum treatment March to May.

Olives have been treated in Old Serpentine School Reserve and Korribinjal Brook Reserve. Average expenditure $1,500 per year, two years in ten.

River red gum (Eucalyptus camaldulensis)

River gum has been planted extensively (frequently in plantations and windbreaks), often in preference to the local flooded gum (*E. rudis*), with which it hybridises. Abundant seed can form thickets and invade nearby farmland and bushland. Prolific germination follows fire.

Hand pull or dig out seedlings ensuring removal of all roots. Try cut and paint or inject root crown using 50% glyphosate. Foliar spray regrowth with 1.5% glyphosate. Optimum treatment all year.

River red gums have been treated in Oscar Bruns Reserve, Mundijong Road Reserve and other road reserves. Average expenditure $1,000 per year, four years in ten.

2.1.9 Declared species and WONS

Water hyacinth (Eichhornia crassipes) Declared Pest, Weed of National Significance

Water hyacinth is one of the world's worst water weeds, introduced as an ornamental, spreading rapidly by stolons and from fragments and seeds. It has recently been found in the Birrega Drain, spreading rapidly towards the Serpentine River.

Use mechanical control such as hand pulling, cutting, mowing, dredging, drying and chaining on small areas (only effective with small infestations) or where chemical control is not possible or appropriate. May lead to spread by stem fragments. Chemical control must be carefully planned and monitored. Use 200g/L diquat + wetting agent at any time when green leaf surface exposed. Monitor for regrowth and repeat after four weeks. Alternatively, use 360g/L glyphosate when actively growing and beyond early bloom stage of growth.

The timing of control is best conducted when the plants are actively growing. Second control should focus on periods when water is available and temperatures are increasing. The chemical control applications should be undertaken in late October – early November to kill plants while they are actively growing and water levels are high. Follow-up surveillance by a pest control operator or the community should occur in December, 4-6 weeks after the second treatment to confirm the reduction in plant numbers and physically remove any plants that were missed.

Previous treatment: Water hyacinth was first reported in September 2013, on the Birrega Drain in Oakford, 1.5km upstream of Mundijong Road. The Water Corporation carried out control efforts in the following December, January and April 2014.

There was another report in March 2014, near the Karnup Road bridge. Landcare SJ applied for funding to coordinate community involvement in eradication. The river has subsequently been monitored twice by aerial surveillance, with the aerial images analysed online by the community and spraying and manual removal by the Water Corporation.

Paterson's curse (Echium plantagineum) Declared Pest

Paterson's curse is a well-known agricultural weed which covers paddocks with its distinctive purple flowers, spreading into drier areas where it displaces native annuals. It is a target for biological control. Poisonous to mammals, potential allergen.

Plants are best treated when young. Spot spray in late autumn/winter when most seed has germinated for the year with 0.5g/L chlorsulfuron + wetting agent, this will also help prevent further germination. Glyphosate at 75-100mL/15L or metsulfuron methyl 5g/100L applied at early flowering will control existing plants. Grubbing and cutting are suitable for young plants as long as 20-40mm of taproot is removed. Slashing or mowing can cause out of season flowering and seed production. Optimum treatment May to August.

Paterson's curse has been treated in Eton Hills Reserve. Expenditure $1,500 in one year.

Blackberry (Rubus spp.) Declared Pest, Weed of National Significance

Blackberries are taxonomically variable, usually grouped as *R. fruticosus* agg., and were introduced for their fruit, becoming very serious environmental and forestry weeds, particularly along creeklines. Targets for biological control, which requires exact identification. Species may include *R. anglocandicans* (bramble), *R. laudatus* (early blackberry), *R. loganobaccus* (boysenberry), *R. rugosus* (Himalayan blackberry) and *R. ulmifolius* (elm-leaf blackberry).

Spray with metsulfuron methyl 1g/10L + wetting agent Endose at 30mL/10L in summer-autumn. Will require follow-up for a number of years. For small infestations or in sensitive areas hand pull small plants or seedlings. For larger plants cut and paint with 20-50% glyphosate or slash canes. Spray regrowth at 50cm with metsulfuron methyl 1g/10L + wetting agent Endose at 30mL/10L in summer-autumn. Optimum treatment September to April (*R. anglocandicans*), August to January (*R. laudatus*), December to April (*R. loganobaccus*), January to April (*R. rugosus*) or December to February (*R. ulmifolius*).

Blackberry has been treated in Manjedal Brook Reserve, Serpentine River East Reserve, Old Serpentine School Reserve and Cardup Brook Reserves. Average expenditure $1,500 per year, five years in ten.

Lantana (Lantana camara) Declared Pest, Weed of National Significance

Lantana seeds are spread by birds, occasionally naturalising in wetter areas, and it is considered one of the worst weeds in the world. A target for biological control. It has been found along the Serpentine River.

Apply 250mL Access in 15L of diesel to base 50cm of stems (basal bark) or foliar spray with 1.5% glyphosate. In some situations fire could be a useful tool to remove biomass, but follow up herbicide control will be required. Optimum treatment March to May.

Lantana has been treated in Serpentine River East Reserve and Old Serpentine School Reserve. Average expenditure $1,500 per year, four years in ten.

Cape tulip (Moraea spp.) Declared Pest

Seven species of cape tulip have naturalised in WA, with two common weeds of pastures, woodlands, granite and limestone being declared plants. These are *M. flaccida* (one leaf cape tulip) and *M. miniata* (two leaf cape tulip), which is primarily spread by cormels. All species are toxic to stock.

Spot spray metsulfuron methyl 0.2g/15L or chlorsulfuron 0.2g/15L + Pulse or 2,2DPA 55g/10L + Pulse. Apply just on flowering at corm exhaustion. Physical removal of *M. miniata* can result in spread of cormels. Optimum treatment July to August (*M. flaccida*) or July to September (*M. miniata*).

Cape tulip has not been specifically treated by the Shire.

2.1.10 Other weeds of bushland and cultivation

Grassy weeds in general (species unspecified) have been treated in Brickwood Reserve, Korribinjal Brook Reserve, Serpentine River East Reserve and Beenyup Brook Reserves. Average expenditure $6000, two years in ten.

Broadleafed weeds (species unspecified) have been treated in Brickwood Reserve, Serpentine Sports Reserve, Serpentine River East Reserve, Beenyup Brook Reserves, Paterson Street Reserve, Cardup Brook Reserves, Mundijong Road Reserve and other road reserves. Average expenditure $2500, four years in ten.

Guildford grass, onion grass (Romulea spp.)

Four species of Romulea, growing from corms, have been recorded in WA, of which the most common are *R. rosea* (Guildford grass, onion grass, with pink flowers) and *R. flava* (yellow flowers). It is common in lawns, pastures and roadsides, and ubiquitous in most bushlands. *R. rosea* is known to be toxic to some stock.

Spot spray metsulfuron methyl 0.2g/15L + Pulse. Apply just on flowering at corm exhaustion. Optimum treatment July to August (*R. rosea*) or June to July (*R. flava*).

Guildford grass has not been specifically treated by the Shire.

South African orchid (Disa bracteata)

This garden escape can be found throughout the wetter southwest, and is sometimes very common. It is favoured by disturbance but can be found in all habitats.

Spot spray glyphosate 1% + Pulse, just on flowering (October to November).

The South African orchid has not been specifically treated by the Shire.

Giant reed, bamboo (Arundo donax)

Giant reed is a garden escape forming suckering clones around old settlements on roadsides, creeklines, wetlands and wastelands. It is very common around Perth. An aggressive competitor with rapid growth which forms thick stands that displace riparian vegetation and increase fire intensity.

Growth can be suppressed by repeated mowing or tillage and removal of material from site, however the key to eradication is killing the root and rhizome mass. Small infestations can be physically controlled ensuring all rhizomes are removed. In larger infestations, use foliar or cut-stump applications of aquatic approved herbicide (Round-Up Biactive). Chemical control is most effective in late summer/early autumn. Careful timing of mechanical control and treatment of cut material can minimise or inhibit sprouting. A single 3-5% glyphosate foliar application late in the season has been effective at killing stems and stopping production of new stems the following spring. As spread tends to occur downstream, the best control approach is to start upstream and work downwards. Optimum treatment all year (manual removal) or February to March (herbicide).

Arundo has been treated in Oscar Bruns Reserve and Mundijong Road Reserve. Average expenditure $600 per year, three years in ten.

Blowfly grass (Briza maxima)

Blowfly grass is a widespread, common weed of wasteland, granite, wetlands and woodlands throughout the southwest.

Prevent seed set. Hand pull or spray at 3-5 leaf stage with Fusilade Forte at 16mL/10L + wetting agent or for generic fluazifop-p (212g/L active ingredient) 10mL/10L + wetting agent. Repeat treatment for 2-3 years. Optimum treatment July to August.

Blowfly grass has not been specifically treated by the Shire.

Wild oats (Avena barbata)

Wild oats is an abundant and widespread weed found throughout the southwest in roadsides, wasteland and disturbed bushland. It outcompetes native grasses, is allelopathic, seeds prolifically and increases fire frequencies.

Spray at 3-5 leaf stage with Fusilade Forte at 16mL/10L + wetting agent or for generic fluazifop-p (212g/L active ingredient) 10mL/10L + wetting agent. Repeat over the following 2 years. Aim to prevent seed production. Optimum treatment July to October.

Wild oats has not been specifically treated by the Shire.

Bulrush (Typha orientalis)

There are two species of typha in WA, one native and one naturalised and easily confused. The native species, *T. domingensis*, is much more delicate than the introduced *T. orientalis*, with narrow leaves and flower heads. *T. orientalis* is an aggressive coloniser of disturbed wetlands throughout the southwest. Management may impact on waterbird roosting sites and habitat.

Eradication is difficult due to prolific seed production and extensive rhizomatous roots. Apply Roundup Biactive (360g/L) at 13mL/L when actively growing through wiping, backpack/handheld spray or high volume spray. The optimum time is between male flowers opening and 6 weeks after female flowers open. This period is usually the end of December through to February. Complete coverage of foliage is necessary. Avoid producing runoff or spray drift. Plants with one third of the stem below water may not absorb enough herbicide to be killed by spraying – either wait until water levels are lower or plants have matured. Cutting shoots 15cm below the water surface two to three times in a season when actively growing, but before seeds have formed, greatly reduces stands. Repeat treatment annually to ensure against reinfestation. To avoid loss of water quality by anaerobic decomposition of dead plant material in water, consider physical removal of dead biomass or burning 6 weeks after spraying. Optimum treatment December to February.

Bulrush has been treated in Beenyup Brook Reserves. Average expenditure $800 per year, two years in ten.

Pigface (Carpobrotus edulis)

Pigface is a prostrate succulent which is naturalised along the coast and in tuart and banksia woodlands, and a pest in pastures on sandy soils. It outcompetes native species and has numerous negative ecological effects.

Manual methods appear to be the most effective means of control. Roll up large mats removing all roots and stem fragments and remove from site. Follow up with removal of any germinating plants. Otherwise spray with glyphosate at 2% + surfactant. Optimum treatment all year (manual removal) or June to October (herbicide).

Pigface has not been specifically treated by the Shire.

Capeweed (Arctotheca calendula)

Capeweed is a major weed of crops and pastures, abundant in all habitats throughout the southwest and increasing in drier areas, where it displaces native annuals. Can be toxic to mammals, through accumulating potentially toxic levels of nitrate.

Chip out small infestations, ensuring root is severed well below ground level to prevent resprouting from the crown. For large infestations apply Lontrel 6mL/10L in early growth stages. Glyphosate at 0.2% will provide some selective control if the plants are young or at the budding stage, otherwise spot spraying glyphosate at 10mL/L will control capeweed at all growth stages. A combination of chemical and physical control with follow up treatment provides optimal control. Optimum treatment June to November.

Capeweed has not been specifically treated by the Shire.

Flatweed (Hypochaeris spp.)

Two species of flatweed are found in WA, *H. glabra* and *H. radicata*, often difficult to tell apart and sometimes hybridising. They are common weeds of lawns, horticulture, roadsides and bushland throughout the southwest. Toxic to horses.

H. glabra – Mowing and grazing are ineffective and often promote growth and flowering. Hand remove small infestations and/or isolated plants, ensuring the taproot is removed. Alternatively wipe rosettes with glyphosate at 30%. For dense infestations, apply Lontrel 10mL/10L + wetting agent. Apply herbicide regularly to prevent seeding. Optimum treatment May to October (manual removal) or May to September (herbicide).

H. radicata – Wiping rosettes with 30% glyphosate provides effective control. For dense infestations, apply Lontrel 10mL/10L + wetting agent. Optimum treatment June to September.

Flatweed has not been specifically treated by the Shire.

Ursinia (Ursinia anthemoides)

Ursinia is a common, widespread weed in various habitats throughout the southwest. Outcompetes native species.

Remove small and/or isolated plants manually before seed set. Optimum treatment July to September.

Ursinia has not been specifically treated by the Shire.

Velvet pink (Petrorhagia dubia)

Velvet pink is a weed of paddock edges, wasteland, road verges, granite and disturbed woodlands and shrublands throughout the southwest.

Remove small and/or isolated plants manually before seed set. Optimum treatment June to September.

Velvet pink has not been specifically treated by the Shire.

Morning glory (Ipomoea indica)

Morning glory is a common garden escape on wasteland throughout the southwest, commonly along rivers and creeks in the Perth area where it smothers fringing vegetation. Suspected to be toxic to livestock and humans.

Hand remove all stems in contact with the ground, sever vines at base and leave to dry in canopy then dig out roots. Scrape and paint stem (20-50% glyphosate) or cut vine at chest height and lie lower sections on the ground before applying 1.5% glyphosate over them. Monitor for 1 year following removal. Optimum treatment September to February.

