Stage 3 evaluations of 28 wetlands in the Avon Natural Resource Management region, spring 2008

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Prepared by

Science Division

Department of Environment and Conservation

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Prepared for the Avon Catchment Council

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Tables

1. Introduction

This document provides the results of the application of the wetland evaluation methodology:

Jones, S. M., Pinder, A. M., Sim, L.L., Halse, S. A. (2009). *Evaluating the conservation significance of basin wetlands within the Avon Natural Resource Management region: Stage Three Assessment Method*. Prepared for the Avon Catchment Council by the Department of Environment and Conservation, Perth.

This methodology was applied at 28 wetlands in the Avon NRM region in spring 2008, as part of a trial of the methodology conducted by the Wetlands Group in the Science Division, Department of Environment and Conservation (DEC), Perth. All data was collected at every site and has been presented in this document, even when the site was automatically assigned to the Conservation category in the early stages of the assessment. In section 3 the stage 3 wetland evaluations are also compared with the assessments produced using the stage 1 methodology (Jones*, et al.*, 2008), which was applied to all mapped basin and granite outcrop wetlands greater than 1 hectare in the region.

The Avon stage 3 wetland evaluation methodology provides a practical, easy-to-use procedure for assessing the conservation significance of inundated basin wetlands in the region. Wetlands are assessed according to their attributes and functions, which may include scientific, educational, amenity, spiritual, philosophical, recreational, consumptive use and ecosystem service values. By following the procedure, wetlands are placed into one of three wetland management categories: Conservation, Resource Enhancement and Multiple Use. Table 1 below provides an explanation of the three wetland management categories, as described in the *Environmental Guidance for Planning and Development* (Environmental Protection Authority, 2008).

Table 1 - Wetland management categories and associated descriptions and management objectives (Environmental Protection Authority, 2008 adapted from Hill*, et al.*, 1996a)

Management category	General description	Management objectives
Conservation	Wetlands which support a high level of attributes and functions	Highest priority wetlands. Objective is to preserve and protect the existing conservation values of the wetlands through various mechanisms including: • reservation in national parks, Crown reserves and State owned land, • protection under Environmental Protection Policies, and • wetland covenanting by landowners.
Resource enhancement	Wetlands which may have been partially modified but still support substantial ecological attributes and functions	Priority wetlands. Ultimate objective is to manage, restore and protect towards improving their conservation value. These wetlands have the potential to be restored to Conservation category. This can be achieved by restoring wetland function, structure and biodiversity. Protection is recommended through a number of mechanisms.
Multiple use	Wetlands with few remaining important attributes and functions	Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through Landcare.

For a full explanation of the scoring system or any terms used in the attached reports, please refer to the methodology document (Jones*, et al.*, 2009), which is available on the Avon Natural Diversity website <www.avonnaturaldiversity.org > ND001 Baselining > Wetlands. The Avon Stage 3 wetland evaluation methodology has been endorsed by the State Wetlands Coordinating Committee (WCC), which ensures it is consistent with other wetland evaluation methodologies produced throughout the State.

2. Stage 3 assessment reports for 28 wetlands in the Avon NRM region

Site Name: ABP032
Site Code: Drummond Lake #1 @ Old Plains Road
Latitude: -31.3269
Longitude: 116.4025
Date Assessed: 11/09/2007, 06/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Freshwater basin

Site summary

This wetland is in near pristine condition and has particular value in the diversity of vegetation and invertebrate species that it supports. There is a Priority Ecological Community as well as Declared Rare and Priority plant species occurring at this wetland.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	✓
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	✓
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x DR, 2 x P4	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community. Priority 2 EC	✓
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? Yes

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	5.4	- pH is a little acidic for a freshwater wetland.	2	
	Salinity (g/L)	0.099	-	3	
	Total Soluble N (µg/L)	1000	-	3	
	Final Score for modification to water chemistry				*2.67*
b	Modification to vegetation				
	Regenerative capacity	- Species expected to be recruiting were doing so.		3	
	Weed invasion	- Few weed species present but not significant.		3	
	Structure	- All structural elements expected were present.		3	
	State	- No signs of stress in the vegetation.		3	
	Final Score for modification to vegetation				*3.00*
c	Other disturbances				
	Adjustment to score	- No other physical disturbances at the wetland.			*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.83***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	5	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	8	- E.g. *Eleocharis keigheryi, Hydrocotyle lemnoides, Schoenus natans.*	3	
	No. emergent species	7	- E.g. *Melaleuca lateritia.*	3	
	No. fringing species	4	- E.g. *Centrolepis alepyroides.*	2	
	Final flora richness score				*2.67*
c	Fauna richness	# Species			
	Invertebrates	45	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	1	-Tadpoles observed.	3	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.22***

3 Significance

•	Does the wetland have a consumptive use value?	- Although this site is freshwater, it is not currently in a PDWSA or used for consumption.	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	- Yes, this is a site that has been the subject of quite a few studies.	✓
•	Does the wetland have a vegetation connectivity value?	- This wetland has good vegetation connections with another freshwater wetland in the same reserve.	✓
•	Does the wetland have a representativeness value?	- This wetland is in very good condition and although not all wetlands in this catchment have been sampled, it is likely to be one of the best condition representatives.	✓

