

LAKE CLAREMONT MANAGEMENT PLAN 2016 - 21



Development

Natural Area Holdings Pty Ltd, trading as Natural Area Consulting Management Services (Natural Area), wrote the first four drafts of this management plan with guidance and assistance from officers of the Town. The Lake Claremont Advisory Committee, Friends of Lake Claremont and the Claremont Council revised those drafts.

Officers of the Town of Claremont completed subsequent drafts of this management plan and appendices.

Disclaimer

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Document Control

Version	Date	Prepared by	Reviewed by	Approved by
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Executive Summary

This management plan was developed to protect, enhance and promote the cultural, environmental and recreational values of Lake Claremont and surrounds by;

- identifying the values and develop appropriate uses to complement and enhance those values.
- outlining management issues and to indicate how these can be mitigated in the short and longer term; and
- documenting a strategic direction for management over the next five years.

The overarching objectives of this management plan are to:

- Respect Lake Claremont and surrounding land's status as an Aboriginal Site under the *Aboriginal Heritage Act 1972 (WA)*.
- Manage the aquatic environment of Lake Claremont as a natural seasonal ephemeral wetland, with recognition of its Conservation Category Wetland designation.
- Manage the terrestrial areas as mixed-use nature, recreation and sport spaces, giving due consideration to the sites cultural and heritage values, its listing as Bush Forever Site 220 and its classification as an Environmentally Sensitive Area; And
- Maintain and enhance the cultural, environmental, recreational, social and sporting values of the Lake Claremont and surrounds.

This management plan is the latest iteration in a series of management plans for Lake Claremont and its immediate surrounds (Lantzke, Haynes and Gabriel 1992; Haynes, Lantzke and Lantzke 1998; North Metro Conservation Group Inc 2007; Town of Claremont (TOC) 2010a; TOC 2010b). The earliest of these plans focused on work conserving the ecological values of the lake and the remnant bushland to the west of the waterbody. Following the closure of the long nine-hole golf course in 2009, the Lake Claremont Parkland: Concept Plan (TOC 2010b) extended the work area covered by management plans for the area and formalised planning for recreational activities around the lake.

The 'Recreational Precinct' constituted by the Claremont Aquatic Centre, Claremont Par 3 Golf Course and Tennis Club were exempted from the Lake Claremont Parkland: Concept Plan (TOC 2010b; TOC 2013a). However, Council Resolution 99/14 regarding the Consultant Brief for the development of this plan integrated those facilities into the area covered by this management plan. That resolution aligns with the Department of Sport and Recreation's (DSR) framework for managing public open spaces. The DSR framework recognises that best practice management of urban public open space requires the effective integration of 'nature spaces', 'recreational spaces' and 'sporting spaces' (DSR 2012).

Concurrent with the development of this plan, TOC completed a number of reviews of the recreational and sporting needs of the community. Under the Corporate Business Plan 2013-2017, the Town worked with key partners to 'determine the needs for community recreation facilities which includes ... the golf course and effectively plans for any redevelopment of the Aquatic Centre' (TOC 2013a; TOC 2013b). The Lake Claremont Parkland Recreation Use Working Party of Council also considered 'the use of the park as a recreation resource for the community'. The outcomes of the study and working party guide the development of recreational and sporting spaces at Lake Claremont.

Three key outcomes of the development of this management plan are the:

1. Review and consolidation of initiatives developed under the earlier management plans.
2. Addition of the Recreation Precinct to the area managed under this plan.

3. Implementation of priorities identified in the Lake Claremont Parkland Recreation Use Working Party report.

Lake Claremont is a seasonal ephemeral wetland that dries out in summer and fills in the wetter winter months when the groundwater levels rise and a network of drains that supply stormwater, overflow. In addition to the lake, other important components of the Lake Claremont Precinct are:

- a buffer of native vegetation that is being re-established around the lake bed;
- large areas of turf in the southern and eastern sides of the lake;
- several areas with their own distinct character;
- recreational spaces with barbeque and picnic facilities, children's playgrounds, free exercise equipment, on-leash dog walking and off-leash dog exercise areas;
- shared cycle and pedestrian paths;
- remnant and revegetated bushland to the west and north of the lake;
- the Claremont Aquatic Centre, Claremont Lawn Tennis Club and Claremont Par 3 Golf Course sport spaces on the south-eastern corner of the lake; and
- Scotch College and Cresswell Oval sport spaces adjacent to the south-western corner of the lake.

Lake Claremont has a number of statutorily designated values that require ongoing management and protection. Lake Claremont and its 50m buffer is Conservation Category Wetland (Western Australia. Environmental Protection Authority (EPA) 2015). The State Government declared Lake Claremont as Bush Forever Site 220 in 2000 and reaffirmed that status in 2010 (Government of Western Australia 2000; Western Australia Planning Commission (WAPC) 2011). Among the wetlands that remain in Perth's western suburbs, only Lake Claremont and Herdsman Lake have both Bush Forever and Conservation Category status (Zelina & Oh 2013). Lake Claremont is a declared Environmentally Sensitive Area under the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 to protect all naturally occurring and revegetated native vegetation growing at the site (State Law Publisher 2005). The area is an Aboriginal Site under the *Aboriginal Heritage Act 1972* (Department of Aboriginal Affairs 2014).

The Council appointed Lake Claremont Advisory Committee assists with overarching advice on the strategic management of the Lake Claremont, including the recreational and sporting spaces. The Friends of Lake Claremont Limited (FOLC), an independent community group that takes an active interest in Lake Claremont, has assisted TOC to implement the recommendations of the previous management plans. Working closely with the Town, FOLC has been instrumental in gaining almost half a million dollars of grant funding to support environmental improvement at Lake Claremont. Activities carried out by FOLC include general 'busy bees', coordination of corporate and school groups, planting of local native plants and weeding that contribute to ongoing management.

Management Plan Objectives

The objectives of the Lake Claremont Management Plan 2016-2021 are to:

- Respect Lake Claremont and surrounding land's status as an Aboriginal Site under the *Aboriginal Heritage Act 1972* (WA).
- Manage the aquatic environment of Lake Claremont as a natural seasonal wetland, with recognition of its Conservation Category Wetland designation.
- Manage the terrestrial areas as mixed-use nature, recreation and sport spaces, giving due consideration to the sites cultural and heritage values, its listing as Bush Forever Site 220 and its classification as an Environmentally Sensitive Area.
- Maintain and enhance the cultural, environmental, recreational, social and sporting values of the Lake Claremont environs.

Management Plan Structure

This management plan consists of an overarching management document and three stand-alone appendices that contain supporting information for specific management aspects. Specifically, the document structure is:

Lake Claremont Management Plan 2016-2021

This overarching document provides historical perspective, current context and management recommendations.

Appendix 1: Biophysical and Wetland Values

This document provides a description of the environmental aspects of the park. This description includes the location, climate, geology, topography, soil and vegetation associations, an overview of water quality in the lake and a review of activities that can affect the biophysical and wetland values.

Appendix 2: Flora Values

This document provides information about the flora of the park, including vegetation associations and condition, significant local native species growing, approaches for managing exotic plants and out of area Australian natives (both of which can be woody weeds in certain circumstances) and revegetation of the local native bushland. Fungi and pathogens are included for convenience because of their associations with the flora.

Appendix 3: Fauna Values

This document describes the terrestrial and wetland fauna species that reside in or visit Lake Claremont, which includes native and introduced varieties of birds, mammals, reptiles, amphibians and invertebrates.

Management Recommendations

Sections 4.0 and 5.0 of this plan recommend management actions for implementation by the Town of Claremont and/or its delegates.

Acknowledgements

Natural Area acknowledged the assistance of the following participants for their contributions to the preparation of this management plan:

- Lake Claremont Advisory Committee.
- Board of management of the Friends of Lake Claremont Limited.
- Andrew Head and Greg Simpson from the Town of Claremont.
- Staff and Volunteers of the Freshwater Bay Museum.

Contents

Executive Summary	ii
Management Plan Objectives	iv
Management Plan Structure	iv
Management Recommendations.....	iv
Acknowledgements.....	iv
1.0 Management Plan Overview	1
1.1 The Vision or Management Plan Purpose	2
1.2 Management Plan Objectives.....	2
1.3 Management Plan Structure	2
1.4 Management Plan Consultation	3
1.5 Management Plan Review and Development.....	3
1.6 Aboriginal Heritage.....	3
1.7 Post-European Settlement Heritage.....	4
1.7.1 Stirling Road Ficus Trees	6
1.8 Legal Requirements	6
1.9 Tenure and Zoning.....	6
1.10 Land Use within Lake Claremont and its surrounds	11
1.11 Land Use in Lake Claremont Catchment	11
2.0 Lake Claremont Recreation and Sport Spaces.....	12
2.1 Recreation Spaces.....	12
2.1.1 Enhanced Recreation Opportunities	12
2.1.2 Dog Walking and Exercise.....	13
2.2 Sport Spaces	15
2.3 Infrastructure to Support Sport and Recreation	16
2.4 Access	16
2.5 Signage.....	17
2.6 Fencing.....	17
2.7 Lake Views	18
2.8 Henshaw Drain Infiltration Swale	19
2.9 Working Party Recommendations.....	20
3.0 Community Engagement in Lake Claremont Management	21
3.1 Lake Claremont Advisory Committee.....	21
3.2 Friends of Lake Claremont.....	22
3.3 Natural and Cultural Heritage Study Centre.....	22

3.4	School Programs	23
3.5	Celebrate Lake Claremont	23
4.0	Management and Monitoring Recommendations	23
4.1	Cultural and Recreational Values	23
4.1.1	Management Aims and Objectives	23
4.1.2	Management Recommendations	23
4.2	Biophysical Values	26
4.2.1	Management Aims and Objectives	26
4.2.2	Management Recommendations	26
4.3	Lake Claremont Wetland Values	27
4.3.1	Management Aims and Objectives	27
4.3.2	Management Recommendations	28
4.4	Flora Values	28
4.4.1	Management Aims and Objectives	28
4.4.2	Management Recommendations	29
4.5	Fauna Values	30
4.5.1	Management Aims and Objectives	30
4.5.2	Management Recommendations	31
5.0	Performance Objectives and Standards	32
6.0	Review of Management Recommendations from 2010 Management Plan	43
7.0	Geographical Information and Mapping	49
8.0	References	59

1.0 Management Plan Overview

Lake Claremont is located within the Town of Claremont (TOC) a kilometre north of the Swan-Canning Estuary and approximately halfway between the Cities of Fremantle and Perth (Figure 7.1). The lake and some of the surrounding land is owned in fee simple by TOC and comprises parts of Perthshire Aw lots 1, 2, 5, to 8, 58 and parts of Perthshire locations 223, 224, 227, to 229 231, 237, 288, and 6223 (Figure 7.2). The lake is an ephemeral wetland with a seasonal regime. The lake dries out in summer and fills when groundwater levels rise in wetter winter months.

The Lake Claremont has a number of statutorily designated values that require ongoing management and protection (Figure 7.3). Lake Claremont and its 50m buffer is an Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 Conservation Category Wetland (Western Australia. Environmental Protection Authority (EPA) 2015). The State Government declared the area as Bush Forever Site 220 in 2000 and reaffirmed that status in 2010 (Government of Western Australia 2000; Western Australia Planning Commission (WAPC) 2011). Among the wetlands that remain in Perth's western suburbs, only Lake Claremont and Herdsman Lake have both Bush Forever and Conservation Category status (Zelina & Oh 2013). The lake and surrounds are a declared Environmentally Sensitive Area under the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 to protect all naturally occurring and revegetated native vegetation growing there (State Law Publisher 2005). Lake Claremont and surrounds are designated Target Area 2 in the *Capital City Planning Framework – Support Document* with the objective of improving habitat values and connectivity to the Swan River and Bold Park (WAPC 2013; Zelina & Oh 2013). The area is an Aboriginal Site under the *Aboriginal Heritage Act 1972* (Department of Aboriginal Affairs 2014).

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1.1 The Vision or Management Plan Purpose

This management plan was developed to protect, enhance and promote the cultural, environmental and recreational values of Lake Claremont and surrounds by;

- identifying the values and develop appropriate uses to complement and enhance those values.
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Appendix 3: Fauna Values

This document describes the terrestrial and wetland fauna species that reside in or visit Lake Claremont, which includes native and introduced varieties of birds, mammals, reptiles, amphibians and invertebrates.

1.4 Management Plan Consultation

In preparing this plan, consultation occurred with:

- Andrew Head and Greg Simpson from the Town of Claremont;
- Town of Claremont's Lake Claremont Advisory Committee (LCAC);
- Friends of Lake Claremont (through LCAC);
- Claremont Council Recreational Working Party
- Department of Aboriginal Affairs; and
- Community members.

1.5 Management Plan Review and Development

Implementation of the 2010 Lake Claremont Management Plan, Lake Claremont: Concept Plan and previous TOC endorsed management plans has resulted in significant improvements in the health of Lake Claremont and its vegetation. The Natural Area consultants assessed the works carried out by the Town of Claremont to be 'best practice'. Accordingly, the ongoing management aim is to maintain and enhance the ecological, recreational and cultural values of the Lake Claremont environs. Assessment activities undertaken during the preparation of this management plan identified a range of values that require ongoing management. Recommended management strategies for these values appear in Section 4.0 of this plan. Section 5.0 of this plan details performance objectives and standards for each management strategy. Background information and data supporting the recommended management strategies appears in the three appendices.

This management plan has a lifespan of five years. Review of this plan and development of the next strategic management plan for the site should commence four years after Council endorsement of this plan.

1.6 Aboriginal Heritage

The Town of Claremont acknowledges the Mooro people of the Whadjuk Noongar as the traditional custodians of the country around Lake Claremont. This includes, but is not limited to, the Bodney, Bropho, Colbung, Corunna, Garlett, Hume, Jacobs, Warrell and Wilkes family groups. Consultation with these families secured Section 18 approval to carry out the works under the 2010 Lake Claremont Management Plan.

Lake Claremont was an important campsite and hunting ground that provided a range of plants and animals for food for the Whadjuk Noongar. Having occupied the south west of Western Australia for at least 50 000 years, Noongar people maintained a camp at the southern end of Lake Claremont until the 1930s and then north of the lake until forcefully evicted around 1950 (Haynes, Lantzke and Lantzke 1998; Bolton and Gregory 1999; Dortch 2005). Listed as an Aboriginal Site under the *Aboriginal Heritage Act 1972 (WA)*, artefacts have been recorded in the proximity of Kott Terrace and Stirling Road (Department of Aboriginal Affairs 2014).

1.7 Post-European Settlement Heritage

Based on the writings of Haynes, Lantzke and Lantzke (1998), Bolton and Gregory (1999), the North Metro Conservation Group (2007) and Fisher Research (2010), key information relating to the post colonisation history of Lake Claremont includes:

- The first European reference to Lake Claremont is by Willem De Vlamingh's landing party lead by Gerrit Colaert in early January 1697. Landing near Swanbourne and walking past Lake Claremont on the way to Freshwater Bay.
- The first recorded reference to the wetland after European settlement is a letter written by Mr John Butler to the Surveyor General John Septimus Roe on the 15 November 1831 to request a grant of 10 acres of land on east side of the lagoon for his son, William Burton Butler.
- While no hard evidence has been found to support the proposition, it has been suggested that the Butlers carried out farming activities at the site without an official grant and that this use gave rise to the lake's early name of 'Butler's Swamp'.
- In 1851, 3.8 ha grants of land were given to 18 Pensioner Guards who had escorted the first convicts transported to Western Australia on the Scindian in 1850.
- The Perth to Guildford railway line opened in 1881 with Butler's Swamp siding constructed on the west side of Stirling Road, which led to the lake becoming a popular picnic destination.
- At the start of last century, the popularity of the site as a picnic spot declined as market gardens became increasingly common.
- Extensive flooding occurred across the Perth region between the 1930s and 1950s as groundwater levels rose due to a combination of clearing of native vegetation and commercial felling of tall trees, numerous years with higher than normal rainfall and increased runoff from rapidly urbanising settlements.
- Butler's Swamp became permanently flooded and the size of the waterbody doubled at this time.
- The rising water level meant the market gardens were no longer viable, Stirling Road became impassable and the nature of the vegetation changed as the permanently inundated Paperbarks that had covered the wetland died away, although the dead trunks of some remain standing at the southern end of the lake.
- Mosquito and midge proliferated in this modified wetland ecosystem.
- The algae blooms that proliferated in the eutrophic waterbody combined with the rotting carcasses of diseased and shot birds made the lake stink and generated public support to 'beautify' the area.
- The beautification plan, which included the provision for an Olympic pool, football oval, soft ball field, soccer and hockey pitches, a pavilion, boats for hire, tearooms, amphitheatre, large areas reserved for picnic grounds and natural bush, was agreed and in 1954 and TOC began purchasing and swapping land to gain title to the lake.
- TOC exchanged 3.5 acres of land belonging to Scotch College at Cresswell Oval oval for 4.5 acres which was partly under water, with the latter subsequently being reclaimed by the College reducing the area of the Lake and resulting in the current shape of the water body.
- Butler's Swamp was renamed Lake Claremont in 1955, despite opposition from the Royal WA Historical Society.
- Costs for the project began to spiral, so a drive-in theatre replaced the amphitheatre, Council scaled back or scrapped proposed recreational infrastructure and between 1964 and 1970 the lake became a landfill site.
- An island bird sanctuary (Estuary Island) created in the lake and areas were planted with exotic trees and shrubs.

- A golf course was constructed amid concern about restricted access to the banks of the lake and its surroundings and about the potential for negative impacts on native flora and fauna habitat.
- In July 1973, the newsletter of the WA Naturalist Club reported that an excursion to Lake Claremont was almost cancelled due to the limited amount of aquatic and bird life and the parlous state of the wetland ecosystem.
- The Department of Conservation and Environment of Western Australia prepared the System 6 Report in 1983, giving recognition to the environmental and ecological values of the lake and encouraging the development of a management plan.
- Three working parties, including a Council of Elders, were appointed in 1985 to investigate and report on various aspects of the lake in the lead up to the preparation of the first management plan.
- Claremont Council initiated the Lake Claremont project in 1987, which resulted in the Lake Claremont Research Report prepared by Lantzke, Gabriel and Haynes and highlighted the hypereutrophic status of the waterbody.
- Council convened a committee of interested community members, a local councillor as chair and representatives from the Environmental Protection Authority and the Water Authority in 1991 and Haynes and Lantzke prepared the 1992 management plan.
- The first conservation and environmentally focused management plan was implemented between 1992 and 1998, when it was revised by Haynes, Lantzke and Lantzke (1998) to produce the second environmental management plan.
- After almost ten years of operation the second plan was reviewed in by the North Metro Conservation Group (2007) and the 2010 Lake Claremont Management Plan was endorsed, again with a strong conservation and environmental focus.
- After a close referendum count, Council made a resolution to close the long nine hole golf course in the northern and eastern portion of the area in June 2009, a nine hole Par 3 course continues to operate in the south eastern corner of the area.
- The Lake Claremont Parkland: Concept Plan, which was also finalised in 2010, outlined existing and proposed nature, recreational and sporting spaces and identified the recreational infrastructure necessary for the enjoyment of broadest range of community members (Town of Claremont 2010b, Figure 7.4).
- Review of the two 2010 management plans and development of this current management plan commenced in November 2014.
- A working party of Councillors was convened in May 2015 to survey the community and identify projects that would further enhance the recreational aspects of Lake Claremont complimented the development of this plan.
- In February 2016, Council approved the upgrade of the Par 3 golf course, this will involve reticulation replacement and green, tee and fairway upgrades to improve the presentation and reduce maintenance demands on site.

Significant restoration and enhancement works have been completed at Lake Claremont in the quarter of a century since the first management plan was endorsed. These works include:

- Modified drainage with oil traps, side traps and swales.
- Significantly improved water quality and an absence of algal blooms when the lake fills in winter.
- Removal and control of invasive weeds from the lakebed and the remnant Banksia and Eucalypt woodlands on the western side of the Lake.
- Installation of duck, parrot and micro bat breeding boxes.
- Creation of a much-used natural play-space playground at Stirling Road Park.

- Upgrading of the exercise facilities.
- Improved turf quality across recreation spaces and open access dog off-leash exercise areas.
- Provision of family barbeque and picnic areas.
- Replanting of the riparian buffer around the lake and woodland in the western and northern portion with local native plants.
- Installation of a cycle and pedestrian path network to facilitate community access.

1.7.1 Stirling Road Ficus Trees

The December 2015 proposals from the Recreation Working Party advocated retention of the avenue of Moreton Bay Figs (*Ficus macrophylla*) at the southern end of the Lake Claremont based on their significance in terms of the European cultural values of the site. The alternative view of some in the community aligns with the existing recommendation from 2010 Lake Claremont Management Plan reflecting the desire of the Noongar custodians of this registered Aboriginal Site to remove all Ficus from the Lake surrounds. This management plan aims to provide a sustainable compromise between these two opposing views. Assessing and protecting the avenue of Moreton Bay Figs at the southern end of the Lake Claremont through the TOC Local Government [Heritage] Inventory and managing them under the Town's significant tree program would provide a compromise between the opposing community views.