Morning glory has been treated in Beenyup Brook Reserves and unspecified reserves. Average expenditure $500 per year, two years in ten.

Geraldton carnation weed (Euphorbia terracina)

Geraldton carnation weed is a common and serious weed of pastures, road verges, coastal heath and tuart woodlands throughout the southwest, and spreading from areas where limestone has been used. It has a very toxic and irritating sap. Outcompetes native species.

Logran at 12.5g/100L + Pulse is very effective on adults and juveniles with little offtarget damage in coastal heathlands. Hand removal can stimulate germination of the soil seedbank. Ensure adequate personal protective clothing is worn to avoid contact with sap. Since seed production is highest from plants which emerge early, it is important to control early cohorts, if not treated when small these become increasingly tolerant to herbicides. Control of the late emergent before seed formation will prevent fresh seeds being added to the existing seed bank. Slashing in November after seed production may result in no vegetative regeneration, due to lack of food reserves in the underground roots and stem. The remaining underground plant parts cannot withstand hot dry summer conditions. Undertake control after any fire event. Optimum treatment June to November (manual removal) or June to August (herbicide).

Geraldton carnation weed has not been specifically treated by the Shire.

Fumitory (Fumaria spp.)

Five species of fumitory occur in WA, of which only three can be distinguished with confidence, being *F. capreolata* (whiteflower or climbing fumitory, common around settlements and on wasteland, road verges, shrublands and granite, suspected of poisoning stock), *F. densiflora* (denseflower fumitory, a weed of cropping and roadsides) and *F. muralis* (wall fumitory, a weed of gardens, wasteland, road verges, shrublands and horticulture).

F. capreolata – Spray metsulfuron methyl at 0.1g/15L + wetting agent or glyphosate 0.5%. Herbicide control can be unpredictable and variable, with tolerance and resistance varying. Optimum treatment July to September.

F. muralis – Easily hand removed however this needs to be repeated at least every 10 weeks during the growing season. Continual germination and seedlings emerging after the disturbance of hand removal requires consistent follow-up. Spray metsulfuron methyl at 0.1g/15L + wetting agent or glyphosate 0.5%. Herbicide control can be unpredictable and variable, with tolerance and resistance varying. Optimum treatment May to August.

Fumitory has not been specifically treated by the Shire.

Lavender (Lavandula stoechas)

Lavender is an aromatic garden escape found on roadsides, wasteland, creeks and drainage lines throughout the southwest.

Hand pull or dig out small plants ensuring removal of all root material. Try cut and paint with 50% glyphosate. Spray regrowth in spring. Optimum treatment September to November.

Lavender has been treated in unspecified reserves. Expenditure $200 in one year.

Evening primrose (Oenothera spp.)

At least nine species of evening primrose are naturalised in WA, with confused taxonomy and possible hybrids. The known species are *O. affinis* (occasional), *O. drummondii* (beach evening primrose, common and widespread in Perth on coastal areas and roadsides), *O. glazioviana* (tall evening primrose, common along roadsides and wasteland in Perth), *O. jamesii* (occasional), *O. indecora* (small-flower evening primrose, occasional on roadsides), *O. laciniata* (roadsides), *O. mollissima* (found on calcareous soils), *O. speciosa* (wasteland), and *O. stricta* (common evening primrose, widespread on roadsides and paddock margins, trialled as a pasture species on sandy soils).

Control in seedling stage, as older plants resistant to herbicide. Relatively resistant to glyphosate. Hand remove small populations in areas not susceptible to erosion, ensuring removal of entire root system. Spot spray chlorsulfuron 0.4g/10L + spray oil. Optimum treatment all year (manual removal) or July to October (herbicide; *O. drummondii, O. mollissima, O. stricta*) or June to August (herbicide; *O. laciniata*).

Evening primrose has been treated in road reserves. Expenditure $1,000 in one year.

Oxalis (Oxalis spp.)

14 species of oxalis are naturalised in WA. These are *O. caprina* (shady situations in high rainfall areas), *O. compressa* (farmland), *O. corniculata* (yellow wood sorrel, cosmopolitan weed common in lawns and garden beds), *O. corymbosa* (pink shamrock, old gardens and wasteland), *O. depressa* (white oxalis, disturbed foredunes), *O. flava* (occasional on roadsides and old settlements), *O. glabra* (finger-leaf oxalis, common on heavy soils in disturbed woodland, paddock edges, firebreaks and tracks), *O. incarnata* (pale wood sorrel, wet areas beside creeks and along tracks and roads), *O. pes-caprae* (soursob, a major weed of crops, pastures, orchards, gardens, roadsides, wasteland and disturbed bushland throughout the southwest, may cause oxalate poisoning in sheep) and *O. purpurea* (four o'clock, purple wood sorrel, widespread on heavier soils in Perth and increasing as a weed of crops, pastures, roadsides and lawns throughout the southwest).

Spot spray metsulfuron methyl 0.2g/15L + Pulse, or 1% glyphosate. Apply at bulb exhaustion, generally just on flowering. Exercise care if manually removing as physical removal can result in spread of bulbils. Optimum treatment May (*O.* flava), May to June (*O. depressa, O. glabra, O. purpurea*), June to July (*O. pes-caprae*), or August to September (*O. incarnata*).

Oxalis species have not been specifically treated by the Shire.

Pimpernel (Anagallis/Lysimachia arvensis)

Pimpernel has two varieties, *arvensis* with scarlet flowers and *caerulea* with blue, and is an occasional weed of horticulture, crops and pastures, and a widespread weed of gardens, paddocks, granite and disturbed bushland throughout the southwest.

Remove small and/or isolated plants manually before seed set. Optimum treatment July to September.

Pimpernel has not been specifically treated by the Shire.

Nightshades (Solanum spp.)

In WA there are 43 native and 11 naturalised nightshades, which require specialised identification. Of most concern locally is *S. nigrum* (black berry nightshade, mistakenly called deadly nightshade), a weed of gardens, horticulture, wasteland, disturbed woodlands, pastures, creeklines and wetlands throughout the southwest. Young fruits and leaves may at times contain toxic alkaloids.

Prevent seed set for several years. Hand weed small infestations. In bushland situations, manually remove plants before flowering. For large infestations, 1L/ha Starane (20mL/10L) applied when actively growing in summer, will provide reasonably selective control. Do not use in or near wetlands. Control infestations within 5km of the target area to reduce dispersal of seeds by birds. 1L/ha 2,4D amine (500g/L) or 20mL/10L can also be used for control of young plants in early summer. Optimum treatment June to November (manual removal) or July to December (herbicide).

Apple of Sodom has been treated in Manjedal Brook Reserve and nightshade in Serpentine River East Reserve. Expenditure $400 in one year.

2.1.11 Other purposes

Revegetation

Seedlings, jute matting and tree guards have been purchased for Old Rifle Range Reserve, Oscar Bruns Reserve, Wattle Road Nature Reserve, unspecified reserves and road reserves. Average expenditure $1,500 per year, five years in ten.

A separate budget covers the free verge plants and free verge herbicide programs.

Clearing permits

Clearing permits were purchased for Serpentine Sports Reserve, unspecified reserves and road reserves. Average expenditure $100 per year, three years in ten. Clearing permits are now charged to another account.

Infrastructure

Infrastructure such as fencing and signs has been installed in Brickwood Reserve, Old Rifle Range Reserve, Oscar Bruns Reserve, Mundijong Oval Reserve, Pony Place Reserve, Darling Downs Trail Network Reserves, Yangedi Road Airfield Reserve and unspecified reserves. Average expenditure $4,500 per year, six years in ten.

Miscellaneous

Other expenses have been incurred for Brickwood Reserve, Darling Downs Trail Network Reserves and unspecified reserves. Average expenditure $300 per year, five years in ten.

2.1.12 Weed treatment calendar

Legend: Y = Yes, optimal treatment; O = Occasional treatment

Weed species	**Month**											
	J	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
River red gum (*E. camaldulensis*)	O	O	O	O	O	O	O	O	O	O	O	O
Morning glory	Y	Y	O	O	O			O	Y	Y	Y	Y
Typha: manual removal	Y	Y	O	O	O	O	O	O	O	O	Y	Y
herbicide treatment	Y	Y	O							O	O	Y
Blackberry: *R. laudatus*	Y							Y	Y	Y	Y	Y
R. ulmifolius	Y	Y									O	Y
R. anglocandicans	Y	Y	Y	Y					Y	Y	Y	Y
R. loganobaccus	Y	Y	Y	Y								Y
R. rugosus	Y	Y	Y	Y								
Lovegrass	Y	Y	Y	Y	Y					O	Y	Y

Weed species	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Arundo (giant reed/bamboo)												
manual removal	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
herbicide treatment	O	Y	Y	O								
Olive	O	O	Y	Y	Y	O				Y	Y	Y
Lantana	O	O	Y	Y	Y	O	O	O	O	O	O	O
Sydney golden wattle			Y	Y	Y	Y	Y	Y				
Tagasaste			Y	Y	Y	Y	Y	Y	Y			
Paterson's curse					Y	Y	Y	Y	O			
Fumitory: pink (*F. muralis*)					Y	Y	Y	Y	O	O	O	
white (*F. capreolata*)							Y	Y	Y			
Flatweed: *H. glabra* manual					Y	Y	Y	Y	Y	Y		
herbicide					Y	Y	Y	Y	Y			
H. radicata						Y	Y	Y	Y			
Oxalis: *flava*					Y							
depressa, glabra, purpurea					Y	Y						
pes-caprae						Y	Y					
incarnata								Y	Y			
Veldt grass: herbicide treatment						Y	Y	Y	O			
manual removal	Y	Y									Y	Y
Geraldton carnation weed												
manual removal	O	O	O	O	O	Y	Y	Y	Y	Y	Y	O
herbicide treatment	O	O	O	O	O	Y	Y	Y	O	O	O	O
Evening primrose: manual removal	O	O	O	O	O	O	O	O	O	O	O	O
Herbicide: *O. laciniata*						Y	Y	Y	O	O	O	
others							Y	Y	Y	Y		
Black wattle			O	O	O	Y	Y	Y	Y	O	O	O
Petrorhagia (velvet pink): manual						Y	Y	Y	Y			
Pigface: manual removal	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
herbicide treatment						Y	Y	Y	Y	Y		
Capeweed						Y	Y	Y	Y	Y	Y	
Guildford grass: yellow						Y	Y					
pink							Y	Y				
Bridal creeper							Y	Y				
Freesia						O	Y	Y				
Blowfly grass						O	Y	Y	O			

Weed species	Month											
	J	F	M	A	M	J	J	A	S	O	N	D
Gladiolus: *undulatus*							Y					
angustus							Y	Y				
caryophyllaceous							Y	Y	Y			
Cape tulip: one leaf							Y	Y				
two leaf							Y	Y	Y			
Arum lily							Y	Y	Y			
Ursinia							Y	Y	Y			
Pimpernel							Y	Y	Y			
Ixia: *maculata, paniculata*							Y	Y	Y			
polystachya									Y	Y		
Victorian teatree	O	O	O	O	O	O	Y	Y	Y	Y	O	O
Wild oats							Y	Y	Y	Y		
Nightshades (*Solanum*):	O						Y	Y	Y	Y	Y	Y
Babiana						O	O	Y	Y			
Black flag								Y	Y			
Watsonia									Y			
Lavender								O	Y	Y	Y	O
Cotton bush	O	O	O	O	O	O	O	O	Y	Y	Y	Y
Disa (South African orchid)										Y	Y	

2.2 Pest Animals

2.2.1 Rabbits – Declared Pest

Pest animal features

The rabbit was introduced from Europe with the First Fleet in 1788 and reached Western Australia by 1900, breeding prolifically and now found in all environments throughout Australia (except the northernmost areas). Rabbits are declared pests of agriculture and have a significant environmental impact through grazing and competition. While it was previously thought that foxes and feral cats preferentially feed on rabbits but shift to predate on native species when rabbit numbers are significantly reduced, this is now known to not be the case. Rabbits only make up about 5% of the fox diet, and their numbers do not significantly impact on the predatory habits of foxes.

Recommended control methods

Control methods are biological, chemical or mechanical. Biological methods include diseases such as myxoma virus and more recently calicivirus, which keep numbers low despite growing resistance. New strains of calicivirus are constantly being developed and released. Chemical methods include warren fumigation and poisoning with 1080 or pindone oats. Mechanical methods include warren ripping and harbourage destruction, and less commonly rabbit-proof fencing, shooting and trapping. The most effective control uses a combination of methods as

appropriate. Whilst biological control is effective, the reduction in population will not last long if additional chemical and/or mechanical control measures are not undertaken.

Areas identified and/or treated

Community baiting sessions are coordinated by Landcare SJ, from whom cage traps can also be hired. Rabbits have been controlled by the Shire and Landcare SJ in Brickwood Reserve, Bella Cumming Reserve, King Road Pony Club, Serpentine Sports Reserve, Serpentine River East Reserve, Yangedi Road Airfield Reserve and unspecified reserves. Average expenditure $2,000 per year, three years in ten.

2.2.2 Foxes – Declared Pest

Pest animal features

Foxes were introduced for recreational hunting in the mid-1800s, and have spread across most of Australia. They have played a major role in the decline and extinction of a number of native animals, and also prey on newborn lambs as well as other stock such as fowl.

Recommended control methods

Control of foxes relies on conventional methods such as shooting, trapping, poisoning with buried 1080 baits and fencing. Predation by dingoes and some diseases are significant causes of fox mortality. Control programs need to be coordinated with control of other species such as rabbits and cats, as fox control alone can lead to population growth due to reduced predation of rabbits and kittens.

