

Wetland Assessment



Shire of Dardanup

October 2019

Version 2

On behalf of:

Shire of Dardanup
PO Box 7016
EATON WA 6232

Prepared by:

Greg Harewood
Zoologist
PO Box 755
BUNBURY WA 6231
M: 0402 141 197
E: gharewood@iinet.net.au

TABLE OF CONTENTS

1.	INTRODUCTION	3
2.	SCOPE OF WORKS.....	3
3.	METHODS	3
4.	RESULTS	4
4.1	EAGLE WETLAND RESERVE	4
4.2	HANDS AVENUE RESERVE	4
4.3	LEICESTER WETLAND RESERVE	5
4.4	WATSON RESERVE	6
4.5	SHIER RISE RESERVE	6
4.6	DUCK WETLAND RESERVE	7
4.7	PENINSULAR LAKES PARK.....	8
5.	CONCLUSION	8

FIGURES

FIGURE 1:	Wetlands Targeted for Typha Management
FIGURE 2:	Eagle Wetland Reserve
FIGURE 3:	Hands Avenue Reserve
FIGURE 4:	Leicester Wetland Reserve
FIGURE 5:	Watson Reserve
FIGURE 6:	Shier Rise Reserve
FIGURE 7:	Duck Wetland Reserve
FIGURE 8:	Peninsular Lakes Park

1. INTRODUCTION

This report details the results of a wetland assessment undertaken at several reserves and parks located within the Shire of Dardanup (the Shire). The Shire has identified the presence of bulrush (*Typha orientalis*) infestations in the wetlands and is applying to the Department of Water and Environmental Regulation (DWER) for a clearing permit to allow for their removal and ongoing management.

The seven wetlands currently identified as having bulrush infestations are:

- Eagle Wetland Reserve
- Hands Avenue Reserve
- Leicester Wetland Reserve
- Watson Reserve
- Shier Rise Reserve
- Duck Wetland Reserve
- Peninsular Lakes Park

The reserves have a combine area of about 24 hectares however generally only a small section of each reserve currently contains bulrush infestations.

2. SCOPE OF WORKS

The scope of works as defined by the Shire of Dardanup was to carry out a brief on site assessment of the seven wetlands and provide a brief description of each including the nature of any existing bulrush (*Typha orientalis*) infestations.

3. METHODS

Each wetland was visited on the 17 August 2019 and notes and photographs with the primary aim of documenting the nature and degree of bulrush infestation currently present at each location.

4. RESULTS

4.1 EAGLE WETLAND RESERVE

This wetland is largely covered by a dense low closed forest of paperbark (*Melaleuca* spp.) and flooded gum (*Eucalyptus rudis*) with fringing peppermint (*Agonis flexuosa*) over a closed sedgeland and weeds. The reserve has a total area of approximately 2.8 ha (Figure 2). An infestation of bulrush was observed at the northern end of the reserve (see Plate 1). The infestation has a total area of about 1,000 m².



Plate 1: Bulrush Infestation - Eagle Wetland Reserve

4.2 HANDS AVENUE RESERVE

This small reserve (~0.31 ha) contains a drainage channel which possibly represents a historically modified natural water course which ultimately drains into the Collie River. The drain is bordered by a woodland of marri (*Corymbia calophylla*) and paperbark (*Melaleuca* spp.) along its north western half. The south eastern end of the drain, which is only bordered by grassland and a few scattered paperbarks, contains an infestation of bulrush with a total area of about 168 m². Some small infestations are also present further downstream to the north east (Figure 3).



Plate 2: Bulrush Infestation - Hands Avenue Reserve

4.3 LEICESTER WETLAND RESERVE

Leicester Wetland Reserve has a total area of about 9.6 ha and is characterised by having a large area of open water bordered by sedgeland. To the south, vegetation is represented by areas of dense low closed forest of paperbark (*Melaleuca* spp.) and flooded gum (*Eucalyptus rudis*). The north end of the of the reserve contains four smaller bodies of open water which have been subject to considerable historical disturbance with natural vegetation being highly modified or removed. Two small infestations of bulrush were observed having a total area of about 621 m² (Plate 3 and Figure 4).



Plate 3: Eastern Bulrush Infestation - Leicester Wetland Reserve

4.4 WATSON RESERVE

This wetland has a total area of about 5.6 ha and is largely covered by a dense low closed forest of paperbark (*Melaleuca* spp.) and flooded gum (*Eucalyptus rudis*) with fringing peppermint (*Agonis flexuosa*) over a closed sedgeland and weeds. The wetland doesn't appear to have any open water areas. An infestation of bulrush was observed along the access track into the reserve (see Plate 4) however the full extent could not be determined due to the dense nature of the vegetation making access to centre areas difficult (Figure 5).