1.8 Legal Requirements

A number of the Commonwealth, State and Local Government statutory and policy requirements that regulate the management of the Lake Claremont and surrounds are summarised in Table 1 on page 8.

1.9 Tenure and Zoning

Lake Claremont is owned in fee simple by the Town of Claremont. It comprises parts of Perthshire AW Lots 1, 2, 5, 6, 7, 8, 58, 60, 101, 150, 900, 901, Reserves 49882, 27367, 29430, 4228, 9249, 22142 and Crown land lots 1063, 1366, 2563 and 06223 (Figure 7.2). The Aquatic Centre, McKenzie Bush, Stirling Road Reserve and a small lot located south east of Mulder Park are located on a Crown A-Class Reserve vested in the Town of Claremont.

With the exception of Balluruks Bushland (Figure 7.5) and The Cedus Park, the Lake Claremont and surrounds are zoned Parks and Recreation in the Metropolitan Region Scheme (Town of Claremont 2010c).

Balluruk Bushland is zoned Urban in the Metropolitan Region Scheme (MRS) and as Residential under the Town of Claremont Town Planning Scheme No. 3 (Town of Claremont 2010c). As this section contains high quality remnant bushland, Natural Area recommended that the zoning is changed on the MRS and Town Planning Scheme to Parks and Recreation.

The Cedus Park is zoned Educational under the Town Planning Scheme No.3 on the southern portion of the land, and a Parks and Recreation Reserve under the MRS for the remainder.

The majority of the land surrounding Lake Claremont has residential zoning: Lots in Claremont south of the lake and Swanbourne to the west zoned with a density of R20; Davies Road is zoned R30 density and the high-density North East Precinct development around Claremont Oval. Scotch College to the southwest of the lake is zoned Education. Light industrial land is present within the area bounded by Motteram Avenue

and Graylands Road. Claremont Oval is located to the east of Davies Road and carries a Parks and Recreation (Restricted) zoning under the MRS.

Located at the corner of Alfred Road and Montgomery Avenue in the City of Nedlands, the Mt Claremont Oval Reserve is immediately adjacent to Lake Claremont. This A-Class Reserve has approximately 2.2 hectares of nature space and 1.6 hectares of sport space.

Table 1: Legal and other requirements applicable to the ongoing management of Lake Claremont as determined by Natural Areas

Legislation	Policies and Guidelines	Relevance
Commonwealth		
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	<ul style="list-style-type: none"> ▪ Threatened species guidelines and information sheets ▪ Migratory birds information 	<ul style="list-style-type: none"> ▪ Matters of national environmental significance: presence of the Carnaby's Cockatoo (<i>Calyptorhynchus latirostris</i>) and the Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksia naso</i>) ▪ Protection of migratory birds the subject of international agreements
Western Australia		
<i>Aboriginal Heritage Act 1972</i>	<ul style="list-style-type: none"> ▪ Permitting requirements, including Section 10 and Section 18 permits 	<ul style="list-style-type: none"> ▪ Protection of Aboriginal heritage values ▪ Actions when a heritage site is disturbed
<i>Biosecurity and Agriculture Management Act 2007</i>	<ul style="list-style-type: none"> ▪ Declared Plant Control Handbook ▪ Western Australian Organism List 	<ul style="list-style-type: none"> ▪ Control of declared flora (weeds) and fauna organisms ▪ Off label permit use of herbicides
<i>Bushfires Act 1954</i>		<ul style="list-style-type: none"> ▪ Reducing the dangers associated with bush fires, along with their prevention, control and extinguishment
<i>Cat Act 2011</i>	<ul style="list-style-type: none"> ▪ Implemented at a local level through the enacting of a local law 	<ul style="list-style-type: none"> ▪ Responsibilities of local cat owners and the ability of council to trap and remove roaming cats
<i>Conservation and Land Management Act 1984</i>	<ul style="list-style-type: none"> ▪ Wetlands Conservation Policy for Western Australia 	<ul style="list-style-type: none"> ▪ Primary wetland conservation policy for WA
<i>Contaminated Sites Act 2003</i>	<ul style="list-style-type: none"> ▪ Contaminated sites guideline series produced by the Department of Environment Regulation 	<ul style="list-style-type: none"> ▪ May apply if acid sulphate soils are disturbed and contamination occurs
<i>Dog Act 1976</i>	<ul style="list-style-type: none"> ▪ Creates statutory responsibilities for dog owners to register and control their dog(s) ▪ Implemented at a local level through the enacting of local laws and/or policies 	<ul style="list-style-type: none"> ▪ Dog owners responsibilities relating to dog registration, control, walking on-leash and exercising off-leash the removal of faecal matter

Legislation	Policies and Guidelines	Relevance
Western Australia		
<i>Environment Protection Act 1986</i>	<ul style="list-style-type: none"> ▪ Designated Conservation Category Wetlands ▪ Clearing of Native Vegetation regulations and associated guidance documents ▪ EPA Position Statement No. 4 Environmental Protection of Wetlands (relevant to EIA processes) 	<ul style="list-style-type: none"> ▪ Prevention of environmental harm ▪ Protection of wetlands listed in the Geomorphic Wetlands Swan Coastal Plain dataset, including a number of requirements relating to their filling, effluent disposal and drainage management – proposed changes require formal environmental impact assessment ▪ Requirements to be adhered if clearing of native vegetation is planned
<i>Health Act 1911</i>		<ul style="list-style-type: none"> ▪ Water quality within the lake from a human health perspective, such as presence of nuisance organisms ▪ Creation of healthy design elements that contribute to healthy active living
<i>Litter Act 1979</i>	Keep Australia Beautiful Fact Sheet: Dog Poo	<ul style="list-style-type: none"> ▪ Requirement to pick up and appropriately dispose of dog faecal matter
<i>Local Government Act 1995</i>		<ul style="list-style-type: none"> ▪ Local Government responsibilities: Duty of care and safety
<i>Planning Act 2005</i>	Planning Policies <ul style="list-style-type: none"> ▪ State Planning Policy 2 – Environment and Natural Resources Policy ▪ State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region Planning Guidelines <ul style="list-style-type: none"> ▪ Better Urban Water Management ▪ Acid Sulphate Soils Bush Forever Documents	<ul style="list-style-type: none"> ▪ Zoning/land purpose ▪ Protection of natural values through appropriate planning ▪ Bush Forever listing and protection ▪ Protection of water resources and prevention of impacts to surface and groundwater ▪ Prevention of contamination during development activities from ASS
<i>Wildlife Conservation Act 1950</i>	<ul style="list-style-type: none"> ▪ Town of Claremont information relating to wildlife 	<ul style="list-style-type: none"> ▪ Protection of native flora and fauna ▪ Presence of declared rare fauna species ▪ Presence of priority 4 listed flora species

Legislation	Policies and Guidelines	Relevance
Local Government		
Lake Claremont Management Plan	<ul style="list-style-type: none"> ▪ Dogs in Public Places LV127 	<ul style="list-style-type: none"> ▪ Ongoing management of Lake Claremont ▪ Designation of dog exercise areas where dogs must be kept on a leash ▪ Requirement for owners/handlers to be in control of dogs at all times
Town of Claremont Town Planning Scheme No 3	<ul style="list-style-type: none"> ▪ Various state planning guidelines ▪ Town of Claremont planning information 	<ul style="list-style-type: none"> ▪ Zoning of Lake Claremont under metropolitan region scheme as 'Parks and Recreation' ▪ Protection of Bush Forever sites from clearing or other development
WESROC Greening Plan 2002	<ul style="list-style-type: none"> ▪ Greening Plan 2002 	<ul style="list-style-type: none"> ▪ Strategic Regional ecological linkages
Town of Claremont Sustainability information		<ul style="list-style-type: none"> ▪ Earthcarers ▪ Climate Smart ▪ Waterwise gardens; use of native plants ▪ FertiliseWISE ▪ Use of bore and scheme water ▪ Grey water use ▪ Compost and mulch ▪ Dieback ▪ Worm farming

1.10 Land Use within Lake Claremont and its surrounds

Major land uses within and immediately adjacent to the Lake Claremont and surrounds include:

- public recreational space with barbeques, turf areas, playgrounds, walking trails, and cycling infrastructure (10.0 hectares);
- off-leash dog recreational space (2.3 hectares);
- the par-3 golf course (4.8 hectares);
- Cresswell Oval sport space for cricket in summer and hockey in winter (2.5 hectares);
- tennis courts at the corner of Davies Road and Shenton Road (1.9 hectares);
- Claremont Aquatic Centre (1.8 hectares);
- Scotch College sport fields (11.5 hectares);
- wetland nature space (20.7 hectares) of Lake Claremont and its riparian buffer;
- bushland nature space (11.8 hectares) north and west of Lake Claremont, including Ballaruk Bush; and
- bushland nature space at Mackenzie Bushland (1 hectare).

The DSR classification for public open space recognises the blended use of nature, recreation and sport spaces, such as recreational off-leash dog walking on Mount Claremont Oval and bushland and wetland nature spaces used for recreational bird watching or photography. While recognising the multifunctional nature of public open space, the breakup of land use is 22.5 hectares of dedicated sport space with recreational value, 12.3 hectares of recreation space with nature value and 33.5 hectares of nature space with recreational value. Applying the DRS framework means there is an approximately even split between the area with a primarily environmental focus (33.5 hectares) and the area which has a primarily recreation and/or sport focus (34.8 hectares).

Negative impacts associated with the land uses detailed above have been limited through:

- installation of paths and fencing to improve quality of bushland
- the Town of Claremont discontinuing use of phosphate-based fertilisers and general use of fertilisers kept to a minimum; and
- the installation of nutrient stripping basins and infiltration pits in areas of stormwater inflow.

1.11 Land Use in Lake Claremont Catchment

Land uses within the broader Lake Claremont catchment with the potential to influence the ecological and environmental values of the lake, particularly through the inflow of nutrients via groundwater and stormwater runoff and over abstraction from the superficial aquifer, these include:

- Claremont Oval for Australian rules football (2.5 hectares of sport space);
- Mount Claremont Oval Reserve (3.8 hectares of nature and sport spaces);
- Maclagan Reserve (0.8 hectares of recreation space);
- Mount Claremont Primary School;
- Cottesloe Golf Course;
- Graylands Road Light Industry Precinct;
- the Royal Agricultural Society showgrounds;
- the Brockway Road landfill site (closed approximately 20 years ago);
- the Subiaco Waste Water Treatment Plant;
- roads and verges; and
- private residence.

The level of impact associated with these land uses will continue to be monitored through the ongoing comprehensive water quality monitoring program that is currently in place, further discussion of water quality appears in Appendix 1.

2.0 Lake Claremont Recreation and Sport Spaces

Research has found much confusion within local government concerning the terms used to describe recreational and sporting activities and that problems arise from the lack of clear and consistent terminology (Carroll 1995; WA Department of Sport Recreation (DSR) 2012). The DSR's Public Open Space Planning and Design Guide WA (2014) states 'This criteria and terminology [active or passive open space] is now generally regarded as inadequate and confusing'.

For those reasons, it is important that readers of this management plan share a common understanding of terms such as 'recreation', 'sport' and 'nature space'. Table 2 provides definitions for key terms used in this management plan.

Table 2: Glossary of recreation and sport associated terminology utilised in this management plan. These definitions come from the DSR Classification framework for public open space 2012

Term	Meaning
Recreation	Recreation activities provide relaxation, amusement or stimulation. Recreation activities allow humans to play, socialise, exercise, celebrate or participate in other activities that provide personal satisfaction or intrinsic reward.
Recreation Spaces	Recreation spaces provide a setting for informal play and physical activity, relaxation and social interaction.
Sport Spaces	Sport spaces provide a setting for formal structured sporting activities, which have elements of competition where rules and patterns of behaviour governing the activity exist formally through organisations.
Nature Spaces	Nature spaces provide a setting where people can enjoy nearby nature and protect local biodiversity and natural area values.

2.1 Recreation Spaces

2.1.1 Enhanced Recreation Opportunities

Active recreational opportunities are primarily available in the southern and eastern portions and include:

- Natural play-space playground at Stirling Road Park (Figure 2.1) and the traditional climb, slide, swing playground at John and Jean Mulder Park for younger community members.
- Exercise equipment for adults is located adjacent to Stirling Road Park (Figure 1).
- Extensive cycle and pedestrian path network to facilitate community access.
- Swimming and other water related activities are available at the Claremont Aquatic Centre on Davies Road, which also hosts competitive water polo matches.
- A Par 3 Golf Course for encouraging beginners, youngsters and other golfers developing their short game is located next to the Aquatic Centre.
- Informal catching, running and throwing games occur on the expanse of turf areas along the southern and eastern side.
- On-leash dog walking is an extremely popular active recreation pursuit.
- An oval used for cricket in summer and hockey fields in winter at Creswell Park
- Off lead dog exercise area on the north east corner.

Less strenuous recreational activities enjoyed by Lake Claremont users include barbeques, bird watching, coffee at the cafe, contemplating the waterbody of the lake, enjoying the children or grandchildren playing,

photography, picnicking, reconnecting with nature and resting or relaxing in the turf areas. Infrastructure installed to support this style of recreation includes:

- An observation platform for watching water birds and swimming turtles that projects into the western side of the lake.
- A jetty at Stirling Road Park provides views of the dead Paperbark trunks protruding above the deepest section of the lake's waterbody.
- The Ted and Joan Tockock commemorative benches installed at the edge of the bank on the south-eastern corner of the lake.
- Barbeques and picnics tables are available at Stirling Road and at John and Jean Mulder Parks.
- A number of benches installed with different perspectives at points throughout the area.
- Selected access points for bird watchers to access responsibly the lake and bushland habitats.



Figure 2.1: Active recreation areas in the south of the park

The commercial Aspire Fitness is now operating from previously underutilised space on the southern side of the Golf Course Building, which provides users with facilities and consultation in the arenas of health and fitness, exercise rehabilitation, physiotherapy and personal training

In February 2016 Council reaffirmed several initiatives to recreational opportunities at Lake Claremont. Initiatives programmed for the next three years are to install additional leisure and recreation equipment such as barbeque and picnic areas, family friendly play facilities and other items like a single set of AFL goals, a single soccer goal and/or a netball hoop along the eastern side.

A contemplation garden at the northeast corner of the lake was included in the Lake Claremont Parkland Concept Plan (Town of Claremont 2010b; Figure 7.4). However, the shed discussed in Section 3.3 currently occupies that location. A cultural and natural interpretative shelter is to be considered for the area occupied by the existing shed discussed in section 3.3 during the 2017-18 budget deliberations.

2.1.2 Dog Walking and Exercise

The walking of dogs is a common recreational activity carried out within the Lake Claremont and surrounds. It has also been a contentious issue in relation to the management for the enjoyment of the broadest cross section of the community and for protection of the flora and fauna of this environmentally important conservation area. The complexities associated with facilitating dog walking and exercise while guaranteeing the recreational experiences of all park users, especially the young and the elderly, and meeting statutory

requirement to protect the indigenous flora and fauna is a reason why this management plan includes this section.

Another example of the complexity of facilitating dog exercise and walking in public places is the three levels of laws and policies that specify the responsibilities of people exercising or walking a dog in public in the Town of Claremont. These laws and policies are the *Dog Act 1976 (WA)*, *Dog Regulations 2012 (WA)* and *Dogs in Public Places Policy LV127*. The key requirements of these laws and policies for dogs in the Lake Claremont environs are that:

- Every person who is exercising or walking a dog in a public place is liable for the control of that dog.
- Any dog in a public place must be wearing a suitable collar and its registration tag.
- Except in designated dog exercise areas, a person capable of controlling the dog must hold it on a chain, cord, leash or harness that is not more than 2m long when walking it in public. These types of chains, cords, leashes or harnesses are commonly called 'a leash'.
- Dogs must not enter the playgrounds at Stirling Road Park or John and Jean Mulder Parks.
- Dogs must not enter the exclusion zone around Lake Claremont described in TOC Policy LV127.
- The person in control of the dog must clean up any excretion immediately.
- Dogs may be off-leash in public dog exercise areas, if they are being supervised by a person who is in reasonable proximity to the dog provided:
 - they are the person liable for control of the dog;
 - they are capable of controlling the dog; and
 - they are carrying and capable of attaching a leash to the dog to control it.

In summary, a dog in a public place must be under control of the person who is responsible for it whether it is being walked on-leash or off-leash in a dog exercise area. The majority of well behaved and controlled dogs have minimal impacts on other visitors and other dogs. Uncontrolled dogs interfere with the enjoyment and recreation of other users. This is especially so when they display aggressive behaviour, bark or jump up on other people and dogs. This behaviour can be particularly intimidating to toddlers, children and the elderly. TOC receives a number of formal and informal complaints about owners who allow their dogs to behave in an uncontrolled manner to the detriment of other users, there have been three attacks reported of dog on person at Lake Claremont in the last five years and a number of incidents with wildlife including oblong turtles and water birds.

Another unsocial behaviour is people not picking up after their dogs, despite the presence of dog excrement bags and bins. In addition to spoiling the aesthetic value of the area and being unpleasant when inadvertently stepped on, uncollected dog excrement releases harmful bacteria and increases nutrient levels in the environment. These bacteria and nutrients can kill local native plants, be harmful to young children, reduce water quality of the lake and promote algal blooms, which can cause the death of frogs, turtles and waterbirds. Not immediately picking up dog excreta is an offence under the *Litter Act 1979 (WA)* and *Town of Claremont Dogs Local Law 2012*.

In accordance with the Lake Claremont Parklands: Concept Plan, approximately 2 hectares of the recreation space adjacent to the corner of Alfred and Davies Road has been designated dog exercise area. The City of Nedlands has recently designated all of the nature and sport space across Alfred Road at the Mount Claremont Oval Reserve as dog exercise space. The 3.8 hectares of the Mt Claremont Oval Reserve and the space provides almost 6 hectares of dog exercise space on the northern boundary the Town of Claremont.

Dogs can walk and exercise off-leash in these areas, but must remain under control as required by the *Dog Act 1976* (WA). Additional dog exercise areas near the Lake Claremont surrounds include:

- MacLagan Park, with the exception of the playground area (0.8 hectares);
- Asquith Park (0.1 hectares);
- Pine Tree Park (1.8 hectares);
- Rowe Park, with the exception of the playground area (2.4 hectares); and
- Stubbs Terrace/Mofflin Ave Park, with the exception of the playground (0.2 hectares).

The matter of dog walking and dog exercise areas was a consideration of the Recreation Working Party and Council has resolved to:

- Enlarge the existing dog-exercise area south to Lakeway Street by modifying the TOC policy Dogs in Public Places Policy LV127.
- Receive a separate report on the fencing of the dog area

Council subsequently resolved not to fence the dog exercise area in May 2016 as there was limited community support for the fence during community consultation and the considerable cost involved.

2.2 Sport Spaces

Sporting space included in the area are the 9-hole par-3 golf course at Lapsley Road, tennis courts at the corner of Davies and Shenton Roads and the summer cricket/winter hockey ground at Cresswell Oval. Immediately adjacent to the Lake Claremont are the multiport Scotch College playing fields, the Australian rules football Claremont Oval, the summer cricket/winter soccer Mount Claremont Oval and the ovals and sport spaces of the Mount Claremont and Swanbourne Primary Schools. While primarily a recreation space, the aquatic centre hosts matches and training sessions for local water polo clubs.

TOC is also progressing a major refurbishment of the Claremont Aquatic Centre and Council is reviewing the operation of the par 3 Claremont Golf Course.

2.3 Infrastructure to Support Sport and Recreation

All infrastructure installed by the Town is documented in the Town of Claremont's Asset Management System. Assessing Lake Claremont for action under the previous management plans, Natural Area made the following observations about infrastructure to support sport and recreation activities:

- A range of infrastructure is located around the lake, including drinking fountains, barbecues, seating and bins (Figure 7.6).
- The facilities are of a high standard and in good repair.
- The only toilet facilities present at the parklands are located in the golf course clubrooms and are poorly signposted.
- The main car park is located to the south off Stirling Road and often appears occupied by visitors to Scotch College.
- A bicycle rack is also available at the Stirling Road entrance.
- Parking is also available at the golf course and aquatic centre car parks, with some street parking available off Elliot Road, Strickland Street and Lakeway Street.
- We recommend additional parking be installed near the dog exercise area at the northeast corner.
- As a mixed-use conservation wetland catering to various user groups, a regular survey of users querying where they come from and what activities they undertake would be beneficial.