Areas identified and/or treated

Community baiting sessions are coordinated by Landcare SJ, from whom cage traps can also be hired. Foxes have been controlled by the Shire and Landcare SJ in Brickwood Reserve, Bella Cumming Reserve, Tonkin Street Flora Reserve, King Road Pony Club, Serpentine Sports Reserve, Serpentine River East Reserve, Yangedi Road Airfield Reserve and unspecified reserves. Expenditure $3,500 in one year.

2.2.3 Feral cats

Pest animal features

Feral cats are the same species as domestic cats, but living and breeding in the wild throughout Australia. They have caused the decline and extinction of many native animals, and threaten the survival of over 100 native species. Dingoes and foxes prey on kittens.

Recommended control methods

Control of feral cats is challenging as they are difficult to locate. Shooting and trapping are possible but difficult and expensive. Other control methods include fencing, which is usually employed to exclude several predatory species simultaneously. Poison baiting is most

effective, using 1080 sausages laid on the ground. Other methods such as biological control, fertility management and habitat management are being investigated.

Areas identified and/or treated

Cage traps can be hired by the community from Landcare SJ. Feral cats have been controlled in Brickwood Reserve, King Road Pony Club and Serpentine Sports Reserve in conjunction with control of other feral animals. Expenditure $1,500 in one year.

2.2.4 Pigs – Declared Pest

Pest animal features

Feral pigs are a serious environmental and agricultural pest throughout Australia, particularly around wetlands and rivers. They prey on native animals and plants, dig up large areas in search of food, and foul fresh water. Feral pigs can carry animal diseases that can be transmitted to other species, and can spread plant diseases such as dieback in dirt on their feet and fur.

Recommended control methods

Trapping, baiting and shooting are the main control options for feral pigs. Exclusion fencing can also be considered, and poisoning with 1080 meat or grain baits is cost effective.

Areas identified and/or treated

Feral pigs have not been previously controlled on Shire reserves.

2.2.5 Rainbow lorikeets – Declared Pest

Pest animal features

Rainbow lorikeets are native to the eastern states, but are spreading rapidly from aviary escapes into orchard and forest areas around Perth and are a declared pest. They are serious pests of the orchard industry and compete with native species for nesting hollows and food.

Recommended control methods

Control is most effective when methods are used in combination as appropriate. Options include bird netting, scarers, alternative foods, shooting, trapping and mistnetting. It is illegal to use poison or trap for resale or translocation.

Areas identified and/or treated

Rainbow lorikeets have not been previously controlled by the Shire.

2.2.6 Corellas

Pest animal features

There are several species of corella, not all of which are native to Western Australia. The western corella (*Cacatua pastinator*) is endemic to WA and has two subspecies occurring in the southwest and the wheatbelt. Two subspecies of the little corella (*C. sanguinea*) occur in the Pilbara and Kimberley. Two corellas that are not native to WA have become established, the eastern long-billed corella (*C. tenuirostris*) and the eastern subspecies of the little corella. These birds cause damage to trees, infrastructure and agriculture, and compete with native species (particularly black cockatoos) for nesting hollows and food.

Recommended control methods

Control methods are most effective when integrated, varied and persistent. Options include food and access limitation, scaring techniques, and occasionally shooting or trapping. Fertility control and poisoning are considered ineffective and inappropriate.

Areas identified and/or treated

Corellas have not been previously controlled by the Shire.

2.2.7 Unspecified feral animals

Areas identified and/or treated

Feral animals in general (species not specified, but likely to be rabbits and/or foxes) have been controlled in King Road Pony Club and Pony Place Reserve. Expenditure $4,500 in one year.

2.2.8 Other purposes – fauna

Areas identified and/or treated

Other expenses related to fauna (such as possum boxes and fauna cameras) have been incurred for Old Rifle Range Reserve and unspecified reserves. Average expenditure $1,500 per year, five years in ten.

2.3 Diseases and Health Issues

2.3.1 Phytophthora Dieback

Disease features

Phytophthora dieback is caused by the pathogen *Phytophthora cinnamomi*, which kills susceptible plants by attacking their root systems so that they cannot take up water and nutrients. It affects more than 40% of plant species in the southwest, and more than half of the endangered ones, as well as many agricultural crops and garden plants. There is no known cure. The fungus is spread through the movement of plant materials and soil, particularly on feet and vehicles, and in free water and from root-to-root contact. It devastates bushland by removing particular plants and changing the nature of the landscape, driving rare species

towards extinction and affecting fauna through habitat alteration. More than one million hectares, and 20% of the jarrah forest, is infected. Phytophthora dieback is sometimes considered to be the greatest threat to biodiversity and the environment.

Recommended control methods

There is no known cure for Phytophthora dieback. The fungicide phosphite protects plants against dieback by boosting natural defences, and can be administered through injections to trees or by spraying vegetation. Prevention is vital, limiting the spread of dieback through quarantine and hygiene measures such as education, exclusion, cleaning stations to avoid transport of infected soil, cleaning footwear and vehicles, and use of dieback free materials and soils. Mapping of dieback free areas allows for planning of hygiene measures and treatment of vulnerable vegetation.

Areas identified and/or treated

Phytophthora dieback has a greater impact on banksia woodlands and jarrah forest than on other ecosystems, so dieback mapping and control has focussed on reserves containing these vegetation types. Private land treatment has occurred through funding leveraged by the Healthy Habitats program. The Shire's dieback treatment program covers Brickwood Reserve, Old Rifle Range Reserve, Oscar Bruns Reserve, Bella Cumming Reserve, Tonkin Street Flora Reserve, King Road Pony Club, Pony Place Reserve, King Jarrah Circle Reserve, Serpentine Sports Reserve, Yangedi Road Airfield Reserve and unspecified reserves, each of which is treated on average every three years. Average expenditure $13,000 per year, eight years in ten.

2.3.2 Armillaria

Disease features

Root and collar rot caused by the Australian honey fungus (*Armillaria luteobubalina*) is a soil borne fungus that causes root rot in many ornamental plants and native species, including marri and tuart. It spreads mostly by root contact and replanting in infected areas. Stress predisposes trees to infection, and symptoms can become more severe due to overwatering. Armillaria is more commonly a disease of parks and gardens, rather than natural areas.

Recommended control methods

There is no known cure. Good hygiene is essential to prevent spread, including no transfer of infected soil or plant materials, removal of infected stumps and roots, and application of organic matter to retard activity.

Areas identified and/or treated

Armillaria has not been previously controlled on Shire reserves.

2.3.3 Marri canker

Disease features

A canker is the death of an area of bark and underlying sapwood. Marri canker, caused by the fungus *Quambalaria coyrecup*, contributes to the decline of marri and also affects red flowering gums (*Corymbia ficifolia*). Marri canker occurs throughout the range of this tree, but is more common in disturbed areas. Once affected, trees cannot recover but can survive for some time by temporarily walling off the disease. Canker disease kills the bark, identifiable by cracking and shed bark with significant gum production and sometimes target-like lesions from successive walling off of the disease, and eventually spreads to girdle and ringbark the branch or trunk on which it occurs.

Recommended control methods

There is no known control method for marri canker. Pruning of affected branches can prolong the life of the tree, provided that the cut is sealed to prevent reinvasion through the wound, and that tools are sterilised to avoid spreading the fungus from contact. Understorey revegetation and seedling recruitment is recommended, and nutrient injections can boost resistance. The use of fungicides is being investigated.

Areas identified and/or treated

Marri canker has not been previously controlled by the Shire, with the exception of occasional removal or pruning of badly affected trees.

2.3.4 Mistletoe

Pest features

Mistletoes are native parasitic plants in the genera *Amyema* and *Lysiana*, which are host-specific (i.e. each species of mistletoe grows on a particular group of hosts). In the natural environment, mistletoes grow in balance with their hosts and are ecologically important, particularly for the mistletoe bird which feeds on and spreads their fruits. In disturbed environments, where host plants are already stressed by other factors, mistletoes can become a serious threat to the health of their hosts.

Recommended control methods

Pruning of affected branches is the only reliable control method. Other methods, such as fire or herbicide (sprayed on the mistletoe or injected into the host) are unreliable and can negatively affect the health of the host. Encouragement of predatory possums is also recommended.

Areas identified and/or treated

Mistletoe has been an issue throughout old Byford for some time. It has been controlled in Old Rifle Range Reserve (funded by a State NRM grant received in 2010), unspecified reserves

and road reserves. Average expenditure $13,000 per year (including grant project), five years in ten.

3. Work Plan

3.1 Ten Year Plan (2017 – 2027)

Implementation is generally cyclical. Expenditure is focussed on a particular reserve, weed, pest or disease for a period of one to three years. When the focus reserve is improved, or the weed, pest or disease controlled, expenditure is then targeted to a new focus area. For example, a particular weed in a particular reserve may require intensive control (high cost) in the first year, minor control (medium cost) in the second, and spot control (low cost) in the third, then not require any management for a number of years, during which expenditure can be focussed on other reserves. Intensive control of a particular weed or pest in all areas may bring it under control for several years. Dieback mapping and control usually occurs in each reserve where it is required every third year.

Past expenditure 2007/08 to 2016/17 (figures in *italics* are Landcare expenditure from grants)

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Brickwood / Briggs Park Reserve (R17490, R51101)	$72 Water analysis	*$3,300 Seedlings $1,870 In-kind planting*	$6,000 Weeds	$1,818.18 Watsonia / lovegrass $1,058.86 Weeds $105.95, $97.15, $100.66 Limestone *$24,800 Lovegrass, watsonia, weeds $990 Seedlings $925 In-kind planting*	*$10,450 Lovegrass, watsonia, weeds $6,500 Dieback treatment*	*$10,800 Lovegrass, watsonia*	$2,000 Bulbous weeds $1,150 Woody weeds *$6,600 Dieback treatment*	$2,740 Weeds *$4,510 Weeds*	$3,440 Broadleafs & grasses $2,000 Turf grass $3,100 Lovegrass & watsonia $3,000 Lovegrass & watsonia $3,530 Fox, feral cat, rabbits *$3,300 Lovegrass, watsonia $462 Seedlings $709 In-kind planting*	$2,920 Lovegrass $700 Gates *$6,600 Lovegrass, watsonia $462 Seedlings $709 In-kind planting*	07/08: $72 08/09: *$5,170* 09/10: $6,000 10/11: $3,180.80 *$26,715* 11/12: *$16,950* 12/13: *$10,800* 13/14: $3,150 *$6,600* 14/15: $2,740 *$4,510* 15/16: $15,070 *$4,471* 16/17: $3,620 *$7,771* Annual average: $3,383.28 SoSJ *$8,298.70 LC* **$11,681.98 total** Average spend: $3,383.28 SoSJ *$8,298.70 LC* **$11,681.98 total**
Old Rifle Range Reserve (R10164)					$93.07 Mistletoe tags $36,490 Mistletoe removal $3,000 Possum boxes	$480 Weeds $1,799.60 Seedlings $1,488.22 Fencing materials $2,075 Possum box placement $1,150 Fence erection $1,000 Possum box	$1,400 Winter weeds $1,790.91 Dieback treatment $1,400 Mistletoe			$352.50 Weeds $1,350 Weeds $6,163.64 Dieback mapping & treatment $183.90, $122.60 Vehicle access signs	11/12: $39,583.07 ($0) 12/13: $13,992.82 ($480) 13/14: $4,590.91 ($3,190.91) 16/17: $8,172.64 ($8,172.64) Annual average: $9,477.06 Average spend: $16,584.86 ($1,691.94 and $3,947.85

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
						supply & installation $6,000 Mistletoe					excluding mistletoe project)
Oscar Bruns Reserve (R10385)	$685 Cable locating $2,272.73 Weeds $909.09 Weeds	*$1,080 Weeds* *$540 In-kind seed collect* *$1,100 Seedlings* *$970 In-kind planting*		$2,727.27 Weeds $312.73 Weeds	$550.35 Weeds $4,500 Weeds $1,278 Seedlings $1,045.45 Dieback treatment *$1,150 In-kind planting*	$435 Weeds	$1,600 Weeds	$1,150 Dieback treatment	$1,050 Lovegrass, arundo, weedy eucalypts	$1,500 Watsonia, freesia & lovegrass $700 Tagasaste, *E. camaldulensis*, wattle, lovegrass $800 Arundo, lovegrass	07/08: $3,866.82 08/09: *$3,690* 10/11: $3,040 11/12: $7,373.80 *$1,150* 12/13: $435 13/14: $1,600 14/15: $1,150 15/16: $1,050 16/17: $3,000 Annual average: $2,151.56 SoSJ *$484 LC* **$2,635.56 total** Average spend: $2,390.62 SoSJ *$2,420 LC* **$2,928.40 total**
Rainforest Reserve (R20165) and Rainforest Drainage Reserve (R37907)	*$360 In-kind weeds* *$330 Seedlings* *$655 In-kind planting*	*$360 In-kind weeds* *$330 Seedlings* *$655 In-kind planting*	*$360 In-kind weeds*	*$360 In-kind weeds*	*$360 In-kind weeds*	$1,055 Veldt grass *$360 In-kind weeds*	$1,700 Weeds			$1,000 Lovegrass	07/08: *$1,345* 08/09: *$1,345* 09/10: *$360* 10/11: *$360* 11/12: *$360* 12/13: $1,055 *$360* 13/14: $1,700 16/17: $1,000 Annual average: $536.43 SoSJ *$413 LC* **$949.43 total** Average spend: $1,251.67 SoSJ *$516.25 LC* **$985.62 total**

