

Assessment of Crown Land Frontages in Urban Zones



- Final
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1. Introduction

Within the Shepparton – Mooroopna area there are numerous parcels of Crown Land abutting the region's two major watercourses, the Goulburn River and the Broken River. These Crown Land Parcels have a variety of land tenure types and consequently are formally managed by several agencies. This has resulted in a mosaic of land management responsibility and management regime.

The Crown Land Parcels considered within this assessment have substantial values from environmental, economic and social perspectives. Along with these values these Crown Land Parcels are subject to a variety of threatening processes that have the ability to impact on the values of these areas.

Appropriate management of these areas of Urban Crown Land will allow for these threats to be minimised or removed and the values of the Crown parcels to be maximised.

1.1 Scope

Sinclair Knight Merz has been engaged by the Goulburn Broken Catchment Management Authority to:

- Complete an assessment of the condition of Urban Crown Land Parcels
- Report on current land management and/or licence conditions
- Assess the impact of a range of threats including weeds and litter
- Identify threatening frontage land uses and/or management practices to identified values and uses
- Assess the effectiveness of current management practices in protecting these values
- Determine current management responsibilities
- Recommend minimum acceptable conditions for land parcels
- Develop and recommend practices to improve the condition where minimum acceptable standard is reached
- Recommend changes to current management practices and/or licensing arrangements to achieve the sustainable use and management of crown water frontages and the protection of the conservation, recreation, cultural and other values and uses
- Prepare a list of priority actions for implementation

1.2 Study Area

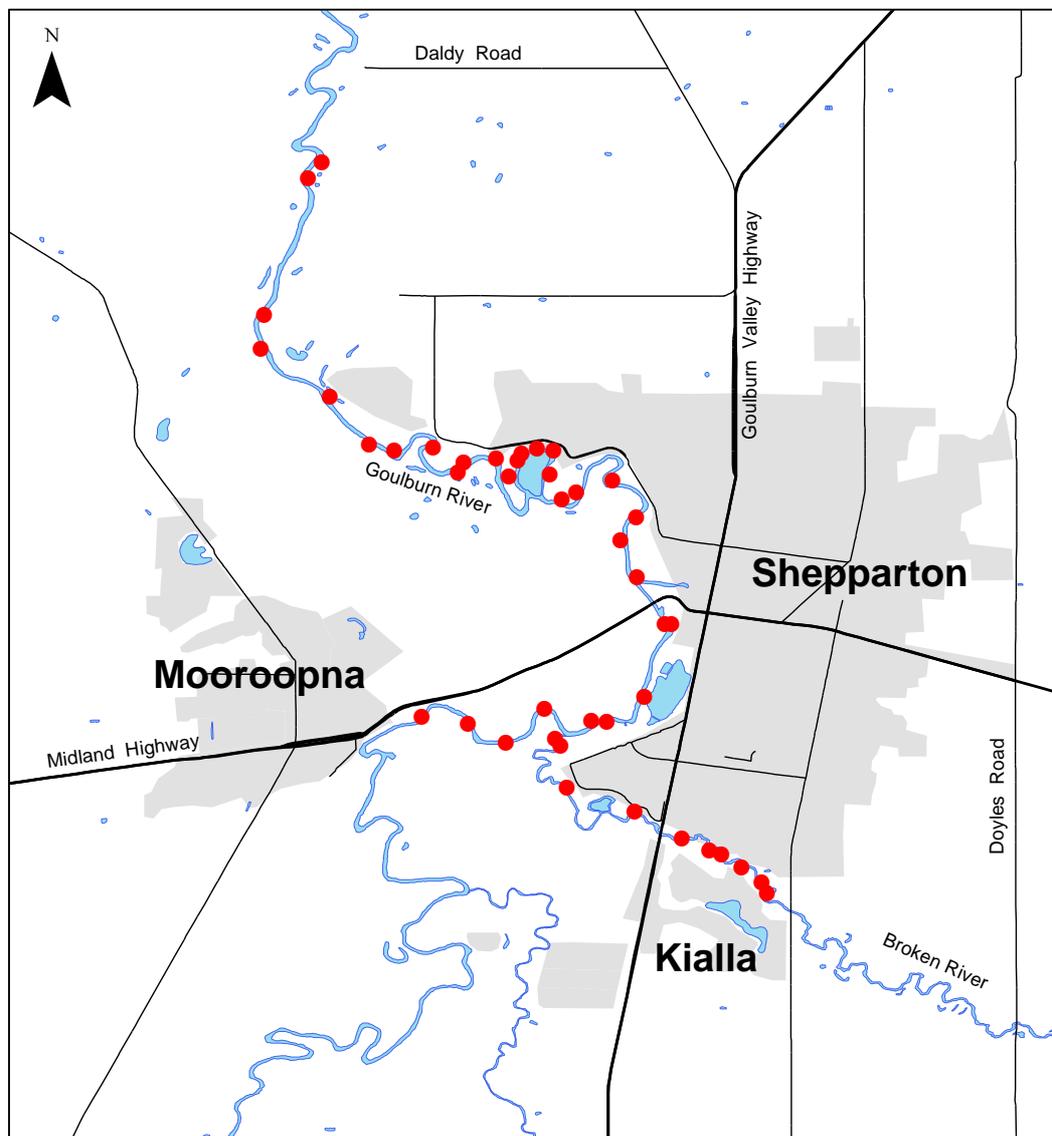
The study area encompasses all of the Crown Land adjacent to the Goulburn River and Broken River within the towns of Shepparton and Mooroopna within the following limits:

- Goulburn River – Seven Creeks confluence to Daldy Road
- Broken River – Doyle’s Road to Goulburn River confluence

Within the study area there were 65 individual parcels of Crown Land identified ranging in size from greater than 170 ha to less than 1 ha.

The Crown Land Parcels within the study area have a variety of land tenure types including State Forest (both licensed for grazing and unlicensed), Wildlife Reserve, Licensed and Unlicensed Crown Water Frontage, other Reserves with or without Committees of Management and Public Parks.

- **Figure 1 Study Area with Assessment Sites noted in red**



2. Values within the Study Area

The intent of this study is to ensure that the ongoing management of Crown Land Parcels located within the study area is appropriate to ensure that all values of these parcels are maintained and, where possible, enhanced.

The Crown Land found within the study area has a variety of values from environmental, social and economic perspectives. The RiVERS decision support system that was developed by the Goulburn Broken Catchment Management Authority has catalogued the relevant values for the Goulburn and Broken Rivers within the Study Area.

The significant values identified by RiVERS are as follows:

■ **Table 1 Values of Study Area from RiVERS database**

Environmental Values	Social Values	Economic Values
Statewide Conservation Significance of EVC	Fishing	Water Supply for Irrigation
Presence Significant Fauna	Use by Non Motor Boats	Infrastructure
Width of Riparian Vegetation	Use by Motor Boats	Land Value
Longitudinal Continuity of Vegetation	Swimming	Tourism
Structural Intactness of Vegetation	Passive Recreation	
Fish Proportion (Native versus Exotic)		
Lack of Barriers to Fish Migration		
Wetland Significance		
Wetland Rarity		
Heritage / Representative River		

Ongoing management of the parcels of Crown Land within the Study area needs to ensure that these values are maintained.

The RiVERS database also identified threats to these values. The objective of ongoing management should be to minimise (or remove) these threats so as to ensure that the existing values are maintained.

The threats to significant values for the study area are as follows:

■ **Table 2 Threats to the Values of Study Area from RiVERS database**

Threats to Values within the Study Area
Bank Erosion
Bed Stability
Barriers to Fish Migration



Threats to Values within the Study Area
Channel Modification
Flow Deviation
Algal Blooms
Exotic Flora
Degraded Riparian Vegetation
Loss of In-stream Habitat
Stock Access
Wetland Connectivity

The list of threats to the values of the waterways within the study area is comprehensive and considers processes external to the study area and the management of Urban Crown Land Parcels. However the list of threats contains several threats that can be directly mitigated via the appropriate management of the Urban Crown Land within the study area. Most specifically the abundance of exotic flora, the degradation of riparian vegetation and access by stock to the riparian zone are threats that can be mitigated via appropriate management.

The presence and abundance of exotic flora can be minimised through appropriate pest plant management programs along with the reduction of the establishment of new introduced species. Degradation of riparian vegetation can be reduced through the control of processes such as grazing, inappropriate recreation and rubbish dumping, all of which can contribute to the decline of indigenous riparian plants. While the management of grazing by domestic animals can contribute to the reduction in the presence of pest plants, the degradation of the riparian zone vegetation, damage to the banks and of waterways and deterioration in the water quality of the Goulburn and Broken Rivers.

3. Current Management Regimes

Each of the land management agencies responsible for Crown Land Parcels within the Study Area have management regimes in place for the areas that they manage. The management regimes are highly variable and generally consider the primary purpose for which the Crown Land was reserved.

3.1 Greater Shepparton City Council

The Crown Land Parcels within the study area that are managed by the Greater Shepparton City Council have one of two land tenure types. They are either Public Parks and Reserves that are owned and managed by the Council or they are Crown Land Parcels where management has been vested in Council via a Committee of Management.

In either case there are not formal management documents for these parcels. Instead management is relatively informal with all management activities undertaken by the Council's Parks and Gardens section. The focus of this management is typically not the environmental values of these sites but rather the social and economic values of these Parcels as they are managed primarily for recreational use.

The existing management regime includes noxious weed control, emptying of rubbish bins and the lopping of potentially dangerous trees. Some sites are mowed periodically to reduce fuel load and hence fire risk with the timing of this activity tailored to favour the seed set of native grasses.

The Country Fire Authority in conjunction with the Greater Shepparton City Council also implement a fuel control burning program along some sections of the Broken River again to minimise fuel load and fire risk. Sites are burned in a mosaic with small sections burned every three years.

3.2 DSE – Crown Land Management

The Department of Sustainability and Environment Crown Land Management division is responsible for the management of several parcels of Crown Land within the study area. Typically these parcels are areas of unlicensed Crown Water Frontage or other Reserves.

Unfortunately DSE – CLM does not have a budget allocation from the Victorian State Government to undertake land management activities within these areas. Consequently there is no formal management regime in place for these areas. In instances where inappropriate or illegal activity is occurring within these Parcels DSE-CLM does have the ability and resources to undertake regulatory action.

In order to overcome the inability to fund on ground management activities DSE-CLM have generally delegated management for certain parcels under their responsibility to other agencies with the resources to undertake appropriate management. Within the Study Area the management of numerous parcels have been delegated to the Greater Shepparton City Council via Committees of Management. This delegation has occurred where it is considered that there is a high enough usage of the areas to require on-ground management actions. An example of such a site is site 4.2.

Within the study area there are several parcels that have not been delegated to other responsible authorities and where management responsibility is still vested with DSE-CLM. In these locations the absence of on ground management has led to sites being in moderate to poor condition such as Site 3.1.

3.3 DSE – Forest Management

Within the study area there are several parcels of State Forest that are managed by the Department of Sustainability and Environment – Forest Management division. Management of these areas is undertaken according to the Forest Management Plan for the Mid–Murray Forest Management Area (DNRE, 2002a).

This plan sets the long term direction for the sustainable management of State Forest within the Mid-Murray Forest Management Area within which the study area for this project occurs. The Forest Management Plan considers a wide variety of issues including the following that are relevant for the purposes of this project:

- Biodiversity conservation
- Forest protection
- Forest grazing
- Cultural heritage
- Recreation and tourism

3.3.1 Biodiversity Conservation

The Forest Management Plan for the Mid–Murray Forest Management Area (FMA) contains a variety of strategies related to biodiversity conservation that aim to:

- Ensure that any ecosystems within the FMA that are not contained within formal conservation reserves are protected
- Specify measures to conserve threatened flora and fauna species
- Control processes that threaten biodiversity

In particular, the Forest Management Plan for the Mid–Murray Forest Management Area considers the National Reserve Criteria (JANIS, 1997), species listed under the Flora and Fauna Guarantee Act (1988) and other more specific issues such as wetland management.

3.3.2 Forest Protection

The Forest Protection strategies within the Forest Management Plan for the Mid–Murray Forest Management Area include guidelines on fire management, pest animals and pest plants. When considering the values and threats identified for these areas within the RiVERS database the management of pest plants (weeds) is a crucial issue.

The Forest Management Plan for the Mid–Murray Forest Management Area includes a management guideline specific to the control of pest plants. This guideline considers the priorities for the allocation of resources to pest plant control. The structure for resource allocation is aligned with the *Goulburn Broken Regional Weed Action Plan 2001-2005* in that State Prohibited Weeds are the highest priority followed by Regional Priority Weeds, new and emerging weeds and finally environmental weeds. Consideration is also made of the impact that the weed species may be having on nearby agricultural land, threatened species and the potential for successful eradication.

3.3.3 Forest Grazing

The Forest Management Plan for the Mid–Murray Forest Management Area considers the environmental impacts of forest grazing and includes guidelines for the future grazing of floodplain State Forest areas. Most notably the Forest Management Plan includes the review of existing grazing licences and the development of a grazing management strategy for each area of floodplain forest. The parcel specific grazing strategies will consider limits to stock numbers, the encouragement of regeneration of native vegetation, the rehabilitation of degraded sites and the control of pest plants and animals.

3.3.4 Cultural Heritage

The Forest Management Plan for the Mid–Murray Forest Management Area includes strategies for the protection and maintenance of sites with cultural and historic value. These strategies include Aboriginal places such as archaeological sites, historic sites and other significant places and European historic places.

All sites that are considered to have cultural and historic value are provided protective measures including limitations to the access of heavy machinery, erection of interpretive signage and restrictions on the harvesting of forest products.

3.3.5 Recreation and Tourism

The Forest Management Plan for the Mid–Murray Forest Management Area recognises the importance that the public land in the Forest Management Area plays in providing recreational activities in predominantly natural settings and includes strategies to ensure that a wide variety of both passive and active recreational activities are available.

The Forest Management Plan considers the wide variety of recreational opportunities available and then identifies and promotes locations suitable for certain activities to occur. The Forest Management Plan also provides guidelines to ensure that recreational activities do not significantly affect forest environment values and guidelines regarding the enforcement of legislation regarding illegal activities.

Passive recreation activities are permitted throughout the State Forests within the Mid Murray area with few restrictions. Certain forms of active recreation such as off-road vehicle use (including motorcycle riding) are prohibited under the *Land Conservation (Vehicle Control) Act 1972*.

3.4 Parks Victoria

The two largest Crown Parcels within the study area that are managed by Parks Victoria both have Management Plans. These Management Plans specify the management regimes required for each of these Reserves.

3.4.1 Gemmills Swamp Wildlife Reserve Management Plan

Gemmills Swamp is a large (170 ha) wetland area located adjacent to Mooroopna on the western side of the Goulburn River floodplain. The Department of Natural Resources and Environment completed the *Draft Gemmills Swamp Wildlife Reserve Management Plan* in 1996 (DNRE, 1997). The management objectives for Gemmills Swamp Wildlife Reserve are:

- To provide habitat for significant wildlife including colonially nesting waterbirds
- To maintain the current diversity and distribution of native vegetation
- To preserve archaeological and scenic values
- To provide for public recreation consistent with the above objectives

A comprehensive list of priority management actions has been developed as part of the management plan to ensure that the management objectives are met.

Issues considered with regard to management actions include resource conservation, visitor use, resource utilisation and reserve protection.

3.4.2 Reedy Swamp Management Plan

Reedy Swamp is a large (130 ha) wetland area located on the northern fringe of Shepparton on the eastern side of the Goulburn River floodplain. A Management Plan for Reedy Swamp was completed by the Department of Primary Industries in 2003 (DPI, 2003). This is a comprehensive document that provides direction for the future environmental management of Reedy Swamp Wildlife Reserve. The recommendations for the management of this large Crown Parcel have the following objectives:

- To maintain and enhance the diversity of indigenous flora and fauna species
- To provide breeding habitat for a diversity of waterbird species, and particularly colonial nesting species
- To maintain a rushland area with extensive fringing River Red Gum that is seasonally flooded
- To provide for public recreation where consistent with the above objectives
- To provide opportunities for duck shooting during open seasons where consistent with the above objectives
- To provide for salinity and drainage protection

A comprehensive list of management actions has been developed to ensure that these management objectives are met.

Issues that have been considered when developing the management actions include recreation, timber extraction, rubbish, pest plants, soil disturbance, grazing management, and fire management.