2.4 Access

Sealed dual-use and compacted limestone paths extend around the Lake in an interconnected network that allows ready access to all areas except the lake banks. These paths are accessible to all ability levels, including the mobility impaired. Other than the steep banks on the southwest side of the lake and below the Lakeway residential estate, there is little evidence of inappropriate access.

Natural Area recommended that TOC consider the construction of a limestone path closer to the eastern edge of the lake to allow for increased access by pedestrians for bird watching activities. Natural Area also recommended that this area be designated a dog-prohibited zone.

The Natural Area recommendations closely align with Council's resolution to make the area between the dual use path and the lake a dog-prohibited zone (Figure 7.6). This was supported by the Working Party and shown on the publicly advertised plan.

The layout of the park allows access by maintenance vehicles and emergency service vehicles when required. Gates are present in a number of locations that allow access to either personnel or maintenance vehicles. Natural Areas recommended that these gates remain closed to prevent uncontrolled access, particularly in steeper areas where erosion can be an issue Figure 7.7 indicates the locations of the various access features.

2.5 Signage

Existing signage conveys a range of messages to the users of the Lake Claremont. The types of signs present include restoration works signs, information signs and dog control requirements (Figures 7.8 and 7.9).

Although relocated, there has been no update of information signage (Figure 2.2) since initial installation in the mid-1990s. Given the changes in the bird population that have occurred since 2009, new bird related interruptive signs are required at a minimum. Other signs are generally in good repair. There is limited directional signage present, particularly in the northern portion, where a number of revegetated pockets enclose long runs of intersecting paths. Signage indicating the location of the café, toilets within the golf course clubrooms and other facilities such as the exercise equipment and barbecues is also absent.

The Council endorsed 2010 Lake Claremont Management Plan recommended signage be installed to encourage access to the lake from public transport. Natural Area found that this recommendation was incomplete and supported installation of that signage in the life of this management plan.

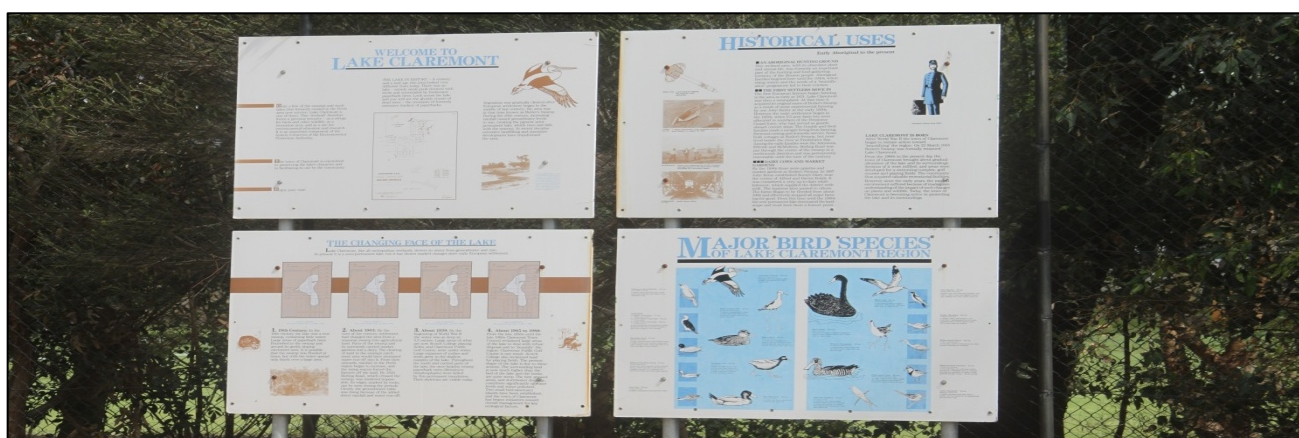


Figure 2.2: Information signage at Lake Claremont

The FOLC notice board located at the foot of the access stairs from Lakeway Estate is highly weathered, away from key focus nodes and is too small to accommodate notices from FOLC and TOC. New notice boards large enough to promote both FOLC and TOC activities should be installed at the three main entrance points, being the corner of Alfred and Davies Roads, the Cafe/Golf Club complex and Stirling Road Park.

2.6 Fencing

In accordance with the Council endorsed 2010 Lake Claremont Management Plan, active revegetation sites are fenced prior to planting to allow the establishment of a diversity of over storey, middle and understorey species. At the commencement of this management plan, establishment of middle and over storey species was progressing well. In the lifetime of this plan, the return of understorey will only arise from natural seed dispersal and regeneration. Several more years of succession (i.e. post 2020) are required before assisted understorey generation by direct seeding or planting of tube stock should be attempted. For these reasons, Natural Area recommended retention of existing conservation fences and that new revegetation sites be fenced prior to planting commencing.

2.7 Lake Views

Some community members have raised concerns regarding the height of revegetation activities and impacts to views, both around the lake and from nearby properties. Figure 7.10 summarises the findings of an unpublished Town of Claremont report by Simpson (2014b) which demonstrated that from pathways around Lake Claremont:

- views were unimpeded for 39% of the lake's perimeter;
- views of the lake were available through vegetation from 22% of perimeter;
- views of the lake were screened by native and exotic trees from 36.5% of the path; and
- 2.5% of the perimeter pathway had no view due to the distance of the path to the lake edge.

As the revegetated areas of nature space mature, the plant density will naturally decline and result in thinning of the canopy and views of the lake will improve over time. Revegetation is still to occur to the east of the Lake.

The Lake Claremont Advisory Committee, Friends of Lake Claremont and Parks and Environment officers from the Town of Claremont all recognise that views of the Lake contribute to the social values, as do the presence of local native vegetation. Environmentally, the presence of vegetation enhances the ecological and other values of the lake through improved water quality, providing increased habitat for various fauna species and reducing the presence of nuisance organisms such as midges. An additional benefit of the protection provided by fences and the revegetation in the northern end has been the reestablishment of at least one colony of Splendid Fairy Wrens that had previously been locally extinct at Lake Claremont for more than a decade.

Previous discussions by the Lake Claremont Advisory Committee, Friends of Lake Claremont and TOC Parks and Environment officers identified the need to actively manage non-indigenous vegetation in the wetland buffer at the northern end of the lake, which will improve lake views from the dual use path. This management will address both the establishment of seedlings and saplings of exotic and out of area Australian native trees and local native vegetation that has become overly dense due to higher than expected survival rates of revegetation plantings in the wetland buffer. Management of the local native vegetation will comply with the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (WA). Management of mature exotic and out of area Australian native trees will be directed by an approved five-year strategic implementation and annual operational plans.

The three corridors for views could be achieved in the north of the lake buffer area by removing dead vegetation such as blue gums which have died due to salt burn, wattles which have reached end of life and these would be replaced with low growing plantings to maintain those views. An assessment of suitable locations to undertake the selective thinning/removal will be undertaken and the findings brought to Council for final approval. Park benches would be located to take advantage of those view corridors.

New plantings on the eastern side of the buffer will be in line with the figure 2.3 and 2.4 below to ensure Lake views are maintained in that vicinity;

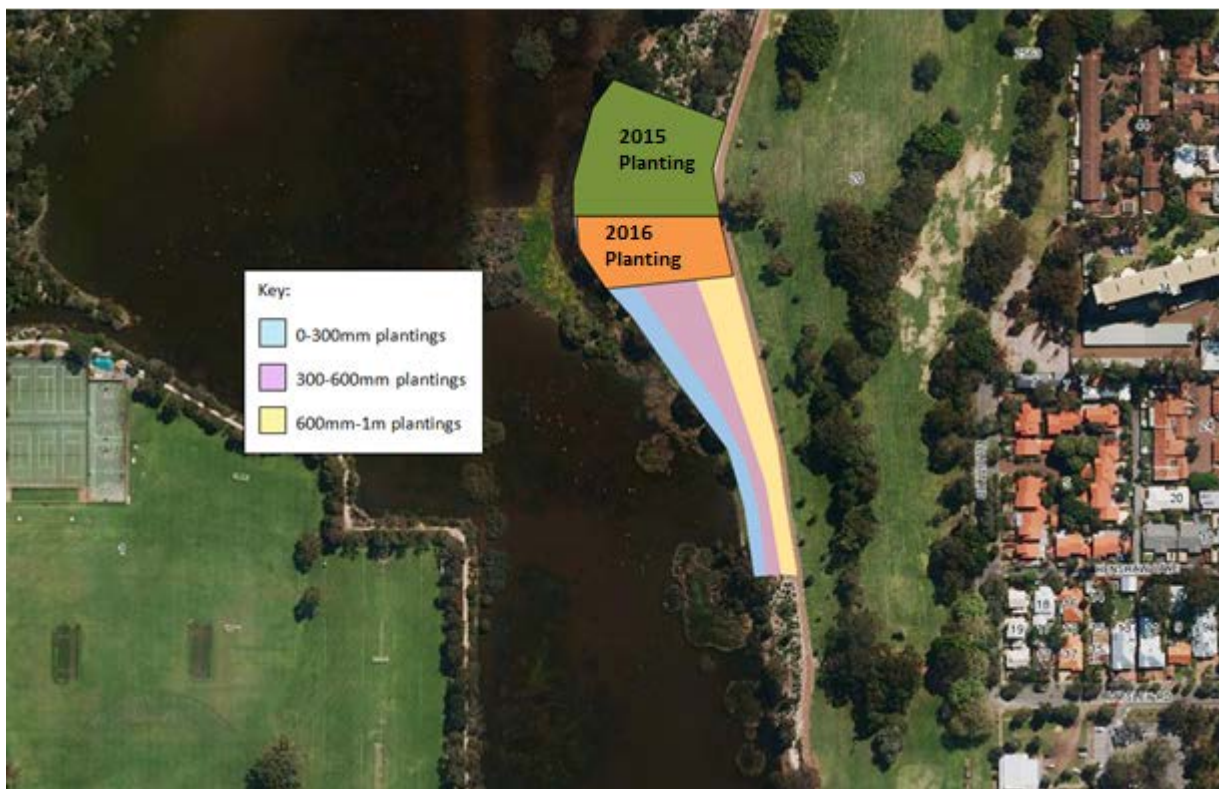


Figure 2.3: Plant height guide for Lake buffer area

Cross Section Example

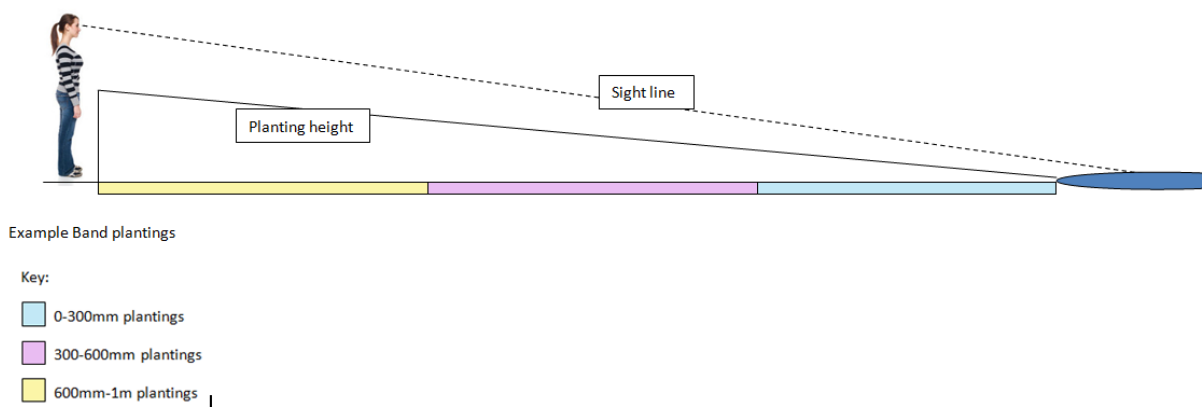


Figure 2.4: Cross section example of plant heights in eastern buffer

2.8 Henshaw Drain Infiltration Swale

The 2010 Lake Claremont Management Plan recommended the construction of vegetated wetlands or other appropriate nutrient and sediment stripping devices on the relevant drain(s) that empty into Lake Claremont. Henshaw Drain is the only untreated element of the drainage network that still discharges directly into Lake Claremont and this infiltration basin needs to be finalised with the highest priority.

2.9 Working Party Recommendations

The December 2015 proposals from the Recreation Working Party include the following items for implementation over the duration of the management plan and they include:

- New car park in the park at the bottom of Lakeway Street. This involves the creation of six additional informal bays by increasing the existing parking area without affecting the existing grove of mature Agonis trees.
- Proposed on street parking in Davies Road, adjacent to the park near Alfred Road.
- Refer proposal to maintain figs trees to LCAC as important recognition of European Heritage in the area. These ficus are identified as the Morton Bay Fig (*Ficus macrophylla*), which are in two groups, one to the south of the lake adjacent to Stirling Road Park and the other group on the north-eastern lake edge.
- Area at foot of Lapsley Road to be recognised as being for passive recreation activities; plan to be developed for public consultation and approval by Council. This is to include BBQ, picnic facilities and play facilities to cater for children 12+ years of age which currently are not catered for at the site. A plan for this area to be developed for public consultation once this management plan is approved.
- Negotiate with Lake Claremont Advisory Committee about view corridors to the Lake. A number of views can easily be created, as the buffer area matures, and many colonisers such as Acacia start dying out. These areas can be revegetated with lower growing species to maintain views. Bench locations can be adjusted to suit these created views. See Section 2.7 and Figure 7.4
- Future plantings in the eastern buffer zone to be implemented as per Figures 2.3 and 2.4 (under Section 2.7 Lake views). Any growth beyond those heights in those areas to be trimmed or removed.
- Informal play areas with AFL goals, soccer goals, netball hoop, etc. A Netball/Basketball combination would be similar to the existing facility at Rowe Park. The AFL goal would be like the set at Maclagan Park, this could also include a combination goal with Soccer and Rugby in one. It is proposed that a single set of goals of each sport is installed to ensure only informal use of the area occurs.
- Family friendly play area suitable near the golf course clubhouse and cafe. This would need to be for 0-5-year olds. Any facility here will need to be fenced to ensure children are not running out onto the golf course as it is in close proximity to two tees and one green.
- Path access to the lakeside of the path (Buffer area) by installing self-closing gates to exclude dogs, the installation of limestone paths and install seating at designated locations. See Section 2.4 and Figure 7.4
- Develop a cultural heritage study centre. Further information on this project can be found in Section 3.3.

3.0 Community Engagement in Lake Claremont Management

There is a long history of community involvement in the ongoing management of the Lake Claremont. Of note are the Lake Claremont Advisory Committee and the Friends of Lake Claremont. The current relationship of these two key groups to the Town of Claremont appears in Figure 3.1.

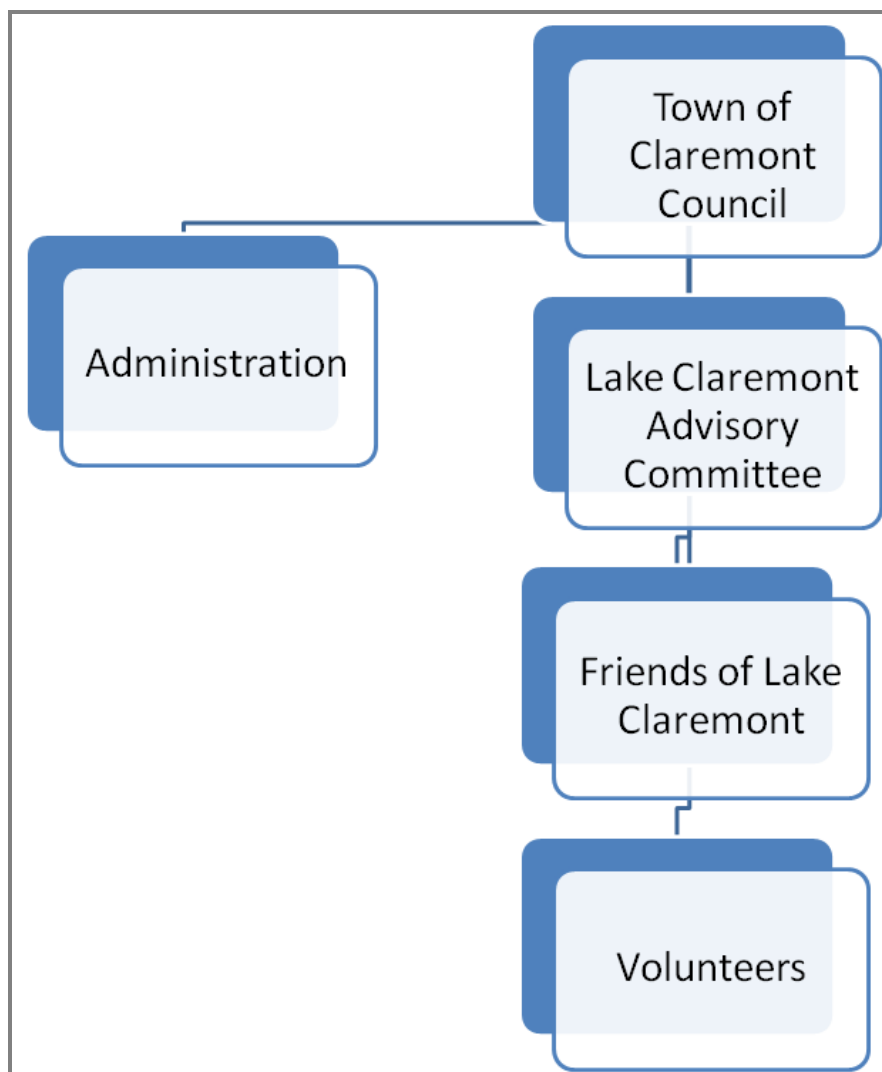


Figure 3.1: Relationship of key organisations with interest in Lake Claremont with the Town

3.1 Lake Claremont Advisory Committee

The Town of Claremont formed the Lake Claremont Management Committee (LCMC) in 1992 to assist with the implementation of the environmentally focused management plan prepared by Ian Lantzke and Bruce Haynes in 1992. The LCMC became a standing advisory committee of the Town of Claremont Council in 1995 (Figure 3.2). The terms of reference of the committee are to provide advice to Council on matters relating to:

- the care and maintenance of Lake Claremont and its immediate environment;
- the rehabilitation of Lake Claremont and its environs;
- plans for amenities proposed to Lake Claremont and its immediate environs; and
- proposals for the lake from the Friends Group.

In 2015, the Lake Claremont Management Committee had a name changed to an advisory committee to provide consistency across all of Council’s committees and to properly reflect its role.

3.2 Friends of Lake Claremont

While formally established in 2003, the Friends of Lake Claremont beginnings date back to the early 1990s (Friends of Lake Claremont 2014a). Incorporation of FOLC as a not-for-profit company limited by guarantee in 2009 coincided with the closure of the long 9-hole golf course. While FOLC is an independent community based organisation, it works closely and collaboratively with TOC to enhance the ecological, social and recreational values of Lake Claremont. The group actively contributes to the ongoing management, undertaking weeding and planting activities. With approval and support of the town, FOLC regularly wins competitive grants to assist with restoration of both wetland and dryland vegetation. FOLC has obtained in excess of \$500 000 of grants since 2009 and has contributed at least as much again in volunteer labour. These grants and FOLC's support has directly contributed to:

- improved water quality of the waterbody in the lake;
- improved habitat for wildlife;
- reestablishment of previously locally extinct flora and fauna such as the Wembley Wax variety of *Chamaelaucium uncinatum* and the Splendid Fairy Wren; and
- enhanced opportunities for the community to access high quality nature based recreation activities.

3.3 Natural and Cultural Heritage Study Centre

Natural Area recommended the establishment of an education or similar centre appropriate to the nature and scale of Lake Claremont. They advised that such a centre would strengthen community connections as well as providing a venue for increased use by the broader community and school groups. Natural Area suggested that the centre could include a large room for educational activities and other functions, an office for the Friends of Lake Claremont, a small kitchen, toilet facilities and a small storage area. It was Natural Area's opinion that given the conservation values of Lake Claremont, construction of the centre would benefit from the adoption of a range of sustainability principles, such as but not limited to dehydration/evaporation toilets, green design, 6-star construction and a design that blends into the surrounding area. Natural Area recommended a location near the storage shed shown in Figure 3.3 would be suitable for such education centre. They identified other possible locations as being the golf course building (Preferred by LCAC and FOLC) or a purpose built centre elsewhere in the area.

The Lake Claremont Recreation Working Party recommended an interpretive centre of a verdant scale, while suggesting that funding partners be sought to allow a more comprehensive centre. Potential partners could include Scotch College and Lotteries West.