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Mundijong Oval Reserve (R4486)	$277.50 Weeds	$4,000 Weeds $3,018 Fencing $8,181.82 Fencing	$600 Gates $485 Cable location				$1,500 Watsonia	$600 Lovegrass & watsonia		$950 Weeds $650 Weeds $800 Weeds	07/08: $277.50 08/09: $15,199.82 09/10: $1,085 13/14: $1,500 14/15: $600 16/17: $2,400 Annual average: $2,106.23 Average spend: $3,510.39
Bella Cumming Reserve (R6168)						$2,909.09 Dieback control			$700 Weeds $2,272.73 Dieback treatment	$1,290 Weeds $1,200 Veldt grass	12/13: $2,909.09 15/16: $2,972.73 16/17: $2,490 Annual average: $1,195.97 Average spend: $2,790.61
Tonkin Street Flora Reserve (R22020) and Mundijong Scout Hall Reserve (R36369)		$2,700 Weed control & mapping			$798 Weeds	$1,055 Veldt grass $2,181.82 Dieback control	$1,155 Grass weeds		$1,450 Weeds $2,272.73 Dieback treatment & mapping $825 Fox control	$1,240 Weeds $1,100 Weeds $2,000 Veldt grass & winter weeds	08/09: $2,700 11/12: $798 12/13: $3,236.82 13/14: $1,155 15/16: $4,547.73 16/17: $4,340 Annual average: $1,677.76 Average spend: $2,796.26
Mundijong Tip Reserve (R23011)											Annual average: $0 Average spend: $0
Manjedal Brook Reserve (R37934)	$2,272.73 Cottonbush & blackberry $1,666.67 *E. camaldulensis*	$1,368 Cottonbush, apple of Sodom, blackberry, fig	*$880 Seedlings* *$440 In-kind planting*	*$880 Seedlings* *$440 In-kind planting*	*$1,408 Seedlings* *$1,096 In-kind planting*		$900 Cottonbush	$2,200 Blackberry, cottonbush, dolicho pea		$1,655 Weeds $2,700 Blackberry, cottonbush, lovegrass	07/08: $3,939.40 08/09: $1,368 *$3,620* 09/10: *$1,320* 10/11: *$1,320* 11/12: *$2,504* 13/14: $900 14/15: $2,200

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
		$2,200 Seedlings $1,420 In-kind planting									16/17: $4,355 Annual average: $1,276.24 SoSJ *$876.40 LC* **$2,152.64 total** Average spend: $2,552.48 SoSJ *$2,191.48 LC* **$2,690.80 total**
King Road Pony Club (R36950)	$1,136.36 Dieback survey $4,090.91 Dieback treatment	$2,700 Weed control & mapping				$8,831.82 Dieback treatment		$2,310 Feral animals $2,000, $5,000, $1,200 Veldt grass	$8,831.82 Dieback treatment *$1,675 Fox, rabbit*	*$1,675 Fox, rabbit*	07/08: $5,227.27 08/09: $2,700 12/13: $8,831.82 14/15: $10,510 15/16: $8,831.82 *$1,675* 16/17: *$1,675* Annual average: $3,610.09 SoSJ *$335 LC* **$3,945.09 total** Average spend: $7,220.18 SoSJ *$1,675 LC* **$6,575.15 total**
Pony Place Reserve (R41485)	$6,400 Fencing $1,136.37 Dieback survey							$3,500 Dieback mapping & treatment $6,774.55 Dieback treatment $2,310 Feral animal control		$2,102.50 Arum lily	07/08: $7,536.37 14/15: $12,584.55 16/17: $2,102.50 Annual average: $2,222.23 Average spend: $7,407.81
Craghill Way Reserve (R34460)											Annual average: $0 Average spend: $0

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Darling Downs Trail Network Reserves (principally R35601, R35603, R35701, R35702, R35706 and others)	*$9,900 Wetland seedlings $4,570 In-kind wetland planting*	*$4,114 Wetland seedlings $2,203 In-kind wetland planting $630 In-kind wetland weeds*	$277.27 Cottonbush *$440 Wetland seedlings $700 In-kind wetland planting $1,540 In-kind wetland weeds*	*$2,200 Wetland seedlings $1,420 In-kind wetland planting $2,400 In-kind wetland weeds*	*$2,200 Wetland seedlings $1,420 In-kind wetland planting $630 In-kind wetland weeds*	*$2,090 Wetland seedlings $1,375 In-kind wetland planting $630 In-kind wetland weeds*	*$1,100 Wetland seedlings $970 In-kind wetland planting $1,200 Wetland weeds*			$180 Bridle trail brochures $140 Star picket caps	07/08: *$14,470* 08/09: *$6,947* 09/10: $277.27 *$2,680* 10/11: *$6,020* 11/12: *$4,250* 12/13: *$4,095* 13/14: *$3,270* 16/17: $320 Annual average: $59.73 SoSJ *$4,173.20 LC* **$4,232.93 total** Average spend: $298.64 SoSJ *$5,216.50 LC* **$5,291.16**
Jarrahdale Sports Oval (R6428)											Annual average: $0 Average spend: $0
Korribinjal Brook Reserve (R36434, R36436, R42251)	$277.50 Weeds $909.09 Lovegrass $909.09 Cottonbush *$1,500 In-kind weeds $1,320 Seedlings $1,060 In-kind planting*	*$1,500 In-kind weeds $825 Seedlings $857.50 In-kind planting*	*$1,500 In-kind weeds $3,278 Seedlings $1,861 In-kind planting*	*$1,500 In-kind weeds $440 Seedlings $700 In-kind planting*	*$1,500 In-kind weeds $1,760 Seedlings $1,240 In-kind planting*	$4,800 Weeds *$1,500 In-kind weeds*	$1,155 Weeds $1,985 Grass weeds *$990 Seedlings $925 In-kind planting*	$3,120 Weeds, lovegrass & olives $1,120 Cottonbush, lovegrass, olives	$2,818.18 Weeds $1,905 Weeds, lovegrass, olives, bridal creeper		07/08: $2,095.68 *$3,880* 08/09: *$3,182.50* 09/10: *$6,639* 10/11: *$2,640* 11/12: *$4,500* 12/13: $4,800 *$1,500* 13/14: $3,140 *$1,915* 14/15: $4,240 15/16: $4,723.18 Annual average: $1,899.89 SoSJ *$2,425.65 LC* **$4,325.54 total** Average spend: $3,799.77 SoSJ *$3,465.21 LC*

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
											$4,806.15 total
King Jarrah Circle Reserve (R45659)	$2,954.55 Dieback treatment				$3,181.82 Dieback treatment			$3,500 Dieback treatment			07/08: $2,954.55 11/12: $3,181.82 14/15: $3,500 Annual average: $963.64 Average spend: $3,212.12
Serpentine Sports Reserve (R19134)	$50 Clearing permit $400 Remove dead trees $800 Remove stumps *$360 in-kind weeds* *$1,760 Seedlings* *$1,240 In-kind planting*	*$360 in-kind weeds* *$1,320 Seedlings* *$1,060 In-kind planting*	$227.27 Rabbits $201.36 Rabbits *$360 in-kind weeds* *$440 Seedlings* *$700 In-kind planting*	$1,818.18 Rabbits *$360 in-kind weeds* *$1,100 Seedlings* *$970 In-kind planting*	*$740 in-kind & machinery, rabbits* *$360 in-kind weeds* *$1,386 Seedlings* *$1,087 In-kind planting*	$10,000 Lovegrass & watsonia *$520 in-kind weeds* *$360 in-kind weeds*	$3,500 Veldt grass $4,000 Lovegrass & broadleafs *$360 in-kind weeds* *$880 Seedlings* *$718 In-kind planting*	$4,800 Lovegrass & watsonia $4,950 Dieback treatment *$880 Seedlings* *$880 In-kind planting*	$5,000 Lovegrass & watsonia $2,500 Lovegrass	$2,000 Lovegrass	07/08: $1,250 *$3,360* 08/09: *$2,740* 09/10: $428.36 *$1,500* 10/11: $1,818.18 *$2,430* 11/12: *$3,573* 12/13: $10,000 *$880* 13/14: $7,500 *$1,958* 14/15: $9,750 *$1,760* 15/16: $7,500 16/17: $2,000 Annual average: $4,024.65 SoSJ *$1,820.10 LC* **$5,844.75 total** Average spend: $5,030.82 SoSJ *$2,275.12 LC* **$5,844.75 total**
Scrivener Road Old Gravel Reserve (R26079)											Annual average: $0 Average spend: $0
Scrivener Road		$2,270 Weeds									08/09: $2,270

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Reserve (R26080)											Annual average: $227 Average spend: $2,270
Serpentine Cemetery Reserve (R10661)						$2,000 Watsonia, lovegrass & arum lily				$2,500 Arum, watsonia, freesia & lovegrass $500 Tagasaste, acacias	12/13: $2,000 16/17: $3,000 Annual average: $714.29 Average spend: $2,500
Clem Kentish Reserve (R9157)										$840 Weeds	16/17: $840 Annual average: $120 Average spend: $840
Karnup Road Flora Reserve (R18662)						$1,000 Lovegrass & watsonia			$985 Lovegrass & cottonbush	$900 Watsonia & lovegrass	12/13: $1,000 15/16: $985 16/17: $900 Annual average: $412.14 Average spend: $961.67
Wattle Road Nature Reserve (R36433)		$136.36 Seedlings									08/09: $136.36 Annual average: $13.64 Average spend: $136.36
Serpentine River Middle Reserve (R29540)											Annual average: $0 Average spend: $0
Serpentine River West Reserve (R34598)											Annual average: $0 Average spend: $0

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Serpentine River East Reserve (R42543)						*$10,000 Blackberry, lantana, revegetation*	*$550 Blackberry, lantana $5,500 Brazilian pepper, lantana, blackberry, cottonbush, grasses & broadleafs $4,400 Seedlings $2,320 In-kind planting*	*$4,950 Arum lily, watsonia, vinca*	*$3,080 Bridal creeper, arum lily, watsonia, woody weeds $2,750 Pepper, fig, lantana, blackberry, cottonbush, nightshade, broadleafs*	*$1,100 Broadleafs, bulbs, grasses*	12/13: *$10,000* 13/14: *$12,770* 14/15:*$4,950* 15/16: *$5,830* 16/17: *$1,100* Annual average: *$3,465* Average spend: *$6,930*
Yangedi Road Airfield Reserve (R25911)				$1,760 Lovegrass $4,545.45 Weeds $3,259.55 Weeds $3,590.91 Dieback mapping	$2,410 (signs) $145 (signs) $909.09, $8,328.18 Dieback treatment		$9,337.27 Dieback treatment		$875 Rabbits & foxes	$6,163.63 Dieback mapping & treatment	10/11: $13,155.91 11/12: $11,792.27 13/14: $9,337.27 15/16: $875 16/17: $6,163.63 Annual average: $5,903.44 Average spend: $8,264.82
Myara Brook Reserve (R23778)	*$360 in-kind watsonia $1,100 Seedlings $2,320 In-kind planting*	*$360 in-kind watsonia $847 Seedlings $866.50 In-kind planting*	*$360 in-kind watsonia $440 Seedlings $700 In-kind planting*	*$360 in-kind watsonia $440 Seedlings $700 In-kind planting*	*$360 in-kind watsonia $440 Seedlings $700 In-kind planting*	*$360 in-kind watsonia $440 Seedlings $700 In-kind planting*	*$360 in-kind watsonia*	*$360 in-kind watsonia $11,000 Seedlings $5,020 In-kind planting*	*$360 in-kind watsonia $4,400 Seedlings $2,840 In-kind planting*	*$360 in-kind watsonia $1,100 Seedlings $2,320 In-kind planting*	07/08: *$3,780* 08/09: *$2,073.50* 09/10: *$1,500* 10/11: *$1,500* 11/12: *$1,500* 12/13: *$1,500* 13/14: *$360* 14/15: *$16,380* 15/16: *$7,600* 16/17: *$3,780* Annual average: *$3,997.35* Average spend: *$3,997.35*

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Old Serpentine School Reserve (R6080)							*$2,530 Arum lily $990 Blackberry, lantana, cottonbush, olives $4,400 Seedlings $2,320 In-kind planting*	*$1,980 Arum lily $3,080 Seedlings $1,780 In-kind planting*	*$1,980 Arum lily, weeds $2,200 Seedlings $1,420 In-kind planting*	*$550 Blackberry, lantana, cottonbush $2,200 Seedlings $1,420 In-kind planting*	13/14: *$10,240* 14/15: *$6,840* 15/16: *$5,600* 16/17: *$4,170* Annual average: *$2,685* Average spend: *$6,712.50*
Lang Street Reserve (R6814)											Annual average: $0 Average spend: $0
Arboretum Reserve (R7257)											Annual average: $0 Average spend: $0
Summerfield Road Reserve (R15363)										$575 Watsonia & lovegrass	16/17: $575 Annual average: $82.14 Average spend: $575
South Crescent (R30054)											Annual average: $0 Average spend: $0
Eton Hills Reserve (R36695)				$1,650 Paterson's curse				$946 Cottonbush $274 Cottonbush $780 Cottonbush			10/11: $1,650 14/15: $2,000 Annual average: $521.43 Average spend: $1,825
Bowyer Place Reserve (R37634)											Annual average: $0 Average spend: $0
Tallagandra Reserve (R40340)							*$400 Ripping $720 In-kind weeds*	*$400 Ripping $400 Weeds $528 Seedlings*	*$800 Ripping $800 Weeds $720 Weeds*	*$720 In-kind weeds $1,100 Seedlings*	13/14: *$3,500* 14/15: *$2,064* 15/16: *$9,560* 16/17: *$2,790*