4. Field Assessment Methodology

Three condition assessment methods were utilised at all of the assessed parcels of Crown Land and provide the basis for the calculation of comparative condition scores. These assessment methods were nominated by the GBCMA for use in this study. Additional information gathered in the field at each site included access details, photographs, landuse pressures, values and threats.

The three assessment methods are recognised and repeatable methodologies that could be utilised by the GBCMA for follow up assessments at crown frontages as required. The assessment methods may also provide a useful tool for discussion of the Crown parcel condition with the relevant Land Managers.

4.1.1 Vegetation Quality Assessment

This assessment method is the same as that used by ‘Riparian Australia’ in the GBCMA 2000 Crown Water Frontage Review (Riparian Australia 2000). The Vegetation Quality Assessment method is a rapid assessment method designed to take approximately 15 minutes per site. This method derives a score based on seven key attributes;

- 1) Above bank vegetation width
- 2) Soil disturbance
- 3) Tree Health
- 4) Tree regeneration
- 5) Weed presence
- 6) Species richness
- 7) Vegetation Structure

While this method is relatively quick and provides an indication of the condition of the Crown parcel it does not consider other indicators of riparian health.

4.1.2 Rapid Habitat Assessment

The Rapid Habitat Assessment is an adaption of the ‘habitat hectares’ approach developed by Parkes *et al* (2003). This assessment methodology is able to provide a snapshot of native vegetation condition throughout the Crown Parcel.

The Rapid Habitat Assessment methodology considers the following attributes;

- 1) Large Trees
- 2) Canopy Cover
- 3) Understorey

- 4) Weeds
- 5) Recruitment
- 6) Organic Litter
- 7) Logs
- 8) Patch Size
- 9) Neighbourhood
- 10) Distance to Core Area

This assessment method is basically a comparison of the current conditions of native vegetation at a particular site relative to what the conditions would have been prior to European disturbance.

4.1.3 Riparian and In-stream Health

This methodology considers additional information relevant to the condition of riparian Crown parcels. Parameters for this methodology have been adapted from the Index of Stream Condition (ISC) methodology. The parameters included are:

- 1) Width of Streamside Zone
- 2) Longitudinal Continuity
- 3) In-stream Habitat (Large Woody Debris)
- 4) Macrophytes (rushes and reeds)

5. Current Site Conditions

A total of 42 sites were assessed with a variety of tenure types and land managers. The status of the Crown Parcels assessed is summarised in Table 3 below:

■ **Table 3 Land Tenure and Land Manager of Assessment Sites**

Site Number	Land Tenure / Management Type	Land Manager
1.1	Park Reserve	GSCC
1.2	Park Reserve	GSCC
1.3	Unlicensed Crown Water Frontage	DSE – Lands
1.4	Park Reserve	GSCC
1.5	Park Reserve	GSCC
1.6	Unlicensed State Forest	Parks Victoria
1.7	Unlicensed State Forest	Parks Victoria
1.8	Licensed State Forest	Landholder / DSE - Forests
1.9	Licensed State Forest	Landholder / DSE - Forests
1.10	Committee of Management	GSCC
2.1	Wildlife Reserve	Parks Victoria
2.2	Wildlife Reserve	Parks Victoria
2.3	Unlicensed Crown Water Frontage	DSE – Lands
2.4	Unlicensed Reserve	DSE – Lands
2.5	Unlicensed Reserve	DSE – Lands
2.6	Unlicensed Crown Water Frontage	DSE – Lands
2.7	Unlicensed Crown Water Frontage	DSE – Lands
2.8	Licensed State Forest	Landholder / DSE - Forests
2.9	Unlicensed Crown Water Frontage	DSE – Lands
2.10	Unlicensed Crown Water Frontage	DSE – Lands
3.1	Unlicensed Crown Water Frontage	DSE – Lands
3.2	Committee of Management	GSCC
3.3	Committee of Management	GSCC
3.4	Unlicensed State Forest	DSE - Forests
3.5	Unlicensed State Forest	DSE – Forests
3.6	Unlicensed State Forest	DSE – Forests
3.7	Committee of Management	GSCC
3.8	Committee of Management	GSCC
3.9	Park Reserve	GSCC
3.10	Park Reserve	GSCC
3.11	Park Reserve	GSCC
3.12	Park Reserve	GSCC
4.1	Committee of Management	GSCC
4.2	Committee of Management	GSCC
4.3	Unlicensed Crown Water Frontage	DSE – Lands
4.4	Unlicensed State Forest	DSE – Forests
4.5	Unlicensed State Forest	DSE – Forests
4.6	Unlicensed State Forest	DSE – Forests
4.7	Unlicensed Crown Water Frontage	DSE – Lands
4.8	Unlicensed State Forest	DSE – Forests
4.11	Unlicensed State Forest	DSE – Forests
4.10	Unlicensed Reserve	Parks Victoria



The Rapid Habitat Assessment score for each of the sites has been assigned a rating. The rating applied to this method is indicated in Table 4 below:

■ **Table 4 Rapid Habitat Assessment Scoring Criteria**

Rapid Habitat Assessment	
Score	Rating
12 – 20	High
7 – 11.5	Medium
0 – 6.5	Low

The Crown Frontage Assessment Score for each of the sites has also been assigned a rating. The rating applied to this method is indicated in Table 5 below:

■ **Table 5 Crown Water Frontage Condition (Vegetation Quality) Assessment Scoring Criteria**

Crown Water Frontage Condition (Vegetation Quality) Assessment	
Score	Rating
31 – 35	Excellent
25 – 30	Good
19 – 24	Moderate
13 – 18	Poor
7 - 12	Very Poor

The Riparian and In-stream Health Score for each of the sites has been assigned a rating. The rating applied to this method is summarised in Table 6 below:

■ **Table 6 Riparian and In-stream Health Scoring Criteria**

Riparian and In-stream Health Assessment	
Score	Rating
15 – 20	Good
8 – 14	Moderate
0 – 7	Poor

The assessment results for each of the three assessment methodologies is summarised in Table 7 below:



■ **Table 7 Urban Crown Land (Riparian) Assessment Results**

Site Number	Waterway	Rapid Habitat Score	RH Rating	Riparian & In-stream Score	Riparian & In-stream Rating	Veg Quality (CWF) Score	Veg Quality (CWF) Rating
1.1	Broken	6	Low	9 / 20	Moderate	20	Moderate
1.2	Broken	13.5	High	12/ 20	Moderate	25	Good
1.3	Broken	13	High	12/ 20	Moderate	20	Moderate
1.4	Broken	11	Medium	11/ 20	Moderate	22	Moderate
1.5	Broken	8	Medium	11/ 20	Moderate	20	Moderate
3.9	Broken	6	Low	8 / 20	Moderate	19	Moderate
3.10	Broken	10	Medium	8 / 20	Moderate	20	Moderate
3.11	Broken	8.5	Medium	9 / 20	Moderate	18	Poor
3.12	Broken	8	Medium	11 / 20	Moderate	19	Moderate
4.4	Broken	13	High	8 / 20	Moderate	20	Moderate
Average Broken		9.7	Medium	9.9 / 20	Moderate	20.3	Moderate
1.6	Goulburn	17	High	10 / 20	Moderate	23	Moderate
1.7	Goulburn	13.5	High	8 / 20	Moderate	20	Moderate
1.8	Goulburn	12	High	9 / 20	Moderate	19	Moderate
1.9	Goulburn	12.5	High	9 / 20	Moderate	19	Moderate
1.10	Goulburn	7	Medium	6 / 20	Poor	16	Poor
2.1	Goulburn	13.5	High	9 / 20	Moderate	20	Moderate
2.2	Goulburn	12.5	High	9 / 20	Moderate	19	Moderate
2.3	Goulburn	14	High	10 / 20	Moderate	22	Moderate
2.4	Goulburn	10.5	Medium	8 / 20	Moderate	15	Poor
2.5	Goulburn	12.5	High	8 / 20	Moderate	17	Poor
2.6	Goulburn	17.5	High	7 / 20	Poor	25	Good
2.7	Goulburn	5	Low	5 / 20	Poor	11	Very Poor
2.8	Goulburn	13	High	8 / 20	Moderate	22	Moderate
2.9	Goulburn	13	High	6 / 20	Poor	12	Very Poor
2.10	Goulburn	16	High	9 / 20	Moderate	23	Moderate
3.1	Goulburn	9.5	Medium	8 / 20	Moderate	12	Very Poor
3.2	Goulburn	12.5	High	7 / 20	Poor	17	Poor
3.3	Goulburn	10.5	Medium	7 / 20	Poor	13	Poor
3.4	Goulburn	11.5	Medium	9 / 20	Moderate	16	Poor
3.5	Goulburn	10.5	Medium	9 / 20	Moderate	17	Poor
3.6	Goulburn	11	Medium	9 / 20	Moderate	18	Poor
3.7	Goulburn	8	Medium	5 / 20	Poor	15	Poor
3.8	Goulburn	12	High	9 / 20	Moderate	14	Poor
4.1	Goulburn	12	High	9 / 20	Moderate	16	Poor
4.2	Goulburn	10	Medium	6 / 20	Poor	14	Poor
4.3	Goulburn	11	Medium	9 / 20	Moderate	19	Moderate
4.5	Goulburn	13	High	10 / 20	Moderate	24	Moderate
4.6	Goulburn	11	Medium	9 / 20	Moderate	19	Moderate
4.7	Goulburn	8.5	Medium	8 / 20	Moderate	17	Poor
4.8	Goulburn	12	High	9 / 20	Moderate	22	Moderate
4.9	Goulburn	12	High	13 / 20	Moderate	17	Poor
4.10	Goulburn	11	Medium	11 / 20	Moderate	18	Poor
Average Goulburn		11.7	High	8.4 / 20	Moderate	18	Poor

6. Discussion of Results

6.1 Vegetation Quality Assessment (Crown Water Frontage)

The results for the Vegetation Quality Assessment for the Urban Crown Land sites produced a range of results. The range of scores determined for the parcels assessed varied from a low of 11 (indicating a Vegetation Quality Rating of Very Poor) through to a high of 25 (indicating a Vegetation Quality Rating of Good). In total, of the 42 sites assessed, 3 were rated as Very Poor, 16 as Poor, 21 as Moderate and 2 as Good (refer Table 8). It should be noted that none of the Crown Land Parcels assessed were considered to be of Excellent class.

Crown Land Parcels on the Broken River were, on average, of a higher Habitat Quality than those on the Goulburn River for this index. However there were still parcels on the Broken River that had Poor Vegetation Quality Ratings and sites on the Goulburn River that had Good Vegetation Quality Ratings.

Rather than the waterway that the Crown Parcel is located on, the Tenure Type and hence Land Manager of the Crown Parcel have a greater influence on the Vegetation Quality (see Table 7).

■ Table 8 Comparison of Vegetation Quality Assessment Score and Land Tenure Type

Tenure Type	Number of Parcels Assessed	Average Vegetation Quality Score	Average Vegetation Quality Rating
Committee of Management	7	15.0	Poor
Unlicensed Reserve	3	16.7	Poor
Unlicensed Crown Water Frontage	9	17.9	Poor
Wildlife Reserve	2	19.5	Moderate
Unlicensed State Forest	10	19.6	Moderate
Licensed State Forest	3	20.0	Moderate
Park Reserve	8	20.4	Moderate
All	42	18.4	Poor - Moderate

6.2 Rapid Habitat Assessment

The results for the Rapid Habitat Assessment for the Urban Crown Land sites produced a range of results. The range of scores determined for the parcels assessed varied from a low of 5 (indicating a Habitat Quality Rating of Poor) through to a high of 17.5 (indicating a Habitat Quality Rating of High). In total, of the forty-two sites assessed, 3 were rated as Poor, 18 as Medium and 21 as High (see Table 7).

Crown Land Parcels on the Goulburn River were, on average, of a higher Habitat Quality than those on the Broken River. However there were still parcels on the Goulburn River that had Poor Habitat Quality Ratings and sites on the Broken River that had High Habitat Quality Ratings.

Rather than the waterway that the Crown Parcel is located on, the Tenure Type and hence Land Manager of the Crown Parcel have a greater influence on the Habitat Quality (See Table 9).

■ **Table 9 Comparison of Rapid Habitat Assessment Score and Land Tenure Type**

Tenure Type	Number of Parcels Assessed	Average Habitat Quality Score	Average Habitat Quality Rating
Park Reserve	8	8.9	Medium
Committee of Management	7	8.9	Medium
Unlicensed Reserve	3	11.3	High
Unlicensed Crown Water Frontage	9	11.9	High
Unlicensed State Forest	10	12.5	High
Licensed State Forest	3	12.5	High
Wildlife Reserve	2	13.5	High
All	42	11.3	Medium

6.3 Riparian and In-stream Health

The results for the Riparian and In-stream Health Assessments for the Urban Crown Land Parcels were also highly variable. Only 7 sites (all on the Goulburn River) were considered to be poor, while the remainder were considered to be moderate with none of the sites scoring a good rating.

On average sites on the Broken River (9.9 – Moderate) scored higher than those on the Goulburn River (8.4 – Moderate). This result may be due to the fact that the habitat features recorded are more easily seen in the lower flows present on the Broken River rather than the deeper, regulated flows that were present in the Goulburn River during the assessment period.

Overall the scores for both of the Waterways were quite low which is likely to be an indicator of historical waterway management practices (such as de-snagging) that have impacted on the quantity of large woody debris in the rivers.

6.4 Conclusions

The results from the field assessments for the Urban Crown Land Parcels produced somewhat conflicting results. With regard to the Vegetation Quality Assessment (Crown Water Frontage) methodology, parcels on the Broken River were, on average, rated better than those assessed on the Goulburn River. In contrast, the Habitat Quality Assessment (Habitat Hectares) methodology rated



Urban Crown Land Parcels on the Goulburn River higher, on average, than those on the Broken River.

For both of the waterways and both of the assessment methods there were very wide variations in the assessment scores and ratings. Consequently it appears that the waterway on which an assessment site is located does not govern its overall condition.

When the Vegetation Quality Assessment (Crown Water Frontage) assessment score and the Habitat Quality Assessment (Habitat Hectares) score are compared there is little correlation on a site by site basis. The land tenure type and land manager of a particular Urban Crown Land Parcel appears to have a significant impact on the condition of the individual parcel. However when the vegetation quality scores and habitat quality scores for particular land manager and land tenure types are grouped together there is still significant variation around the average score.

It appears that the most significant influence on the condition of Urban Crown Land Parcels is their location relative to residential development. The sites assessed throughout the study area have varying proximity to residential areas with those closest to housing having the poorest condition.

Consequently the study area has been grouped into a series of zones with similar tenure types (and hence land managers) and proximity to urban development. By doing this management recommendations can be made for sites with similar existing conditions (values) and similar threats to those values. It should also be noted that many of the areas that have been developed into residential developments would have historically been used for agricultural purposes. Examples of this would be the area along the boulevard in Shepparton or the Kialla Lakes development south of the Broken River. Historic land use in these areas may also contribute to the poor condition of the adjacent Urban Crown Land Parcels.

The breakdown of the allocation of sites into each of the proposed zones is summarised below (Table 10) with Figure 5 (see section 7) being a map representing the proposed zones.