Plate 4: Bulrush Infestation - Watson Reserve

4.5 SHIER RISE RESERVE

The Shier Rise Reserve has a total area of about 2.7 ha. The wetland has been modified from its original form (a seasonal creekline) by the construction of a narrow weir in the centre of the reserve. This results in flooding upstream of this point in winter which forms an elongated lake. Downstream of the weir the creekline is bordered by a woodland dominated by marri (*Corymbia calophylla*). Upstream of the weir vegetation bordering the wetland is generally sparse having been cleared as parkland. The vegetation that is present consists of sheoak (*Allocasuarina* spp.) and flooded gum (*Eucalyptus rudis*) with the wetland itself containing sedges and a considerable infestation of bulrush particularly in the southern upstream section of the reserve which in total covers about 1,985 m² (Plate 5 and Figure 6)



Plate 5: Bulrush Infestation - Shier Rise Reserve

4.6 DUCK WETLAND RESERVE

The Duck Wetland is a small reserve of about 1.9 ha. The wetland is largely covered by a dense low closed forest of paperbark (*Melaleuca* spp.) and flooded gum (*Eucalyptus rudis*). The central section of the wetland would have originally been open water but is now infested with about 2,030 m² of bulrush (Plate 6 and Figure 7)



Plate 5: Bulrush Infestation – Duck Wetland Reserve

4.7 PENINSULAR LAKES PARK

The open water wetland within the 0.9 ha Peninsular Lakes Park has been highly modified with most of the vegetation originally bordering the lake having been removed. The wetland itself contains areas of sedges and several small infestations of bulrush totalling about 610 m² (Plate 7 and Figure 8).