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
							$1,320 Seedlings $1,060 In-kind planting	*$736 In-kind planting*	*$4,400 Seedlings $2,840 In-kind planting*	*$970 In-kind planting*	Annual average: *$1,791.40* Average spend: *$4,478.50*
Beenyup Brook Reserves (R51491 (Kalimna), R41304, R41489, R32044, R45945 (trotting complex), R40246 (Nettleton Rd), R44646)	$400 Remove palm tree $1,666.67 Japanese pepper & figs *$720 In-kind weeds $1,152.80 Seedlings $991.60 In-kind planting*	*$720 In-kind weeds $2,112 Seedlings $1,384 In-kind planting*	*$720 In-kind weeds $440 Seedlings $700 In-kind planting*	*$720 In-kind weeds $1,210 Seedlings $1,015 In-kind planting*	$2,480 Watsonia, cottonbush, morning glory etc $650 Weeds *$720 In-kind weeds $528 Seedlings $736 In-kind planting*	$1,815 Weeds $1,005 Weeds *$720 In-kind weeds $426.80 Seedlings $700 In-kind planting*	$2,960 Grass weeds *$720 In-kind weeds $484 Seedlings $718 In-kind planting*	$460 Typha $3,800 Weeds $3,100 Weeds $866.67 Cottonbush *$360 In-kind weeds $352 Seedlings $745 In-kind planting*	$2,300, $2,200 Broadleafs, grasses & bulbous weeds $1,034 Typha *$360 In-kind weeds $2,200 Seedlings $1,420 In-kind planting*	$2,850 Weeds *$360 In-kind weeds $1,760 Seedlings $1,240 In-kind planting*	07/08: $2,066.67 *$2,864.40* 08/09: *$4,216* 09/10: *$1,860* 10/11: *$2,945* 11/12: $3,130 *$1,984* 12/13: $2,820 *$1,846.80* 13/14: $2,960 *$1,922* 14/15: $8,226.67 *$1,457* 15/16: $5,534 *$3,980* 16/17: $2,850 *$3,360* Annual average: $2,758.73 SoSJ *$2,643.52 LC* **$5,402.25 total** Average spend: $3,941.05 SoSJ *$2,643.52 LC* **$5,402.25 total**
Chestnuts Reserve (R45703)											Annual average: $0 Average spend: $0
Pure Steel Lane Reserve (R46312)											Annual average: $0 Average spend: $0
Paterson Street Reserve (R46799,								$3,600 Woody weeds, veldt grass,	$3,700 Weeds	$1,800 Weeds $2,350 Weeds	14/15: $4,950 15/16: $3,700 16/17: $4,150

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
R46851 east of railway)								lovegrass, watsonia $1,350 Lovegrass & broadleafs			Annual average: $1,828.57 Average spend: $4,266.67
Wungong Brook Reserve (R47573)											Annual average: $0 Average spend: $0
Jarrahdale Cemetery Buffer Reserve (R47759)											Annual average: $0 Average spend: $0
Clondyke Lake Reserve (R48228)									$150 Paspalum		15/16: $150 Annual average: $21.43 Average spend: $150
Cardup Brook Reserves (R49312 west of highway, R48455 Byford Scarp)							$2,995 Cottonbush $909 Cottonbush	$1,200 Arum, watsonia & lovegrass $1,600 Blackberry & woody weeds $866.66 Cottonbush	$800, $1,500 Weeds $1,500 Weeds (Percy's Place) $1,818.18 Blackberry $1,100 Blackberry & dolicho pea $700 Lovegrass & broadleafs (& Scarp small reserve) $150 Paspalum	$900 Watsonia, arum & freesia $900 Lovegrass	13/14: $3,904 14/15: $3,666.66 15/16: $6,068.18 16/17: $1,800 Annual average: $2,205.55 Average spend: $3,859.71

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
Mundijong Road Reserve	$4,363.64 Lovegrass $5,909.09 Lovegrass	$2,000 Lovegrass $2,900 Watsonia	$2,000 Lovegrass	$2,000 Lovegrass $800 Lovegrass $125 Lovegrass	$4,450 Watsonia / lovegrass $3,055 Veldt grass $2,122.50 Watsonia	$3,000 Wattles $4,985 Watsonia $1,600 Lovegrass & watsonia $300 *Casuarina glauca* *$5,016 Watsonia, lovegrass, veldt grass, cottonbush* *$198 Seedlings* *$601 In-kind planting*	$3,000 Babiana & broadleafs $1,200 Lovegrass $945 Arundo *$6,050 Lovegrass*	$2,100 Lovegrass $1,800 Lovegrass & watsonia $1,600 *E. camaldulensis*	$1,700 Lovegrass, veldt grass, broadleafs & wattle trees $1,800 Lovegrass *$1,700 Lovegrass, veldt grass, broadleafs & wattle trees* *$831.60 Seedlings* *$860.20 In-kind planting*	$3,000 Lovegrass & watsonia *$8,140 Lovegrass, watsonia*	07/08: $10,272.73 08/09: $4,900 09/10: $2,000 10/11: $2,925 11/12: $9,627.50 12/13: $9,885 *$5,815* 13/14: $5,145 *$6,050* 14/15: $5,500 15/16: $3,500 *$3,391.80* 16/17: $3,000 *$8,140* Annual average: $5,675.52 SoSJ *$2,339.68 LC* **$8,015.20 total** Average spend: $5,675.52 SoSJ *$5,849.20 LC* **$8,015.20 total**
Other road reserves	$318.45 Seedlings (Selkirk Rd) $1,000 Garlic & cottonbush Sparkman Rd to Kargotich Rd $200 Weeds (under road bridge) & cottonbush (Warrington & Turner Rds)	$50 Clearing permit (Rowley Rd) $50 Clearing permit (Kargotich Rd) $91 Seedlings (Karnup Rd) $525 Weeds Orton & Gossage Rds $500 Lovegrass	$480 Cottonbush (Butcher Rd) $277.28 Cottonbush (Warrington Rd verge) $2,000 Mistletoe (John Cres) $50 Clearing permit (Jarrahdale Rd)	$800 Lovegrass (Jarrahdale Rd) $125 Lovegrass (Jarrahdale Rd)	$370 Cottonbush (Butcher Rd) $450 Tree report	$1,000 Watsonia (Turner St Serpentine)	$1,525 Watsonia (Watkins Rd) $3,000 Weeds (Bournebrook & Hopkinson) $3,000 Weeds (Bournebrook)	$866.67 Cottonbush (Cardup Siding Rd)	$400 *E. camaldulensis* (Abernethy Rd) $2,727.27 Watsonia (Robertson Rd) $620 Weeds & cottonbush (Jarrahdale Rd) $400 Lovegrass (Burgess Dr)	$1,308 Weeds (Jarrahdale Rd) $550.20 Weeds (Nicholson Rd) $1,290.40 Cottonbush (Butcher Rd) $1,800 Woody weeds & broadleafs (Wungong Rd South)	07/08: $6,598.76 08/09: $4,501.91 09/10: $2,807.28 10/11: $925 11/12: $820 12/13: $1,000 13/14: $7,525 14/15: $866.67 15/16: $4,909.08 16/17: $5,853.40 Annual average: $3,580.71 Average spend: $3,580.71

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
	$454.55 Lovegrass (Cloon Ct) $909.09 Evening primrose (verges) $1,250 Weeds (Falls Rd) $800 Dead acacias (Falls Rd) $1,666.67 Victorian teatree (Hall Rd)	(Jarrahdale Rd) $2,000 Lovegrass (Abernethy Rd) $1,285.91 Free herbicide program							$761.81 Cottonbush (Butcher Rd)	$455.20 Weeds (Kargotich Rd) $449.60 Lovegrass (Rowe Rd)	
Unspecified	$6,347.50 Weeds (Reserves) $4,830 Weeds & lovegrass (Serpentine Rail & various) $2,445 Watsonia, Victorian teatree & weeds (Rail reserve, Mundijong & Serpentine, and various) $83 Landgate list of Shire reserves $148 Jute matting	$1,980 Weeds (Reserves) $4,885 Weeds (Reserves) $4,425 Weeds (Reserves) $557.50 Weeds (Reserves) $2,235 Weeds (Reserves) $1,875 Weeds (Verges & drains) $4,200 Weeds (Verges & drains)	$100 Clearing permit	$100 Mistletoe (Byford) $16,363.64 Mistletoe (Byford) $1,485 Mistletoe (Byford) $909.09 Cottonbush (Chestnuts / Mundijong)	$5,520 Weeds (drainage reserve behind RDA)	$485 Cottonbush (L87/88 Mundijong Rd) $454.55 Dieback treatment (Jarrahdale General Store & Jarrahdale Cemetery)	$1,350 Weeds (Percy Nairn Place POS) $240 Weeds (Rangeview Loop Reserve) $181.82 Pest & weed workshop $1,253 (Fauna cameras) $4,190.45 Black wattle (Jarrahdale General Store)	$5,689.36 Black wattle (Jarrahdale Reserve) $594 (Fauna camera) $222.73 3x weeds books $624.50 Vinca, passionflower (Jarrahdale General Store) $500 Cottonbush (Dalray Court Reserve) $640 Lavender,	$570 Weeds (Jarrahdale General Store) $620 Weeds & cottonbush (Jarrahdale General Store) $355 Weeds (Bridle trails Abernethy / Orton, Kargotich / Hopkinson) $1,940 Dieback survey & mapping (Lyster Rd) $2,520 Foxes &	$575 Watsonia (Parry Rd Reserve) $500 Arum lily (Manning Rd Reserve) $750 Weeds (Jarrahdale Store) $300 Tidy (Redgum Brook) $1,348.80 Cottonbush Whitby Falls	07/08: $19,853.50 08/09: $20,891.35 09/10: $100 10/11: $18,857.73 11/12: $5,520 12/13: $939.55 13/14: $7,215.27 14/15: $8,270.59 15/16: $6,005 16/17: $3,473.80 Annual average: $9,112.68 Average spend: $9,112.68

Reserve	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Yearly totals and annual average
	$3,000 Dieback treatment (reserves) $2,545.45 Weeds (Webb Rd Reserve) $454.55 Weeds (Reserves in Mundijong)	$342 Caltrop (Mundijong sale yards) $104.38 Limestone $287.47 Dieback equipment						morning glory, climbing weeds (Jarrahdale General Store)	rabbits (Reserves)		
Total	**$66,011.25** ***$29,699.40*** **$95,710.65**	**$54,667.44** ***$32,984.00*** **$87,651.44**	**$12,697.91** ***$15,859.00*** **$28,556.91**	**$45,552.62** ***$43,930.00*** **$89,482.62**	**$81,826.46** ***$36,771.00*** **$118,597.46**	**$62,900.10** ***$36,796.80*** **$99,696.90**	**$61,322.45** ***$48,585.00*** **$109,907.45**	**$80,755.14** ***$37,961.00*** **$118,716.14**	**$76,421.72** ***$42,107.80*** **$118,529.52**	**$66,405.97** ***$32,786.00*** **$99,191.97**	**$608,561.06 SoSJ** ***$357,480 LC*** **$966,041.06 total Annual average: $60,856.11 SoSJ** ***$35,748 LC*** **$96,604.11 total**

Past (2007/08 to 2016/17) and desired expenditure 2018 to 2027

Reserve	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Brickwood/Briggs Park Reserve (R17490, R51101)	07/08: $72 08/09: *$5,170* 09/10: $6,000 10/11: $3,180.80 *$26,715* 11/12: *$16,950* 12/13: *$10,800* 13/14: $3,150 *$6,600* 14/15: $2,740 *$4,510* 15/16: $15,070 *$4,471* 16/17: $3,620 *$7,771*	Annual average: $3,383.28 SoSJ *$8,298.70 LC* **$11,681.98 total** Average spend: $3,383.28 SoSJ *$8,298.70 LC* **$11,681.98 total** Every year	$12,000 per year of treatment Every year	$120,000
Old Rifle Range Reserve (R10164)	11/12: $39,583.07 ($0) 12/13: $13,992.82 ($480) 13/14: $4,590.91 ($3,190.91) 16/17: $8,172.64 ($8,172.64)	Annual average: $9,477.06 Average spend: $16,584.86 ($1,691.94 and $3,947.85 excluding mistletoe project) 4 years in 10	$5,000 per year of treatment 5 years in 10	$25,000
Oscar Bruns Reserve (R10385)	07/08: $3,866.82 08/09: *$3,690* 10/11: $3,040 11/12: $7,373.80 *$1,150* 12/13: $435 13/14: $1,600 14/15: $1,150 15/16: $1,050 16/17: $3,000	Annual average: $2,151.56 SoSJ *$484 LC* **$2,635.56 total** Average spend: $2,390.62 SoSJ *$2,420 LC* **$2,928.40 total** 9 years in 10	$3,000 per year of treatment Every year	$30,000
Rainforest Reserve (R20165) and Rainforest Drainage Reserve (R37907)	07/08: *$1,345* 08/09: *$1,345* 09/10: *$360* 10/11: *$360* 11/12: *$360* 12/13: $1,055 *$360* 13/14: $1,700 16/17: $1,000	Annual average: $536.43 SoSJ *$413 LC* **$949.43 total** Average spend: $1,251.67 SoSJ *$516.25 LC* **$985.62 total** 8 years in 10	$1,500 per year of treatment 8 years in 10	$12,000
Mundijong Oval Reserve (R4486)	07/08: $277.50 08/09: $15,199.82 09/10: $1,085 13/14: $1,500 14/15: $600 16/17: $2,400	Annual average: $2,106.23 Average spend: $3,510.39 6 years in 10	$3,500 per year of treatment 5 years in 10	$17,500
Bella Cumming Reserve (R6168)	12/13: $2,909.09 15/16: $2,972.73 16/17: $2,490	Annual average: $1,195.97 Average spend: $2,790.61 3 years in 10	$4,500 per year of treatment 6 years in 10	$27,000
Tonkin Street Flora Reserve (R22020) and Mundijong Scout Hall Reserve (R36369)	08/09: $2,700 11/12: $798 12/13: $3,236.82 13/14: $1,155 15/16: $4,547.73 16/17: $4,340	Annual average: $1,677.76 Average spend: $2,796.26 6 years in 10	$3,500 per year of treatment 8 years in 10	$28,000