Figure 3.3: Storage shed with overhanging tree

3.4 School Programs

The environmental status, ecological values and the Aboriginal and European cultural heritage of the Lake Claremont makes it an ideal location for experiential learning, local schools have actively participated in the rehabilitation of Lake Claremont over the past twenty years. The Friends of Lake Claremont have implemented the Year 10 Community Service Program with Scotch College and Christ Church Grammar School under which students participate in projects to enhance and restore the lake and its environs (Friends of Lake Claremont 2014b; Urban Bushland Council of WA Inc 2014). These activities occur on Friday afternoons and have included planting, weed removal, seed collecting, spreading mulch and pruning of dense and overhanging vegetation. This program is available to other interested schools. Volunteers from local schools are also invited to attend planting days, busy bees (held the second Sunday of each month) and other events held at the park. A natural and cultural heritage centre on site would provide added benefit to schools undertaking these activities.

3.5 Celebrate Lake Claremont

Celebrate Lake Claremont is an annual event organised by the Town of Claremont and held at the lake. This festival encompasses a range of activities, including those relating to the ongoing management and values of the lake. Previous events have included bird watching walks, displays with sustainable living tips, food stalls, damper making, wildlife interaction and children handcrafting timber toys.

4.0 Management and Monitoring Recommendations

4.1 Cultural and Recreational Values

Support information for the recommendations contained in this section appears in Section 2.0 and Section 3.0 of this management plan.

4.1.1 Management Aims and Objectives

The management aims and objectives associated with cultural, recreational sport values of the Lake Claremont include:

- Continue to provide for the ongoing protection of the seasonal wetland.
- Continue to recognise the Aboriginal and European heritage values.
- Recognise that surrounding land uses have the potential to impact on the Lake Claremont.
- Recognise that the lake and its surrounds have high social and cultural values within the community.
- Manage the lake and its environs as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management.
- Provide infrastructure as required that is consistent with the usage of that area.

4.1.2 Management Recommendations

Cultural Heritage

Recommended management actions are:

- Cultural heritage management to recognise both Aboriginal and European values.
- Heritage features are included on interpretive signs and walk trail information markers.
- Requirement for Section 18 approval for Lake Claremont Parklands Management Plan 2016-2021 checked and obtained from the Department of Aboriginal Affairs prior to implementation of any recommended actions.
- Verify compliance with approval provisions of the *Aboriginal Heritage Act 1972* (WA) prior to undertaking any non-standard maintenance.

- Assess the avenue of Moreton Bay Figs (*Ficus macrophylla*) at the southern end of the lake and add to TOC Local Government large tree Inventory to acknowledge their significance.
- Add these trees to annual program of significant trees inspections arrange a preliminary inspection by a consultant arborist and perform recommended work (if required).

Tenure and Zoning

Action is required to:

- Change the zoning of Balluruk Bushland to Parks and Recreation under the MRS and Town of Claremont Town Planning Schemes for consistency with the broader Lake Claremont area

Impacts from Land Use

The management of impacts associated with land use is largely limited to maintaining current programs and activities and liaising with landowners and/or managers. To that end the recommended management actions are:

- Maintain the current water quality and nutrient-load monitoring program.
- Provide an annual report on the water quality of the lake's surface waters to the Lake Claremont Advisory Committee and Council.
- The Lake Claremont Advisory Committee to conduct an annual review the Scotch College Nutrient and Irrigation Management Plan.
- Install the Henshaw drain infiltration basin with the highest priority.
- Maintain nutrient stripping basins within the Lake Claremont
- Liaise with owners/land managers of surrounding properties to ensure appropriate management of activities on their land that could negatively affect the Lake Claremont
- Continue to provide information to the general community regarding:
 - How phosphate-based fertilisers can result in negative impacts within the lake.
 - Problems with weedy plants and their potential for spread into the Lake Claremont natural areas.

Recreation Space Opportunities

Recommended management actions are:

- Activate and maintain mixed-use areas consistent with the principles of the revised 2010 Lake Claremont Parkland Concept Plan (Now the 2016 Concept Plan).
- Maintain separation for recreational activities to minimise conflicts between different user types.
- Undertake regular monitoring and maintenance of the area and installed infrastructure in accordance with TOC policies and procedures.
- Install additional leisure and recreation equipment such as barbeque and picnic areas, family friendly play facilities and other items like a single set of multipurpose goals, a single soccer goal and/or a netball hoop.

Dog Walking and Exercise

Natural Area recommended that:

- Continue to require dogs to be on-leash outside dog exercise areas.
- Ranger Services enforce requirements of *Dog Act 1976 (WA)* and *Dog Regulations 2013 (WA)*.

In light of the findings of the Recreation Working Party and consideration of public submissions, Council will determine the off lead area by:

- Enlarge the existing dog-exercise area to include the area south to Lakeway Street by modifying the TOC policy *Dogs in Public Places Policy LV127*.
- Enlarge the existing dog-prohibited zone out to the conservation fencing/pathway by modifying the TOC policy *Dogs in Public Places Policy LV127*.
- After the statutory period of advertisement, update and replace existing dog signage at Lake Claremont.

Infrastructure for Sport and Recreation

To continue the same high standards for managing and maintaining the infrastructure :

- Undertake regular maintenance inspections and initiate repairs or other corrective activities when required in accordance with the current TOC Asset Management Plan.
- Conduct regular surveys to determine where users come from, what activities they engage in during their visit, and their level of satisfaction with the amenity of the Lake Claremont.
- Provide signage to indicate the presence of the café and toilets within the golf course building and the presence of other key facilities such as exercise equipment and barbecues to users.
- Install additional parking facilities:
 - at Stirling Road entrance for Lake Claremont users only; and
 - in the park at bottom of Lakeway Street.

Access

While access within and around the Lake Claremont Park is currently well maintained and suited to all user levels, including the mobility impaired, recommended actions are:

- Enhance the path network with information about key features, such as the cultural, ecological and recreational values.
- Develop self-guided walks.

Signage

The following improvement to the interpretive and information signage will enhance the experience of users. This can be progressed through the creation of a holistic sign plan for Lake Claremont to ensure efficient use without creating visual pollution:

- Install directional signage, particularly in the northern portion where a number of meandering tracks interconnect.
- Install signage to indicate the locations of key facilities, such as the café, toilets, exercise equipment, barbecue facilities and the dog exercise area.
- Review and update information signage at Lake Claremont.
- Information signage should inform users of the lake's health, the benefits of drying out seasonally and status as a Conservation Category Wetland, Bush Forever site and its Environmentally Sensitive Area designation.
- Information signage should complement self-guided walks around the.
- Action the recommendation of the 2010 Lake Claremont Management Plan that directional signage be installed at key locations (e.g. TOC Office, Train Station, Claremont on the Park) to inform residents and visitors of the location of Lake Claremont.
- Install notice boards to promote FOLC and TOC activities at the corner of Alfred and Davies Roads, the Cafe/Golf Club complex and at Stirling Road Park.

Fencing

Natural Area recommended:

- Continue to install and/or maintain conservation fencing to protect revegetation areas.

Lake Views

In accordance with the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA)* and weed management practices detailed in Appendix 2:

- Manage exotic vegetation in the wetland buffer at the northern end to improve the views that enhance the connection of users' with the waterbody of lake.

Community Engagement and Communication

Natural Area recommended the following community and engagement strategies:

- TOC facilitate the regular meeting of the Lake Claremont Advisory Committee.
- TOC continues to support and provide direction to the Friends of Lake Claremont.
- Investigate changing the use of the old shed in the north east from storage of lawn mowing equipment to use by the Friends of Lake Claremont for storage of their equipment and/or to provide a meeting location and focal point for FOLC's works at Lake Claremont.
- When investigating the future of this shed, the old growth Paperbark tree resting on the shed receives appropriate consideration.
- Investigate the feasibility of establishing an appropriately scaled natural and cultural heritage centre near or on the location of the shed mentioned above.

Administration recommends the following strategies for implementation:

- Creation of a five-year implementation plan for all actions recommended within this management plan, for clarity of the approved works and timing.
- Creation of an annual operational plan to keep the Council and community informed and updated of activities occurring at the site.

4.2 Biophysical Values

Support information for the recommendations contained in this section appears in Appendix 1: Biophysical and Wetland Values.

4.2.1 Management Aims and Objectives

The management aims and objectives associated with managing the biophysical components of Lake Claremont include:

- Maintain and enhance the integrity of the biophysical features through the TOC program of regular inspections.
- Maintain the lake as a seasonal wetland
- Target management aims highlighted in key sections of this management plan.

4.2.2 Management Recommendations

Erosion Control

Implement the following soil management options to help protect the biophysical values of Lake Claremont:

- TOC review and record erosion associated with uncontrolled pedestrian access on the steeper slopes below the Lakeway Estate that was noted in site assessments conducted by Natural Area.
- To ensure impacts from erosion are minimised:
 - prevent uncontrolled access to erosion susceptible locations;
 - integrate checking for erosion into TOC routine inspection program; and

- Inspect erosion susceptible locations after severe storm events.
- As required, implement erosion mitigation measures such as:
 - installing table drains to reduce amount and velocity of water travelling down steep slopes;
 - revegetating areas with unstable perched soil using local native species;
 - installing brushing (i.e. non-weedy cut or broken branches) on steep erosion susceptible slopes to assist with soil stabilisation; and/or
 - installing or repairing rock footings and/or revetments where required.

Acid Sulphate Soils

Currently acid sulphate soils within the Lake Claremont are stable, to minimise the potential for negative impacts from acid sulphate soils:

- Minimise disturbance of sediments within the wetland basin.
- Undertake appropriate investigations prior to any works that are likely to disturb subsurface soils .
- If required, undertake appropriate testing for acid sulphate soil chemical indicators.
- If warranted by outcome of review or investigative testing, develop and implement an Acid Sulphate Soil Management Plan for the works.
- Monitor all major excavation at the park to ensure early detection of disturbed acid sulphate material.
- Monitor pH within the water body and use as an indicator of acid sulphate soil disturbance.

Fire Management Strategies

As the trees and shrubs mature within the revegetated areas in the north, the fire hazard is likely to increase and the following management strategies will be required:

- Continue to consult and collaborate with the Department of Fire and Emergency Services (DEFS) regarding the development of Fire Management Plans for Lake Claremont.
- Perform a bushfire threat analysis using the DEFS template, including an assessment of fire fuel loads, on a biennial basis.
- Maintain access tracks and fire control buffers in accordance with the TOC maintenance schedule and DFES Fire Management Plans.

4.3 Lake Claremont Wetland Values

Support information for the recommendations contained in this section appears in Appendix 1: Biophysical and Wetland Values.

4.3.1 Management Aims and Objectives

The management aims associated with water quality within Lake Claremont include the following:

- Maintain and enhance the water quality within Lake Claremont using reported baseline values (Simpson 2013 and 2014).
- Continue to implement the recommendations of the WESROC Regional Strategy for Management of Stormwater (JDA 2002), particularly the installation of drainage swales that strip nutrients and pollutants prior to stormwater entering the lake.
- Investigate deviations from the baseline data in an effort to identify causal factors and implement appropriate management strategies as required.
- Continue to recognise the conservation status of the wetland as a locally significant wetland.

4.3.2 Management Recommendations

Restoration works at Lake Claremont has resulted in significant improvements to water quality and the overall health of the water body. The level of eutrophication has decreased, with flora and fauna species present being indicators of a healthy ecosystem. The current frequency of sampling is appropriate to the nature and management of the lake as an ephemeral conservation category wetland with demonstrated good water quality. The following management strategies will maintain the health of the wetland and its associated ecosystems:

- Continue existing program of water quality monitoring and reporting as the primary indicator of wetland health.
- Provide educational information on signage, brochures and develop web-optimised resources.
- If any sampled parameter indicates a potential issue with water quality, the Town of Claremont consider repeat sampling or an increased frequency of sampling to determine the cause and develop an appropriate management strategy.
- With a high priority, develop a program for baseline and biennial sampling for metals and hydrocarbons to enable review of pollutant levels that may be entering from external sources.
- Install the Henshaw drain infiltration basin with the highest priority.
- Maintain stormwater basins and sumps on an ongoing basis, ensuring their ongoing capacity to detain and treat stormwater in the longer term.
- Nutrient and Irrigation Management Plans (NIMP) and annual reporting of leaf and soil nutrient levels, water extraction and water quality testing of groundwater bores by the lessee are required as a condition of leasing any recreation or sporting space with the Lake Claremont
- Liaise with managers from Scotch College to obtain historical leaf and soil nutrient levels, water extraction and water quality testing of groundwater bores data under their NIMP and establish annual reporting to LCAC as per recommendation of 2010 Lake Claremont Management Plan.
- Regularly remove weeds from within the shallow areas and islands where practicable.
- Regularly review the lake banks and steeper areas for signs of erosion, and implement suitable control measures if required.

4.4 Flora Values

Support information for the recommendations contained in this section appears in Appendix 2: Flora and Fungi Values.

4.4.1 Management Aims and Objectives

The management aims associated with flora of the Lake Claremont include the following:

- Maintain and enhance the condition of native vegetation and flora in the lake, remnant bushland and rehabilitated nature space.
- Ensure conservation, restoration and revegetation activities are consistent with the elements of the former Lake Claremont Parkland: Concept Plan and 2010 Lake Claremont Management Plan.
- Minimise the presence of herbaceous weeds and exotic grasses through targeted chemical and manual weed control activities.
- Manage the avenue of Moreton Bay Figs (*Ficus macrophylla*).
- Progressively reduce the presence of exotic trees/woody weeds in the nature space and replace with local native species.
- Maintain habitat that supports the presence of fungi species in nature spaces.
- Limit impacts associated with plant pathogens.

4.4.2 Management Recommendations

Flora Management

There has been significant improvement in the both the cover and condition of native flora in the lakebed, remnant bushland and wetland buffer due to the conservation and revegetation activities implemented under the previous Lake Claremont management plans. The majority of the nature space in the northern section is in very good condition. The following recommendation will enhance the existing high standard of flora and fungi management:

- Continue the weekly inspection of remnant bushland and revegetation sites to monitor the presence of weeds and other degrading processes.
- Continue the species selection for conservation and revegetation planting to include difficult to grow species, such as *Banksia attenuata*, *Banksia menziesii* and understory shrubs, to increase species diversity and restore the natural vegetation structure in nature spaces.
- Consider direct seeding for tertiary plant establishment within the remnant bushland and revegetation zone.
- Undertake vegetation surveys at five yearly intervals to document longitudinal change, including changes in species present, vegetation type and condition.
- Assess the Moreton Bay Figs (*Ficus macrophylla*) at the southern end and add to TOC Local Government significant trees register to acknowledge their cultural value.
- Add these trees to annual program of Significant Trees Inspections, arrange a preliminary inspection by a consultant arborist and perform recommended work (if required).

Regeneration and Revegetation

While revegetation activities at Lake Claremont are largely complete and have been very successful, there will be a need at various times in the future for further works to be carried out. Recommendations for future activities include:

- Continue to aim for maximum species diversity within nominated vegetation type/zones.
- Continue the species selection for conservation and revegetation planting to include difficult to grow species, such as *Banksia attenuata*, *Banksia menziesii* and understory shrubs, to increase species diversity and restore the natural vegetation structure in nature spaces.
- Source materials from NIASA-accredited nurseries/suppliers to minimise the potential for introducing disease or other plant pathogens into the nature space.
- While some authorities promote the use of local provenance seed for revegetation activities, the restricted area of the remnant bushland and restoration plantings that have been conducted mean that seed collection from within Lake Claremont is not a pre-requisite and seed collected within 50 km will maintain the indigenous biodiversity.
- Continue to give due consideration to the social impacts of revegetation activities, particularly in relation to views of the Lake by using the planting guide, see Figure 2.3 and 2.4.
- Revegetation activities continue in areas shown in the former Lake Claremont Parkland: Concept Plan 2010.

Weed Management

Weed management will be an ongoing requirement at the Lake Claremont, as is common in bushland and wetland nature spaces within the Perth metropolitan area. The following recommendations will enhance weed management:

- Continue to manage weeds as per the LCAC Weed Control Matrix and this management plan.

- Ensure implementation and techniques of weed control are appropriate to the nature and scale of the infestation.
- By mutual agreement of LCAC, TOC and FOLC, perform weed mapping as required (including a density rating) to assist with prioritising treatment.
- Liaise with managers from Scotch College to relocate the garden waste stockpile from its current location to minimise the introduction and spread of weeds from this area.
- Encourage and support the efforts of FOLC and other volunteers in hand weeding activities that support the LCAC Weed Control Matrix and TOC priorities.
- Given the limited impacts to wetland fauna, continue to use Glyphosate Biactive as the primary means of chemical weed control within the Lake Claremont .
- Other chemical control agents should be considered on an as needs basis, an example being Fusillade for the control of exotic grasses growing through local native shrubs and sedges.
- In accordance with statutory requirements and TOC's standard operating procedures, all chemical weed control must be in performed strict compliance with approvals and/or guidelines of the Australian Pesticide and Veterinary Medical Authority (APMVA) and Western Australian Department of Health.

Fungi Management

Fungi play a key nutrient-cycling role within an ecosystem. The perseverance of fungi at the Lake Claremont would be encouraged and enhanced by the following recommendations:

- Develop a system to capture and record incidental sightings of fungi.
- Structured surveying of fungi by the observation of fruiting bodies such as mushrooms, toadstools, and puffballs is an activity suited to volunteers and school groups.
- The Manager of Parks and Environment should be notified of suspected sightings of Australian Honey Fungus (*Armillaria luteobubalina*) to ensure the application of appropriate management action(s), such as the implementation of hygiene measures and/or the removal of tree stumps that may be harbour the fungus.

Fire Management

It is recommended that Town of Claremont implement the following risk management strategies required by the Department of Fire and Emergency Services Fire Pre-plan for Lake Claremont:

- Weed control.
- Monitoring fire fuel loads.
- Selectively removing dead branches and other material from nature spaces as required to reduce fire load without affecting fauna habitat.
- Maintaining firebreaks and protection buffers between nature spaces and properties.

4.5 Fauna Values

Support information for the recommendations contained in this section appears in Appendix 3: Fauna Values.

4.5.1 Management Aims and Objectives

Lake Claremont supports a diverse range of aquatic and terrestrial fauna. The fauna management aims of this plan include:

- Minimise negative impacts to native fauna, with particularly attention paid to avifauna and the *Chelodina colliei* (Southwestern or Narrow-breasted Snake-necked Turtle) populations.

- Continue to conserve, protect and restore a range of habitat types to support indigenous aquatic and terrestrial fauna.
- Work with Australian and State Government agencies, other western suburbs local governments, FOLC and other community groups to maintain and enhance the diversity of native fauna that utilises the Lake Claremont.

4.5.2 Management Recommendations

Fauna Management

Recommendations for fauna management include:

- Continue the quarterly surveys of terrestrial and waterbirds birds with support from community members.
- With high priority, survey the *Chelonian colliei* population in Lake Claremont.
- Within two years of this management plan being adopted, design and implement baseline surveys of other native vertebrate fauna (i.e. mammals, reptiles and amphibians) to determine what species are currently present.
- Undertake biennial surveys (as a minimum) of vertebrate fauna (i.e. mammals, reptiles and amphibians) to monitor population change over time due to factors such as restoration and revegetation of nature space.
- Monitor the presence of feral and pest fauna (e.g. Eastern Long-billed Corella, Feral Cats, Honey Bees, Red Foxes, Rabbits, Rainbow Lorikeets and Ravens) and undertake control measures when required following TOC policies and practices.
- Continue to monitor aquatic invertebrate fauna of the lake on at least a biennial basis as an indicator of wetland health.
- With high priority, prepare a TOC mosquito management plan utilising the Western Australian Department of Health template and guidelines.
- Monitor and manage mosquito and midge larvae in Lake Claremont in strict compliance with the Council approved mosquito management plan.
- Opportunities to educate and engage users, residents and school students can be maximised by utilising community members (Claremont's Citizen Scientists) in these fauna monitoring programs.
- Enforce the Dog Act to improve compliance in on lead areas.

Cat Management

Natural Area made the following recommendations for fauna management:

- Develop, implement and enforce a Cat Local Law within the Town of Claremont.
- Educate and inform the broader community regarding requirements of the *Cat Act 2011 (WA)*, including the potential for seizure of cats found free roaming.
- Inform the community that Rangers will seize cats under the provisions of the *Cat Act 2011 (WA)* commencing on a date nominated by the Town of Claremont.
- Include educational information on the TOC website to inform the broader community of the requirements and implementation of *Cat Act 2011 (WA)*.