■ **Table 10 Proposed Allocation of Assessment Sites into Management Zones**

Proposed Management Zone	Site Number	Land Tenure Type	Vegetation Quality Class	Habitat Quality Class
Zone 1	1.6	Unlicensed State Forest	Moderate	High
	1.7	Unlicensed State Forest	Moderate	High
	1.8	Licensed State Forest	Moderate	High
	1.9	Licensed State Forest	Moderate	High
	2.1	Wildlife Reserve	Moderate	High
	2.2	Wildlife Reserve	Moderate	High
	2.3	Unlicensed Crown Water Frontage	Moderate	High



Proposed Management Zone	Site Number	Land Tenure Type	Vegetation Quality Class	Habitat Quality Class
	4.4	Unlicensed State Forest	Moderate	High
	4.5	Unlicensed State Forest	Moderate	High
	4.6	Unlicensed State Forest	Moderate	Medium
	4.8	Unlicensed State Forest	Moderate	Medium
	4.9	Unlicensed State Forest	Poor	Medium
	4.10	Unlicensed Reserve	Poor	Medium
Zone 2	2.4	Unlicensed Reserve	Poor	Medium
	2.5	Unlicensed Reserve	Poor	High
	2.6	Unlicensed Crown Water Frontage	Good	High
	2.7	Unlicensed Crown Water Frontage	Very Poor	Low
	2.8	Licensed State Forest	Moderate	High
	2.9	Unlicensed Crown Water Frontage	Very Poor	High
	2.10	Unlicensed Crown Water Frontage	Good	High
	3.1	Unlicensed Crown Water Frontage	Very Poor	Medium
	3.2	GSCC – Committee of Management	Poor	High
Zone 2	3.3	GSCC – Committee of Management	Poor	Medium
	3.4	Unlicensed State Forest	Poor	Medium
	3.5	Unlicensed State Forest	Poor	Medium
	3.6	Unlicensed State Forest	Poor	Medium
Zone 3	1.10	GSCC – Committee of Management	Poor	Medium
	3.7	GSCC – Committee of Management	Poor	Medium
	3.8	GSCC – Committee of Management	Poor	High
	4.1	GSCC – Committee of Management	Poor	High
	4.2	GSCC – Committee of Management	Poor	Medium
	4.3	Unlicensed Crown Water Frontage	Moderate	Medium
	4.7	Unlicensed Crown Water Frontage	Poor	Medium
Zone 4	1.1	GSCC Reserve	Moderate	Low
	1.2	GSCC Reserve	Good	High
	1.3	Unlicensed Crown Water Frontage	Moderate	High
	1.4	GSCC Reserve	Moderate	Medium
	1.5	GSCC Reserve	Moderate	Medium
	3.12	GSCC Reserve	Moderate	Medium
Zone 5	3.9	GSCC Reserve	Moderate	Low
	3.10	GSCC Reserve	Moderate	Medium
	3.11	GSCC Reserve	Poor	Medium

7. Interpretation of Results

The current condition of Urban Crown Land Parcels has been assessed using three methodologies. Of these, the Vegetation Quality Assessment methodology and the Rapid Habitat Assessment methodology sample the terrestrial conditions. It is these conditions that are most able to be manipulated by the land manager by varying the management regime for a particular site.

Within each of the two methodologies to be used, there are indices that are constant, regardless of management, and indices that can be impacted upon by varying the management regime. Table 11 summarises these indices.

■ **Table 11 Variable and Constant Indices within the Urban Crown Land Assessment Methodologies**

Vegetation Quality Assessment Methodology		Rapid Habitat Assessment Methodology	
Variable Indices	Constant Indices	Variable Indices	Constant Indices
Soil Disturbance	Above Bank Vegetation Width	Large Trees	Patch Size
Tree Health		Canopy Cover	Neighbourhood
Tree Regeneration		Understorey	Distance to Core Area
Weed Presence		Weeds	
Species Richness		Recruitment	
Vegetation Structure		Organic Litter	
		Logs	

When considering the Minimum Acceptable Condition for a particular Urban Crown Land Parcel only variable indices are able to be included because only these can be altered via on-ground management. The Constant indices are constrained by factors such as position of the Urban Crown Land Parcel in the landscape and the size (width and depth) of a particular parcel. These are not able to be altered by management actions.

Within the two methodologies there are also indices that consider similar site characteristics. The most obvious is the weediness of a site which is considered in the Vegetation Quality Assessment via the ‘Weed Presence’ index and in the Rapid Habitat Assessment as ‘Weeds’.

In order to determine the minimum acceptable condition for Urban Crown Land Parcels within the study area, a sub set of the assessment indices has been developed. This includes only variable indices (as described above) and excludes some indices where there is repetition between the two assessment methodologies (such as weed presence).

The indices to be included in the abridged Urban Crown Land Assessment for the purposes of developing Minimum Acceptable Standards are summarised in Table 12 below.

■ **Table 12 Urban Crown Land Indices for Development of Minimum Acceptable Standards**

Index	Derivation of Index	Range of Scores
Understorey	From Rapid Habitat Assessment	0 – 5
Organic Matter	Combination of Leaf Litter and Logs from Rapid Habitat Assessment	0 – 2
Soil Disturbance	From Vegetation Quality Assessment	1 - 5
Tree Regeneration	From Vegetation Quality Assessment	1 - 5
Weeds	From Vegetation Quality Assessment	1 - 5
Vegetation Structure	From Vegetation Quality Assessment	1 - 5
Litter / Rubbish	Data collected exclusive of other assessment methodologies. Average of scores for presence of litter and presence of rubbish (rubbish dumping)	0- 5

By using this abridged set of assessment indices a range of condition scores for Urban Crown Land Parcels can be developed. The range of scores can then be reviewed in light of the scores achieved by Crown Land Parcels during the field assessments to determine what the Minimum Acceptable Standards are for Urban Crown Land Parcels. Of the sites assessed, site 1.2 (on the Broken River) achieved the best rating when the seven specific urban indices are considered.

The scores determined for site 1.2 will form the basis for determining the Minimum Acceptable Standard for Urban Crown Land Parcels. This site has been chosen because it was the highest quality site assessed. Despite this, there is still room for improvement at this site, particularly with regard to Soil Disturbance which only scored 2 where other similar sites scored significantly higher.

Consequently the Aspirational Score for Urban Crown Land Frontages has been determined to be 25 out of a possible 32. This is the equivalent of the score for the best site with some easily achieved improvement in condition and equivalent to a site scoring one point below the best possible score for each of the 7 indices.

The Minimum Acceptable Standard for Urban Crown Land Parcels has been determine as a percentage of the Aspirational score. The values for Minimum Acceptable Standards have been determined to be 70% of the Aspirational Score. The 70% figure is a nominal choice that means that 25% of the sites assessed reached the Minimum Acceptable Standard while it also provides a Standard that should be achievable for all of the sites that were assessed.

A summary of Maximum Possible Score, Maximum Score for Assessed Sites and proposed Minimum Acceptable Standard can be found in Table 13.



■ **Table 13 Scores for Urban Crown Land Assessment**

Urban Crown Land Assessment Index	Maximum Possible Scores	Scores for Site 1.2	Aspirational Scores (Best Practice)	Minimum Acceptable Standards
Vegetation Structure	5	3	3	2
Organic Matter	2	1.5	1.5	1
Tree Regeneration	5	3	3	2
Understorey	5	5	5	3.5
Weeds	5	4	4	3
Soil Disturbance	5	2	4	3
Litter / Rubbish	5	4.5	4.5	3
Total	32	23	25	17.5

A summary of the attribute scores achieved by the Urban Crown Land Parcels for each of the proposed Urban Crown Land Assessment indices and whether they achieve the Minimum Acceptable Standards is provided in Table 14 below.



Table 14 Comparison of Site Assessment Scores and Minimum Acceptable Standards for proposed Urban Crown Land Assessment Attributes

		Vegetation Structure	Organic Matter	Tree Regeneration	Understorey	Weeds	Soil Disturbance	Litter / Rubbish	Total
Maximum Score		5	2	5	5	5	5	5	32
Aspirational Score		3	1.5	3	5	4	4	4.5	25
Minimum Acceptable Standard		2	1	2	3.5	3	3	3	17.5
Site Number	Waterway								
1.1	Broken	2	0	4	2	1	3	4.5	16.5
1.2	Broken	3	1.5	3	5	4	2	4.5	23
1.3	Broken	1	1	1	4	2	4	4	17
1.4	Broken	3	0	1	3	3	4	5	19
1.5	Broken	2	1	2	2	2	4	3.5	16.5
3.9	Broken	3	0	3	2	1	3	3	15
3.10	Broken	3	0	2	3	2	1	4.5	15.5
3.11	Broken	2	1	2	2	1	3	4	15
3.12	Broken	2	0	2	2	1	4	3	14
4.4	Broken	2	1	2	3	2	3	4	17
1.6	Goulburn	2	1	3	4	3	4	4.5	21.5
1.7	Goulburn	2	1	1	5	3	2	4.5	18.5
1.8	Goulburn	2	1	1	3	2	4	4.5	17.5
1.9	Goulburn	2	1	1	3	2	4	4.5	17.5
1.10	Goulburn	1	1	2	2	1	3	4.5	14.5
2.1	Goulburn	3	1.5	1	3	2	4	4.5	19
2.2	Goulburn	2	1	2	3	2	2	4	16
2.3	Goulburn	3	1	2	4	2	4	5	21
2.4	Goulburn	2	1	1	2	1	2	0	9
2.5	Goulburn	2	1	1	3	1	2	0	10
2.6	Goulburn	3	1	1	5	4	4	3	21
2.7	Goulburn	1	1	2	0	1	2	2.5	9.5
2.8	Goulburn	4	1	2	4	3	4	3.5	21.5
2.9	Goulburn	1	2	3	2	1	2	2.5	13.5
2.10	Goulburn	3	2	2	5	3	4	4	23
3.1	Goulburn	1	1.5	2	0	1	3	2	10.5
3.2	Goulburn	3	2	2	3	2	2	4	18
3.3	Goulburn	2	1.5	2	2	1	2	2.5	13
3.4	Goulburn	1	1.5	2	2	1	3	4	14.5
3.5	Goulburn	2	1	1	2	1	3	4.5	14.5
3.6	Goulburn	2	1	2	2	1	4	4.5	16.5
3.7	Goulburn	2	1	2	0	1	2	4.5	12.5
3.8	Goulburn	1	1	2	2	1	2	3.5	12.5
4.1	Goulburn	2	1	1	3	2	2	2	13
4.2	Goulburn	2	1	2	2	1	1	2	11
4.3	Goulburn	2	1	1	2	1	4	4.5	15.5
4.5	Goulburn	3	1	3	3	2	4	5	21
4.6	Goulburn	3	1	2	2	1	3	1	13
4.7	Goulburn	2	1.5	2	0	1	3	2	11.5
4.8	Goulburn	3	1	2	3	2	4	5	20
4.9	Goulburn	3	2	2	2	1	2	1	13
4.10	Goulburn	3	1	4	2	1	2	3.5	14.5

Indicates that parcel does not meet minimum acceptable standard for a particular attribute

On going management of the Urban Crown Land sites should be focussed towards improving the values of the attributes for a particular site that do not meet the Minimum Acceptable Standard. This can be achieved by undertaking management actions that mitigate the threats to these attributes.

For each of the attributes included in the Minimum Acceptable Standards a list of threatening processes has been identified and these processes are summarised in Table 15 below.

■ **Table 15 Threatening Processes for Urban Crown Land Site Attributes**

Assessment Attribute	Threatening Processes		
Vegetation Structure	Weeds	Recreation (all)	Rubbish Dumping
Organic Matter	Timber Harvesting	Recreation (all)	
Tree Regeneration	Weeds	Recreation (all)	Rubbish Dumping
Understorey	Weeds	Recreation (vehicles)	Rubbish Dumping
Weeds	Weeds	Rubbish Dumping	
Soil Disturbance	Recreation (all)		
Litter / Rubbish	Rubbish Dumping	Recreation (all)	

Future management of Urban Crown Land Parcels will need to focus on the particular threatening processes relevant to the attributes of a site that do not meet the Minimum Acceptable Standard.

In order to determine which threatening processes need to be the focus of management actions for each of the management zones, an assessment needs to be made regarding which attributes are not meeting the minimum acceptable standard. For each zone it has been determined that an attribute is to be considered a priority for action if less than 60% of the sites within that zone reach the minimum acceptable standard for that attribute.

Table 16 provides a list of all sites within the proposed management zones and indicates which attributes do not meet the Minimum Acceptable Standard, while Table 17 displays the percentage of sites within each proposed management zone that are reaching the Minimum Acceptable Standard for a particular attribute.



■ Table 16 Comparison of Site Assessment Scores and Minimum Acceptable Standards for proposed Urban Crown Land Assessment Attributes – sites listed in Management Zones

		Vegetation Structure	Organic Matter	Tree Regeneration	Understorey	Weeds	Soil Disturbance	Litter / Rubbish	Total
Maximum Score		5	2	5	5	5	5	5	32
Aspirational Score		3	1.5	3	5	4	4	4.5	25
Minimum Acceptable Standard		2	1	2	3.5	3	3	3	17.5
Site Number	Waterway								
Zone 1									
1.6	Goulburn	2	1	3	4	3	4	4.5	21.5
1.7	Goulburn	2	1	1	5	3	2	4.5	18.5
1.8	Goulburn	2	1	1	3	2	4	4.5	17.5
1.9	Goulburn	2	1	1	3	2	4	4.5	17.5
2.1	Goulburn	3	1.5	1	3	2	4	4.5	19
2.2	Goulburn	2	1	2	3	2	2	4	16
2.3	Goulburn	3	1	2	4	2	4	5	21
4.4	Broken	2	1	2	3	2	3	4	17
4.5	Goulburn	3	1	3	3	2	4	5	21
4.6	Goulburn	3	1	2	2	1	3	1	13
4.8	Goulburn	3	1	2	3	2	4	5	20
4.9	Goulburn	3	2	2	2	1	2	1	13
4.10	Goulburn	3	1	4	2	1	2	3.5	14.5
Zone 2									
2.4	Goulburn	2	1	1	2	1	2	0	9
2.5	Goulburn	2	1	1	3	1	2	0	10
2.6	Goulburn	3	1	1	5	4	4	3	21
2.7	Goulburn	1	1	2	0	1	2	2.5	9.5
2.8	Goulburn	4	1	2	4	3	4	3.5	21.5
2.9	Goulburn	1	2	3	2	1	2	2.5	13.5
2.10	Goulburn	3	2	2	5	3	4	4	23
3.1	Goulburn	1	1.5	2	0	1	3	2	10.5
3.2	Goulburn	3	2	2	3	2	2	4	18
3.3	Goulburn	2	1.5	2	2	1	2	2.5	13
3.4	Goulburn	1	1.5	2	2	1	3	4	14.5
3.5	Goulburn	2	1	1	2	1	3	4.5	14.5
3.6	Goulburn	2	1	2	2	1	4	4.5	16.5
Zone 3									
1.10	Goulburn	1	1	2	2	1	3	4.5	14.5
3.7	Goulburn	2	1	2	0	1	2	4.5	12.5
3.8	Goulburn	1	1	2	2	1	2	3.5	12.5
4.1	Goulburn	2	1	1	3	2	2	2	13
4.2	Goulburn	2	1	2	2	1	1	2	11
4.3	Goulburn	2	1	1	2	1	4	4.5	15.5
4.7	Goulburn	2	1.5	2	0	1	3	2	11.5
Zone 4									
1.1	Broken	2	0	4	2	1	3	4.5	16.5
1.2	Broken	3	1.5	3	5	4	2	4.5	23
1.3	Broken	1	1	1	4	2	4	4	17
1.4	Broken	3	0	1	3	3	4	5	19
1.5	Broken	2	1	2	2	2	4	3.5	16.5
3.9	Broken	3	0	3	2	1	3	3	15
Zone 5									
3.10	Broken	3	0	2	3	2	1	4.5	15.5
3.11	Broken	2	1	2	2	1	3	4	15
3.12	Broken	2	0	2	2	1	4	3	14

Indicates that parcel does not meet minimum acceptable standard for a particular attribute

■ **Table 17 Percentage of Sites within Management Zones meeting Minimum Acceptable Standards**

	Vegetation Structure	Organic Matter	Tree Regen	Understorey	Weeds	Soil Disturbance	Litter / Rubbish
Zone 1	100%	100%	69%	23%	15%	69%	84%
Zone 2	69%	100%	69%	23%	23%	53%	53%
Zone 3	71%	100%	71%	0%	0%	43%	57%
Zone 4	83%	50%	67%	33%	33%	83%	100%
Zone 5	100%	33%	100%	0%	0%	67%	100%

If the figure of 60% of sites within a zone reaching Minimum Acceptable Standards is used to determine management priorities then the Assessment Attributes that need to be the focus of ongoing management actions for each of the zones are as follows (see Table 18):

■ **Table 18 Priority Attributes for On-going Management for each of the Management Zones**

Management Zone	Priority Attributes requiring Management Actions
Zone 1	Understorey, Weeds
Zone 2	Understorey, Weeds, Soil Disturbance, Litter/Rubbish
Zone 3	Understorey, Weeds, Soil Disturbance, Litter/Rubbish
Zone 4	Organic Matter, Understorey, Weeds
Zone 5	Organic Matter, Understorey, Weeds

On going management actions to improve the priority attributes for the sites in each of the management zones are summarised in section 9.

8. Threatening Processes for Urban Crown Land Parcels

For each of the Urban Crown Land Parcels there are several processes that have the ability to negatively impact on the values of these areas. Ongoing management regimes that aim to achieve the minimum acceptable standards for Urban Crown Land Parcels will need to consider these processes.

8.1 Pest Plants (Weeds)

Weed management is an essential part of sustainable land management. The managers of all lands (both public and private) have a duty of care to ensure that their activities do not impact on the natural resource base (DNRE, 2001).