Reserve	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Mundijong Tip Reserve (R23011)		Annual average: $0	$1,500 per year of treatment 5 years in 10	$7,500
Manjedal Brook Reserve (R37934)	07/08: $3,939.40 08/09: $1,368 *$3,620* 09/10: *$1,320* 10/11: *$1,320* 11/12: *$2,504* 13/14: $900 14/15: $2,200 16/17: $4,355	Annual average: $1,276.24 SoSJ *$876.40 LC* **$2,152.64 total** Average spend: $2,552.48 SoSJ *$2,191.48 LC* **$2,690.80 total** 8 years in 10	$3,500 per year of treatment 7 years in 10	$24,500
King Road Pony Club (R36950)	07/08: $5,227.27 08/09: $2,700 12/13: $8,831.82 14/15: $10,510 15/16: $8,831.82 *$1,675* 16/17: *$1,675*	Annual average: $3,610.09 SoSJ *$335 LC* **$3,945.09 total** Average spend: $7,220.18 SoSJ *$1,675 LC* **$6,575.15 total** 6 years in 10	$9,500 per year of treatment Every year	$95,000
Pony Place Reserve (R41485)	07/08: $7,536.37 14/15: $12,584.55 16/17: $2,102.50	Annual average: $2,222.23 Average spend: $7,407.81 3 years in 10	$9,500 per year of treatment 6 years in 10	$57,000
Craghill Way Reserve (R34460)		Annual average: $0	$5,000 per year of treatment 6 years in 10	$30,000
Darling Downs Trail Network Reserves (principally R35601, R35603, R35701, R35702, R35706 and others)	07/08: *$14,470* 08/09: *$6,947* 09/10: $277.27 *$2,680* 10/11: *$6,020* 11/12: *$4,250* 12/13: *$4,095* 13/14: *$3,270* 16/17: $320	Annual average: $59.73 SoSJ *$4,173.20 LC* **$4,232.93 total** Average spend: $298.64 SoSJ *$5,216.50 LC* **$5,291.16** 8 years in 10	As required for specific issues. $10,000 per year is provided to the Darling Downs Residents Association to manage these reserves.	$0
Jarrahdale Sports Oval (R6428)		Annual average: $0	As required for specific issues	$0
Korribinjal Brook Reserve (R36434, R36436, R42251)	07/08: $2,095.68 *$3,880* 08/09: *$3,182.50* 09/10: *$6,639* 10/11: *$2,640* 11/12: *$4,500* 12/13: $4,800 *$1,500* 13/14: $3,140 *$1,915* 14/15: $4,240 15/16: $4,723.18	Annual average: $1,899.89 SoSJ *$2,425.65 LC* **$4,325.54 total** Average spend: $3,799.77 SoSJ *$3,465.21 LC* **$4,806.15 total** 9 years in 10	$5,000 per year of treatment Every year	$50,000
King Jarrah Circle Reserve (R45659)	07/08: $2,954.55 11/12: $3,181.82 14/15: $3,500	Annual average: $963.64 Average spend: $3,212.12 3 years in 10	$4,500 per year of treatment 3 years in 10	$13,500
Serpentine Sports Reserve (R19134)	07/08: $1,250 *$3,360* 08/09: *$2,740* 09/10: $428.36	Annual average: $4,024.65 SoSJ *$1,820.10 LC* **$5,844.75 total**	$8,000 per year of treatment Every year	$80,000

Reserve	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
	$1,500 10/11: $1,818.18 *$2,430* 11/12: *$3,573* 12/13: $10,000 *$880* 13/14: $7,500 *$1,958* 14/15: $9,750 *$1,760* 15/16: $7,500 16/17: $2,000	Average spend: $5,030.82 SoSJ *$2,275.12 LC* **$5,844.75 total** Every year		
Scrivener Road Old Gravel Reserve (R26079)		Annual average: $0	As required for specific issues	$0
Scrivener Road Reserve (R26080)	08/09: $2,270	Annual average: $227 Average spend: $2,270 1 year in 10	$2,500 per year of treatment 2 years in 10	$5,000
Serpentine Cemetery Reserve (R10661)	12/13: $2,000 16/17: $3,000	Annual average: $714.29 Average spend: $2,500 2 years in 10	$3,000 per year of treatment 6 years in 10	$18,000
Clem Kentish Reserve (R9157)	16/17: $840	Annual average: $120 Average spend: $840 1 year in 10	$2,000 per year of treatment 3 years in 10	$6,000
Karnup Road Flora Reserve (R18662)	12/13: $1,000 15/16: $985 16/17: $900	Annual average: $412.14 Average spend: $961.67 3 years in 10	$1,500 per year of treatment 5 years in 10	$7,500
Wattle Road Nature Reserve (R36433)	08/09: $136.36	Annual average: $13.64 Average spend: $136.36 1 year in 10	$3,000 per year of treatment 3 years in 10	$9,000
Serpentine River Middle Reserve (R29540)		Annual average: $0	As required if accessible	$0
Serpentine River West Reserve (R34598)		Annual average: $0	As required if accessible	$0
Serpentine River East Reserve (R42543)	12/13: *$10,000* 13/14: *$12,770* 14/15:*$4,950* 15/16: *$5,830* 16/17: *$1,100*	Annual average: *$3,465* Average spend: *$6,930* 5 years in 10	$3,000 per year of treatment 5 years in 10	$15,000
Yangedi Road Airfield Reserve (R25911)	10/11: $13,155.91 11/12: $11,792.27 13/14: $9,337.27 15/16: $875 16/17: $6,163.63	Annual average: $5,903.44 Average spend: $8,264.82 5 years in 10	$10,500 per year of treatment 7 years in 10	$73,500
Myara Brook Reserve (R23778)	07/08: *$3,780* 08/09: *$2,073.50* 09/10: *$1,500* 10/11: *$1,500* 11/12: *$1,500* 12/13: *$1,500*	Annual average: *$3,997.35* Average spend: *$3,997.35* Every year	$5,000 per year of treatment Every year	$50,000

Reserve	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
	13/14: *$360* 14/15: *$16,380* 15/16: *$7,600* 16/17: *$3,780*			
Old Serpentine School Reserve (R6080)	13/14: *$10,240* 14/15: *$6,840* 15/16: *$5,600* 16/17: *$4,170*	Annual average: *$2,685* Average spend: *$6,712.50* 4 years in 10	$2,000 per year of treatment Every year	$20,000
Lang Street Reserve (R6814)		Annual average: $0	As required for specific issues	$0
Arboretum Reserve (R7257)		Annual average: $0	As required for specific issues	$0
Summerfield Road Reserve (R15363)	16/17: $575	Annual average: $82.14 Average spend: $575 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
South Crescent (R30054)		Annual average: $0	$1,500 per year of treatment 3 years in 10	$4,500
Eton Hills Reserve (R36695)	10/11: $1,650 14/15: $2,000	Annual average: $521.43 Average spend: $1,825 2 years in 10	$3,500 per year of treatment 5 years in 10	$17,500
Bowyer Place Reserve (R37634)		Annual average: $0	As required for specific issues	$0
Tallagandra Reserve (R40340)	13/14: *$3,500* 14/15: *$2,064* 15/16: *$9,560* 16/17: *$2,790*	Annual average: *$1,791.40* Average spend: *$4,478.50* 4 years in 10	As required for specific issues	$0
Beenyup Brook Stream Reserve (R51491 (Kalimna), R41304, R41489, R32044, R45945 (trotting complex), R40246 (Byford on the Scarp), R44646)	07/08: $2,066.67 *$2,864.40* 08/09: *$4,216* 09/10: *$1,860* 10/11: *$2,945* 11/12: $3,130 *$1,984* 12/13: $2,820 *$1,846.80* 13/14: $2,960 *$1,922* 14/15: $8,226.67 *$1,457* 15/16: $5,534 *$3,980* 16/17: $2,850 *$3,360*	Annual average: $2,758.73 SoSJ *$2,643.52 LC* **$5,402.25 total** Average spend: $3,941.05 SoSJ *$2,643.52 LC* **$5,402.25 total** Every year	$5,500 per year of treatment Every year	$55,000
Chestnuts Reserve (R45703)		Annual average: $0	As required for specific issues	$0
Pure Steel Lane Reserve (R46312)		Annual average: $0	As required for specific issues	$0
Paterson Street Reserve (R46799, R46851 east of railway)	14/15: $4,950 15/16: $3,700 16/17: $4,150	Annual average: $1,828.57 Average spend: $4,266.67 3 years in 10	$4,500 per year of treatment 3 years in 10	$13,500
Wungong Brook Reserve (R47573)		Annual average: $0	$5,000 per year of treatment	$40,000

Reserve	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
			8 years in 10	
Jarrahdale Cemetery Buffer Reserve (R47759)		Annual average: $0	As required for specific issues	$0
Clondyke Lake Reserve (R48228)	15/16: $150	Annual average: $21.43 Average spend: $150 1 year in 10	$3,000 per year of treatment 5 years in 10	$15,000
Cardup Brook Reserves (R49312 west of highway, R48455 Byford Scarp)	13/14: $3,904 14/15: $3,666.66 15/16: $6,068.18 16/17: $1,800	Annual average: $2,205.55 Average spend: $3,859.71 4 years in 10	$4,000 per year of treatment 6 years in 10	$24,000
Mundijong Road Reserve	07/08: $10,272.73 08/09: $4,900 09/10: $2,000 10/11: $2,925 11/12: $9,627.50 12/13: $9,885 *$5,815* 13/14: $5,145 *$6,050* 14/15: $5,500 15/16: $3,500 *$3,391.80* 16/17: $3,000 *$8,140*	Annual average: $5,675.52 SoSJ *$2,339.68 LC* **$8,015.20 total** Average spend: $5,675.52 SoSJ *$5,849.20 LC* **$8,015.20 total** Every year	$8,000 per year of treatment Every year	$80,000
Other road reserves	07/08: $6,598.76 08/09: $4,501.91 09/10: $2,807.28 10/11: $925 11/12: $820 12/13: $1,000 13/14: $7,525 14/15: $866.67 15/16: $4,909.08 16/17: $5,853.40	Annual average: $3,580.71 Average spend: $3,580.71 Every year	$7,000 per year of treatment Every year	$70,000
Unspecified	07/08: $19,853.50 08/09: $20,891.35 09/10: $100 10/11: $18,857.73 11/12: $5,520 12/13: $939.55 13/14: $7,215.27 14/15: $8,270.59 15/16: $6,005 16/17: $3,473.80	Annual average: $9,112.68 Average spend: $9,112.68 Every year	$12,000 per year of treatment Every year	$120,000
Total	**$608,561.06 SoSJ** ***$357,480 LC*** **$966,041.06 total**	**Annual average: $60,856.11 SoSJ** ***$35,748 LC*** **$96,604.11 total**	**$126,500 per year**	**$1,265,000 over 10 years**

Weeds – Past (2007/08 to 2016/17) and desired expenditure 2018 to 2027

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Cotton bush (*Gomphocarpus*	07/08: $2,645.46 08/09: $342	Annual average $2,303.69 SJ	$3,000 per year of treatment	$30,000

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
fruticosus) Declared Pest	09/10: $1,034.55 10/11: $909.09 11/12: $1,196.67 12/13: $485 *$1,254* 13/14: $4,804 *$1,164.17* 14/15: $6,206.66 15/16: $1,874.31 *$392.86* 16/17: $3,539.20 *$183.33*	*$299.44 LC* **$2,603.13 total** Average spend $2,303.69 SJ *$748.59 LC* **$2,603.13 total** Every year	Every year	
Watsonia (*Watsonia* spp.)	07/08: $815 *$360* 08/09: $2,900 *$360* 09/10: *$360* 10/11: $909.09 *$8,626.67* 11/12: $5,174.17 *$3,843.33* 12/13: $12,951.67 *$7,014* 13/14: $3,025 *$360* 14/15: $4,900 *$2,010* 15/16: $8,277.27 *$2,780* 16/17: $4,237.50 *$7,730*	Annual average $4,318.97 SJ *$3,344.40 LC* **$7,663.37 total** Average spend $4,798.86 SJ *$3,344.40 LC* **$7,663.37 total** Every year	$8,000 per year of treatment Every year	$80,000
Baboon flower (*Babiana angustifolia*)	13/14: $1,500	Annual average $150 Average spend $1,500 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Black flag (*Ferraria crispa*)		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Freesia (*Freesia alba x leichtlinii*)	16/17: $1,425	Annual average $142.50 Average spend $1,425 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Gladiolus (*Gladiolus* spp.)		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Ixia (*Ixia* spp.)		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Lovegrass (*Eragrostis curvula*)	07/08: $16,551.37 08/09: $4,500 09/10: $2,000 10/11: $6,269.09 *$8,266.67* 11/12: $2,225 *$3,483.33*	Annual average $7,525.13 SJ *$3,389.90 LC* **$10,915.03 tot** Average spend $7,525.13 SJ *$5,649.83 LC*	$11,000 per year of treatment Every year	$110,000