5.0 Performance Objectives and Standards

5.1 Cultural and Recreational Values

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.1.1 Cultural Heritage						
Cultural Heritage	<ul style="list-style-type: none"> Continue to recognise the Aboriginal and European heritage values. Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. 	<ul style="list-style-type: none"> Aboriginal Heritage Act 1972 (WA) Heritage of Western Australia Act 1990 (WA) TOC Policy LV124 Retention of Heritage Places, Heritage Areas and Heritage Precincts TOC Town Planning Scheme 3 (TPS3) Heritage Schedule Update 2015 Lake Claremont Management Plan 2016-21 TOC Local Government [Heritage] Inventory 2014 TOC Local Government large tree Inventory 2014 	<ul style="list-style-type: none"> Cultural heritage management to recognise both Aboriginal and European values. 	Medium-High (2017-18)	<ul style="list-style-type: none"> Heritage management plan developed and approved for the Lake Claremont site. 	TOC Planning & Development
			<ul style="list-style-type: none"> Heritage features are included on interpretive signs and walk trail information markers. 	High (2016-17)	<ul style="list-style-type: none"> Style guide for interpretative signage completed Funds are allocated in 2016-17 Capital Works Budget Interpretative signage installed 	<ul style="list-style-type: none"> TOC People & Places TOC Infrastructure
			<ul style="list-style-type: none"> Requirement for Section 18 approval for Lake Claremont Parklands Management Plan 2016-21 checked and obtained from the Department of Aboriginal Affairs prior to implementation of any recommended actions. 	High (2016-17)	<ul style="list-style-type: none"> Consultation with Noongar representatives completed and documented. Minister for Aboriginal Affairs grants Section 18 approval prior to implementation of management plan. 	TOC Infrastructure
			<ul style="list-style-type: none"> Verify compliance with approval provisions of the <i>Aboriginal Heritage Act 1972</i> (WA) prior to any non-standard maintenance occurring. 	High (As Required)	<ul style="list-style-type: none"> Project specific Section 18 approvals obtained prior to work commencing. 	Relevant TOC Directorate
			<ul style="list-style-type: none"> Assess the avenue of Moreton Bay Figs (<i>Ficus macrophylla</i>) at the southern end and add to TOC Local Government large tree Inventory to acknowledge their significance. Add these trees to annual program of significant trees inspections arrange a preliminary inspection by a consultant arborist and perform recommended work (if required). 	Medium-High (2017-18)	<ul style="list-style-type: none"> Trees assessed for heritage value. If required, added to appropriate inventory. Trees managed as per consultants require. 	<ul style="list-style-type: none"> TOC Planning & Development TOC Planning & Development TOC Infrastructure
5.1.2 Tenure and Zoning						
Tenure and Zoning	<ul style="list-style-type: none"> Continue to provide for the ongoing protection of the seasonal wetland. 	<ul style="list-style-type: none"> Metropolitan Region Scheme TOC Town Planning Scheme 3 (TPS3) 	<ul style="list-style-type: none"> Change the zoning of Balluruk Bushland to Parks and Recreation under the MRS and Town of Claremont Town Planning Schemes for consistency with the broader Lake Claremont area. 	<ul style="list-style-type: none"> Medium-High (2017-18) 	<ul style="list-style-type: none"> Zoning change in MRS and TOC TPS3 	TOC Planning & Development
5.1.3 Impacts from Land Use						
Impacts from Land Use	<ul style="list-style-type: none"> Recognise that surrounding land uses have the potential to impact on the Lake Claremont. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 ANZECC Guidelines for fresh and marine water quality: Volume 1 	<ul style="list-style-type: none"> Maintain the current water quality and nutrient-load monitoring program. Provide an annual report on the water quality of the lake's surface waters to the Lake Claremont Advisory Committee and Council. 	<ul style="list-style-type: none"> High (Annually) 	<ul style="list-style-type: none"> Annual water testing of surface waters completed and recorded. LCAC and Council accept annual water quality reports. 	TOC Infrastructure

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
Impacts from Land Use	<ul style="list-style-type: none"> Recognise that surrounding land uses have the potential to impact on the Lake Claremont. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 ANZECC Guidelines for fresh and marine water quality: Volume 1 	<ul style="list-style-type: none"> That the Lake Claremont Advisory Committee to conduct an annual review the Scotch College Nutrient and Irrigation Management Plan. 	High (Annually)	<ul style="list-style-type: none"> Scotch College provide nutrient and irrigation management data to LCAC. LCAC accept report provided by Scotch College 	Scotch College in collaboration with TOC Infrastructure
		<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 Contaminated Sites Act 2003 (WA) Lake Claremont Management Plan 2016-21 ANZECC Guidelines for fresh and marine water quality: Volume 1 	<ul style="list-style-type: none"> Install the Henshaw drain infiltration basin with the highest priority. Maintain nutrient stripping basins within the Lake Claremont. 	High (2016-17)	<ul style="list-style-type: none"> Infiltration basin installed 	TOC Infrastructure
	<ul style="list-style-type: none"> Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. 	<ul style="list-style-type: none"> Metropolitan Region Scheme TOC Town Planning Scheme 3 (TPS3) TOC Local Laws and Policies 	<ul style="list-style-type: none"> Liaise with owners/land managers of surrounding properties to ensure appropriate management of activities on their land that could negatively affect the Lake Claremont. 	High (As Required)	<ul style="list-style-type: none"> Surrounding developments and activities do not negatively impact the site. 	TOC Planning & Development TOC Corporate & Governance
		<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 ANZECC Guidelines for fresh and marine water quality: Volume 1 	<ul style="list-style-type: none"> Continue to provide information to the general community regarding: <ul style="list-style-type: none"> How phosphate-based fertilisers can result in negative impacts within the lake. Problems with weedy plants and their potential for spread into the Lake Claremont natural areas. 	High (As Required)	<ul style="list-style-type: none"> Phosphate levels in the water body and sediments of Lake Claremont remain constant, at least. No invasive weed species establish in the site from surrounding areas. 	TOC People and Places TOC Infrastructure
5.1.4 Recreation Space Opportunities						
Recreation Space Opportunities	<ul style="list-style-type: none"> Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Activate and maintain mixed-use areas consistent with the principles of the revised 2010 Lake Claremont Parkland Concept Plan (Now the 2016 Concept Plan). 	High (2016-17)	<ul style="list-style-type: none"> LCAC recommended activation plan endorsed by Council. 	TOC Infrastructure
		<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 TOC Asset Management Plans 	<ul style="list-style-type: none"> Maintain separation for recreational activities to minimise conflicts between different user types. Undertake regular monitoring and maintenance of the area and installed infrastructure in accordance with TOC policies and procedures. 	High (Ongoing)	<ul style="list-style-type: none"> Complaints Design criteria detailed Documentation of decisions Monitoring and maintenance documents User and community surveys 	TOC Infrastructure
	<ul style="list-style-type: none"> Provide infrastructure as required that is consistent with usage of that area 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 Lake Claremont Parkland Concept Plan 2016 	<ul style="list-style-type: none"> Install additional leisure and recreation equipment such as barbeque and picnic areas, family friendly play facilities and other items like a single set of multipurpose goals, a single soccer goal and/or a netball hoop. 	Medium-High (2016-17)	<ul style="list-style-type: none"> Funds allocated in 2016-17 Capital Works Budget. Infrastructure implemented 	TOC Infrastructure
5.1.5 Dog Walking and Exercising						
Dog Walking and Exercise	<ul style="list-style-type: none"> Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. 	<ul style="list-style-type: none"> Dog Act 1976 (WA) and 2013 Regulations Lake Claremont Management Plan 2016-21 Dogs in Public Places LV127 	<ul style="list-style-type: none"> Continue to require dogs to be on-leash outside dog exercise areas. Ranger Services enforce requirements of <i>Dog Act 1976</i> (WA) and <i>Dog Regulations 2013</i> (WA). 	High (Ongoing)	<ul style="list-style-type: none"> Complaints relating to dogs Enforcement records No dogs off leash outside dog exercise areas Ranger reports 	TOC Corporate & Governance
			<ul style="list-style-type: none"> Enlarge the existing dog-exercise area to include the area south to Lakeway Street by modifying the TOC policy <i>Dogs in Public Places Policy LV127</i>. Enlarge the existing dog-prohibited zone out to the conservation fencing/pathway by modifying the TOC policy <i>Dogs in Public Places Policy LV127</i>. After the statutory period of advertisement, update and replace existing dog signage at Lake Claremont. After the statutory period of advertisement, install statutory signage for off lead dog exercise area. 	High (2016-17)	<ul style="list-style-type: none"> Modifications to LV127 advertised and implemented Complaints relating to dogs Enforcement records Ranger reports 	TOC Corporate & Governance

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.1.6 Infrastructure for Sport and Recreation						
Infrastructure for Sport and Recreation	<ul style="list-style-type: none"> Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with usage of that area. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Undertake regular maintenance inspections and initiate repairs or other corrective activities when required in accordance with the current TOC Asset Management Plan Conduct regular surveys to determine where users come from, what activities they engage in during their visit, and their level of satisfaction with the amenity. 	High (Ongoing)	<ul style="list-style-type: none"> Complaints Design criteria detailed Monitoring and maintenance documents User and community survey results 	TOC Infrastructure
			<ul style="list-style-type: none"> Provide signage to indicate the presence of the café and toilets within the golf course building and the presence of other key facilities such as exercise equipment and barbecues 	High (2016-17)	<ul style="list-style-type: none"> Key features identified. Directional signage installed. 	TOC Infrastructure
			<ul style="list-style-type: none"> Install additional parking facilities: <ul style="list-style-type: none"> at Stirling Road entrance for users only; and at bottom of Lakeway Street. 	High (2016-17)	<ul style="list-style-type: none"> Design criteria detailed Funds allocated in 2016-17 Capital Works Budget. Installation completed 	TOC Infrastructure
5.1.7 Access						
Access	<ul style="list-style-type: none"> Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Provide infrastructure as required that is consistent with usage of that area. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Enhance the path network with information about key features, such as the cultural, ecological and recreational values. 	High (2016-17)	<ul style="list-style-type: none"> Style guide for interpretative signage completed Funds are allocated in 2016-17 Capital Works Budget Interpretative signage installed 	TOC People and Places TOC Infrastructure
			<ul style="list-style-type: none"> Develop self-guided walks. 	High (2016-17)	<ul style="list-style-type: none"> Provision of walk paths Determine features to highlight at various locations Installation of signage Provision of information in an appropriate format for neighbouring community and users 	TOC People and Places TOC Infrastructure
5.1.8 Signage						
Signage	<ul style="list-style-type: none"> Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with usage of that area. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Install directional signage, particularly in the northern portion where a number of meandering tracks interconnect. Install signage to indicate the locations of key facilities, such as the café, toilets, exercise equipment, barbecue facilities and the dog exercise area. Review and update information signage at Lake Claremont. Information signage should inform users of the lake's health, the benefits of drying out seasonally and status as a Conservation Category Wetland, Bush Forever site and its Environmentally Sensitive Area designation. Information signage should complement self-guided walks. Action the recommendation of the 2010 Lake Claremont Management Plan that directional signage be installed at key locations (e.g. TOC Office, Train Station, Claremont on the Park) to inform residents and visitors of the location of Lake Claremont. Install notice boards to promote FOLC and TOC activities at the corner of Alfred and Davies Roads, the Cafe/Golf Club complex and at Stirling Road Park. 	High (2016-17)	<ul style="list-style-type: none"> Style guide for interpretative signage completed Number and location of signs documented Documentation of the review process Installation of signs to/from lake and public transport Lake Claremont values highlighted Signs inform and educate the wider community Messages are informative and easily interpretable Signage is resistant to graffiti Funds are allocated in 2016-17 Capital Works Budget 	TOC People and Places TOC Infrastructure

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.1.9 Fencing						
Fencing	<ul style="list-style-type: none"> Continue to provide for the ongoing protection of the seasonal wetland. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue to install and/or maintain conservation fencing to protect revegetation areas. 	High (Ongoing)	<ul style="list-style-type: none"> Length, type and location of fencing installed Inspection and maintenance activities Outcomes of flora and vegetation surveys 	TOC Infrastructure
5.1.10 Lake Views						
Lake Views	<ul style="list-style-type: none"> Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with usage of that area of the park. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Manage exotic vegetation in the wetland buffer at the northern end to improve the views that enhance the connection of users' with the waterbody of lake. 	High (As Required)	<ul style="list-style-type: none"> Weed management of seedlings and saplings and Council approved removal of exotic tree Viewing corridors to waterbody maintained 	TOC Infrastructure
5.1.11 Community Engagement and Communication						
Community Engagement and Communication	<ul style="list-style-type: none"> Continue to provide for the ongoing protection of the seasonal wetland. Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with usage of that area 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> TOC continues to support the activities of the Lake Claremont Advisory Committee. TOC continues to support and collaborate with the Friends of Lake Claremont. 	High (As Required)	<ul style="list-style-type: none"> Meeting minutes/documentation of discussions Minutes of LCAC meeting tabled with Council through OCM agenda. Works carried out by the FOLC community group FOLC-TOC relationship to implement 	TOC Infrastructure
			<ul style="list-style-type: none"> Investigate changing the use of the old shed in the north east from storage of lawn mowing equipment to use by the Friends of Lake Claremont for storage of their equipment and/or to provide a meeting location and focal point for FOLC's works at lake Claremont. When investigating the future of this shed, the old growth Paperbark tree resting on the shed receives appropriate consideration. 	Medium High (2017-18)	<ul style="list-style-type: none"> Meeting minutes/documentation of decisions Design criteria Quoting of construction activities Funds are allocated in 2017-18 Capital Works Budget Usage of shed by FOLC 	TOC Infrastructure
			<ul style="list-style-type: none"> Investigate the feasibility of establishing an appropriately scaled natural and cultural heritage centre near or on the location of the shed mentioned above. 	Medium-High (2017-18)	<ul style="list-style-type: none"> Meeting minutes/documentation of decisions Choice of appropriate location Design criteria Funds allocated in 2017-18 Capital Works Budget. Installation completed Tendering of construction activities Usage of centre by community groups, 	TOC Infrastructure TOC People and Places

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
Community Engagement and Communication (continued)	<ul style="list-style-type: none"> Continue to provide for the ongoing protection of the seasonal wetland. Recognise that the lake and its surrounds have high social, environmental and cultural values within the community. Manage the Lake Claremont as a mixed-use public/private open space, catering to a range of needs and values that may be conflicting without appropriate management. Provide infrastructure as required that is consistent with 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Creation of a five-year implementation plan for all actions recommended within this management plan, for clarity of the approved works and timing. 	High (2016-17)	<ul style="list-style-type: none"> Meeting minutes/documentation of decisions Council endorse LCAC recommended implementation plan 	TOC Infrastructure
			<ul style="list-style-type: none"> Creation of an annual operational plan to keep the Council and community informed and updated of activities occurring at site. 	High (Ongoing)	<ul style="list-style-type: none"> Meeting minutes/documentation of decisions Council endorse LCAC recommended operational plan 	TOC Infrastructure

5.2 Biophysical Values

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.2.1 Erosion Control						
Erosion Control	<ul style="list-style-type: none"> Maintain and enhance the integrity of the biophysical features through the TOC program of regular inspections. Maintain the lake as a seasonal wetland Target management aims highlighted in key sections of this management plan. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> TOC review and record erosion associated with uncontrolled pedestrian access on the steeper slopes below the Lakeway Estate that was noted in site assessments conducted by Natural Area. 	High (2016-17)	<ul style="list-style-type: none"> Inspection outcomes Area of erosion treated Erosion treatment methods Effectiveness of treatment Revegetation as required 	TOC Infrastructure
			<ul style="list-style-type: none"> Integrate checking for erosion into TOC routine inspection program. 	High (2016-17)		
			<ul style="list-style-type: none"> Inspect erosion susceptible locations after severe storm events. 	High (As Required)		
			<ul style="list-style-type: none"> Review and prevent uncontrolled access to erosion susceptible locations. 	Medium-High (2017-2018)		
			<ul style="list-style-type: none"> After review, prevent uncontrolled access to erosion susceptible locations. 	Medium-High (Ongoing)		
			<ul style="list-style-type: none"> Implement erosion mitigation measures such as: <ul style="list-style-type: none"> installing table drains to reduce amount and velocity of water travelling down steep slopes; revegetating areas with unstable perched soil using local native species; installing brushing (i.e. non-weedy cut or broken branches) on steep erosion susceptible slopes to assist with soil stabilisation; and/or installing or repairing rock footings and/or revetments where required. 	High (2016-17)		

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.2.2 Acid Sulphate Soils						
Acid Sulphate Soils	<ul style="list-style-type: none"> Maintain and enhance the integrity of the biophysical features through the TOC program of regular inspections. Maintain the lake as a seasonal wetland Target management aims highlighted in key sections of this management plan. 	<ul style="list-style-type: none"> Environmental Protection Act 1986 (WA) Contaminated Sites Act 2003 (WA) Department of Environment Regulation (DER) Guideline: Identification and investigation of acid sulfate soils and acidic landscapes. DER Guideline: Treatment and management of soil and water in acid sulfate soil landscapes Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> To minimise the potential for negative impacts from in situ acid sulphate soils: <ul style="list-style-type: none"> Minimise disturbance of sediments within the wetland basin. Monitor pH within the water body and use as an indicator of acid sulphate soil disturbance. 	High (Ongoing)	<ul style="list-style-type: none"> No change in pH levels of lake waterbody, sediments or surrounding soils. Acid sulphate soils (ASS) not disturbed without the development of ASS management plan. 	TOC Infrastructure
			<ul style="list-style-type: none"> To minimise the potential for negative impacts from disturbed acid sulphate soils: <ul style="list-style-type: none"> Undertake appropriate investigations prior to any works that are likely to disturb subsurface soils. If required, undertake appropriate testing for acid sulphate soil chemical indicators. If warranted by outcome of review or investigative testing, develop and implement an Acid Sulphate Soil Management Plan for the works. Monitor all major excavation to ensure early of disturbed acid sulphate material. 	High (As Required)		
5.2.3 Fire Management Strategies						
Fire Management Strategy	<ul style="list-style-type: none"> Maintain and enhance the integrity of the biophysical features through the TOC program of regular inspections. Target management aims highlighted in key sections of this management plan. 	<ul style="list-style-type: none"> Bushfire Act 1954 (WA) Department of Fire & Management Services (DEFS) Fire Management Plans Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue to consult and collaborate with the DEFS regarding the development of DEFS Fire Management Plans for the Lake Claremont. 	Medium-High (Annual)	<ul style="list-style-type: none"> Inspection outcomes DEFS Fire Management Plan Bushfire Threat Analyses Fire Fuel Load Assessments Tracks and control buffers maintained 	TOC Infrastructure
			<ul style="list-style-type: none"> Complete baseline bushfire threat analysis using the DEFS template, including an assessment of fire fuel loads. 	Medium-High (Autumn 2017)		
			<ul style="list-style-type: none"> Perform a bushfire threat analysis using the DEFS template, including an assessment of fire fuel loads, on a biennial basis. 	Low-Medium (Autumn 2019)		
			<ul style="list-style-type: none"> Perform a bushfire threat analysis using the DEFS template, including an assessment of fire fuel loads, on a biennial basis. 	Low (Autumn 2022)		
			<ul style="list-style-type: none"> Maintain access tracks and fire control buffers in accordance with the TOC maintenance schedule and DFES Fire Management Plans. 	High (As Required)		
5.3 Wetland Values						