Plate 7: Bulrush Infestation – Peninsular Lakes Park

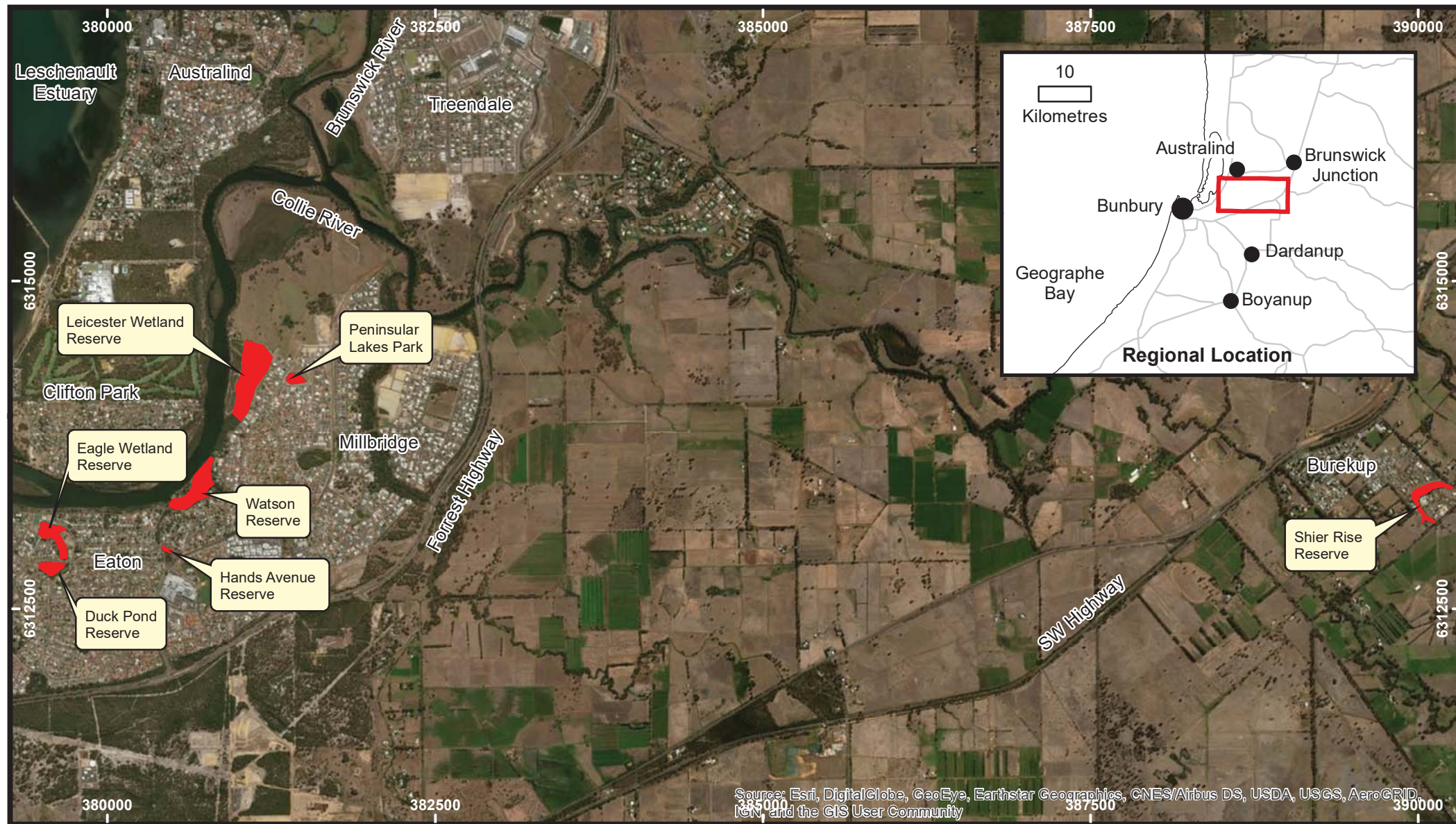
5. CONCLUSION

The assessment reported on here was undertaken to provide a summary of the current infestation of bulrush (*Typha orientalis*) within seven wetlands located in the Shire of Dardanup. Bulrush infestations were observed within six of the seven wetlands with the extent of identified infestations ranging in size from about 168 m² (Hands Avenue Reserve) to 2,030 m² (Duck Wetland Reserve).

Bulrush infestation is recognised as a major threat to the conservation values of wetlands in the south west. The plant is particularly aggressive coloniser of disturbed wetlands and can be hard to eradicate due to its growth habit.

The management methods that will be used at each location is yet to be finalised but it should be noted that any actions employed at some locations may impact on fauna, in particular waterbird roosting and nesting habitat. It is therefore recommended that a management plan be formulated and implemented that aims to minimise any possible impacts that may occur during bulrush removal/control.

FIGURES



Legend

Wetlands

0 1 2 3 4 5
Kilometres



Drawn: G Harewood
Date: Aug 2019
Scale: 1:40,000

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

**Wetlands
Targeted for
Typha Management**

Figure: 1



Legend

- Cadastral Boundaries (Existing)
- Permit Application Area
- Approximate Extent of *Typha orientalis* (August 2019)



Drawn: G Harewood
Date: Aug 2019
Scale: 1:1,300

Projection/Coordinate System: UTM/MGA Zone 50




Shire of Dardanup

Eagle Wetland Reserve

Figure: 2



Legend

-  Cadastral Boundaries (Existing)
-  Permit Application Area
-  Approximate Extent of *Typha orientalis* (August 2019)



0 10 20 30 40 50
Metres



Drawn: G Harewood

Date: Aug 2019

Scale: 1:609

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

**Hands Avenue
Reserve**

Figure: 3



Legend

- Cadastral Boundaries (Existing)
- Permit Application Area
- Approximate Extent of *Typha orientalis* (August 2019)



Wetland
Assessment

Drawn: G Harewood
Date: Aug 2019
Scale: 1:2,750

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

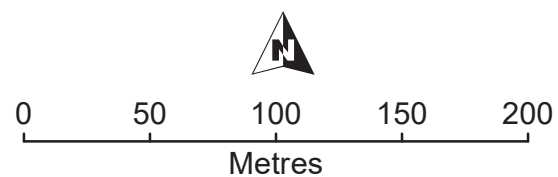
Leicester Wetland Reserve

Figure: 4



Legend

- Cadastral Boundaries (Existing)
- Permit Application Area



Drawn: G Harewood
Date: Aug 2019
Scale: 1:3,000

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

Watson Reserve

Figure: 5



Legend

- Cadastral Boundaries (Existing)
- Permit Application Area
- Approximate Extent of *Typha orientalis* (August 2019)



Drawn: G Harewood
Date: Aug 2019
Scale: 1:2,000

Projection/Coordinate System: UTM/MGA Zone 50




Shire of Dardanup

Shier Rise Reserve

Figure: 6



Legend

-  Cadastral Boundaries (Existing)
-  Permit Application Area
-  Approximate Extent of *Typha orientalis* (August 2019)



0 20 40 60 80 100
Metres



Drawn: G Harewood

Date: Aug 2019

Scale: 1:938

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

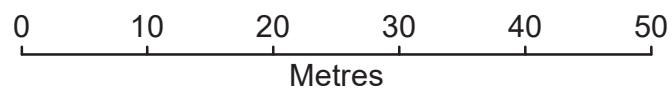
Duck Wetland Reserve

Figure: 7



Legend

- Cadastral Boundaries (Existing)
- Permit Application Area
- Approximate Extent of *Typha orientalis* (August 2019)



Drawn: G Harewood

Date: Aug 2019

Scale: 1:600

Projection/Coordinate System: UTM/MGA Zone 50

Shire of Dardanup

Peninsular Lakes Park

Figure: 8

DISCLAIMER

This fauna assessment report (“the report”) has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Greg Harewood (“the Author”). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. In accordance with the scope of services, the Author has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

The conclusions are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of preparing the report. Also it should be recognised that site conditions, can change with time.

Within the limitations imposed by the scope of services, the field assessment and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

In preparing the report, the Author has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report (“the data”). Except as otherwise stated in the report, the Author has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (“conclusions”) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. The Author will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to the Author.

The report has been prepared for the benefit of the Client and no other party. The Author assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of the Author or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

The Author will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.