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
	12/13: $6,966.67 *$6,654* 13/14: $3,200 *$6,050* 14/15: $9,088.33 15/16: $12,343.75 *$2,075* 16/17: $12,107.10 *$7,370*	**$10,915.01 tot** Every year		
Veldt grass (*Ehrharta calycina*)	11/12: $3,055 12/13: $2,110 *$1,254* 13/14: $3,500 14/15: $9,100 15/16: $425 *$425* 16/17: $2,200	Annual average $2,039 SoSJ *$167.90 LC* **$2,206.90 total** Average spend $3,398.33 SJ *$839.50 LC* **$3,678.17 total** 6 years in 10	$4,000 per year of treatment Every year	$40,000
Bridal creeper (*Asparagus asparagoides*) Declared Pest, Weed of National Significance	15/16: $476.25 *$770*	Annual average $47.62 SoSJ *$77 LC* **$124.62 total** Average spend $476.25 SoSJ *$770 LC* **$1,246.25 total** 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Arum lily (*Zantedeschia aethiopica*) Declared Pest	12/13: $666.67 13/14: *$2,530* 14/15: $400 *$3,630* 15/16: *$1,760* 16/17: $3,527.50	Annual average $459.42 SoSJ *$792 LC* **$1,251.42 total** Average spend $1,531.39 SJ *$2,640 LC* **$2,502.83 total** 5 years in 10	$2,500 per year of treatment 5 years in 10	$12,500
Tree Lucerne, tagasaste (*Chamaecytisus palmensis*)	16/17: $425	Annual average $42.50 Average spend $425 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Black wattle (*Acacia decurrens*)	13/14: $4,190.45 14/15: $5,689.36	Annual average $987.98 Average spend $4,939.90 2 years in 10	$5,000 per year of treatment 3 years in 10	$15,000
Sydney golden wattle (*Acacia longifolia*) and other wattles	07/08: $800 (wattles) 12/13: $3,000 (wattles) 15/16: $425 (wattles) *$425* (wattles) 16/17: $425 (wattles)	Annual average $465 SoSJ *$42.50 LC* **$507.50 total** Average spend $1,162.50 SJ *$425 LC* **$1,268.75 total** 4 years in 10	$1,500 per year of treatment 5 years in 10	$7,500

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Victorian teatree (*Leptospermum laevigatum*)	07/08: $2,065	Annual average $206.50 Average spend $2,065 1 year in 10	$2,000 per year of treatment 5 years in 10	$10,000
Olive (*Olea europaea*)	13/14: *$247.50* 14/15: $1,413.33 15/16: $476.25	Annual average $188.96 Average spend $944.79 2 years in 10	$1,500 per year of treatment 3 years in 10	$4,500
River red gum (*Eucalyptus camaldulensis*)	07/08: $1,250 14/15: $1,600 15/16: $400 16/17: $1,075	Annual average $432.50 Average spend $1,081.25 4 years in 10	$1,500 per year of treatment 5 years in 10	$7,500
Water hyacinth (*Eichhornia crassipes*) Declared Pest, Weed of National Significance		Annual average $0	Probably unnecessary as currently only in Water Corp drains	$0
Paterson's curse (*Echium plantagineum*) Declared Pest	10/11: $1,650	Annual average $165 Average spend $1,650 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Blackberry (*Rubus* spp.) Declared Pest, Weed of National Significance	07/08: $1,136.36 08/09: $342 12/13: *$3,333.33* 13/14: *$1,439.17* 14/15: $1,533.33 15/16: $2,368.18 *$392.86* 16/17: $900 *$183.33*	Annual average $627.99 SoSJ *$534.87 LC* **$1,162.86 total** Average spend $1,255.97 SJ *$1,337.17 LC* **$1,661.22 total** 7 years in 10	$2,000 per year of treatment 8 years in 10	$16,000
Lantana (*Lantana camara*) Declared Pest, Weed of National Significance	12/13: *$3,333.33* 13/14: *$1,439.17* 15/16: *$392.86* 16/17: *$183.33*	Annual average *$534.87 LC* Average spend *$1,337.17 LC* 4 years in 10	$1,500 per year of treatment 4 years in 10	$6,000
Cape tulip (*Moraea* spp.) Declared Pest		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Guildford grass, onion grass (*Romulea* spp.)		Annual average $0	Picked up in general control	$0
South African orchid (*Disa bracteata*)		Annual average $0	Picked up in general control	$0
Giant reed, bamboo (*Arundo donax*)	13/14: $945 15/16: $350 16/17: $400	Annual average $169.50 Average spend $565 3 years in 10	$1,500 per year of treatment 5 years in 10	$7,500
Blowfly grass (*Briza maxima*)		Annual average $0	Picked up in general control	$0

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Wild oats (*Avena barbata*)		Annual average $0	Picked up in general control	$0
Bulrush (*Typha orientalis*)	14/15: $460 15/16: $1,034	Annual average $149.40 Average spend $747 2 years in 10	$1,500 per year of treatment 3 years in 10	$4,500
Pigface (*Carpobrotus edulis*)		Annual average $0	$,1500 per year of treatment 3 years in 10	$4,500
Capeweed (*Arctotheca calendula*)		Annual average $0	Picked up in general control	$0
Flatweed (*Hypochaeris* spp.)		Annual average $0	Picked up in general control	$0
Ursinia (*Ursinia anthemoides*)		Annual average $0	Picked up in general control	$0
Velvet pink (*Petrorhagia dubia*)		Annual average $0	Picked up in general control	$0
Morning glory (*Ipomoea indica*)	11/12: $826.67 14/15: $213.33	Annual average $104 Average spend $520 2 years in 10	$1,500 per year of treatment 3 years in 10	$4,500
Geraldton carnation weed (*Euphorbia terracina*)		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Fumitory (*Fumaria* spp.)		Annual average $0	Picked up in general control	$0
Lavender (*Lavandula stoechas*)	14/15: $213.33	Annual average $21.33 Average spend $213.33 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Evening primrose (*Oenothera* spp.)	07/08: $909.09	Annual average $90.91 Average spend $909.09 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Oxalis (*Oxalis* spp.)		Annual average $0	$1,500 per year of treatment 3 years in 10	$4,500
Pimpernel (*Anagallis / Lysimachia arvensis*)		Annual average $0	Picked up in general control	$0
Nightshades (*Solanum* spp.)	08/09: $342 (apple of Sodom) 15/16: *$392.86*	Annual average $34.20 SoSJ *$39.29 LC* **$73.49 total** Average spend $342 SoSJ *$392.86 LC*	$1,500 per year of treatment 3 years in 10	$4,500

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
		$734.86 total 1 year in 10		
Other woody weeds	07/08: $400 (dead trees) $800 (stumps) $1,250 (Japanese pepper) $1,250 (figs) 08/09: $342 (figs) 12/13: $300 (*Casuarina glauca*) 13/14: $1,150 *$916.67* (Brazilian pepper) 14/15: $1,700 15/16: $350 (eucs) *$770* *$785.71* (pepper, figs) 16/17: $900	Annual average $844.20 SoSJ *$247.24 LC* **$1,091.44 total** Average spend $1,206 SoSJ *$1,236.19 LC* **$1,559.20 total** 7 years in 10	$2,000 per year of treatment 8 years in 10	$16,000
Other grassy weeds	13/14: $6,100 *$916.67* 15/16: $3,220 $2,000 (turf grass) $300 (paspalum) 16/17: *$366.67*	Annual average $1,162 SoSJ *$128.33 LC* **$1,290.33 total** Average spend $5,810 SoSJ *$641.67 LC* **$4,301.11 total** 3 years in 10	$8,000 per year of treatment 5 years in 10 Includes listed grasses above which do not have individual budgets	$40,000
General broadleafs	13/14: $3,500 *$916.67* 14/15: $675 15/16: $3,995 *$817.86* 16/17: $900 *$366.67*	Annual average $907 SoSJ *$210.12 LC* **$1,117.12 total** Average spend $2,267.50 SJ *$700.40 LC* **$2,792.80 total** 4 years in 10	$4,000 per year of treatment 5 years in 10 Includes listed broadleafs above which do not have individual budgets	$20,000
Other bulbous weeds	13/14: $2,000 15/16: $1,500 16/17: *$366.67*	Annual average $350 SoSJ *$36.67 LC* **$386.67 total** Average spend $1,750 SoSJ *$366.67 LC* **$1,288.89 total** 3 years in 10	$2,000 per year of treatment 5 years in 10	$10,000
Other specified weeds	07/08: $500 (garlic) $400 (palm) 08/09: $342 (caltrop) 13/14: $1,400 (winter) 14/15: $624.50 (vinca, passionfllower) $733.33 (dolicho pea) $213.33 (climbing) *$1,650* (vinca)	Annual average $576.32 SoSJ *$165 LC* **$741.32 total** Average spend $960.53 SoSJ *$1,650 LC* **$1,235.53 total** 6 years in 10	$1,500 per year of treatment 8 years in 10 Includes listed weeds above which do not have individual budgets	$12,000

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
	15/16: $550 (dolicho pea) 16/17: $1,000 (winter)			
Unspecified weeds	07/08: $17,664.32 *$2,940* 08/09: $32,352.50 *$4,650* 09/10: $6,000 *$4,480* 10/11: $11,903.86 *$13,606.67* 11/12: $12,018.35 *$7,053.33* 12/13: $8,535 *$4,090* 13/14: $12,045 *$3,000* 14/15: $10,680 *$5,270* 15/16: $14,489.43 *$2,870* 16/17: $21,306.05 *$1080*	Annual average $14,699.45 SJ *$4,904 LC* **$19,603.45 tot.** Average spend $14,699.45 *$4,904 LC* **$19,603.45 tot.** Every year	$20,000 per year of treatment Every year Includes listed weeds above if not specified in purchase order or invoice	$200,000
Other purposes - revegetation	07/08: $466.45 *$26,399.40* 08/09: $1,513.27 *$27,974* 09/10: *$11,019* 10/11: *$24,945* 11/12: $1,278 *$15,151* 12/13: $1,799.60 *$9,864.13* 13/14: *$23,005* 14/15: *$25,401* 15/16: *$25,382.80* 16/17: $2,030.30 *$13,281*	Annual average $708.76 SoSJ *$20,242.23 LC* **$20,950.99 tot.** Average spend $1,417.52 SJ *$20,242.23 LC* **$20,950.99 tot.** Every year	$20,000 per year of treatment Every year	$200,000
Other purposes – clearing permits	07/08: $50 08/09: $100 09/10: $150	Annual average $30 Average spend $100 3 years in 10	Now covered by a separate budget	$0
Other purposes - infrastructure	07/08: $685 (cable locate) $6,400 (fencing) 08/09: $11,199.82 (fencing) $104.38 (limestone) 09/10: $600 (gates) $485 (cable locate) 11/12: $2,555(signs) $303.76 (limestone) 12/13: $2,638.22 (fencing) 16/17: $306.50 (signs) $700 (gates)	Annual average $2,611.77 Average spend $4,352.95 6 years in 10	$4,500 per year of treatment 5 years in 10	$22,500

Weed species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
	$140 (star p. caps)			
Other purposes	07/08: $72 (water analysis) $83 (Landgate list of Shire reserves) $27.27 (western weeds book) 11/12: $450 (tree report) 13/14: $181.82 (pest & weed workshop) 14/15: $222.73 (3 weeds books) 16/17: $300 (tidy) $180 (bridle trail brochures)	Annual average $151.68 Average spend $303.36 5 years in 10	$500 per year of treatment 5 years in 10	$2,500
Total	**$778,690.40 over 10 years**	**$77,869.04 per year**	**$94,600 per year**	**$946,000 over 10 years**

Pests and diseases – Past (2007/08 to 2016/17) and desired expenditure 2018 to 2027

Pest/disease species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Rabbits	09/10: $428.63 10/11: $1,818.18 11/12: *$740* 15/16: $2,874.17 *$837.50* 16/17: *$837.50*	Annual average $512.10 SoSJ *$241.50 LC* **$753.60 total** Average spend $1,706.99 SoSJ *$805 LC* **$1,507.20 total** 5 years in 10	$2,500 per year of treatment 5 years in 10	$12,500
Foxes	15/16: $3,699.17 *$837.50* 16/17: *$837.50*	Annual average $369.92 SoSJ *$167.50 LC* **$537.42 total** Average spend $3,699.17 SoSJ *$837.50 LC* **$2,687.08 total** 2 years in 10	$3,500 per year of treatment 5 years in 10	$17,500
Feral cats	15/16: $1,176.67	Annual average $117.67 Average spend $1,176.67 1 year in 10	$1,500 per year of treatment 3 years in 10	$4,500
Pigs		$0	$1,500 per year of treatment 3 years in 10	$4,500
Rainbow lorikeets		$0	$1,500 per year of treatment 3 years in 10	$4,500

Pest/disease species	Expenditure 2007/08 to 2016/17	Average past expenditure and frequency	Desired future expenditure and frequency	Total desired expenditure 2018-2027
Corellas		$0	$1,500 per year of treatment 3 years in 10	$4,500
Unspecified animals	14/15: $4,620	Annual average $462 Average spend $4,620 1 year in 10	$4,500 per year of treatment 3 years in 10	$13,500
Other purposes – fauna/disease	08/09: $287.47 (dieback equipment) 11/12: $3,000 (possum boxes) 12/13: $3,075 (possum boxes) 13/14: $1,253 (fauna cameras) 14/15: $594 (fauna camera)	Annual average $820.95 Average spend $1,641.89 5 years in 10	$1,500 per year of treatment 5 years in 10	$7,500
Phytophthora dieback	07/08: $12,318.19 10/11: $3,590.91 11/12: $13,464.54 *$6,500* 12/13: $14,377.28 13/14: $11,128.18 *$6,600* 14/15: $19,874.55 15/16: $15,317.28 16/17: $12,377.27	Annual average $10,244.82 SJ *$1,310 LC* **$11,554.82 total** Average spend $12,806.02 SJ *$6,550 LC* **$14,443.52 total** 8 years in 10	$15,000 per year of treatment Every year	$150,000
Armillaria		$0	$1,500 per year of treatment 3 years in 10	$4,500
Marri canker		$0	$1,500 per year of treatment 5 years in 10	$7,500
Mistletoe	09/10: $2,000 10/11: $17,948.64 11/12: $36,583.07 12/13: $6,000 13/14: $1,400	Annual average $6,393.17 Average spend $12,786.34 5 years in 10	$6,000 per year of treatment 3 years in 10	$18,000
Total	**$206,645.20 over 10 years ($163,987.13 without mistletoe grant project)**	**$20,664.52 per year ($16,398.71 without mistletoe grant project)**	**$24,900 per year**	**$249,000 over 10 years**

3.2 Annual Work Plans

This plan is indicative only. Expenditure will vary from that shown here according to need and identified issues. It does, however, follow the planned expenditure and frequency calculated above, which is based on past experience and current condition, and indicates which reserves are likely to need which treatment each year. Costs of each treatment are based on past costs;

it should be noted that prices regularly increase, and this should be factored in via an increased budget each year. The allowance within the annual plans below for unspecified expenditure may be sufficient for the plans to be followed relatively closely while allowing for treatment of unexpected issues, or of reserves which do not have a specific allocated budget. Revegetation is included as a weed control measure, as the establishment of native vegetation suppresses the growth of weeds and reduces future weed control costs.