The Catchment and Land Protection Act (1994) defines the legislated weed control responsibilities of all landowners and land managers. Within the CaLP Act weeds are defined according to a series of categories. The category that a weed falls into determines the level of control and responsibility for action.

8.1.1 Noxious Weed Species

The minimum acceptable conditions for pest plant management for Urban Crown Land Parcels will align with the GBCMA's expectations as defined in the Goulburn Broken Weed Action Plan – 2001-2005 (DNRE, 2001).

These expectations are:

- ***All reasonable steps to eradicate regionally prohibited weeds:*** Landowners (and land managers) must apply eradication techniques as recommended by NRE and/or the weed control industry to all infestations of regionally prohibited weeds.
- ***All reasonable steps to prevent growth and spread of regionally controlled weeds:*** Landowners (and land managers) must apply control techniques that stop weeds from producing seeds or rhizomes, and prevent the spread of weed material through poor land management practices.

8.1.2 Environmental Weeds

The Goulburn Broken Weed Action Plan – 2001-2005 (DNRE, 2001) specifies the responsibility and defines the expectations with regard to species listed in the CaLP Act. However there are a variety of other species that are not listed within the Act that can impact on the environmental values of Riparian Urban Crown Land Parcels. These 'Environmental Weeds' are typically pasture or garden species that have become established either through neglect or malicious activity.

While there is no legislative responsibility to control ‘environmental weeds’ there is a benefit to the land manager in that addressing the establishment and spread of these species while infestations are small is significantly less expensive than waiting for the problem to spread. An example of such a species would be Arrowhead (*Sagittaria spp.*) an aquatic plant that has become a serious environmental threat in only a few years after initially being considered nothing more than a nuisance species.

8.1.3 Management of Pest Plants

The management of pest plants within Urban Crown Land Parcels needs to align with the relevant policy document for the Goulburn Broken Catchment. In this case it is the Goulburn Broken Weed Action Plan 2001-2005.

The required management regime would be:

- 1) All reasonable steps are taken by the land Manager to eradicate regionally prohibited weeds.
- 2) All reasonable steps are taken by the land manager to prevent growth and spread of regionally controlled weeds.
- 3) All reasonable steps are taken by the land manager to prevent growth and spread of emerging ‘environmental weeds’.

8.2 Firewood Collection / Timber Harvesting

Fallen timber, standing live trees and standing dead trees provide habitat for a variety of terrestrial species and the Carbon that they contain is a crucial component of the aquatic food web. The removal of firewood impacts on habitat quality and in turn biodiversity.

The Department of Sustainability and Environment regulates firewood related activities on public land. The collection of firewood for campsites within adjacent areas of Public Land is allowed however the collection and removal of firewood from Crown Land is only permitted in areas of State Forest provided that a valid permit for this harvesting has been issued. Collection of firewood is only permitted for restricted periods of the year in designated collection areas that were utilised the previous year for timber harvesting operations. Firewood collection is not permitted in all other areas of Crown Land unless there are exceptional circumstances and should this occur, a permit from DSE is still required. The Greater Shepparton City Council currently does not have a policy regarding the collection of firewood from their Parks and Reserves.

The penalty for unauthorised cutting of firewood depends on land tenure but is generally defined by the *Forests Act 1958* and can range from a \$100 on the spot fine, to fines of up to \$5000 and/or one years imprisonment.

The commercial harvesting of timber currently occurs in nominated Special Management Zones within the Mid-Murray Forest Management Area in accordance with relevant Wood Utilization Plans and the Code of Forest Practices for Timber Production.

8.2.1 Management of Firewood Collection

The management of firewood collection within Urban Crown Land Parcels needs to align with the relevant policy document for the State of Victoria. In this case it is the Victorian Firewood Strategy Discussion Paper (DNRE, 2002b) and the acts of Parliament such as the Forest Act and Lands Act that underpin it.

The required management standard would be

- 1) Firewood collection is not permitted from Urban Crown Land Parcels without a permit from the Department of Sustainability and Environment
- 2) Permits should not be issued unless there are particular extenuating circumstances that warrant the granting of that permit such as perhaps where an accumulation of woody material presents a fire hazard adjacent to an urban area.

8.3 Littering and Rubbish Dumping

The inappropriate disposal of waste and other materials poses a threat to the condition of Urban Crown Land Parcels within the study area. Littering and rubbish dumping are illegal in Victoria and are regulated by the Environment Protection Act.

Littering offences were incorporated into the Environment Protection Act 1970 when the Litter Act 1987 was repealed in June 2002. The *Environment Protection Act 1970* prohibits and regulates the deposit of litter in the environment, regulates the distribution of materials that may become litter and also allows for the removal of detrimental or disorderly objects and other things.

Within the *Environment Protection Act: (1970)* litter is defined as any solid or liquid domestic or commercial waste, refuse, debris or rubbish including any waste glass, metal, plastic, paper, fabric, wood, food, soil, sand, concrete or rocks, abandoned vehicles, abandoned vehicle parts and garden remnants and clippings. This does not include any gases, dust or smoke or any waste that is produced or emitted during, or as a result of, any of the normal operations of the mining, building or manufacturing industry or any primary industry.

Under the Act litter authorities can authorise or appoint litter enforcement officers. A litter authority includes the Environment Protection Authority Victoria, Victoria Police, municipal councils and other land management authorities, such as VicRoads and Parks Victoria.

Litter Enforcement Officers can issue penalty infringement notices for offences under the Act. In councils, these officers may be based in a range of administrative units such as local laws, traffic, environment, building and planning.

8.3.1 Management of Litter and Rubbish Dumping

The management of litter and rubbish dumping within Urban Crown Land Parcels needs to align with the relevant policy document for the State of Victoria. In this case it is the Environment Protection Act.

The required management standard would be

- 1) Littering and the dumping of rubbish is not permitted on Urban Crown Land Parcels (as it is not permitted elsewhere in the State of Victoria)
- 2) Relevant Authorities should make every effort to educate the community about this responsibility and enforce it appropriately.

8.4 Recreation

The term recreation encompasses a broad variety of activities and pursuits that can be undertaken within Urban Crown Land Parcels. These pursuits can range from activities that are termed passive recreation such as walking, cycling, fishing or bird watching through to more dynamic activities (active recreation) such as four wheel driving or motorcycle riding.

Within the study area there is significant infrastructure in place for passive recreational activities including the Greater Shepparton City Council Shared Path Network, the Shepparton and Mooroopna Skate Parks and the numerous public parks throughout the Shepparton Mooroopna area. Passive recreation generally does not impact on the broader environment and should be encouraged in these areas where suitable infrastructure exists. Some passive recreation activities can have a minor adverse impact on the environmental values of Urban Crown Land Parcels and so appropriate focus points for these activities including new infrastructure may need to be developed. New infrastructure could include the construction of dedicated fishing platforms or the extension of the existing Greater Shepparton City Council Shared Path Network.

In contrast active recreation activities can have a substantial impact on the amenity of an area and on its environmental condition. This is recognised by the *Land Conservation (Vehicle Control) Act 1972* which was specifically written to regulate the movement of vehicles within Crown Land areas and prohibits the use of vehicles (including motorcycles) away from formal roads and tracks due to the damage that such activity can cause.

Camping is another issue that needs to be considered as a recreational pursuit within the study area that can have an adverse impact of the values of the Urban Crown Land Parcels in the Shepparton Mooroopna area. Camping is not permitted in most of the Crown Land Tenure types within the



study area (the exception being State Forest or Parks Victoria managed Reserves) and should consequently be discouraged.

8.4.1 Management of Recreation

The management of recreation within Urban Crown Land Parcels needs to align with the relevant policy document for State of Victoria. In this case it is not simple with only a few recreational activities being considered in formal legislation. The *Land Conservation (Vehicle Control) Act 1972* considers the effect of some active recreational pursuits but, there is little regulation of other types of recreation.

The required management standard would be

- 1) Passive recreation is to be encouraged in areas with appropriate infrastructure.
- 2) Active recreation only be permitted in certain Urban Crown Land Parcels (particularly areas of State Forest) but only within the framework provided by the *Land Conservation (Vehicle Control) Act 1972*.
- 3) Camping should only be permitted within areas of State Forest.

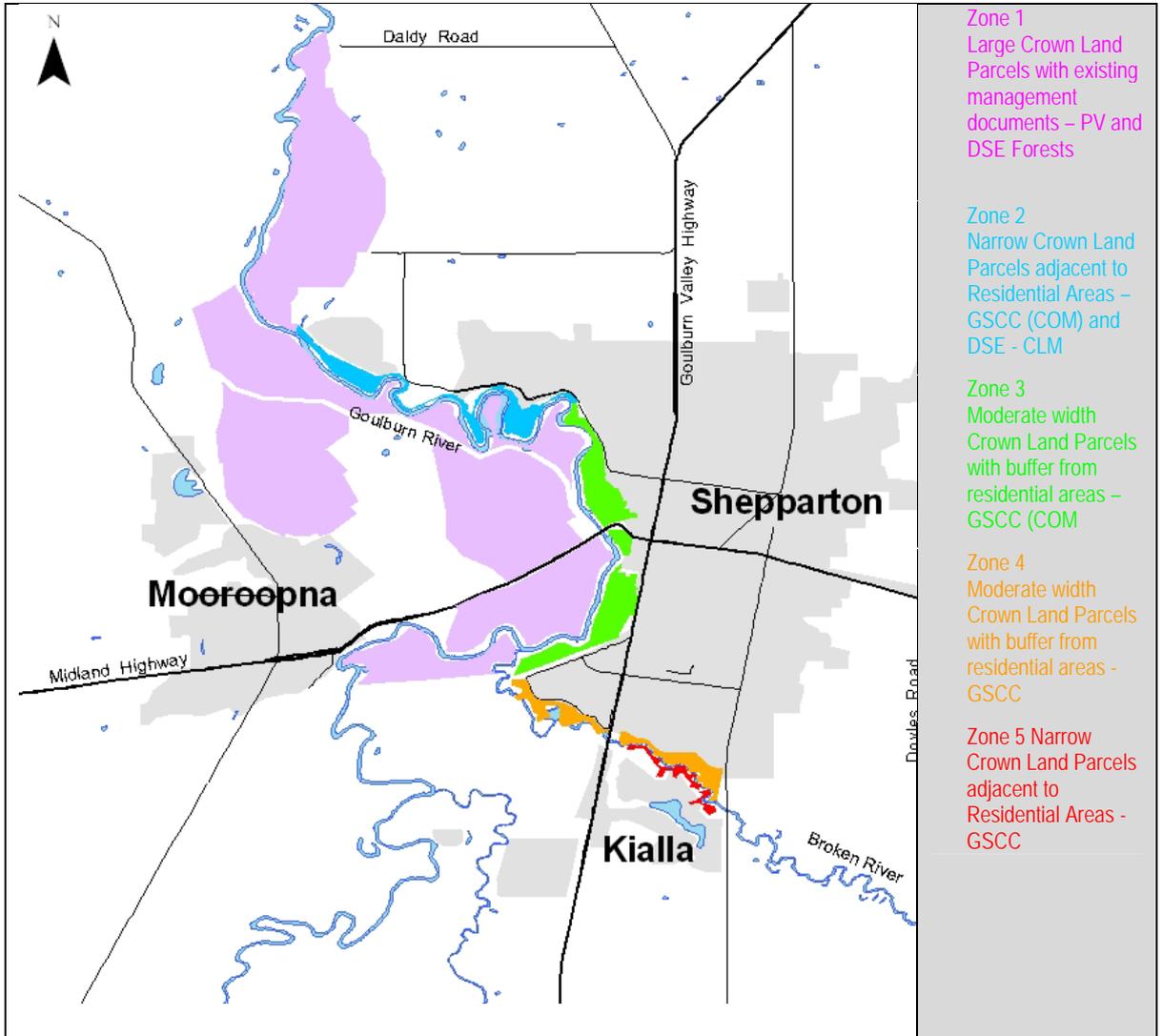
9. Recommended Management Actions for Urban Crown Land Parcels

The current management framework with regard to Urban Crown Land Parcels within the study area is extremely dysfunctional and uncoordinated. Management responsibility is shared through four distinct agencies with very little communication and cooperation occurring. Each of the agencies has differing management focus and varying levels of resources available to manage these parcels. In some cases the management agencies are not certain about which areas they are legally responsible for. Consequently management programs are inconsistent if they exist at all. As a consequence of the existing arrangements the majority of Urban Crown Land sites within the study area do not achieve the Minimum Acceptable Standards.

The following changes are recommended to management of Urban Crown Land Parcels:

- 1) The management of Urban Crown Land Parcels be undertaken according to the management zones prescribed within this report.
- 2) Land tenure be standardised within Zone 2. Discussions be held with Greater Shepparton City Council regarding them becoming responsible for the parcels they are currently nominally managed by DSE – Crown Land Management and DSE - Forests. This could be achieved via the Committee of Management process. Resources currently provided to DSE – Forests for management of these areas is to be devolved to the GSCC where appropriate.
- 3) All land managers within the study area actively pursue opportunities to coordinate management activities. This is particularly relevant for activities such as pest plant management where economies of scale can be achieved to allow for more efficient expenditure of management budgets.
- 4) Discussions be held with GSCC regarding enhancing the environmental emphasis placed on their land management practices. The current management regimes undertaken by the parks and gardens section of GSCC could be greatly improved with the involvement of other sections of the Council.
- 5) That a greater emphasis be placed on the issues of environmental weeds and new and emerging weeds by all land managers. The current focus is only ensuring compliance with the Catchment and Land Protection Act.

Figure 2 Proposed Urban Crown Land Management Zones



The current condition of Urban Crown Land Parcels is generally a function of the land tenure type, historical development and its location. Consequently it is recommended that Management Actions for Urban Crown Land Parcels be grouped into management zones with several Crown Land Parcels in each of these zones.

Management activities in each of the zones will need to focus on the threatening process that is impacting most severely on the attributes for the Urban Crown Land Parcels within the zone. Management activities specific for each of the individual Urban Crown Land Parcels are located in the individual site assessment sheets – Appendix D.

9.1 Zone 1 – Reedy Swamp / Gemmills Swamp / State Forest

The Urban Crown Land Parcels within this zone are typically large and currently have formal land management frameworks in place in the form of Management Plans or Strategies. Management of these areas should be in compliance with existing management documents.

Management of these areas needs to occur in line with current plans and policies with an increased emphasis on ensuring that the Minimum Acceptable Standards for Urban Crown Land Parcels are met. Particular emphasis will need to be placed on the identified threats that have the most likelihood of impacting on the values of these areas.

The assessment attributes for this zone that were identified as being a priority for improvement were Understorey and Weeds.

9.1.1 Management Actions for Zone 1

Management actions for this zone will need to address the threats that are preventing these Urban Crown Land Parcels from reaching Minimum Acceptable Standards.

Recommended Management Actions will need to focus on improving the values for two assessment attributes: Understorey and Weeds. The priority management activities that will need to be undertaken are summarised in Table 19.

■ Table 19 Priority Management Actions for Zone 1

Management Action	Timeframe	Estimated Cost
Manage weeds, particularly environmental weed species	Short – Medium	\$1,000 – \$5,000 per ha
Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks	Ongoing	\$500 per site
Enforce existing legislation regarding littering and rubbish dumping	Ongoing	\$3,000 per annum
Implement revegetation programs to improve quality of native understorey	Short – Medium	\$4,000 – \$7,000 per ha

It should also be noted that the parcels within this zone are periodically subjected to licensed grazing by domestic stock and consequently an additional management recommendation for this zone is summarised in Table 20.

■ Table 20 Additional Priority Management Actions for Zone 1

Management Action	Timeframe	Estimated Cost
Ensure that if grazing by domestic stock continues it is in accordance with a grazing management plan for the site to ensure that grazing by domestic stock does not	Ongoing	\$4,000 per plan

Management Action	Timeframe	Estimated Cost
compromise values of the site.		

In addition to the Priority Management Actions listed in the preceding tables, management activities specific for each of the Individual Urban Crown Land Parcels should be undertaken. These are listed in the individual site assessment sheets for each Urban Crown Land Parcel (Appendix D).

9.2 Zone 2 – The Boulevard, Watters Road, Jordan Place, Martin Court

The Crown Land Parcels in this zone are a mosaic of management agencies with DSE Crown Land Management, DSE Forests and Greater Shepparton City Council all being responsible for several parcels. All of the Urban Crown Land Parcels in this zone are subjected to significant pressure from the adjacent urban development. The parcels located in this zone are typically narrow, linear strips along the Goulburn River. The gardens and other infrastructure of the adjacent private property are encroaching upon these parcels. They are also being impacted upon by the recreational activities of these residents as well as other people who utilise these popular open spaces.