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility	
5.3.1 Water Quality							
Water Quality	<ul style="list-style-type: none"> Maintain and enhance the water quality within Lake Claremont using reported baseline data (Simpson 2013 and 2014). Investigate deviations from the baseline values in an effort to identify causal factors and implement appropriate management strategies as required. Continue to recognise the conservation status of the wetland as a locally significant wetland. 	<ul style="list-style-type: none"> ANZECC water quality guidelines Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue existing program of water quality monitoring and reporting as the primary indicator of wetland health. If any sampled parameter indicates a potential issue with water quality, the Town of Claremont consider repeat sampling or an increased frequency of sampling to determine the cause and develop an appropriate management strategy. 	High (As Required)	<ul style="list-style-type: none"> LCAC endorsed annual reports tabled at OCM. Environmental water quality of the lake water body maintained or improved. 	TOC Infrastructure	
		<ul style="list-style-type: none"> Maintain and enhance the water quality within Lake Claremont using reported baseline data (Simpson 2013 and 2014). Investigate deviations from the baseline values in an effort to identify causal factors and implement appropriate management strategies as required. 	<ul style="list-style-type: none"> Contaminated Sites Act 2003 (WA) National Environment Protection (Assessment of Site Contamination) Measure 1999 (Aust) ANZECC water quality guidelines Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> With a high priority, develop a program for baseline sampling for metals and hydrocarbons to enable review of pollutant levels that may be entering from external sources. 	High (Summer 2017)	<ul style="list-style-type: none"> Baseline survey completed Biennial surveys completed LCAC endorsed sampling reports tabled at OCM Deviations from guideline and baseline values investigated Corrective and management actions 	TOC Infrastructure
				<ul style="list-style-type: none"> Perform biennial sampling for metals and hydrocarbons to enable review of pollutant levels that may be entering from external sources. 	Medium (Summer 2019)		
				<ul style="list-style-type: none"> Perform biennial sampling for metals and hydrocarbons to enable review of pollutant levels that may be entering from external sources. 	Low (Summer 2021)		
		<ul style="list-style-type: none"> Maintain and enhance the water quality within Lake Claremont using reported baseline data (Simpson 2013 and 2014). Continue to implement the recommendations of the WESROC Regional Strategy for Management of Stormwater (JDA 2002), particularly the installation of drainage swales that strip nutrients and pollutants prior to stormwater entering the lake. 	<ul style="list-style-type: none"> ANZECC water quality guidelines Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Install the Henshaw drain infiltration basin with the highest priority. 	High (ASAP)	<ul style="list-style-type: none"> Drain installed. Water quality maintained or enhanced 	TOC Infrastructure
				<ul style="list-style-type: none"> Maintain stormwater basins and sumps on an ongoing basis, ensuring their ongoing capacity to detain and treat stormwater in the longer term. 	Medium (As Required)	<ul style="list-style-type: none"> Inspection outcomes Maintenance records Water quality maintained or enhanced 	TOC Infrastructure
		<ul style="list-style-type: none"> Maintain and enhance the water quality within Lake Claremont using reported baseline data (Simpson 2013 and 2014). Continue to recognise the conservation status of the wetland as a locally significant wetland. 	<ul style="list-style-type: none"> ANZECC water quality guidelines Lake Claremont Management Plan 2016-21 Soctch College NIMP 	<ul style="list-style-type: none"> Nutrient and Irrigation Management Plans (NIMP) and annual reporting of leaf and soil nutrient levels, water extraction and water quality testing of groundwater bores by the lessee are required as a condition of leasing any recreation or sporting space with the Lake Claremont. 	High (As Required)		TOC Infrastructure
				<ul style="list-style-type: none"> Liaise with managers from Scotch College to obtain historical leaf and soil nutrient levels, water extraction and water quality testing of groundwater bores data under their NIMP. 	High (2016-17)	<ul style="list-style-type: none"> Data obtained from Scotch College Summary report tabled with LCAC 	TOC Infrastructure
				<ul style="list-style-type: none"> Establish annual reporting of Scotch College NIMP data to LCAC as per recommendation of 2010 Lake Claremont Management Plan. 	Medium-High (2017-18)	<ul style="list-style-type: none"> Data obtained from Scotch College Annual report tabled with LCAC 	

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.4 Flora Values						
5.4.1 Flora Management						
Flora Management	<ul style="list-style-type: none"> Maintain and enhance the condition of native vegetation and flora in the lake, remnant bushland and rehabilitated nature space. Minimise the presence of herbaceous weeds and exotic grasses through targeted chemical and manual weed control activities. Progressively reduce the presence of exotic trees/woody weeds in the nature space and replace with local native species. Limit impacts associated with plant pathogens. 	<ul style="list-style-type: none"> EPBC Act 1999 (Cwlth) Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) Wildlife Conservation Act 1950 (WA) WAPC Bushforver DER Environmentally Sensitive Area Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue the weekly inspection of remnant bushland and revegetation sites to monitor the presence of weeds and other degrading processes. Undertake baseline fungi and vegetation survey to document species present, vegetation type and condition. Undertake fungi and vegetation surveys at five yearly intervals to document longitudinal change, including changes in species present, vegetation type and condition. Broaden the species selection for conservation and revegetation planting to include difficult to grow species, such as <i>Banksia attenuata</i>, <i>Banksia menziesii</i> and understory shrubs, to increase species diversity and restore the natural vegetation structure in nature spaces. Consider direct seeding for tertiary plant establishment within the remnant bushland and revegetation zone. 	<p>High (Ongoing)</p> <p>Medium-High (2017-18)</p> <p>Low (2020-21)</p> <p>Medium (2018-19)</p> <p>Low-Medium (2019-20)</p>	<ul style="list-style-type: none"> Inspection outcomes Fungi and vegetation survey outcomes by target area, including development of species list completed Use of quadrats, transects and photo monitoring points to measure diversity and weed presence over time Survey outcomes incorporated in relevant management plan 	TOC Infrastructure
Flora Management	<ul style="list-style-type: none"> Ensure conservation, restoration and revegetation activities are consistent with the recreation elements the former Lake Claremont Parkland: Concept Plan and 2010 Lake Claremont Management Plan Manage the avenue of Moreton Bay Figs (<i>Ficus macrophylla</i>) at Stirling Road Park. 	<ul style="list-style-type: none"> Heritage of Western Australia Act 1990 (WA) TOC Policy LV124 Retention of Heritage Places, Heritage Areas and Heritage Precincts TOC Town Planning Scheme 3 (TPS3) Heritage Schedule Update 2015 Lake Claremont Management Plan 2016-21 TOC Local Government [Heritage] Inventory 2014 TOC Local Government large tree Inventory 2014 	<ul style="list-style-type: none"> Assess the Moreton Bay Figs (<i>Ficus macrophylla</i>) at the southern end and add to TOC Local Government significant trees register to acknowledge their cultural value. Add these trees to annual program of Significant Trees Inspections, arrange a preliminary inspection by a consultant arborist and perform recommended work (if required). 	High (2016-17)	<ul style="list-style-type: none"> Reports from consultant arborist Heritage assessment report Documentation of decisions Records of tree maintenance Listing on TOC Local Government [Heritage] Inventory and TOC Local Government large tree Inventory 	TOC Planning & Development TOC Infrastructure
5.4.2 Regeneration and Revegetation						
Regeneration and Revegetation	<ul style="list-style-type: none"> Maintain and enhance the condition of native vegetation and flora in the lake, remnant bushland and rehabilitated nature space. Ensure conservation, restoration and revegetation activities are consistent with the recreation elements the former Lake Claremont Parkland: Concept Plan and 2010 Lake Claremont Management Plan. Maintain habitat that supports the presence of fungi species in nature spaces. Limit impacts associated with plant pathogens. 	<ul style="list-style-type: none"> EPBC Act 1999 (Cwlth) Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) Wildlife Conservation Act 1950 (WA) WAPC Bushforver DER Environmentally Sensitive Area Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue to aim for maximum species diversity within nominated vegetation type/zones. Source materials from NIASA-accredited nurseries/suppliers to minimise the potential for introducing disease or other plant pathogens into the nature space of the park. Continue to give due consideration to the social impacts of revegetation activities, particularly in relation to views of the Lake by using the planting guide, see Figure 2.3 and 2.4. Revegetation activities continue in areas shown in the former Lake Claremont Parkland: Concept Plan 2010. 	High (Ongoing)	<ul style="list-style-type: none"> Area revegetated (i.e.: m², ha) Success criteria met (e.g.: 75% seedling survival after two years) Less than 5% weed presence, including priority or declared weeds Use of quadrats, transects and photo monitoring points to measure species diversity over time Consideration is given to the views of park users and nearby residents when planning and implementing revegetation works Certified source of tubestock/seed 	TOC Infrastructure

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
			<ul style="list-style-type: none"> ▪ Broaden the species selection for conservation and revegetation planting to include difficult to grow species, such as <i>Banksia attenuata</i>, <i>Banksia menziesii</i> and understory shrubs, to increase species diversity and restore the natural vegetation structure in nature spaces. ▪ While some authorities promote the use of local provenance seed for revegetation activities, the restricted area of the remnant bushland and restoration plantings that have been conducted mean that seed collection from within Lake Claremont Park is not a pre-requisite and seed collected within 50 km will maintain the indigenous biodiversity. 	Low-Medium (Opportunistic)		
5.4.3 Weed Management						
Weed Management	<ul style="list-style-type: none"> ▪ Maintain and enhance the condition of native vegetation and flora in the lake, remnant bushland and rehabilitated nature space. ▪ Minimise the presence of herbaceous weeds and exotic grasses through targeted chemical and manual weed control activities. ▪ Progressively reduce the presence of exotic trees/woody weeds in the nature space and replace with local native species. 	<ul style="list-style-type: none"> ▪ Health Act 1911 (WA) ▪ Health (Pesticides) Regulations 2011 (WA) ▪ Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> ▪ Continue to manage weeds as per the Lake Claremont Weed Control Matrix and this management plan ▪ Ensure implementation and techniques of weed control are appropriate to the nature and scale of the infestation. ▪ Encourage and support the efforts of FOLC and other volunteers in hand weeding activities that support the Lake Claremont Weed Control Matrix and TOC priorities. ▪ In accordance with statutory requirements and TOC's standard operating procedures, all chemical weed control must be in performed strict compliance with approvals and/or guidelines of the Australian Pesticide and Veterinary Medical Authority (APMVA) and Western Australian Department of Health. ▪ Other chemical control agents should be considered on an as needs basis, an example being Fusillade for the control of exotic grasses growing through local native shrubs and sedges. ▪ Given the limited impacts to wetland fauna, continue to use Glyphosate Biactive as the primary means of chemical weed control within the Lake Claremont. 	High (Ongoing)	<ul style="list-style-type: none"> ▪ Areas of weeds treated ▪ Effectiveness of weed control ▪ Areas treated (i.e.: m², ha) ▪ Success criteria achieved (e.g.: 90% kill or removal rate) ▪ Use of quadrats, transects and photo monitoring points to assess weed presence before and after treatment and over time ▪ Spray records from contractors 	TOC Infrastructure
			<ul style="list-style-type: none"> ▪ Liaise with managers from Scotch College to relocate the garden waste stockpile from its current location to minimise the introduction and spread of weeds from this area. 	High (2016-17)	<ul style="list-style-type: none"> ▪ Stockpile relocated 	TOC Infrastructure Scotch College
			<ul style="list-style-type: none"> ▪ By mutual agreement of LCAC, TOC and FOLC, perform weed mapping as required (including a density rating) to assist with prioritising treatment. 	Low-Medium (As Agreed)	<ul style="list-style-type: none"> ▪ Weed mapping implemented as required 	TOC Infrastructure Friends of Lake Claremont (FOLC)
5.4.4 Fungi Management						
Fungi Management	<ul style="list-style-type: none"> ▪ Maintain habitat that supports the presence of fungi species in nature spaces. 	<ul style="list-style-type: none"> ▪ Lake Claremont Management Plan 2016-21 ▪ Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> ▪ Develop a system to capture and record incidental sightings of fungi. ▪ Structured surveying of fungi by the observation of fruiting bodies such as mushrooms, toadstools, and puffballs is an activity suited to volunteers and school groups. ▪ The Manager of Parks and Environment should be notified of suspected sightings of Australian Honey Fungus (<i>Armillaria luteobubalina</i>) to ensure the application of appropriate management action(s), such as the implementation of hygiene measures and/or the removal of tree stumps that may be harbour the fungus. 	Medium-High (2017-18)	<ul style="list-style-type: none"> ▪ Report system for incident sightings implemented ▪ Survey completed ▪ Baseline fungi species list documented ▪ Report system for sightings implemented 	TOC Infrastructure
				High (2016-17)		

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
5.4.5 Fire Management						
Fire Management	<ul style="list-style-type: none"> Maintain and enhance the condition of native vegetation and flora in the lake, remnant bushland and rehabilitated nature space. Minimise the presence of herbaceous weeds and exotic grasses through targeted chemical and manual weed control activities. Maintain habitat that supports the presence of fungi species in nature spaces. 	<ul style="list-style-type: none"> Bushfire Act 1954 (WA) Department of Fire & Management Services (DEFS) Fire Management Plans Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Claremont implement the following risk management strategies required by the Department of Fire and Emergency Services Fire Pre-plan for Lake Claremont: <ul style="list-style-type: none"> Weed control. Monitoring fire fuel loads. Selectively removing dead branches and other material from nature spaces as required to reduce fire load without affecting fauna habitat. Maintaining firebreaks and protection buffers between nature spaces and properties. 	High (On Going)	<ul style="list-style-type: none"> Documentation associated with planning Installation of infrastructure 	TOC Infrastructure
5.5 Fauna Values						
5.5.1 Fauna Management						
Fauna Management	<ul style="list-style-type: none"> Minimise negative impacts to native fauna, with particularly attention paid to avifauna and the <i>Chelodion colliei</i> (Southwestern or Narrow-breasted Snake-necked Turtle) populations. Continue to conserve, protect and restore a range of habitat types to support indigenous aquatic and terrestrial fauna. Work with Australian and State Government agencies, other western suburbs local governments, FOLC and other community groups to maintain and enhance the diversity of native fauna that utilises the Lake Claremont. 	<ul style="list-style-type: none"> Wildlife Conservation Act 1950 (WA) Environment Protection and Biodiversity Conservation Act 1999 (Cwlth) Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Continue the quarterly surveys of terrestrial and waterbirds birds with support from community members. Enforce the Dog Act to improve compliance in on lead areas. 	High (On Going)	<ul style="list-style-type: none"> Bird surveys completed 	TOC Infrastructure
			<ul style="list-style-type: none"> With high priority, survey the <i>Chelonian colliei</i> population in Lake Claremont. 	High (On Going)	<ul style="list-style-type: none"> Ranger reports Complaints relating to dogs Enforcement records 	TOC Corporate and Governance
			<ul style="list-style-type: none"> Biennial follow up survey of <i>Chelonian colliei</i> population in Lake Claremont. 	Medium (2018-19)	<ul style="list-style-type: none"> Turtle population study documented Baseline fauna species list, updated over time as further surveys are carried out. 	TOC Infrastructure
			<ul style="list-style-type: none"> Within two years of this management plan being adopted, design and implement baseline surveys of other native vertebrate fauna (i.e. mammals, reptiles and amphibians) to determine what species are currently present. 	Medium (2018-19)	<ul style="list-style-type: none"> Results of biennial surveys Continued presence and return of previously locally extinct diversity in aquatic and dryland species 	
			<ul style="list-style-type: none"> Monitor the presence of feral and pest fauna (e.g. Eastern Long-billed Corella, Feral Cats, Honey Bees, Red Foxes, Rabbits, Rainbow Lorikeets and Ravens) and undertake control measures when required following TOC policies and practices. 	Medium (2018-19)	<ul style="list-style-type: none"> Surveys of feral and pest animal populations documented 	
			<ul style="list-style-type: none"> Undertake biennial surveys (as a minimum) of vertebrate fauna (i.e. mammals, reptiles and amphibians) to monitor population change over time due to factors such as restoration and revegetation of nature space. 	Low (2020-21)		
			<ul style="list-style-type: none"> Continue to monitor aquatic invertebrate fauna of the lake on at least a biennial basis as an indicator of wetland health. 	High (Biennially)		
	<ul style="list-style-type: none"> Minimise negative impacts to native fauna. Continue to conserve, protect and restore a range of habitat types to support indigenous aquatic and terrestrial fauna. Work with Australian and State Government agencies, other western suburbs local governments, FOLC and other community groups to maintain and enhance the diversity of native fauna that utilises the Lake Claremont. 	<ul style="list-style-type: none"> Health Act 1911 (WA) WA Health Department Guidance Notes WA Health Department Management Plan template Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> With high priority, prepare a TOC mosquito management plan utilising the Western Australian Department of Health template and guidelines. 	High (Winter 2016)	<ul style="list-style-type: none"> Plan documented Monitoring records Treatment records (if required) 	TOC Corporate & Governance
			<ul style="list-style-type: none"> Monitor and manage mosquito and midge larvae in Lake Claremont in strict compliance with the Council approved mosquito management plan. 	High (On Ongoing)		

Management Category	Objective	Standard	Management Action	Priority	Measurement Criteria	Responsibility
	<ul style="list-style-type: none"> Work with ... FOLC and other community groups to maintain and enhance the diversity of native fauna that utilises the Lake Claremont. 	<ul style="list-style-type: none"> Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Opportunities to educate and engage users, residents and school students can be maximised by utilising community members (Claremont's Citizen Scientists) in these fauna monitoring programs. 	Medium (Opportunistic)	<ul style="list-style-type: none"> Media and event promotion 	<ul style="list-style-type: none"> TOC Infrastructure TOC People & Places
5.5.2 Cat Management						
	<ul style="list-style-type: none"> Minimise negative impacts to native fauna, with particularly attention paid to avifauna and the <i>Chelodion colliei</i> (Southwestern or Narrow-breasted Snake-necked Turtle) populations. Continue to conserve, protect and restore a range of habitat types to support indigenous aquatic and terrestrial fauna. Work with Australian and State Government agencies, other western suburbs local governments, FOLC and other community groups to maintain and enhance the diversity of native fauna that utilises the Lake Claremont. 	<ul style="list-style-type: none"> Cat Act 2011 (WA) Lake Claremont Management Plan 2016-21 	<ul style="list-style-type: none"> Develop, implement and enforce a Cat Local Law or Policy within the Town of Claremont. Educate and inform the broader community regarding requirements of the <i>Cat Act 2011</i> (WA), including the potential for seizure of cats found free roaming. Inform the community that Rangers will seize cats under the provisions of the <i>Cat Act 2011</i> (WA) commencing on a date nominated by the Town of Claremont. Include educational information on the TOC website to inform the broader community of the requirements and implementation of <i>Cat Act 2011</i> (WA). 	High (2016-17)	<ul style="list-style-type: none"> Development of the Town of Claremont Cat Local Law Education process associated with the announcing of the local law Inclusion and maintaining of information on the Town website Cat predated wildlife Ranger reports Complaints relating to feral and free-roaming cats Enforcement records 	<ul style="list-style-type: none"> TOC Corporate & Governance

6.0 Review of Management Recommendations from 2010 Management Plan

The information detailed in this section is the outcomes of Natural Area's review of recommendations from the 2010 Management Plan. Natural Area concluded that many recommendations had been completed, with some that are ongoing (e.g.: weed control) and a small number that have not been completed. Natural Area's comments on the status of each appear below. The final column provides a reference to topics in the Lake Claremont Management Plan 2016-2021 with cross referencing of documents updated by TOC.

2010 Recommendation	2014 Status	2015 Management Reference
Surrounding Land Use		
Groundwater Management		
1 The Town of Claremont should employ a suitable consultant to investigate and report on the nature and extent of groundwater flow and contamination from the refuse disposal site.	Complete. Carried out by WESROC through a stormwater study in 2002 carried out by JDA; information included in the Perth Groundwater Atlas; water quality testing indicates no contamination from the refuse disposal site. No further studies required.	No further action required as a review is currently underway
2 Council should consult with the Department of Environment and Conservation to develop a suitable ground water management strategy in the light of potential saltwater intrusion.	<p>Conductivity results suggest a slight upward trend, which could be an indicator of salt-water intrusion. However, other water quality indicators such as invertebrates indicate the wetland is still fresh. Continued monitoring suggested.</p> <p>The Town of Claremont produces a groundwater use report; however, there is no monitoring of other locations such as school and private bores. As groundwater use is not isolated to a single location, a review of bore use within the broader locale could be investigated in association with the Department of Water, with a view to other users having similar plans and monitoring requirements.</p>	Appendix 2 Section 2.2.5
Nutrient and Irrigation Management		
3 Ensure that fertiliser and irrigation use is minimised on lands surrounding Lake Claremont. Seek appropriate professional advice on the minimal quantities of fertiliser and irrigation necessary to maintain parks and ovals in an acceptable condition. Research turf species suited to low fertiliser and irrigation. Specifically:	<p>Complete. Town of Claremont is a member of the ICLEI and Department of Water Waterwise Council Program. Irrigation Management Plan developed and implemented. Nutrient testing carried out to determine appropriate levels of fertiliser on turfed areas, and those used are phosphate free.</p> <p>The Town of Claremont is also a participant in a UWA turf study to investigate the suitability of turf species and soil amendments to minimise water and fertiliser use.</p>	No additional action required
(i) That the Town of Claremont prepare a nutrient and irrigation management plan for Cresswell Oval and Stirling Road Park. These plans need to ensure that fertiliser and irrigation use is minimised.	Fertiliser application and irrigation volumes are monitored and applied at low rates to minimise grass growth and thus reduce the need for mowing.	NIMP required
(ii) If the Lake Claremont Golf Course is to remain as a golf course or contain park, then a nutrient and irrigation management plan should be prepared to ensure that fertiliser and irrigation use is minimised in this area.	The golf course has been reduced to a par 3 course, with significant areas returned to nature or recreation space. Recreation space is covered by irrigation management and nutrient testing to minimise and target fertiliser application.	NIMP required
(iii) That Scotch College prepare a nutrient and irrigation management plan for the school grounds, in particular the ovals. Once in place, the plan should be regularly audited by Council.	Scotch College has prepared a nutrient and irrigation management plan, however it is not audited by Council. It is suggested that an annual report is a more appropriate method of Council confirming implementation by the College.	Appendix 2: Section 2.5.1
4 There should be no additional direct discharge of surface water into the lake via any new drainage network.	<p>Nutrient stripping basins on all drains entering Lake Claremont, including one from Scotch College. The Town of Claremont no longer installs piped networks, with infiltration in source areas seen as a more appropriate management strategy.</p> <p>It is suggested that any changes to the Lake and its surrounds are regularly monitored that could result in direct discharge to the lake. This includes various practices at Scotch College associated with parking, storage of equipment and garden waste, for example.</p>	Appendix 2: Section 2.0
5 The Town of Claremont should ensure that all future	Requirement included as a condition for planning approvals.	Ongoing