Indicative expenditure 2017/18 to 2027/28

Year	Focus reserve/weed/pest	Cost
2017/18	Dieback – Serpentine Sports Reserve	$7,000
	Dieback – Oscar Bruns Reserve	$2,000
	Dieback – Pony Place Reserves	$11,000
	Dieback – King Jarrah Circle Reserve	$4,500
	Dieback – Total	**$24,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$1,000
	Weed control – Old Rifle Range Reserve	$1,500
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Tonkin Street Flora Reserve	$2,500
	Weed control – Manjedal Brook Reserve	$3,500
	Weed control – King Road Pony Club	$7,000
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – Yangedi Road Airfield Reserve	$8,000
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – Eton Hills Reserve	$3,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	12,000
	Weed control – Total	**$87,000**
	Feral animal control – Tonkin Street Flora Reserve	$1,000
	Feral animal control – King Road Pony Club	$2,500
	Feral animal control – Total	**$3,500**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$11,500**
	Total	**$126,500**
2018/19	Dieback – Bella Cumming Reserve	$4,500
	Dieback – Tonkin Street Flora Reserve	$3,500
	Dieback – King Road Pony Club	$9,500
	Dieback – Total	**$17,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Rainforest Reserve	$1,500
	Weed control – Bella Cumming Reserve	$3,000
	Weed control – Mundijong Tip Reserve	$1,500
	Weed control – Pony Place Reserves	$5,000
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$5,000
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine Cemetery Reserve	$3,000

	Weed control – Karnup Road Flora Reserve	$1,500
	Weed control – Wattle Road Nature Reserve	$3,000
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – South Crescent	$1,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Clondyke Lake Reserve	$3,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	12,000
	Weed control – Total	**$84,000**
	Feral animal control – Brickwood Reserve	$4,000
	Feral animal control – Pony Place Reserves	$3,000
	Feral animal control – Yangedi Road Airfield Reserve	$2,000
	Feral animal control – Total	**$9,000**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Oscar Bruns Reserve	$3,000
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Old Serpentine School Reserve	$2,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$16,000**
	Total	**$126,500**
2019/20	Dieback – Yangedi Road Airfield Reserve	$11,000
	Dieback – Old Rifle Range Reserve	$6,000
	Dieback – Brickwood Reserve	$6,000
	Dieback – Total	**$23,000**
	Weed control – Brickwood Reserve	$6,000
	Weed control – Oscar Bruns Reserve	$3,000
	Weed control – Tonkin Street Flora Reserve	$3,500
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Manjedal Brook Reserve	$3,500
	Weed control – King Road Pony Club	$9,500
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Paterson Street Reserve	$4,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$88,000**
	Feral animal control – Bella Cumming Reserve	$1,500
	Feral animal control – Serpentine Sports Reserve	$2,000
	Feral animal control – Total	**$3,500**
	Revegetation – Rainforest Reserve	$1,500
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$12,000**
	Total	**$126,500**
2020/21	Dieback – Serpentine Sports Reserve	$7,000
	Dieback – Oscar Bruns Reserve	$2,000
	Dieback – Pony Place Reserves	$11,000
	Dieback – King Jarrah Circle Reserve	$4,500

	Dieback – Total	**$24,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$1,000
	Weed control – Old Rifle Range Reserve	$1,500
	Weed control – Rainforest Reserve	$1,500
	Weed control – Mundijong Tip Reserve	$1,500
	Weed control – Tonkin Street Flora Reserve	$2,500
	Weed control – King Road Pony Club	$7,000
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$5,000
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine Cemetery Reserve	$3,000
	Weed control – Clem Kentish Reserve	$2,000
	Weed control – Karnup Road Flora Reserve	$1,500
	Weed control – Summerfield Road Reserve	$1,500
	Weed control – Eton Hills Reserve	$3,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Clondyke Lake Reserve	$3,000
	Weed control – Mundijong Road Reserve	$6,500
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$86,000**
	Feral animal control – Tonkin Street Flora Reserve	$1,000
	Feral animal control – King Road Pony Club	$2,500
	Feral animal control – Total	**$3,500**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Old Serpentine School Reserve	$2,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Mundijong Road Reserve	$1,500
	Revegetation – Total	**$12,500**
	Total	**$126,500**
2021/22	Dieback – Bella Cumming Reserve	$4,500
	Dieback – Tonkin Street Flora Reserve	$3,500
	Dieback – King Road Pony Club	$9,500
	Dieback – Total	**$17,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Scrivener Road Reserve	$2,500
	Weed control – Serpentine Cemetery Reserve	$3,000
	Weed control – Wattle Road Nature Reserve	$3,000
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – Yangedi Road Airfield Reserve	$8,000
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – South Crescent	$1,500
	Weed control – Eton Hills Reserve	$3,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$86,500**
	Feral animal control – Brickwood Reserve	$4,000
	Feral animal control – Yangedi Road Airfield Reserve	$2,000
	Feral animal control – Total	**$6,000**

	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Oscar Bruns Reserve	$3,000
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$16,500**
	Total	**$126,500**
2022/23	Dieback – Yangedi Road Airfield Reserve	$11,000
	Dieback – Old Rifle Range Reserve	$6,000
	Dieback – Brickwood Reserve	$6,000
	Dieback – Total	**$23,000**
	Weed control – Brickwood Reserve	$6,000
	Weed control – Rainforest Reserve	$1,500
	Weed control – Bella Cumming Reserve	$3,000
	Weed control – Tonkin Street Flora Reserve	$3,500
	Weed control – Mundijong Tip Reserve	$1,500
	Weed control – Manjedal Brook Reserve	$3,500
	Weed control – King Road Pony Club	$7,000
	Weed control – Pony Place Reserves	$5,000
	Weed control – Korribinjal Brook Reserve	$5,000
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Clem Kentish Reserve	$2,000
	Weed control – Karnup Road Flora Reserve	$1,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Paterson Street Reserve	$4,500
	Weed control – Clondyke Lake Reserve	$3,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$81,000**
	Feral animal control – Bella Cumming Reserve	$1,500
	Feral animal control – King Road Pony Club	$2,500
	Feral animal control – Pony Place Reserves	$3,000
	Feral animal control – Serpentine Sports Reserve	$2,000
	Feral animal control – Total	**$9,000**
	Revegetation – Manjedal Brook Reserve	$3,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Old Serpentine School Reserve	$2,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$13,500**
	Total	**$126,500**
2023/24	Dieback – Serpentine Sports Reserve	$7,000
	Dieback – Oscar Bruns Reserve	$2,000
	Dieback – Pony Place Reserves	$11,000
	Dieback – King Jarrah Circle Reserve	$4,500
	Dieback – Total	**$24,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$4,000
	Weed control – King Road Pony Club	$9,500
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine Cemetery Reserve	$3,000
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – Yangedi Road Airfield Reserve	$8,000
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – Beenyup Brook Reserves	$3,500

	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$87,000**
	Feral animal control – Unspecified reserves	$2,000
	Feral animal control – Total	**$2,000**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Rainforest Reserve	$1,500
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$13,000**
	Total	**$126,500**
2024/25	Dieback – Bella Cumming Reserve	$4,500
	Dieback – Tonkin Street Flora Reserve	$3,500
	Dieback – King Road Pony Club	$9,500
	Dieback – Total	**$17,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$3,000
	Weed control – Old Rifle Range Reserve	$1,500
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Mundijong Tip Reserve	$1,500
	Weed control – Manjedal Brook Reserve	$3,500
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$5,000
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Clem Kentish Reserve	$2,000
	Weed control – Karnup Road Flora Reserve	$1,500
	Weed control – Summerfield Road Reserve	$1,500
	Weed control – Eton Hills Reserve	$3,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Clondyke Lake Reserve	$3,000
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$86,500**
	Feral animal control - Brickwood Reserve	$4,000
	Feral animal control – Yangedi Road Airfield Reserve	$2,000
	Feral animal control – Total	**$6,000**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Manjedal Brook Reserve	$3,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Old Serpentine School Reserve	$2,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$16,500**
	Total	**$126,500**
2025/26	Dieback – Yangedi Road Airfield Reserve	$11,000
	Dieback – Old Rifle Range Reserve	$6,000
	Dieback – Brickwood Reserve	$6,000
	Dieback – Total	**$23,000**
	Weed control – Brickwood Reserve	$6,000
	Weed control – Rainforest Reserve	$1,500
	Weed control – Bella Cumming Reserve	$3,000
	Weed control – Tonkin Street Flora Reserve	$3,500
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Manjedal Brook Reserve	$3,500

	Weed control – King Road Pony Club	$9,500
	Weed control – Pony Place Reserves	$5,000
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine Cemetery Reserve	$3,000
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$82,000**
	Feral animal control – Bella Cumming Reserve	$1,500
	Feral animal control – Pony Place Reserves	$3,000
	Feral animal control – Serpentine Sports Reserve	$2,000
	Feral animal control – Total	**$6,500**
	Revegetation – Oscar Bruns Reserve	$3,000
	Revegetation – Rainforest Reserve	$1,500
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$15,000**
	Total	**$126,500**
2026/27	Dieback – Serpentine Sports Reserve	$7,000
	Dieback – Oscar Bruns Reserve	$2,000
	Dieback – Pony Place Reserves	$11,000
	Dieback – King Jarrah Circle Reserve	$4,500
	Dieback – Total	**$24,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$1,000
	Weed control – Old Rifle Range Reserve	$1,500
	Weed control – Mundijong Tip Reserve	$1,500
	Weed control – King Road Pony Club	$7,000
	Weed control – Korribinjal Brook Reserve	$5,000
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Karnup Road Flora Reserve	$1,500
	Weed control – Wattle Road Nature Reserve	$3,000
	Weed control – Yangedi Road Airfield Reserve	$8,000
	Weed control – Eton Hills Reserve	$3,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Paterson Street Reserve	$4,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$6,500
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$87,000**
	Feral animal control – King Road Pony Club	$2,500
	Feral animal control – Total	**$2,500**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Old Serpentine School Reserve	$2,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Mundijong Road Reserve	$1,500
	Revegetation – Total	**$12,500**
	Total	**$126,500**
2027/28	Dieback – Bella Cumming Reserve	$4,500
	Dieback – Tonkin Street Flora Reserve	$3,500

	Dieback – King Road Pony Club	$9,500
	Dieback – Total	**$17,500**
	Weed control – Brickwood Reserve	$9,000
	Weed control – Oscar Bruns Reserve	$3,000
	Weed control – Rainforest Reserve	$1,500
	Weed control – Mundijong Oval Reserve	$3,500
	Weed control – Manjedal Brook Reserve	$3,500
	Weed control – Craghill Way Reserve	$5,000
	Weed control – Korribinjal Brook Reserve	$2,500
	Weed control – Serpentine Sports Reserve	$3,500
	Weed control – Serpentine Cemetery Reserve	$3,000
	Weed control – Scrivener Road Reserve	$2,500
	Weed control – Serpentine River East Reserve	$3,000
	Weed control – Myara Brook Reserve	$2,000
	Weed control – Old Serpentine School Reserve	$2,000
	Weed control – Summerfield Road Reserve	$1,500
	Weed control – South Crescent	$1,500
	Weed control – Beenyup Brook Reserves	$3,500
	Weed control – Wungong Brook Reserve	$5,000
	Weed control – Clondyke Lake Reserve	$3,000
	Weed control – Cardup Brook Reserves	$4,000
	Weed control – Mundijong Road Reserve	$8,000
	Weed control – Road reserves	$7,000
	Weed control – Unspecified reserves	$12,000
	Weed control – Total	**$89,500**
	Feral animal control - Brickwood Reserve	$4,000
	Feral animal control – Yangedi Road Airfield Reserve	$2,000
	Feral animal control – Total	**$6,000**
	Revegetation – Brickwood Reserve	$3,000
	Revegetation – Korribinjal Brook Reserve	$2,500
	Revegetation – Serpentine Sports Reserve	$2,000
	Revegetation – Myara Brook Reserve	$4,000
	Revegetation – Beenyup Brook Reserves	$2,000
	Revegetation – Total	**$13,500**
	Total	**$126,500**