The activities undertaken by the adjacent private landholders include the planting of non indigenous plants and the placing of infrastructure such as compost heaps, garden furniture and irrigation systems within the Crown Land. These landholders have become the defacto managers for these sites. Although their current land management is inappropriate, the interest and commitment that they have shown to the management of these areas could potentially be harnessed to implement actions to remove the threats to the values of these areas and bring them up to minimum acceptable standard.

The assessment attributes for this zone that were identified as being a priority for improvement were Understorey, Weeds, Soil Disturbance and Litter/Rubbish.

9.2.1 Management Actions for Zone 2

Management actions for this zone will need to address the threats that are preventing these Urban Crown Land Parcels from reaching Minimum Acceptable Standards.

Recommended Management Actions will need to focus on improving the values for four assessment attributes: Understorey, Weeds, Soil Disturbance and Litter/Rubbish. The priority management activities that will need to be undertaken are summarised in Table 21:

■ **Table 21 Priority Management Actions for Zone 2**

Management Action	Timeframe	Estimated Cost
Manage weeds, particularly environmental weed species	Short – Medium	\$1,000 – \$5,000 per ha
Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks	Ongoing	\$500 per site
Enforce existing legislation regarding littering and rubbish dumping	Ongoing	\$3,000 per annum
Implement revegetation programs to improve quality of native understorey	Short – Medium	\$4,000 – \$7,000 per ha

Sites assessed within this zone are being impacted on by their intimate proximity to urban development. Additional recommended management actions to minimise the impact of this situation are in Table 22.

■ **Table 22 Additional Priority Management Actions for Zone 2**

Management Action	Timeframe	Estimated Cost
Undertake community education program	Short	\$10,000 per annum
Define public/private land boundary	Short	\$10,000 per km
Develop incentive program for urban landholders adjacent to Crown Land areas. Landholders to be provided with incentives to undertake appropriate land management activities such as weed control and revegetation with appropriate native species.	Ongoing	\$30,000 per annum

For two of the Urban Crown Land Parcels within this zone the adjacent private land parcel contains similar, high values. For these sites (sites 2.6 and 2.10) it is recommended that measures be investigated to ensure that these values on private land are retained, eg Conservation Covenant.

In addition to the Priority Management Actions listed in the preceding tables, management activities specific for each of the Individual Urban Crown Land Parcels should be undertaken. These are listed in the individual site assessment sheets for each Urban Crown Land Parcel (Appendix D).

9.3 Zone 3 – Princess Park / Victoria Park Lake precincts

These areas are moderately sized parcels of Crown Land adjacent to the Goulburn River currently managed by GSCC via Committees of Management. Some parcels within this zone have reasonable environmental value with all having substantial value from a social perspective due to their recreational usage. Management is currently reasonably ad hoc with the natural values of these areas not being fully utilised.

Many of the sites within this zone are suffering the impacts of recreation via littering and uncontrolled access (both pedestrian and vehicle) but all have the potential for substantial environmental improvement with improved management.

The assessment attributes for this zone that were identified as being a priority for improvement were Understorey, Weeds, Soil Disturbance and Litter/Rubbish.

9.3.1 Management Actions for Zone 3

Management actions for this zone will need to address the threats that are preventing these Urban Crown Land Parcels from reaching Minimum Acceptable Standards.

Recommended Management Actions will need to focus on improving the values for four assessment attributes: Understorey, Weeds, Soil Disturbance and Litter/Rubbish. The priority management activities that will need to be undertaken are summarised in Table 23:

■ **Table 23 Priority Management Actions for Zone 3**

Management Action	Timeframe	Estimated Cost
Manage weeds, particularly environmental weed species	Short – Medium	\$1,000 – \$5,000 per ha
Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks	Ongoing	\$500 per site
Enforce existing legislation regarding littering and rubbish dumping	Ongoing	\$3,000 per annum
Implement revegetation programs to improve quality of native understorey	Short – Medium	\$4,000 – \$7,000 per ha
Ensure that bins located within the sites are emptied regularly	Ongoing	\$2,500 per annum

In addition to the Priority Management Actions listed in the preceding tables, management activities specific for each of the Individual Urban Crown Land Parcels should be undertaken. These are listed in the individual site assessment sheets for each Urban Crown Land Parcel (Appendix D).

9.4 Zone 4 – Lincoln Drive / Broken River Drive

The Crown Land Parcels in this zone are typically broad areas running adjacent to the Broken River. The land status of these parcels is that they are owned and managed by the Greater Shepparton City Council with the status being Public Park Reserves. Management of these areas does not have an environmental focus, rather the sites are managed from a parks and gardens perspective, with minimal effort made to conserve and improve the environmental values of these sites.

Subtle changes in the current management regime to include a greater environmental focus should see a significant improvement in the environmental condition of these sites without impacting on their social values as public recreation areas.

The assessment attributes for this zone that were identified as being a priority for improvement were Organic Matter, Understorey and Weeds.

9.4.1 Management Actions for Zone 4

Management actions for this zone will need to address the threats that are preventing these Urban Crown Land Parcels from reaching Minimum Acceptable Standards.

Recommended Management Actions will need to focus on improving the values for three assessment attributes: Organic Matter, Understorey and Weeds. The priority management activities that will need to be undertaken are summarised in Table 24:

■ **Table 24 Priority Management Actions for Zone 4**

Management Action	Timeframe	Estimated Cost
Control the harvesting of timber and removal of firewood	Ongoing	\$3,000 per annum
Manage weeds, particularly environmental weed species	Short – Medium	\$1,000 – \$5,000 per ha
Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks	Ongoing	\$500 per site
Enforce existing legislation regarding littering and rubbish dumping	Ongoing	\$3,000 per annum
Implement revegetation programs to improve quality of native understorey	Short – Medium	\$4,000 – \$7,000 per ha

In addition to the Priority Management Actions listed in the preceding tables, management activities specific for each of the Individual Urban Crown Land Parcels should be undertaken. These are listed in the individual site assessment sheets for each Urban Crown Land Parcel (Appendix D).

9.5 Zone 5 – Kialla Lakes

The Crown Land Parcels in this zone are owned and managed by the Greater Shepparton City Council. All of the Urban Crown Land Parcels in this zone are subjected to significant pressure from the adjacent urban development. The parcels located in this zone are typically narrow, linear strips along the Broken River that are being encroached upon by the gardens and other infrastructure of the adjacent private property, and impacted upon by the recreational activities of these residents as well as other people using these open spaces.

The activities undertaken by the adjacent private landholders include the planting of non indigenous plants and the placing of infrastructure such as compost heaps, garden furniture and irrigation systems within the Crown Land. These landholders have become the defacto managers for these sites. Although their current land management is inappropriate, the interest and commitment that they have shown to the management of these areas could potentially be harnessed to implement actions to remove the threats to the values of these areas and bring them up to minimum acceptable standard.

The assessment attributes for this zone that were identified as being a priority for improvement were Organic Matter, Understorey and Weeds.

9.5.1 Management Actions for Zone 5

Management actions for this zone will need to address the threats that are preventing these Urban Crown Land Parcels from reaching Minimum Acceptable Standards.

Recommended Management Actions will need to focus on improving the values for three assessment attributes: Organic Matter, Understorey and Weeds. The priority management activities that will need to be undertaken are summarised in Table 25:

■ Table 25 Priority Management Actions for Zone 5

Management Action	Timeframe	Estimated Cost
Control the harvesting of timber and removal of firewood	Ongoing	\$3,000 per annum
Manage weeds, particularly environmental weed species	Short – Medium	\$1,000 – \$5,000 per ha
Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks	Ongoing	\$500 per site
Implement revegetation programs to improve quality of native understorey	Short – Medium	\$4,000 – \$7,000 per ha

Sites assessed within this zone are being impacted on by their intimate proximity to urban development. Additional recommended management actions to minimise the impact of this situation are in Table 26.

■ Table 26 Additional Priority Management Actions for Zone 5

Management Action	Timeframe	Estimated Cost
Undertake community education program	Short	\$10,000 per annum
Define public/private land boundary	Short	\$10,000 per km
Develop incentive program for urban landholders adjacent to Crown Land areas. Landholders to be	Ongoing	\$30,000 per annum



Management Action	Timeframe	Estimated Cost
provided with incentives to undertake appropriate land management activities such as weed control and revegetation with appropriate native species.		

In addition to the Priority Management Actions listed in the preceding tables, management activities specific for each of the Individual Urban Crown Land Parcels should be undertaken. These are listed in the individual site assessment sheets for each Urban Crown Land Parcel (Appendix D).

10. Conclusions

Currently Urban Crown Land Parcels in the Shepparton/Mooroopna area are managed by several different Government organisations with varying management priorities and resource levels. This situation has resulted in a mosaic of land tenure and management responsibility with confusion from the Land Managers as to what parcels of Crown Land they are actually responsible for.

Assessments of 42 Urban Crown Land Parcels were undertaken using multiple resource management techniques. These assessments found that the Parcels were highly variable with regard to their current condition with a range of threatening factors degrading the environmental value of these areas.

The current conditions of the Urban Crown Land Frontages were reviewed and compared with what the conditions might have been should Best Management Practice for these parcels have been undertaken. This comparison was used to determine Minimum Acceptable Standards for the Urban Crown Land Parcels.

The development of Minimum Acceptable Standards for the Environmental Condition of the Urban Crown Land Frontages showed that none of the 42 sites that were assessed reached the Minimum Standard for all of the Attributes that were considered.

For each of the attributes that were considered in the development of the Minimum Acceptable Standards, a series of processes were identified that were having a detrimental affect on these attributes. These threatening processes were identified and the relevant legislative framework for their management was considered.

The Urban Crown Land Parcels have been placed in a series of management zones. These zones are groupings of Urban Crown Land Parcels with similar characteristics including proximity to urban development, responsible management authority, size and shape, existing environmental attributes and threatening processes.

Prioritised management actions that address the threatening processes for each of the management zones have been developed, along with similar actions specific to each of the Urban Crown Land Parcels that were assessed. Broad recommendations were also produced regarding the entire Shepparton/Mooroopna area.

11. References

Department of Natural Resources and Environment (1997). *Draft Gemmills Swamp Wildlife Reserve Management Plan*

Department of Natural Resources and Environment (2001). *Goulburn Broken Weed Action Plan – 2001-2005*.

Department of Natural Resources and Environment (2002a). *Forest Management Plan for the Mid-Murray Forest Management Area*.

Department of Natural Resources and Environment (2002b). *Victorian Firewood Strategy Discussion Paper*.

Department of Primary Industries (2003). *Reedy Swamp Environmental Management Plan*.

JANIS (1997). *Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia*. A report by the Joint Australian and New Zealand Environment and Conservation Council/Ministerial Council on Forestry Fisheries and Aquaculture National Forest Policy Statement Implementation Sub-committee, Canberra.

Riparian Australia (2000). *Strategic Review of Crown Water Frontages*. Prepared for the Goulburn Broken Catchment Management Authority, June 2000.



Appendix A Field Assessment Forms

■ **Figure A2 Rapid Habitat Assessment Form for EVC 816 – Sedgy Riverine Forest**

Rapid Habitat Assessment (Assessed in Quadrat)			Assessment Zone Width (m)
<i>Based on Draft EVC Benchmark: Victorian Riverina EVC 816 Sedgy Riverine Forest</i>			
Category and Description	Value	Score	
Large Trees			
(>90 cm dbh)	No large trees	0	
20 large tree / ha	1 - 50% of benchmark # ha	1	
	>50% of benchmark # ha	2	
Canopy Cover			
(18-25 m high)	< 5% cover	0	
20% cover	5 - 10% cover	0.5	
	>10% cover	1	
Understorey			
(shrubs, herbs, grasses	< 8% cover	0	
regenerating trees, forbs)	8 - 20 % cover	2	
cover = 80%	21 - 60 % cover <10 species	3	
diversity = 22 species	21 - 60 % cover >10 species	4	
	> 60 % cover, > 10 species	5	
Species			
Weeds			
	>50% cover of exotic species	0	
	25 - 50% cover of exotic species	1	
	5 - 25% cover of exotic species	2	
	< 5% cover of exotic species	3	
Species			
Recruitment			
	Absent	0	
	Present	1	
	Abundant (streamside & verge)	2	
Organic Litter			
10% Cover	< 5% cover	0	
	> 5% cover	1	
Logs			
20m/0.1 ha	< 5m / 0.1 ha	0	
	5 - 10 / 0.1 ha	0.5	
	> 10 / 0.1 ha	1	
Size			
	< 2 ha	0	
	2 - 10 ha	1	
	> 10 ha	2	
Neighbourhood			
	< 10% cover	0	
	10 - 60% cover	1	
	> 60% cover	2	
Distance			
	> 1 km from 'core area'	0	
	< 1 km from 'core area'	1	
Total			

■ **Figure A3 Rapid Habitat Assessment Form for EVC 68 - Creepline Grassy Woodland**

Rapid Habitat Assessment (Assessed in Quadrat)			Assessment Zone Width (m)
<i>Based on Draft EVC Benchmark: Victorian Riverina EVC 68 Creepline Grassy Woodland</i>			
Category and Description	Value	Score	
Large Trees			
(>80 cm dbh)	No large trees	0	
15 large tree / ha	1 - 50% of benchmark # ha	1	
	>50% of benchmark # ha	2	
Canopy Cover			
(16-20 m high)	< 5% cover	0	
20% cover	5 - 10% cover	0.5	
	>10% cover	1	
Understorey			
(shrubs, herbs, grasses)	< 8% cover	0	
regenerating trees, forbs)	8 - 20 % cover	2	
cover = 82%	21 - 60 % cover <10 species	3	
diversity = 21 species	21 - 60 % cover >10 species	4	
	> 60 % cover, > 10 species	5	
Species			
Weeds			
	>50% cover of exotic species	0	
	25 - 50% cover of exotic species	1	
	5 - 25% cover of exotic species	2	
	< 5% cover of exotic species	3	
Species			
Recruitment			
	Absent	0	
	Present	1	
	Abundant (streamside & verge)	2	
Organic Litter			
40% Cover	< 20% cover	0	
	> 20% cover	1	
Logs			
30m/0.1 ha	< 7m / 0.1 ha	0	
	7 - 15 / 0.1 ha	0.5	
	> 15 / 0.1 ha	1	
Size			
	< 2 ha	0	
	2 - 10 ha	1	
	> 10 ha	2	
Neighbourhood			
	< 10% cover	0	
	10 - 60% cover	1	
	> 60% cover	2	
Distance			
	> 1 km from 'core area'	0	
	< 1 km from 'core area'	1	
Total			



■ Figure A4 Riparian and Instream Health Assessment Form

Riparian and Instream Health (Assessed in Quadrat)			
Width of Streamside Zone		Value	Score
	< 5	0	
	5 - 10	1	
	10 - 30	2	
	30 - 40	3	
	> 40	4	
Longitudinal Connectivity			
	Mostly Discontinuous	0	
	Mostly Continuous	2	
	Fully Continuous	4	
Instream Habitat (LWD)			
	Very poor	0	
	Poor	1	
	Good	2	
	Very Good	3	
	Excellent	4	
Macrophytes (rushes & reeds)			
	Absent	0	
	Present < 50% bank length	2	
	Abundant > 50% bank length	4	
			Total



■ **Figure A5 Frontage Management Assessment Sheet**

Frontage Management (assessed over whole tenure)							
Current landuse							
Landuse Pressures			Severity				
	Grazing	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
	Runoff	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
	Chemical	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
	Recreational	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
	Timber Removal	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
	Other	High	<input type="checkbox"/>	Medium	<input type="checkbox"/>	Low	<input type="checkbox"/>
Public Access	Unrestricted <input type="checkbox"/>		Limited <input type="checkbox"/>		Restricted <input type="checkbox"/>		
	Comments						
Values	Large Trees		Significant Regeneration		Native Fauna		
	Geomorphic Diversity		Instream Habitat		Wetlands		
	Structural intactness		Width of Vegetation		Terrestrial Timber		
	Other						
Threats	Wetland Connectivity		Bank Erosion		Exotic Flora		
	Introduced Fauna		Stock Access		Other Access		
	Timber Removal		Other				
Trajectory	Improvement <input type="checkbox"/>		Stable <input type="checkbox"/>		Decline <input type="checkbox"/>		
	Comments						
Compliance with Licence Conditions	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Details				
Comments / Improvements / Opportunities							