2010 Recommendation	2014 Status	2015 Management Reference
developments within the Lake Claremont catchment area retain all stormwater on site.		
6 The Town of Claremont should investigate the construction of vegetated wetlands or other appropriate nutrient and sediment stripping devices on the relevant drain(s) which empty into Lake Claremont, using the results of the water quality monitoring to identify priority sites.	Largely complete – refer also Section 6.4. Nutrient stripping basins and living streams created for drains entering the lake; with the swale for Henshaw currently being designed by Landcorp. If required, other nutrient stripping basins or swales will be constructed on an as needs basis.	Henshaw Drain needs to be modified so that stormwater infiltrates in to the lake and superficial aquifer via a nutrient stripping vegetated swale.
Conservation and Recreation Zoning		
7 Establish clear delineation of Lake Claremont into conservation and recreation zones to achieve the following outcomes:	In progress – Parkland Concept Plan developed in 2010, continues to be implemented, 2014 management plan consistent with the concept plan.	See Figure 7.7.
(i) Both upland and wetland communities are represented in the conservation area.	Complete.	No further action required
(ii) Restricted public access within the conservation area with no access to open water.	Fencing and signage installed around lake bank buffer area indicating no entry, and dogs prohibited from entering the lake bed.	Ongoing education required
(iii) Provision of appropriate infrastructure in the conservation area to address path erosion issues. (i.e. boardwalk construction, semi-permeable path materials, moving the lake path and fence west with agreement from Scotch College).	Complete. Paths in good repair, appropriate boardwalk construction, fence installed between Lake Claremont and Scotch College. Suggested that the fence is adapted for turtle access.	Subject to regular inspection of assets and infrastructure Sections 4.0 and 5.0 of this plan.
(iv) The conservation area is a "Dogs on-leash" only zone	Complete. Detailed in Parkland Concept Plan.	Sections 2.1.2 and 4.1 of this plan.
(v) The recreation area is restricted to areas of existing turf around the perimeter of the reserve.	Complete. Detailed in Parkland Concept Plan.	No further action required
(vi) Any existing exotic species (i.e. Fig trees) are confined to the recreation area. If Fig trees are removed it should be through a staged process in conjunction with replacement with appropriate native species.	In progress. Priorities for removal of exotic species identified by the Town of Claremont, with removal carried out in a manner that minimises the potential for other impacts, such as erosion. Removal also considers the establishment and maturing of revegetation species.	Appendix 2 Flora and Vegetation Values, Section 1.5 Weeds
(vii) Provision of appropriate infrastructure within the recreation area (i.e. picnic areas, cycle paths, dog exercise areas). Provision of modern picnic facilities in suitable locations in John and Jean Mulder Park and Stirling Road Park.	Complete. This plan recommends the consideration of some further infrastructure, such as barbecues and picnic tables in the vicinity of active recreational areas. Toilets are also recommended.	Sections 2.0 and 4.1 of this plan.
(viii) Review the provision of additional car parking facilities and signage to facilitate access from public transport.	Incomplete. Parking in vicinity of Stirling Road often used as an overflow parking area by those visiting Scotch College.	Sections 4.0 and 5.0 of this plan.
8 That the north west area of the reserve below the former drive-in theatre site be reserved as a conservation and wildlife observation zone. The only public facilities to be provided in this area should be an unobtrusive path.	Complete.	Further signage to advise users of the conservation value.
Lakeway Drive-in Site		
9 Prior to the former Lakeway Drive-in site being developed, the Town of Claremont make a stated requirement on the Certificate of Title (s) to ensure;	Complete. Planning requirements detailed on Town of Claremont Website: http://www.claremont.wa.gov.au/Libraries/ContentDocs/Lakeway_DesignGuidelines_amended_august09.sflb.ashx	No further action required
(i) That the existing topography of the land is generally retained, that is, the land falls to the north west and all storm water is disposed of in a suitably designed sump located in the north west corner of the site.	Complete. Considered during subdivision process and implementation of 2007 revegetation plan.	No further action required
(ii) Retention of the existing vegetation where possible. In particular ensure no felling of trees for views.	Complete.	No further action required

	2010 Recommendation	2014 Status	2015 Management Reference
(iii)	Impose a fencing requirement to restrict access through the regenerating bushland.	Fencing installed and pathways provided.	Ongoing education required
(iv)	Preferential use of local and Western Australian plant species in the landscaping of the Lakeway Drive-in site. The use of environmental or potential environmental weed species and deciduous trees is avoided.	In progress. Revegetation list developed from appropriate sources, staged removal of exotic species being carried out, weed control strategies continue to be implemented.	Appendix 2: Section 1.6
10	That council in conjunction with the developer undertake an environmental education program for residents including the following:		
(i)	The consequences of excessive water and fertiliser use	Carried out through ICLEI/Waterwise Council Programs	Ongoing
(ii)	The impact of dumping garden waste in the reserve	Carried out through various WESROC programs, and Keep Australia Beautiful events.	Ongoing
(iii)	Appropriate local and Western Australian plant species for use in gardens and landscaping	Complete. Carried out through various WESROC programs, including the native plant subsidy scheme.	Ongoing
(iv)	Information on environmental weeds and their impact on natural areas	Information provided on Friends of Lake Claremont website	Ongoing
11	That Council ensure that appropriate dense vegetation is provided on the southern and eastern embankments of the Drive-in site to prevent erosion and provide a buffer to the development.	Revegetation activities very successful in providing dense buffer areas.	Ongoing maintenance of revegetation – Appendix 2
Lake Claremont Golf Course			
12	To be completed following recommendations from the Golf Course Stakeholder Reference Group.	In progress. The golf course is now a 9-hole course, with consideration of continued operation in the future current.	Section 2.2 of this plan.
Water Quality and Quantity			
13	That the Town of Claremont should institute a water quality monitoring program to measure both the lake health and nutrient inputs. Samples of water should be taken regularly (e.g. monthly, bimonthly or quarterly) to provide an ongoing record of nutrient concentrations and to identify hotspots. Monitoring should include sites located within drains to identify nutrients and contaminants entering from surrounding land uses (i.e. stormwater drains, refuse site). Sampling should also occur within Lake Claremont itself to monitor its health over time.	Ongoing. Results available, program will be continued.	Appendix 1 Section 2.2
14	Council should implement a range of strategies to improve water quality in Lake Claremont. Council should continue to seek professional advice on means to improve water quality in the lake.	Nutrient stripping basins have been installed at various locations around the lake, and water quality monitoring results show that improvement has occurred over time.	Appendix 1 Section 2.2
15	Retain the lake's natural water fluctuations (i.e. Lake Claremont to be managed as a seasonal wetland). The use of bore water to maintain water levels in the lake should not be considered (except under exceptional circumstances and not until the sources of significant water recharge of the lake has been investigated).	The lake will continue to be managed as a seasonal wetland. In support of this decision, the Town of Claremont bore water extraction licence precludes the use of groundwater to maintain water levels within the lake.	This plan and Appendix 1
Acid Sulphate Soils			
16	Conduct an Acid Sulphate Soils / Potential Acid Sulphate Soils assessment to ground-truth the current risk maps produced by the Department of Environment, as Lake Claremont falls in an area at "high risk of acid sulphate	Complete. Soil assessment carried out as part of data collection for SLIP Portal. No excavation will occur below groundwater level without core sampling to check for actual or potential acid sulphate soils prior to disturbance being undertaken.	Appendix 1: Section 1.6.2

2010 Recommendation	2014 Status	2015 Management Reference
<i>soils or potential acid sulphate soils</i> ". This should be completed before any earthworks or disturbance occurs in or around the lake.		
Fauna		
17 That the management of the lake be compatible with the conservation of flora and fauna, in particular, to maintain or enhance its value as a water bird refuge.	Complete. The wetland and bushland nature spaces have the ability to support a range of terrestrial and aquatic flora and fauna, with birds being particularly diverse.	Appendix 3
18 That the lake continue to be managed as a shallow drying wetland since this increases productivity and variety of bird habitat.	Ongoing. Range of habitats currently available with varying water depths.	Appendix 3
19 That non-vegetated areas of open water (which may be subject to seasonal drying) are retained to provide habitat for fauna.	Ongoing. Range of habitats currently available with varying water depths.	Appendix 3
20 That the vegetation (and drainage) rehabilitation programs should be designed to minimise nuisance insects and improve the lake habitat for water birds, terrestrial birds and any remaining terrestrial and aquatic fauna (i.e. tortoises). This involves staged weed removal coupled with adequate revegetation to provide protection for fauna from predators.	Complete. Rehabilitation programs have resulted in improved water quality and nuisance insect issues are kept to a minimum. A range of habitats for water and terrestrial birds has been provided. Populations of the Oblong Turtle remain at the lake.	Appendix 1, 2 and 3
21 That users of the reserve be discouraged from allowing pets to run free in the vicinity of the lake. Signs should be erected with a warning that offenders will be issued an infringement notice. The reason for the restriction should also be shown on the signs and conveyed by a public education program.	Ongoing. Signs are present throughout the area; however, there are members of the public that still allow their pets to roam free. The Town of Claremont Dog Law indicates that the Lake Claremont water body is a 'no-go' zone.	Section 2.1.2 (This document) Appendix 3: Section 1.2.2
22 That there be ongoing monitoring of mosquito and midge larvae at the relevant time of the year to ensure densities remain below the threshold where they become a nuisance to residents. Provide residents with information on mosquitoes and midges and ways to reduce their breeding.	As required. Mosquitoes and midges are not a major issue associated with the lake due to its improved water quality and seasonal nature. Supported by invertebrate monitoring data provided by Murdoch University.	Appendix 3: Section 1.5
23 Monitor feral animals (in particular foxes) and implement control programs as required.	Ongoing. Control carried out through WESROC.	Appendix 3: Section 1.2.4
Vegetation		
24 That the Town of Claremont implement policies to protect and maintain the local indigenous plant gene pool and the natural seed source in the reserve where possible.	The site has been revegetated with species that would have occurred at the site some years ago, but the gene pool cannot be described as being locally indigenous. Given the size of the revegetated area and lack of connecting vegetation corridors, the ability to ensure local provenance seed is very limited.	Continue to follow Tree preservation policy. Seed will be sourced from nearby bushland where possible for revegetation projects at the site.
25 That the drowned paperback stumps in the lake be retained to provide roosting opportunities for water birds in the vicinity.	Complete.	No further action required
26 That the Town of Claremont implement and regularly review a strategic rehabilitation program with specialist advice that will achieve the following objectives:		
(i) Prioritised, staged removal of exotic terrestrial plant species around the lake, particularly weeds including Japanese Pepper, Figs, Giant Reed, Weeping and Chilean Willows and grasses including Couch, Buffalo and Kikuyu.	Ongoing. Removal of exotic trees is being carried out on a staged basis.	Appendix 2: Section 1.5.1
(ii) Prioritised, staged removal of exotic terrestrial plant	Ongoing. Weed control is an ongoing issue.	Appendix 2: Section 1.5

2010 Recommendation	2014 Status	2015 Management Reference
species within the north west portion of the reserve, particularly weeds such as Perennial Veldt Grass, Geraldton Carnation Weed, Castor Oil, Blackberry Nightshade, Lupins, <i>Chasmanthe</i> .		
(iii) Staged removal of the Bulrush within Lake Claremont in conjunction with the establishment of indigenous emergent aquatic vegetation to replace it.	Complete. Range of native wetland species established.	No further action required
(iv) Revegetate the lake edges to create a 10 metre buffer of fringing wetland vegetation.	Revegetation activities very successful.	Annual planting program is improving the buffer areas.
(v) Revegetation of the lake fringes and the surrounding areas with wetland and dryland species that are consistent with the natural flora of the area.	Ongoing. Revegetation of area to the east of the lake to be carried out	Appendix 2
(vi) Revegetation of the northwest woodland with appropriate dryland species.	Complete. Revegetation activities very successful.	Ongoing maintenance
(vii) Shading out Bulrush, reducing the lake temperature over the summer and reducing the midge problem by planting species of <i>Melaleuca</i> on the edge or in the shallows along the eastern edge of the lake.	Complete. Significant stands of Bulrush have been progressively removed and replaced with native wetland species. Midges have not been an issue at the lake for a number of years.	No further action required
27 Investigate the potential for a band of emergent aquatic vegetation along the margins of the old refuse disposal site face to intercept any contaminants that may be leaching from the site.	Complete. Revegetation carried out along eastern boundary of the lake.	No further action required
28 Council should conduct the Perth Biodiversity Project Natural Area Initial Assessment to identify if the remnant Tuart woodland on and adjacent to the Drive-in site is a Locally Significant Natural Area in accord with the Local Government Biodiversity Planning Guidelines.	Complete. Lake Claremont meets a number of criteria to be considered a locally significant natural area, and is shown as such on Figure 4 of the Perth Biodiversity Local Government Biodiversity Planning Guidelines. The Tuart Woodland can also be considered to be a locally significant natural area as it is the only woodland of that type within the Town of Claremont.	No further action required
29 Council should introduce a Landscape Protection Zone into the Town Planning Scheme to encourage the conservation of urban bushland on private land within a redeveloped Drive-in site.	Not applicable. Land was cleared for the development, with 30% of site retained for public open space and bushland.	No further action required
30 That Scotch College be requested to implement a revegetation program in its lands abutting the lake with advice from the Town of Claremont.	Incomplete. Revegetation program commenced, but more to do; removal of garden waste to the north of their site will also need to be undertaken.	Appendix 2: Section 1.5.3
Fire		
31 That the Town of Claremont rationalise the existing firebreaks and ensure that the firebreaks provided are adequate.	Assessed by Department of Fire and Emergency Services, and emergency response plan prepared.	Monitor
Environmental Education		
32 That appropriate aesthetically designed signs be erected in the reserve including:		
(i) "Nature Conservation" Signs at each entry to the reserve advising of the physical and biological properties of the reserve.	Incomplete. Request for funding was not supported at the time, however budget has now been allocated for signage.	Section 2.5 of this plan.
(ii) Interpretive signage throughout the reserve to enhance visitor experience and appreciation of the historical, environmental, indigenous, cultural and social significance of the area.	Incomplete. Request for funding was not supported at the time, however budget has now been allocated for signage.	Section 2.5 of this plan.
(iii) Rehabilitation signs maintained where revegetation of the indigenous vegetation is being undertaken.	Revegetation is well established and very successful; current need for signage in these areas is limited.	Ongoing maintenance

	2010 Recommendation	2014 Status	2015 Management Reference
(iv)	Signs detailing the restriction on the use of off road vehicles and allowing dogs on the reserve without a lead.	Complete. A number of signs located throughout the site.	Ongoing maintenance
33	That community awareness of the environmental issues relating to Lake Claremont is increased by use of resources such as:		
(i)	Information to be compiled / prepared to inform the general public on the importance of Lake Claremont (including flora and fauna, biodiversity), local issues that have an adverse affect on the lake.	Ongoing. Information available on Friends of Lake Claremont sign at the Lake, as well as on the Friends of Lake Claremont and Town websites.	Management Plan and Appendices
(ii)	Environmental awareness raising workshops (e.g. Living Smart, Great Gardens, Phosphorus Action Group).	Ongoing. Information is provided in the Town of Claremont newsletter, 'Town Talk', along with the Friends of Lake Claremont and Town websites.	Section 3.0 of this plan.
(iii)	Support the Water Corporation Waterwise Campaign.	Ongoing. The Town of Claremont is a member of the ICLEI/Department of Water/Water Corporation Waterwise Council program.	Appendix 1: Sections 2.7 and 2.8
(iv)	Support the Waterwise Schools Program.	As above	As above
(v)	That local schools are involved in Lake Claremont on-ground activities.	Ongoing. Students from Scotch College and Christ Church Grammar School have been involved with the Year 10 Community Service Program at the lake since 2009. Local schools have also been involved with annual winter planting programs.	Section 3.2 of this plan.
(vi)	Investigate opportunities to use the Lake Claremont Golf Course building for static awareness raising activities.	Incomplete.	Sections 2.2 and 3.3 of this plan.
34	That the Friends of Lake Claremont should be maintained with ongoing support from the Town of Claremont. Links are developed between the Friends of Lake Claremont and other Friends Groups.	The Friends of Lake Claremont is now a financially independent not for profit organisation.	Section 3.2 of this plan.
35	Raise general community awareness of the activities undertaken by the Town of Claremont and the Friends of Lake Claremont to improve the lake and its surrounds.	Ongoing. Details of activities included on the Friends of Lake Claremont website and the Town of Claremont website (Lake Claremont page).	Section 3.0 of this plan.
36	That as part of the environmental education programme, the Town of Claremont consider a change of name of the area to include an appropriate aboriginal name.	Incomplete.	Internal decision by Town of Claremont, not referred to in the management plan
Implementation			
37	That the Town of Claremont be the responsible authority for the implementation of this policy. A Lake Claremont Committee, appointed by the Council, monitor and oversee the implementation of the policy. The Committee consists of two Claremont Town Councillors, one Nedlands City Councillor, the Mayor, one Scotch College Representative and six community members who have an interest in the well being of the lake. The Committee meet bimonthly and report to Council. The Committee should present an annual report to the Council detailing progress of the policy.	Ongoing. Committee still in operation.	Section 3.1 of this plan.
38	Duties of the Lake Claremont Committee shall be to provide advice to Council on matters relating to:	Ongoing	Section 3.1 of this plan.
(i)	The care and maintenance of Lake Claremont and its immediate surrounds	Ongoing	Section 3.1 of this plan and appendices.
(ii)	The rehabilitation of Lake Claremont and its environs	Ongoing	Section 3.1 of this plan and appendices
(iii)	Plans for amenities proposed to Lake Claremont and its immediate environs	Ongoing	Sections 4.0 and 5.0 of this plan.
(iv)	Proposals for the Lake from the Friends Group	Ongoing	Section 3.2 of this plan.

7.0 Geographical Information and Mapping



Figure 7.1: Site location of Lake Claremont

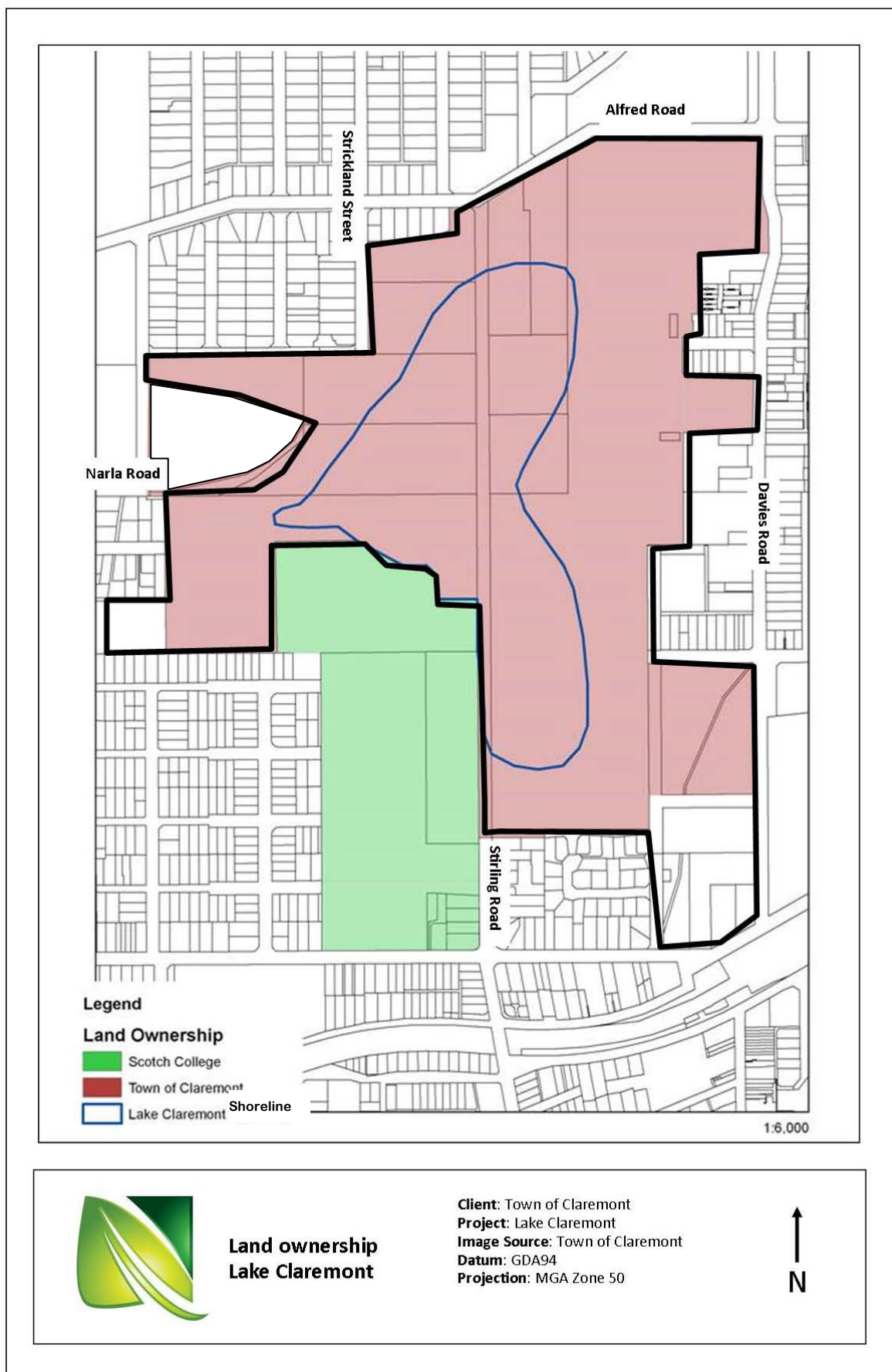


Figure 7.2: Land ownership at Lake Claremont

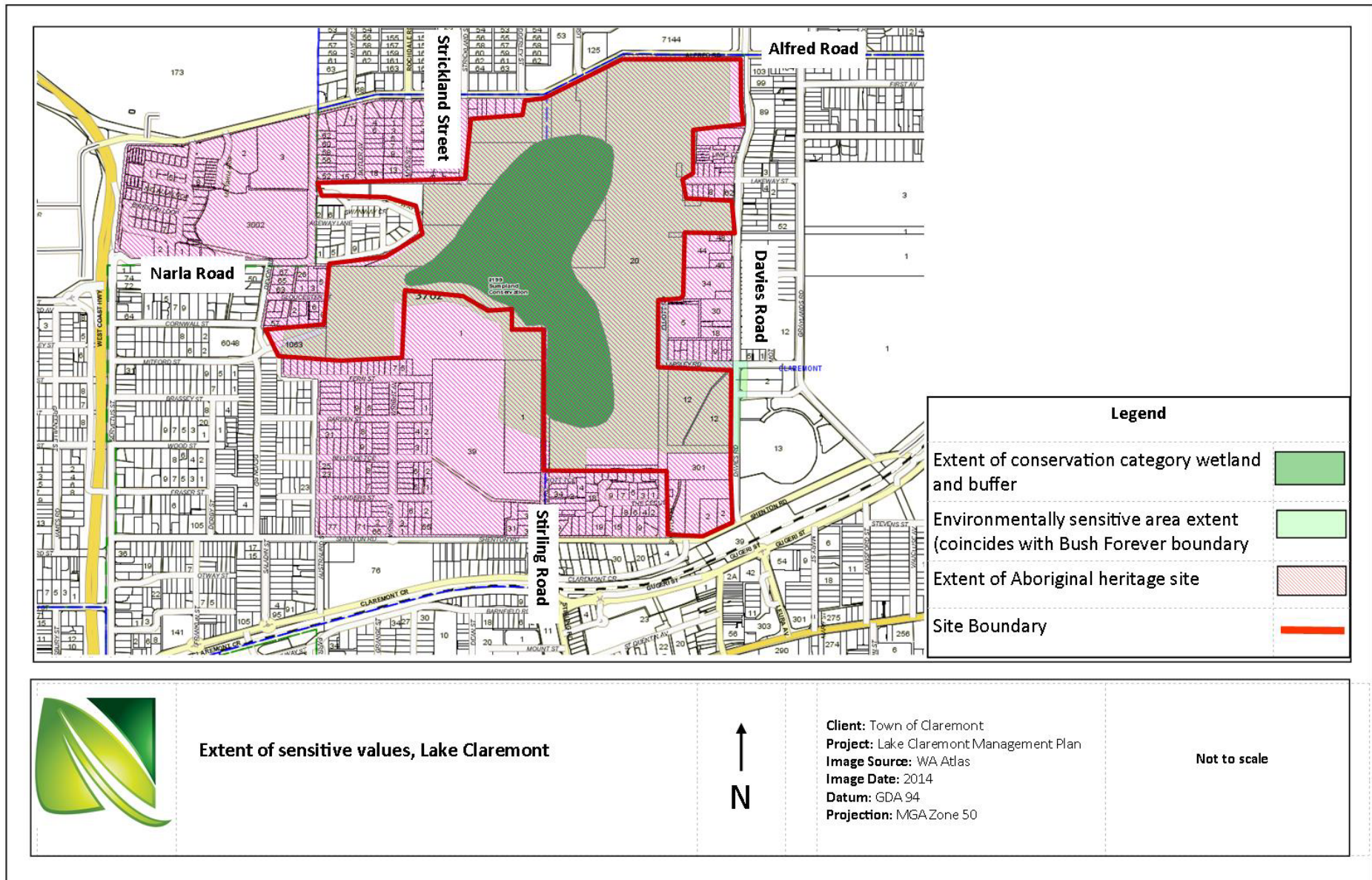


Figure 7.3: Statutorily designated values of the Lake Claremont



Figure 7.4: Lake Claremont Parklands: Concept Plan

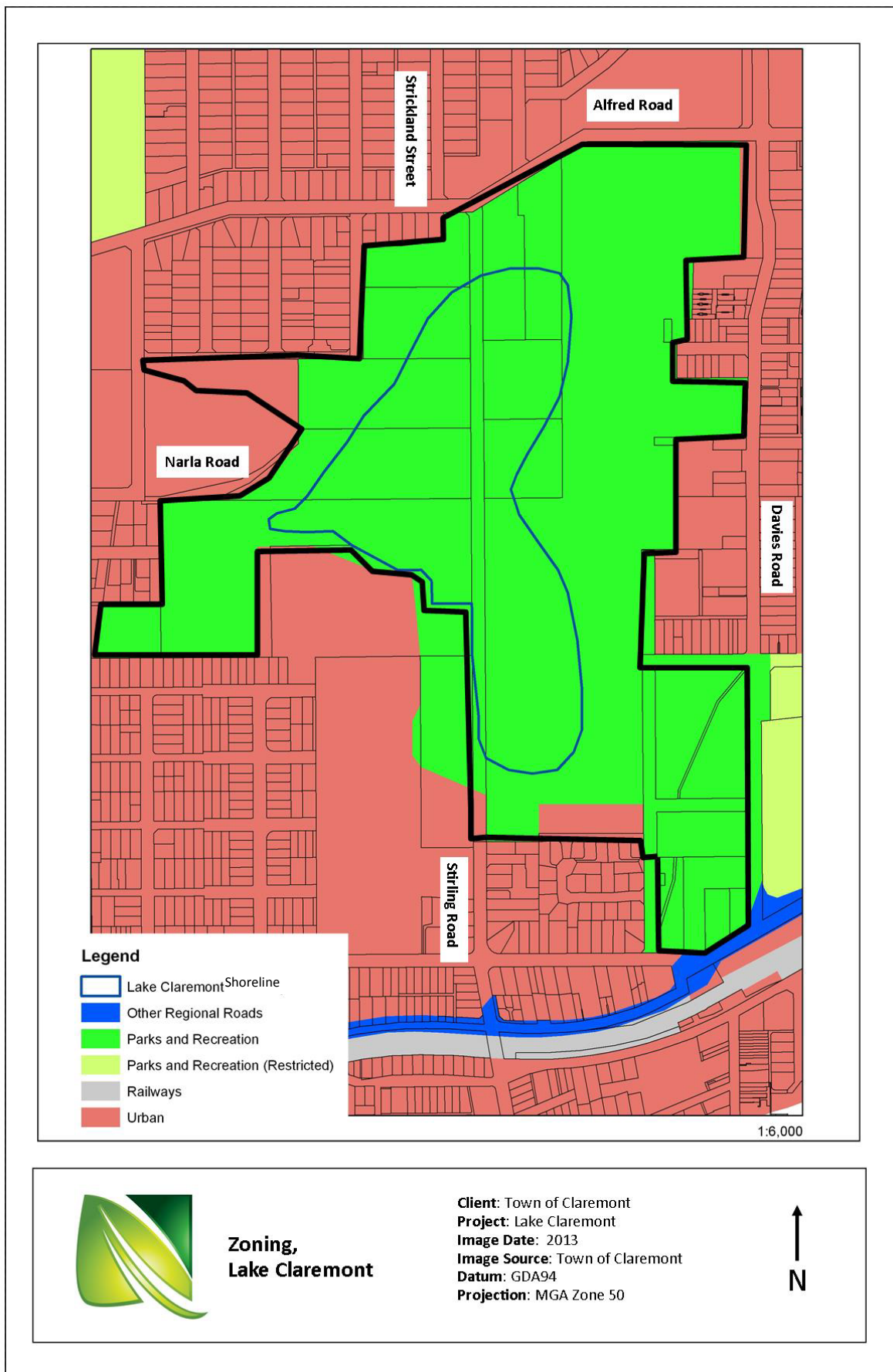


Figure 7.5: MRS Zoning for Lake Claremont and surrounds.

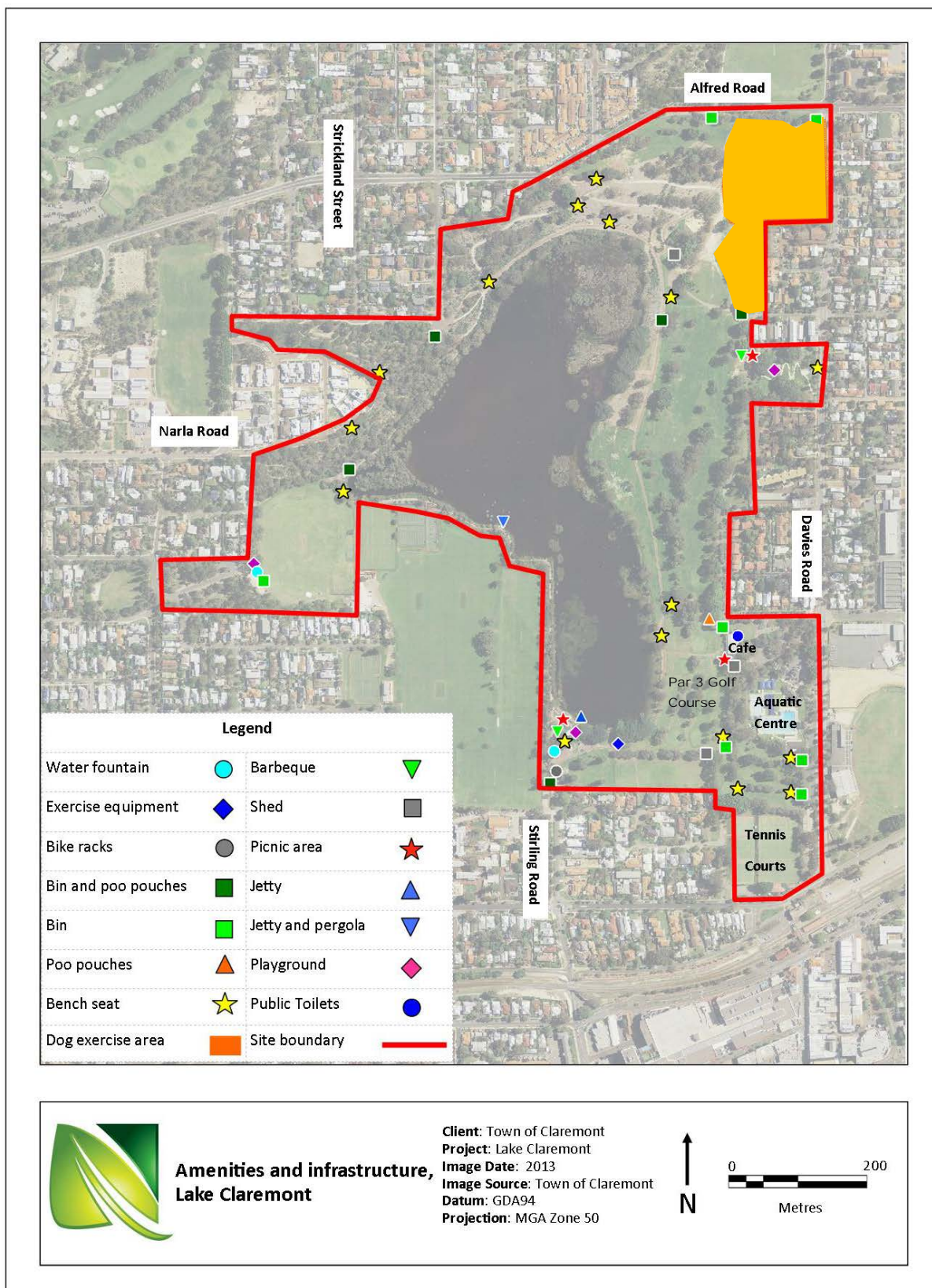


Figure 7.6: Amenities and infrastructure at Lake Claremont as at November 2014.



Figure 7.7: Access at Lake Claremont



Figure 7.8: Signage locations for Lake Claremont (Map 1)

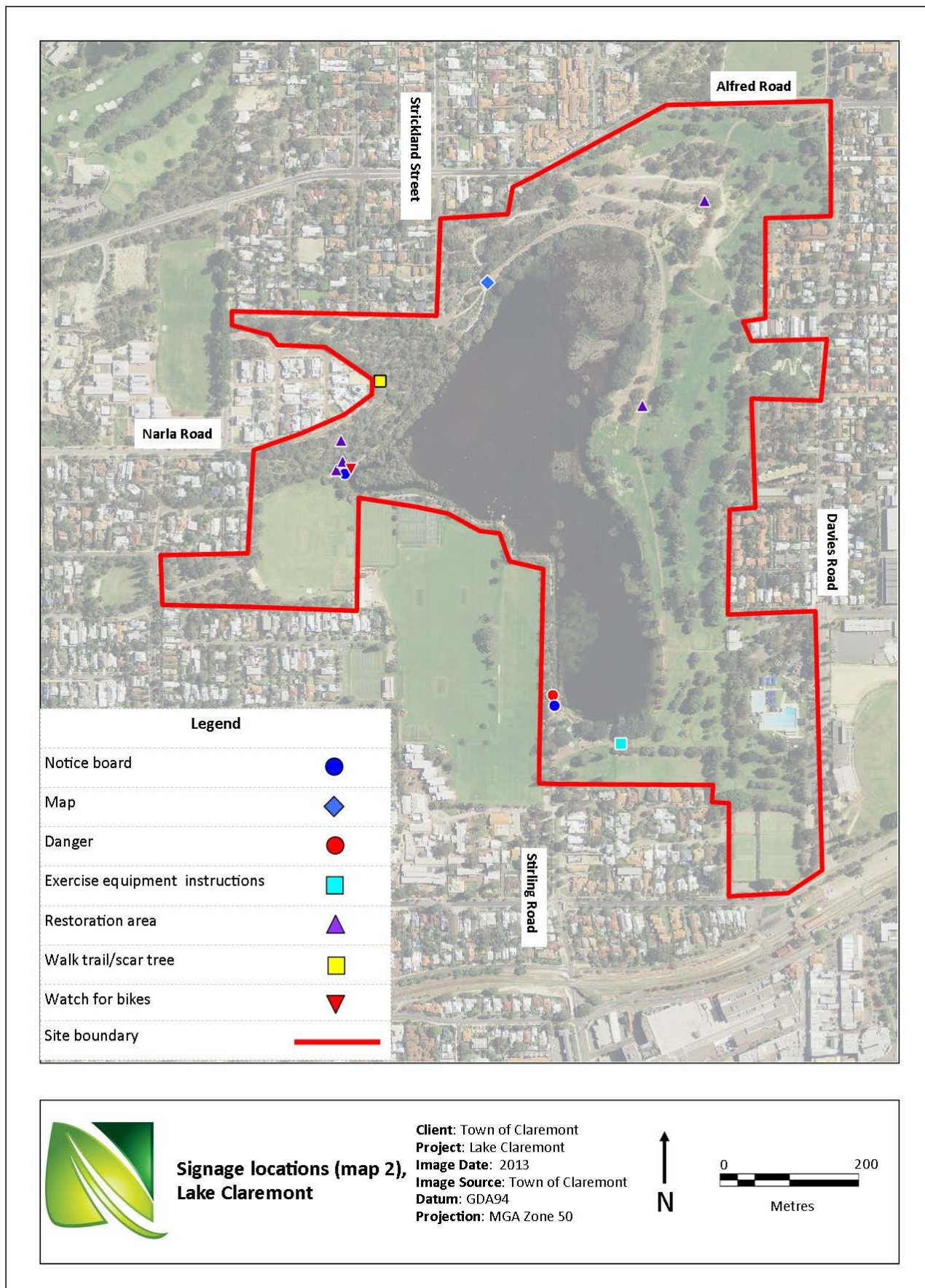


Figure 7.9: Signage locations for Lake Claremont (Map 2)

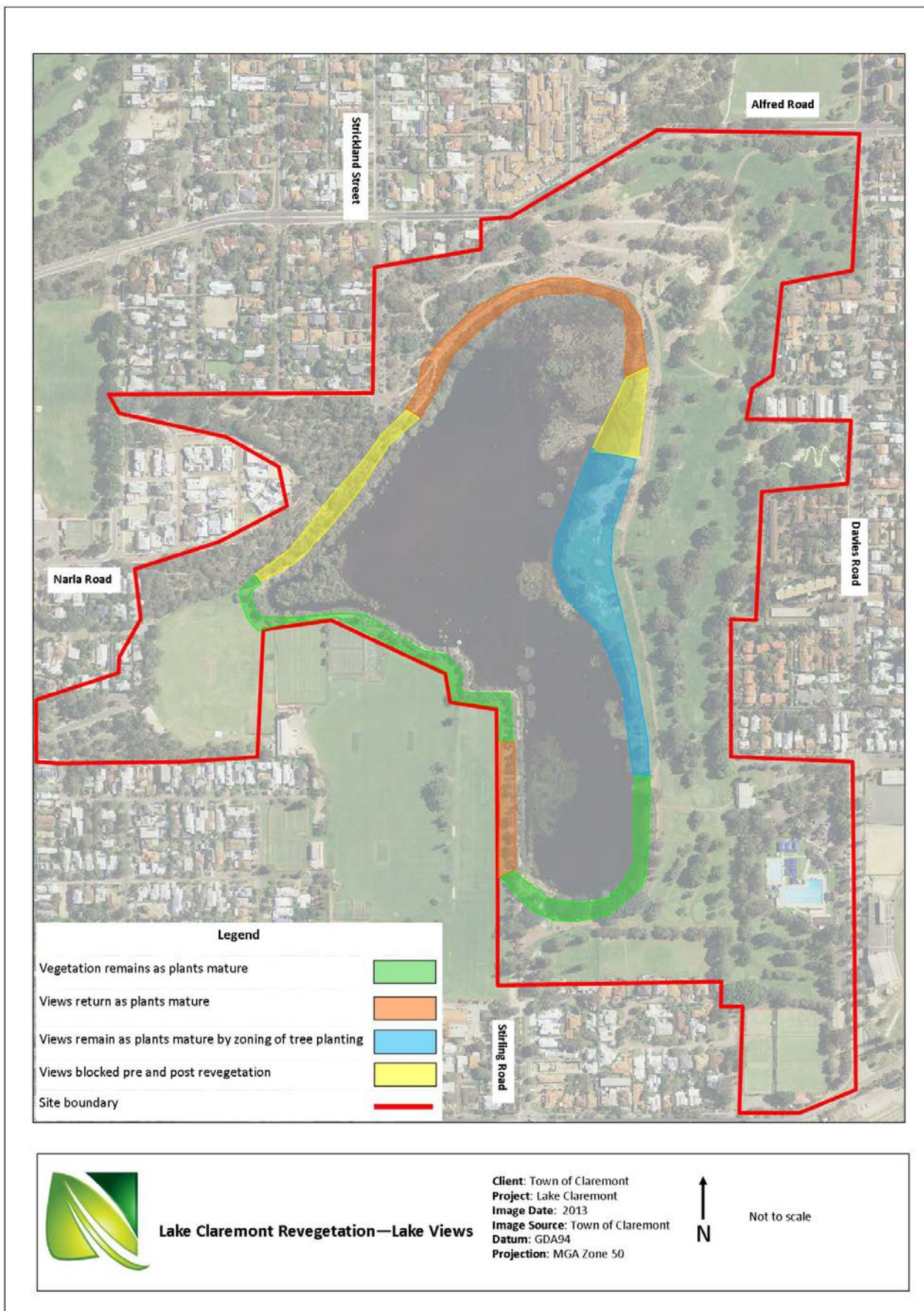


Figure 7.10: Assessment of Lake Views undertaken September 2014

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