■ **Figure A6 Rapid Habitat Assessment Form**

Field Assessment Form (2000 Condition Assessment Method)								
Licence ID Number			Date					
Condition Attributes								
<i>Note: Each condition attribute is rated from 1 to 5. Where 1 = very poor and 5 = excellent</i>								
Attribute	Description	Score (2000)	2004 Assessment			Score 2004		
			A	B	C			
Above Bank Vegetation Width	1 (0m) - 5 (>20m)							
Soil Disturbance	1 (high level) - 5 (none)							
Tree Health	1 (all dead) - 5 (none dead)							
Tree Regeneration	1 (none) - 5 (abundant)							
Weed Presence	1 (>60% infestation) - 5 (absence)							
Species Richness	1 (low) - 5 (high)							
Vegetation Structure	1 (no mid storey) - 5 (widespread)							
Total								
Fallen Timber								
Large Trees								
Other Issues (circle if appropriate)								
Vermin	Bank Erosion	Vehicle Access Damage	Camping	Rubbish	Adjacent Landuse			
CWF Quality Class			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; padding: 5px;">2000</th> <th style="width: 50%; padding: 5px;">2005</th> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table>		2000	2005		
2000	2005							
<i>CWF Quality Class Criteria</i> 31-35 = Excellent 25-30 = Very Good 19-24 = Moderate 13-18 = Poor 7-12 = Very Poor								



Appendix B EVC Benchmarks

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Riverina bioregion

EVC 68: Creekline Grassy Woodland

Description:

Eucalypt-dominated woodland to 15 m tall with occasional scattered shrub layer over a mostly grassy/sedgy to herbaceous ground-layer. Occurs on low-gradient ephemeral to intermittent drainage lines, typically on fertile colluvial/alluvial soils, on a wide range of suitably fertile geological substrates. These minor drainage lines can include a range of graminoid and herbaceous species tolerant of waterlogged soils, and are presumed to have sometimes resembled a linear wetland or system of interconnected small ponds.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	80 cm	15 / ha

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	<i>Eucalyptus camaldulensis</i>	River Red-gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	4	10%	MS
Small Shrub	3	5%	SS
Large Herb	2	5%	LH
Medium Herb	9	15%	MH
Small Herb*	3	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	16	35%	MTG
Medium to Tiny Non-tufted Graminoid	3	5%	MNG
Bryophytes/Lichens	na	10%	BL

LF Code	Species typical of at least part of EVC range	Common Name
T	<i>Acacia dealbata</i>	Silver Wattle
T	<i>Acacia melanoxylon</i>	Blackwood
MS	<i>Acacia pycnantha</i>	Golden Wattle
MS	<i>Melaleuca parvistaminea</i>	Rough-barked Honey-myrtle
MS	<i>Acacia retinodes</i> var. <i>retinodes</i>	Wilrilda
SS	<i>Pimelea humilis</i>	Common Rice-flower
PS	<i>Astroloma humifusum</i>	Cranberry Heath
LH	<i>Senecio tenuiflorus</i>	Slender Fireweed
LH	<i>Senecio quadridentatus</i>	Cottony Fireweed
MH	<i>Centipeda cunninghamii</i>	Common Sneezeweed
MH	<i>Hypericum gramineum</i>	Small St John's Wort
SH	<i>Dichondra repens</i>	Kidneyweed
LTG	<i>Carex appressa</i>	Tall Sedge
LNG	<i>Phragmites australis</i>	Common Reed
MTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Elymus scaber</i> var. <i>scaber</i>	Common Wheat-grass
MTG	<i>Juncus</i> spp.	Rush
MTG	<i>Cyperus</i> spp.	Flat-sedge
MNG	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass

EVC 68: Creekline Grassy Woodland - Victorian Riverina bioregion

Recruitment:

Continuous

Organic Litter:

40 % cover

Logs:

30 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Anagallis arvensis</i>	Pimpernel	high	low
MH	<i>Hypochoeris glabra</i>	Smooth Cat's-ear	high	low
MH	<i>Galium murale</i>	Small Goosegrass	high	low
MH	<i>Oxalis pes-caprae</i>	Soursob	high	high
LTG	<i>Juncus acutus</i>	Spiny Rush	high	high
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MNG	<i>Aira elegantissima</i>	Delicate Hair-grass	high	low
MNG	<i>Vulpia muralis</i>	Wall Fescue	high	low
MNG	<i>Bromus madritensis</i>	Madrid Brome	high	low

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EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Riverina bioregion

EVC 816: Sedgy Riverine Forest

Description:

Riverine Sedgy Forest occurs on the floodplain of major rivers in areas of frequent flooding. The overstorey is a tall forest of River Red Gum to 25 m tall. The groundlayer is dominated by flood-related grass and sedge species. Depending on time of year and flooding level, associated water plants may be present.

Large trees:

Species	DBH(cm)	#/ha
<i>Eucalyptus</i> spp.	90 cm	20 / ha

Tree Canopy Cover:

%cover	Character Species	Common Name
30%	<i>Eucalyptus camaldulensis</i>	River Red-gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Large Herb	2	5%	LH
Medium Herb	7	15%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	2	10%	LTG
Medium to Small Tufted Graminoid	4	5%	MTG
Medium to Tiny Non-tufted Graminoid	3	20%	MNG
Bryophytes/Lichens	na	10%	BL
Total understorey projective foliage cover		80%	

LF Code	Species typical of at least part of EVC range	Common Name
LH	<i>Epilobium billardierianum</i> ssp. <i>cinereum</i>	Grey Willow-herb
MH	<i>Myriophyllum crispatum</i>	Upright Water-milfoil
MH	<i>Goodenia gracilis</i>	Slender Goodenia
MH	<i>Lythrum hyssopifolia</i>	Small Loosestrife
MH	<i>Marsilea drummondii</i>	Common Nardoo
SH	<i>Azolla filiculoides</i>	Pacific Azolla
SH	<i>Ludwigia peploides</i> ssp. <i>montevidensis</i>	Clove-strip
SH	<i>Lobelia concolor</i>	Poison Pratia
SH	<i>Elatine gratioloides</i>	Waterwort
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Juncus aridicola</i>	Tussock Rush
MTG	<i>Triglochin procerum</i> s.l.	Water Ribbons
MTG	<i>Carex inversa</i>	Knob Sedge
MTG	<i>Setaria jubiflora</i>	Warrego Summer-grass
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
EP	<i>Muellerina eucalyptoides</i>	Creeping Mistletoe

EVC 816: Sedgy Riverine Forest - Victorian Riverina bioregion

Recruitment:

Continuous

Organic Litter:

10 % cover

Logs:

20 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low

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Appendix C Individual Crown Land Parcel Assessment Sheets

Urban Crown Land (Riparian) Assessment 2005



Site 1.1
Tenure Type – GSCC Reserve

Assessment Date: 4 April 2005
Assessment Location (AMG): 356487 E 5969561 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	4
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	0
Logs	0
Size	2
Neighbourhood	0
Distance	0
Total	6

Habitat Quality = **Low**

Access: Unrestricted pedestrian access from Broken River Drive. Shared path located within Crown Parcel

Comments: Moderate quality Parcel. Suffering from recreation and litter impacts.

Values: Large Trees

Threats: Bank Erosion, Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



Site 1.2
Tenure Type – GSCC Reserve

Assessment Date: 4 April 2005
Assessment Location (AMG): 356111 E 5969744 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	4
Tree Regeneration	3
Weed Presence	4
Species Richness	4
Vegetation Structure	3
Total	25

CWF Quality Class = **Good**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	5
Weeds	2
Recruitment	1
Organic Litter	1
Logs	0.5
Size	2
Neighbourhood	0
Distance	0
Total	13.5

Habitat Quality = **High**

Access: Unrestricted pedestrian access from Broken River Drive. Shared path located within Crown Parcel.

Comments: High quality parcel. Localised intense disturbance from unauthorised construction of bike paths/jumps including the lopping of native vegetation.

Values: Large Trees, Width of Vegetation, Terrestrial Timber

Threats: Soil and Vegetation Disturbance due to Recreation

Priority Actions to achieve Minimum Acceptable Standards:

- Control recreational activities particularly uncontrolled access to site
- Enforce existing legislation regarding littering and rubbish dumping
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



Site 1.3
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 4 April 2005
Assessment Location (AMG): 354944 E 5970812 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	2
Species Richness	4
Vegetation Structure	1
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	4
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	1
Distance	1
Total	13

Habitat Quality = **High**

Access: Unrestricted pedestrian access from Lincoln Drive. Shared path located within Crown Parcel

Comments: Moderate / High quality Parcel located close to the Goulburn River corridor. GBCMA works site located at upstream end of site.

Values: Width of Vegetation

Threats: Other Access, Exotic Flora

Priority Actions to achieve Minimum Acceptable Standards:

- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



Site 1.4
Tenure Type – GSCC Reserve

Assessment Date: 4 April 2005
Assessment Location (AMG): 355017 E 5970325 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	4
Tree Regeneration	1
Weed Presence	3
Species Richness	2
Vegetation Structure	3
Total	22

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	0
Logs	0
Size	2
Neighbourhood	0
Distance	1
Total	11

Habitat Quality = **Medium**

Access: Unrestricted pedestrian access off Lincoln Drive. Shared path located within Crown Parcel.

Comments: Moderate quality Crown Parcel. Suffering minor effects of recreation (litter, etc).

Values: Width of Vegetation

Threats: Exotic Flora, Other Access

Priority Actions to achieve Minimum Acceptable Standards:

- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



Site 1.5
Tenure Type – GSCC Reserve

Assessment Date: 4 April 2005
Assessment Location (AMG): 355658 E 5970043 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	4
Tree Regeneration	2
Weed Presence	2
Species Richness	1
Vegetation Structure	2
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	0
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	0
Distance	1
Total	8

Habitat Quality = **Medium**

Access: Unrestricted pedestrian access off Lincoln Drive. Shared path located within Crown Parcel.

Comments: Moderate quality Crown Parcel. Suffering minor effects of recreation (litter, etc).

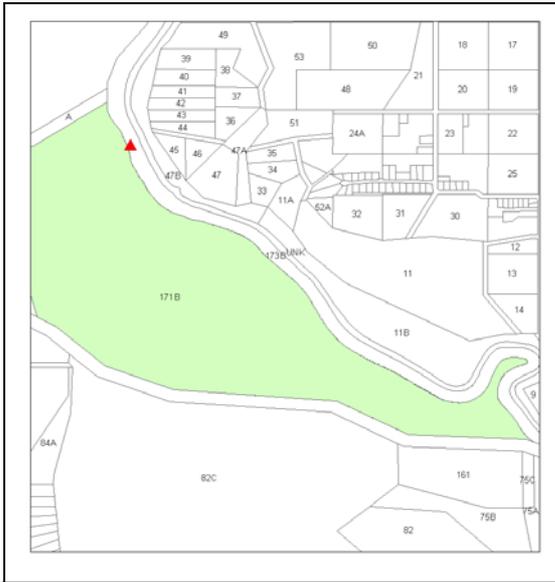
Values: Width of Vegetation

Threats: Exotic Flora, Other Access

Priority Actions to achieve Minimum Acceptable Standards:

- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Enforce existing legislation regarding littering and rubbish dumping
- Ensure that unauthorised timber removal and timber harvesting does not occur
- Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



Site 1.6
Tenure Type – PV Managed State Forest

Assessment Date: 4 April 2005
Assessment Location (AMG): 352033 E 5975431 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	2
Tree Regeneration	3
Weed Presence	3
Species Richness	4
Vegetation Structure	2
Total	23

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	4
Weeds	3
Recruitment	2
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	17

Habitat Quality = **High**

Access: Unrestricted pedestrian and vehicle access off Forest Tracks via Cemetery Road.

Comments: Moderate to High quality site located within a large Parcel of State Forest. Generally a very good grassy layer although some evidence of historic grazing and timber harvesting. Evidence of recreation – vehicle access damage and litter. Regeneration of woody species following a wildfire in part of site.

Values: Significant Regeneration, Native Fauna, Wetlands, Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 1.7
Tenure Type – PV Managed State Forest

Assessment Date: 4 April 2005
Assessment Location (AMG): 353080 E 5974330 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	3
Tree Regeneration	1
Weed Presence	3
Species Richness	4
Vegetation Structure	2
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	5
Weeds	2
Recruitment	0
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	13.5

Habitat Quality = **High**

Access: Unrestricted pedestrian and vehicle access off Forest Tracks via Cemetery Road.

Comments: Moderate to High quality site located within a large Parcel of State Forest. Generally a very good grassy layer although some evidence of historic grazing and timber harvesting. Evidence of recreation – vehicle access damage, campsite and litter.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site, multiple campsite locations and new off road tracks
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 1.8
Tenure Type – Licensed State Forest

Assessment Date: 4 April 2005
Assessment Location (AMG): 353923 E 5974008 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	2
Species Richness	2
Vegetation Structure	2
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	0
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	12

Habitat Quality = **High**

Access: Unrestricted pedestrian and vehicle access off Forest Tracks via Cemetery Road.

Comments: Moderate to High quality site located within a large Parcel of State Forest. Generally a very good grassy layer although some evidence of historic timber harvesting. Site is currently grazed. Evidence of recreation – vehicle access damage and litter.

Values: Width of Vegetation

Threats: Exotic Flora, Stock Access, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



Site 1.9
 Tenure Type – Licensed State Forest

Assessment Date: 4 April 2005
 Assessment Location (AMG): 355474 E 5973236 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	2
Species Richness	2
Vegetation Structure	2
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	12.5

Habitat Quality = **High**

Access: Unrestricted pedestrian and vehicle access off Forest Tracks via Cemetery Road.

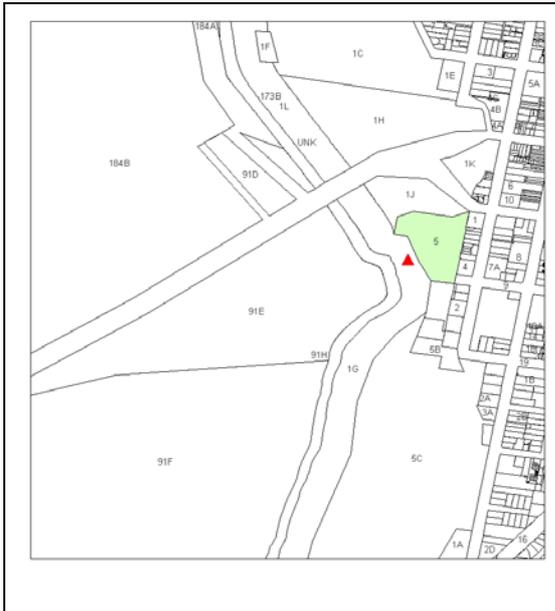
Comments: Moderate to High quality site located within a large Parcel of State Forest. Generally a very good grassy layer although some evidence of historic timber harvesting. Site is currently grazed. Evidence of recreation – vehicle access damage and litter.

Values: Width of Vegetation

Threats: Exotic Flora, Stock Access, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



1.10
Tenure Type – GSCC Committee of Management

Assessment Date: 4 April 2005
Assessment Location (AMG): 355972 E 59772264 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	1
Total	16

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	1
Neighbourhood	0
Distance	1
Total	7

Habitat Quality = **Medium**

Access: Unrestricted pedestrian access from Welsford Street. Currently vehicle access is also present due to removal of bollards for construction works at adjacent private allotment. Shared path located within parcel.

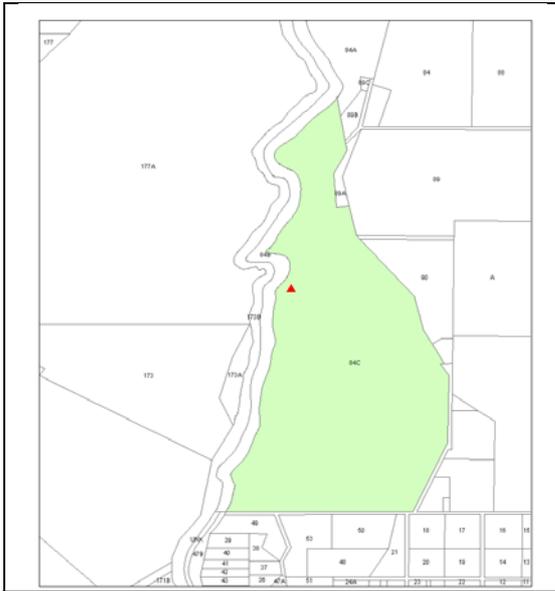
Comments: Moderate to poor quality Crown Parcel suffering from the effects of recreation and litter. Urban stormwater outfall located within Parcel – recent disturbance due to construction of Gross Pollutant Trap.

Values: N/A

Threats: Exotic Flora, Other Access

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey

Urban Crown Land (Riparian) Assessment 2005



2.1
Tenure Type – PV Wildlife Reserve

Assessment Date: April 2005
Assessment Location (AMG): 352574 E 5977640 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	2
Species Richness	2
Vegetation Structure	3
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0.5
Size	2
Neighbourhood	2
Distance	1
Total	13.5

Habitat Quality = **High**

Access: Off Wheeler Road, via forest access tracks

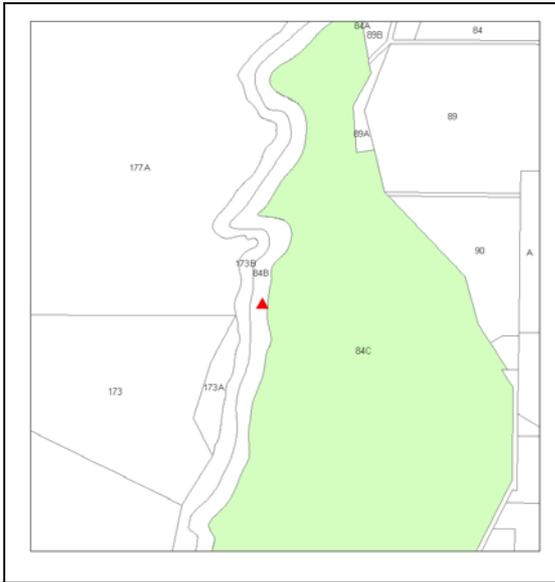
Comments: Moderate to high quality Parcel adjacent to Reedy Swamp Wildlife Reserve

Values: Large Trees, Width of Vegetation, Terrestrial Timber

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 2.2
Tenure Type – PV Wildlife Reserve

Assessment Date: 5 April 2005
Assessment Location (AMG): 352450 E 5977445 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	4
Tree Regeneration	2
Weed Presence	2
Species Richness	2
Vegetation Structure	2
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	4
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	13.5

Habitat Quality = **High**

Access: Off Wheeler Road, via forest access tracks

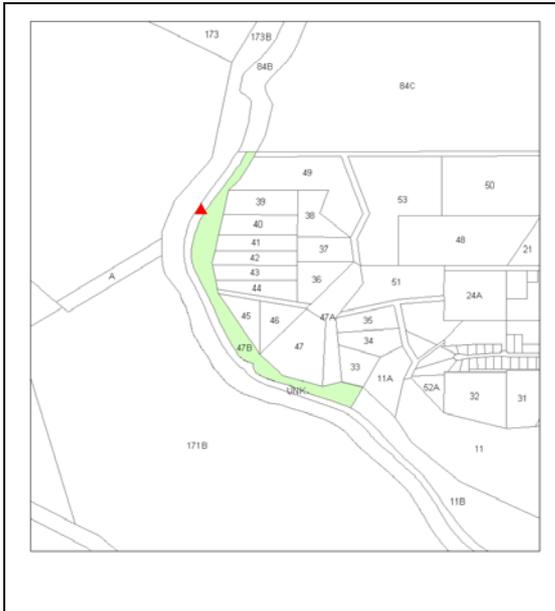
Comments: Moderate to high quality Parcel adjacent to Reedy Swamp Wildlife Reserve. Unrestricted vehicle access with some evidence of rubbish dumping

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 2.3
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 5 April 2005
Assessment Location (AMG): 352056 E 5975836 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	4
Tree Regeneration	2
Weed Presence	2
Species Richness	2
Vegetation Structure	3
Total	22

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	4
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	14

Habitat Quality = **High**

Access: Off Wheeler Road, via forest access tracks

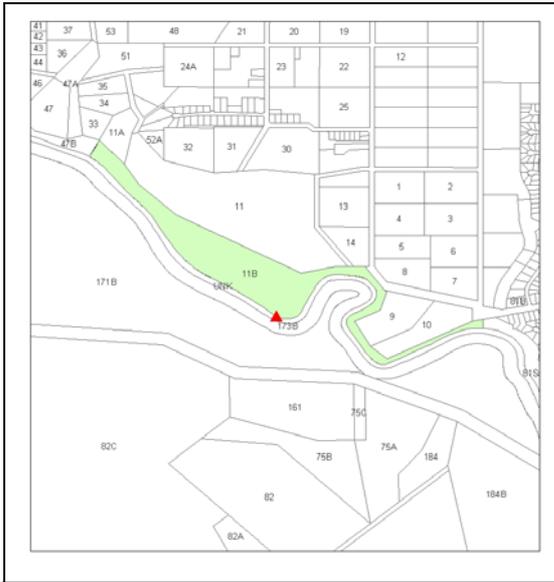
Comments: Moderate to high quality Parcel adjacent to Reedy Swamp Wildlife Reserve. Unrestricted vehicle access with some evidence of rubbish dumping

Values: Width of Vegetation

Threats: Exotic Flora, Introduced Fauna, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 2.4
Tenure Type – Unlicensed DSE Reserve

Assessment Date: 5 April 2005
Assessment Location (AMG): 353315 E 5974258 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	3
Tree Regeneration	1
Weed Presence	1
Species Richness	1
Vegetation Structure	2
Total	15

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	10.5

Habitat Quality = **Medium**

Access: Off The Boulevard, behind Shepparton Golf Course

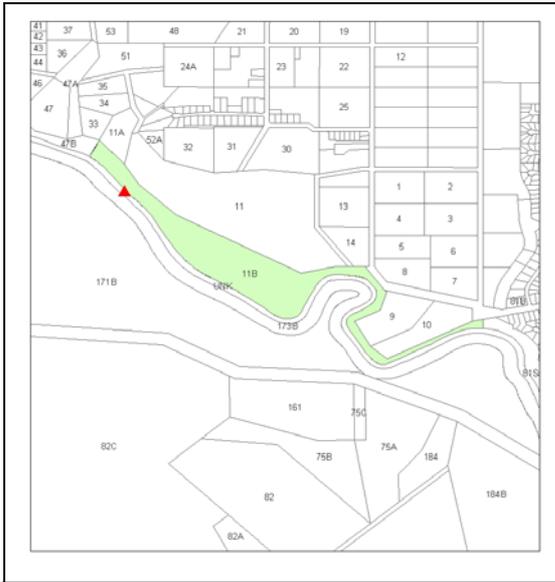
Comments: Moderate to Poor quality Parcel, unrestricted vehicle access, significant impact of rubbish dumping, very weedy site.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 2.5
Tenure Type – Unlicensed DSE Reserve

Assessment Date: 5 April 2005
Assessment Location (AMG): 352694 E 5974878 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	3
Tree Regeneration	1
Weed Presence	1
Species Richness	3
Vegetation Structure	2
Total	17

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	0.5
Understorey	3
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	12.5

Habitat Quality = **High**

Access: Off The Boulevard, behind Shepparton Golf Course

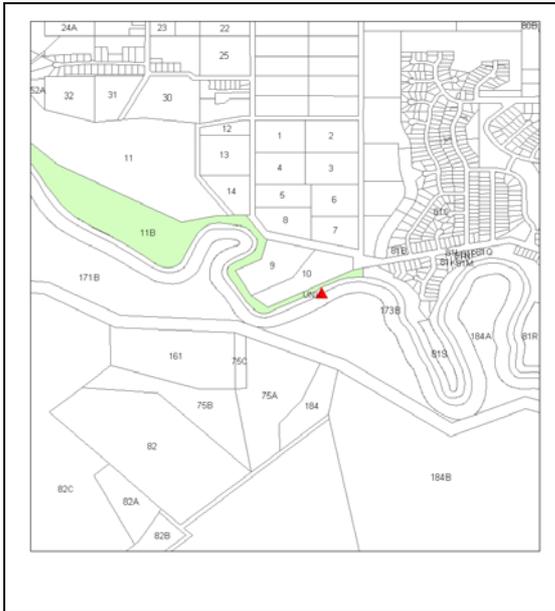
Comments: Moderate to Poor quality Parcel, unrestricted vehicle access, significant impact of rubbish dumping, very weedy site.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 2.6
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 5 April 2005
Assessment Location (AMG): 353976 E 5974129 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	4
Species Richness	5
Vegetation Structure	3
Total	25

CWF Quality Class = **Good**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	5
Weeds	3
Recruitment	2
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	17.5

Habitat Quality = **High**

Access: Off The Boulevard, pedestrian access only

Comments: High quality parcel with excellent groundcover diversity. Issues of recreation (bike track construction) and some rubbish dumping

Values: Structural Intactness, Width of Vegetation

Threats: Bank Erosion, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native shrub layer
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site
 - Adjacent private land parcel contains similar, high values. Investigate measures to ensure that these values are retained, eg Conservation Covenant

Urban Crown Land (Riparian) Assessment 2005



Site 2.7
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 5 April 2005
Assessment Location (AMG): 354280 E 5974184 N



CWF Vegetation Quality Assessment	
Vegetation Width	1
Soil Disturbance	2
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	1
Total	11

CWF Quality Class = **Very Poor**

Rapid habitat Assessment 2005	
Large Trees	0
Canopy Cover	1
Understorey	0
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	0
Neighbourhood	1
Distance	1
Total	5

Habitat Quality = **Low**

Access: Off The Boulevard behind private residences

Comments: Very Low quality Parcel. Unlicensed Crown Water Frontage that has significant issues with encroachment from adjacent private land. Garden plants have been planted throughout the Crown Parcel, private infrastructure located on Crown Land.

Values: N/A

Threats: Exotic Flora, Other Access, Urban Encroachment

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 2.8
Tenure Type – Licensed State Forest

Assessment Date: 5 April 2005
Assessment Location (AMG): 354406 E 5973967



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	2
Tree Regeneration	2
Weed Presence	3
Species Richness	2
Vegetation Structure	4
Total	22

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	0
Canopy Cover	1
Understorey	4
Weeds	1
Recruitment	2
Organic Litter	1
Logs	0
Size	1
Neighbourhood	2
Distance	1
Total	13

Habitat Quality = **High**

Access: Off Watters Road

Comments: Small parcel of State Forest. Access is available only via adjacent private allotment.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Ensure that unauthorised timber does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



Site 2.9
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 5 April 2005
Assessment Location (AMG): 354484 E 5974161 N



CWF Vegetation Quality Assessment	
Vegetation Width	1
Soil Disturbance	2
Tree Health	3
Tree Regeneration	3
Weed Presence	1
Species Richness	1
Vegetation Structure	1
Total	12

CWF Quality Class = **Very Poor**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	2
Organic Litter	1
Logs	1
Size	1
Neighbourhood	1
Distance	1
Total	13

Habitat Quality = **High**

Access: Off The Boulevard / Watters Road

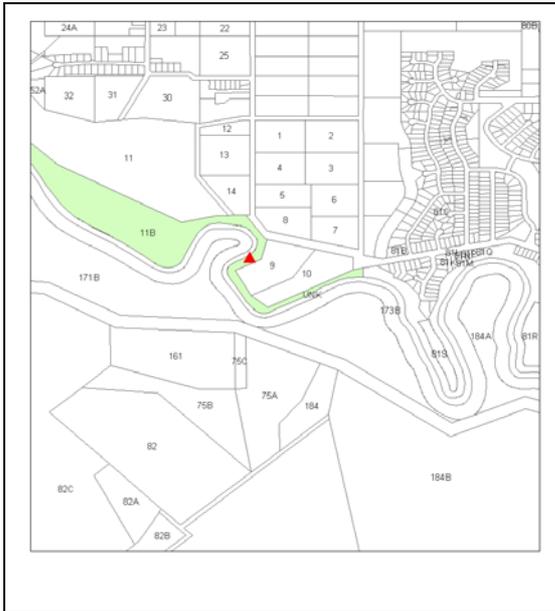
Comments: Very Low quality Parcel. Unlicensed Crown Water Frontage that has significant issues with encroachment from adjacent private land. Garden plants have been planted throughout the Crown Parcel, private infrastructure located on Crown Land.

Values: Large Trees, Terrestrial Timber

Threats: Exotic Flora, Other Access, Timber Removal, Urban Encroachment

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 2.10
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 5 April 2005
Assessment Location (AMG): 353684 E 5974303 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	2
Weed Presence	3
Species Richness	3
Vegetation Structure	3
Total	23

CWF Quality Class = **Good**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	5
Weeds	1
Recruitment	12
Organic Litter	1
Logs	1
Size	2
Neighbourhood	2
Distance	1
Total	16

Habitat Quality = **High**

Access: Off The Boulevard

Comments: High quality Crown Parcel adjacent to private parcel.

Values: Significant Regeneration, Structural Intactness, Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native shrub layer
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site
 - Adjacent private land parcel contains similar, high values. Investigate measures to ensure that these values are retained, eg Conservation Covenant

Urban Crown Land (Riparian) Assessment 2005



Site 3.1
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 6 April 2005
Assessment Location (AMG): 354519 E 5974245 N



CWF Vegetation Quality Assessment	
Vegetation Width	1
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	1
Total	12

CWF Quality Class = **Very Poor**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	1
Understorey	0
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0.5
Size	1
Neighbourhood	2
Distance	1
Total	9.5

Habitat Quality = **Medium**

Access: Off Watters Road, behind private residences

Comments: Very Low quality Parcel. Unlicensed Crown Water Frontage that has significant issues with encroachment from adjacent private land. Garden plants have been planted throughout the Crown Parcel, private infrastructure located on Crown Land.

Values: N/A

Threats: Exotic Flora, Other Access, Timber Removal, Urban Encroachment

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.2
Tenure Type – GSCC Committee of Management

Assessment Date: 6 April 2005
Assessment Location (AMG): 354666 E 5974307 N



CWF Vegetation Quality Assessment	
Vegetation Width	2
Soil Disturbance	2
Tree Health	3
Tree Regeneration	2
Weed Presence	2
Species Richness	3
Vegetation Structure	3
Total	17

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	1
Size	1
Neighbourhood	2
Distance	1
Total	12.5

Habitat Quality = **High**

Access: Off the Boulevard via GSCC reserve

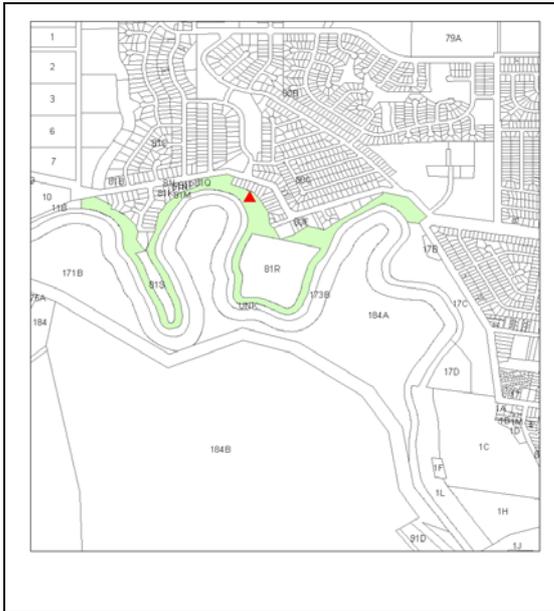
Comments: Relatively broad Crown Land Parcel. Managed by GSCC. Flooding and Drainage Reserve extending from the Goulburn River through to The Boulevard.

Values: N/A

Threats: Bank Erosion, Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.3
Tenure Type – GSCC Committee of Management

Assessment Date: 6 April 2005
Assessment Location (AMG): 354819 E 5974280 N



CWF Vegetation Quality Assessment	
Vegetation Width	1
Soil Disturbance	2
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	13

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0.5
Size	1
Neighbourhood	2
Distance	1
Total	10.5

Habitat Quality = **Medium**

Access: Off The Boulevard, behind private residences

Comments: Very Low quality Parcel. Unlicensed Crown Water Frontage that has significant issues with encroachment from adjacent private land. Garden plants have been planted throughout the Crown Parcel, private infrastructure located on Crown Land.

Values: N/A

Threats: Exotic Flora, Other Access, Timber Removal, Urban Encroachment, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.4
Tenure Type – Unlicensed State Forest

Assessment Date: 6 April 2005
Assessment Location (AMG): 355047 E 5973796 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	2
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	1
Total	16

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0.5
Size	2
Neighbourhood	2
Distance	1
Total	11.5

Habitat Quality = **Medium**

Access: Off Jordan Place, via Shared Path

Comments: Medium to poor quality parcel. Shared Path runs through parcel

Values: Width of Vegetation

Threats: Exotic Flora, Other Access

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 3.5
Tenure Type – Unlicensed State Forest

Assessment Date: 6 April 2005
Assessment Location (AMG): 354910 E 593707 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	1
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	17

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	10.5

Habitat Quality = **Medium**

Access: Off Jordan Place, via Shared Path

Comments: Medium to poor quality parcel. Shared Path runs through parcel

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 3.6
Tenure Type – Unlicensed State Forest

Assessment Date: 6 April 2005
Assessment Location (AMG): 354788 E 5974004 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	2
Total	18

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	11

Habitat Quality = **Medium**

Access: Off Jordan Place, via Shared Path

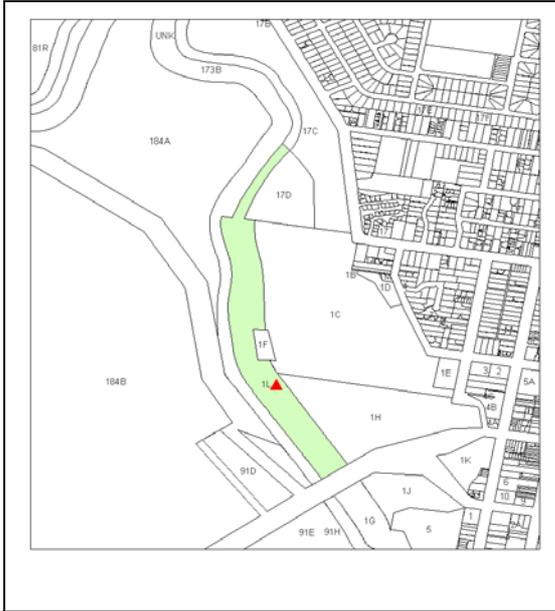
Comments: Medium to poor quality parcel. Shared Path runs through parcel

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 3.7
Tenure Type – GSCC Committee of Management

Assessment Date: 6 April 2005
Assessment Location (AMG): 355635 E 5972806 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	2
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	2
Total	15

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	0
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	1
Neighbourhood	2
Distance	1
Total	8

Habitat Quality = **Medium**

Access: Off Marungi Street, behind Princess Park

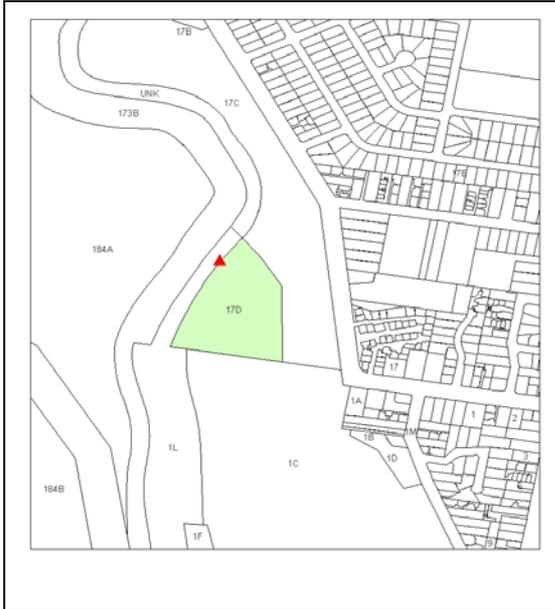
Comments: Medium to poor quality parcel. Unrestricted pedestrian and vehicle access, shared path runs through parcel

Values: N/A

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 3.8
Tenure Type – GSCC Committee of Management

Assessment Date: 6 April 2005
Assessment Location (AMG): 355620 E 5973512 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	2
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	1
Total	14

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	12

Habitat Quality = **High**

Access: Off Marungi Street or The Boulevard, behind Princess Park

Comments: Medium to poor quality parcel. Unrestricted pedestrian and vehicle access via numerous informal access tracks, shared path adjacent to parcel

Values: Large Trees, Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Litter

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 3.9
Tenure Type – GSCC Reserve

Assessment Date: 6 April 2005
Assessment Location (AMG): 356926 E 5969102



CWF Vegetation Quality Assessment	
Vegetation Width	4
Soil Disturbance	3
Tree Health	2
Tree Regeneration	3
Weed Presence	1
Species Richness	3
Vegetation Structure	3
Total	19

CWF Quality Class = Moderate

Rapid habitat Assessment 2005	
Large Trees	0
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	0
Logs	0
Size	1
Neighbourhood	1
Distance	0
Total	6

Habitat Quality = Low

Access: Via Buffalo Court.

Comments: Moderate to Poor quality parcel adjacent to residential development. Encroachment is occurring via adjacent private residences

Values: Geomorphic Diversity, Instream Habitat

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Define public/private land boundary
 - Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.10
Tenure Type – GSCC Reserve

Assessment Date: 6 April 2005
Assessment Location (AMG): 356683 E 5969408 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	1
Tree Health	4
Tree Regeneration	2
Weed Presence	2
Species Richness	3
Vegetation Structure	3
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	2
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	0
Logs	0
Size	1
Neighbourhood	1
Distance	0
Total	10

Habitat Quality = **Medium**

Access: Off Wellington Court near Shared Path bridge.

Comments: Moderate quality Parcel. Unrestricted pedestrian access off shared path which runs through parcel. Parcel has suffered extreme disturbance historically as a source of fill for Kialla Lakes development.

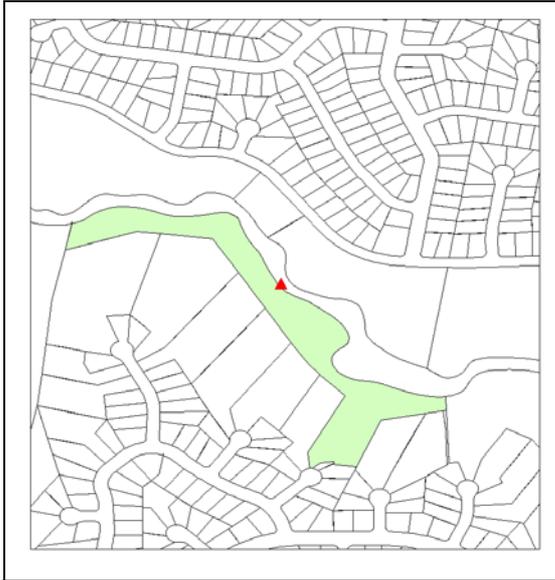
Values: Large Trees, Geomorphic Diversity

Threats: Bank Erosion, Exotic Flora, Other Access, Timber Removal

Priority Actions to achieve Minimum Acceptable Standards:

- Define public/private land boundary
- Enforce existing legislation regarding littering and rubbish dumping
- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey
- Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.11
Tenure Type – GSCC Reserve

Assessment Date: April 2005
Assessment Location (AMG): 356375 E 5969607 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	18

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	0.5
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	1
Distance	0
Total	8.5

Habitat Quality = **Medium**

Access: Off George Court

Comments: Moderate to Poor quality parcel, unrestricted pedestrian and vehicle access, multiple motorbike tracks present

Values: Instream habitat, Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal,

Priority Actions to achieve Minimum Acceptable Standards:

- Define public/private land boundary
- Enforce existing legislation regarding littering and rubbish dumping
- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey
- Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 3.12
Tenure Type – GSCC Reserve

Assessment Date: 6 April 2005
Assessment Location (AMG): 356878 E 5969236 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	0
Logs	0
Size	2
Neighbourhood	1
Distance	0
Total	8

Habitat Quality = **Medium**

Access: Off Archer Street, Broken River Drive

Comments: Moderate quality parcel, unrestricted pedestrian and vehicle access, shared path at rear of parcel.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

Priority Actions to achieve Minimum Acceptable Standards:

- Enforce existing legislation regarding littering and rubbish dumping
- Manage weeds, particularly environmental weed species.
- Control recreational activities particularly uncontrolled access to site
- Ensure that unauthorised timber removal does not occur
- Implement revegetation programs to improve quality of native understorey
- Undertake community education program

Urban Crown Land (Riparian) Assessment 2005



Site 4.1
Tenure Type – GSCC Committee of Management

Assessment Date: 7 April 2005
Assessment Location (AMG): 355384 E 5973938 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	2
Tree Regeneration	1
Weed Presence	2
Species Richness	2
Vegetation Structure	2
Total	16

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	1
Neighbourhood	2
Distance	1
Total	12

Habitat Quality = **High**

Access: Off The Boulevard, near Mason Street

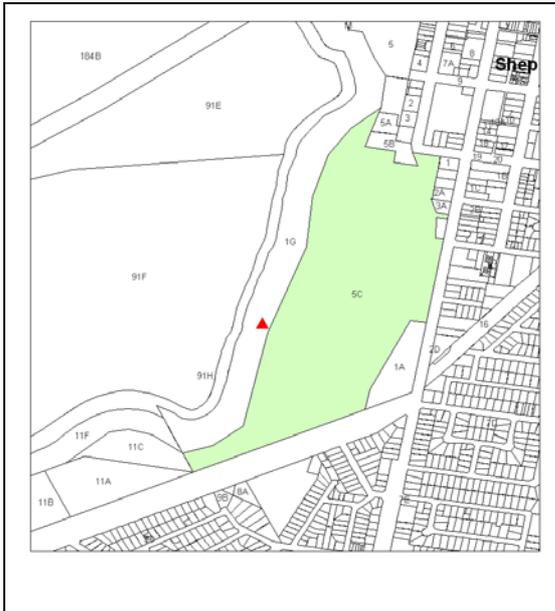
Comments: Moderate quality parcel, unrestricted pedestrian and vehicle access.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Litter

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled vehicle access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 4.2
 Tenure Type – GSCC Committee of Management

Assessment Date: 7 April 2005
 Assessment Location (AMG): 355730 E 5971400 N



CWF Vegetation Quality Assessment	
Vegetation Width	4
Soil Disturbance	1
Tree Health	2
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	2
Total	14

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	1
Neighbourhood	2
Distance	1
Total	10

Habitat Quality = **Medium**

Access: Via Tom Collins Drive

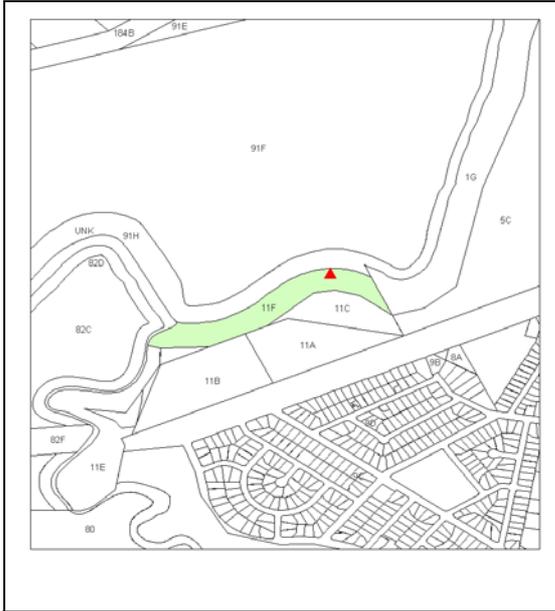
Comments: Moderate to poor quality Crown Parcel, unrestricted pedestrian and vehicle access

Values: N/A

Threats: Exotic Flora, Other Access, Timber Removal, Litter

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled vehicle access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that bins located within the site are emptied regularly

Urban Crown Land (Riparian) Assessment 2005



Site 4.3
 Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 7 April 2005
 Assessment Location (AMG): 355381 E 5971105 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	1
Weed Presence	1
Species Richness	3
Vegetation Structure	2
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	11

Habitat Quality = **Medium**

Access: Off Tom Collins Drive via Shared Path

Comments: Moderate quality Parcel, shared path runs through parcel.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 4.4
Tenure Type – Unlicensed State Forest

Assessment Date: 7 April 2005
Assessment Location (AMG): 354894 E 5970895 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	2
Species Richness	3
Vegetation Structure	2
Total	20

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	13

Habitat Quality = **High**

Access: Off Watts Road via Forest Tracks

Comments: Moderate to high quality parcel at the confluence of the Broken and Goulburn Rivers. Unrestricted pedestrian and vehicle access, parcel is grazed.

Values: Structural Intactness, Width of Vegetation

Threats: Bank Erosion, Exotic Flora, Stock Access, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



Site 4.5
Tenure Type – Unlicensed State Forest

Assessment Date: 7 April 2005
Assessment Location (AMG): 354432 E 5970835 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	3
Weed Presence	2
Species Richness	4
Vegetation Structure	3
Total	24

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	13

Habitat Quality = **High**

Access: Off Watts Road via Forest Tracks

Comments: High quality Crown Parcel. Unrestricted pedestrian and vehicle access, parcel is grazed.

Values: Width of Vegetation

Threats: Exotic Flora, Stock Access, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



Site 4.6
Tenure Type – Unlicensed State Forest

Assessment Date: 7 April 2005
Assessment Location (AMG): 354068 E 5971052 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	3
Total	19

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	11

Habitat Quality = **Medium**

Access: Off Watts Road via Forest Tracks

Comments: Moderate quality Crown Parcel with unrestricted pedestrian and vehicle access. Significant weed presence and issues of rubbish dumping.

Values: Width of Vegetation

Threats: Exotic Flora, Stock Access, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Develop grazing management plan for site to ensure that grazing by domestic stock does not compromise values of the site

Urban Crown Land (Riparian) Assessment 2005



Site 4.7
Tenure Type – Unlicensed Crown Water Frontage

Assessment Date: 7 April 2005
Assessment Location (AMG): 353632 E 5971138 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	3
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	1
Vegetation Structure	2
Total	17

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	0
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0.5
Size	1
Neighbourhood	2
Distance	1
Total	8.5

Habitat Quality = **Medium**

Access: Off McLennan Street, via Chinaman's Garden

Comments: Poor quality parcel with unrestricted pedestrian and vehicle access

Values: Width of Vegetation

Threats: Bank Erosion, Exotic Flora, Other Access, Timber Removal, Litter

- Priority Actions to achieve Minimum Acceptable Standards:**
- Enforce existing legislation regarding littering and rubbish dumping
 - Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 4.8
Tenure Type – Unlicensed State Forest

Assessment Date: 7 April 2005
Assessment Location (AMG): 352785 E 5971243 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	4
Tree Health	3
Tree Regeneration	2
Weed Presence	2
Species Richness	3
Vegetation Structure	3
Total	22

CWF Quality Class = **Moderate**

Rapid habitat Assessment 2005	
Large Trees	0
Canopy Cover	1
Understorey	3
Weeds	1
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	12

Habitat Quality = **Medium**

Access: Off Peter Ross-Edwards Causeway, via Forest Tracks

Comments: Moderate quality Crown parcel with unrestricted pedestrian and vehicle access.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 4.9
Tenure Type – Unlicensed State Forest

Assessment Date: 7 April 2005
Assessment Location (AMG): 355233 E 5971107 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	2
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	3
Total	17

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	1
Size	2
Neighbourhood	2
Distance	1
Total	12

Habitat Quality = **Medium**

Access: Off Peter Ross-Edwards Causeway, via Forest Tracks

Comments: Moderate quality Crown parcel with unrestricted pedestrian and vehicle access.

Values: Width of Vegetation, Terrestrial Timber

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded

Urban Crown Land (Riparian) Assessment 2005



Site 4.10
Tenure Type – PV Managed Reserve

Assessment Date: April 2005
Assessment Location (AMG): 355909 E 5972257 N



CWF Vegetation Quality Assessment	
Vegetation Width	5
Soil Disturbance	2
Tree Health	3
Tree Regeneration	2
Weed Presence	1
Species Richness	2
Vegetation Structure	3
Total	18

CWF Quality Class = **Poor**

Rapid habitat Assessment 2005	
Large Trees	1
Canopy Cover	1
Understorey	2
Weeds	0
Recruitment	1
Organic Litter	1
Logs	0
Size	2
Neighbourhood	2
Distance	1
Total	11

Habitat Quality = **Medium**

Access: Off Peter Ross-Edwards Causeway, via Forest Tracks

Comments: Moderate quality Crown parcel with unrestricted pedestrian and vehicle access.

Values: Width of Vegetation

Threats: Exotic Flora, Other Access, Timber Removal, Rubbish Dumping

- Priority Actions to achieve Minimum Acceptable Standards:**
- Manage weeds, particularly environmental weed species.
 - Control recreational activities particularly uncontrolled access to site
 - Enforce existing legislation regarding littering and rubbish dumping
 - Ensure that unauthorised timber removal or timber harvesting does not occur
 - Implement revegetation programs to improve quality of native understorey
 - Ensure that grazing by stock continues to be excluded