Final Evaluation

Average diversity and naturalness score	**2.53**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Conservation**

Site Name: ABP041

Site Code: Dobaderry Swamp at Dobaderry Nature Reserve

Latitude: -32.2009

Longitude: 116.6078

Date Assessed: 14/09/2007, 29/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Sumpland
Biological classification: Freshwater basin

Site summary

This freshwater swamp is in quite good condition. There is a very high diversity of invertebrates and plants and the water quality is good. Some of the Melaleuca*'s appear stressed for causes unknown. There were five Priority plant species recorded and the presence of* Melaleuca lateritia *over herbs makes this a Priority Ecological Community. This has not been formally recognised yet.*

Site Photos



Automatic Conservation category criteria evaluation

		Yes
1	*Is the wetland identified under any of the following agreements?*	
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings. Within the boundary of a Register of the National Estate site – Wandoo Reserve	✓
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	✓
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	✓
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x P2, 2 x P3, 2 x P4	✓
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community. Priority 2 EC.	✓
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	6.8	-	3	
	Salinity (g/L)	0.097	-	3	
	Total Soluble N (µg/L)	1000	-	3	
	Final Score for modification to water chemistry				*3.00*
b	Modification to vegetation				
	Regenerative capacity	- Species expected to be recruiting were doing so.		3	
	Weed invasion	- Few weed species present but not significant.		3	
	Structure	- All structural elements expected were present.		3	
	State	- Some of the *Melaleuca*'s showing signs of stress.		2	
	Final Score for modification to vegetation				*2.75*
c	Other disturbances				
	Adjustment to score	- No other physical disturbances at the wetland.			*0.00*

Final naturalness score = average (water chemistry, vegetation) – other disturbances ***2.88***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	5	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	7	- E.g. *Hydrocotyle lemnoides, Schoenus natans.*	3	
	No. emergent species	10	- E.g. *Lilaeopsis polyantha.*	3	
	No. fringing species	10	- E.g. *Blennospora phlegmatocarpa.*	3	
	Final flora richness score				*3.00*
c	Fauna richness	# Species			
	Invertebrates	53	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.50*

Final diversity score = average (habitat diversity, flora richness, fauna richness) ***2.17***

3 Significance

• Does the wetland have a consumptive use value?	- Although this site is freshwater, it is not currently in a PDWSA or used for consumption.	×
• Does the wetland have a recreational value?	-	×
• Does the wetland have a spiritual/philosophical value?	-	×
• Does the wetland perform an ecosystem service?	-	×
• Does the wetland have a scientific/educational value?	- Yes, this is a site that has been the subject of quite a few studies.	✓
• Does the wetland have a vegetation connectivity value?	- This wetland has good vegetation connections with the surrounding Nature Reserve.	✓
• Does the wetland have a representativeness value?	- This wetland is in very good condition and although not all wetlands in this catchment have been sampled, it is likely to be one of the best condition representatives.	✓

Final Evaluation

Average diversity and naturalness score	**2.52**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Conservation**

Site Name: Saline lake at Kuender Road Nature Reserve
Site Code: ABP101
Latitude: -32.9601
Longitude: 118.4993
Date Assessed: 08/09/2008, 15/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland is slightly unusual in that surface runoff coming into the northern side of the wetland is off granite. There were 2 Priority plant species recorded and the brine shrimp, Parartemia extracta*, which has a restricted distribution.*

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	8.8	-	2	
	Salinity (g/L)	63	-	N/A	
	Total Soluble N (µg/L)	1500	-	2	
	Final Score for modification to water chemistry				*2.00*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of some *Tecticornia* and other small shrubs observed.		2.3	
	Weed invasion	- Weeds present but not significant.		3.0	
	Structure	- Some structural layers missing at lower elevations.		1.7	
	State	- Stress evident in taller shrubs and some *Tecticornia*.		1.7	
	Final Score for modification to vegetation				*2.17*
c	Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.08***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	5	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	2	- *Lepilaena cylindrocarpa* and *Ruppia maritima.*	3	
	No. emergent species	2	- *Prasophyllum gracile, Sarcocornia quiqueflora.*	3	
	No. fringing species	17	- E.g. *Blennospora phlegmatocarpa, Frankenia drummondii.*	3	
	Final flora richness score				*3.00*
c	Fauna richness	# Species			
	Invertebrates	18	- *Parartemia extracta* recorded, this species has a limited distribution. Species level ID's.	3	
	Waterbirds	1	- Australian Shelduck.	2	
	Other native wetland fauna observed	0	-		2.50
	Final fauna richness score				
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.50***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Yes. Vegetation is well connected to nearby flat areas and the nature reserve.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.29**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Saline lake at King Rocks Rd
Site Code: ABP102
Latitude: -32.3554
Longitude: 119.1346
Date Assessed: 09/09/2008, 14/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

Although this naturally saline wetland has relatively poor water quality, the surrounding vegetation is in good condition and has good connections to surrounding wetlands. One Priority plant species was collected.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	✓
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x P3	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

		Reading	Comments	Index Score	Indicator Score
a	Modification to Water Chemistry				
	pH	3.5	- Unsure if this is natural or not, taken precautionary approach and not scored pH.	N/A	
	Salinity (g/L)	73	-	N/A	
	Total Soluble N (µg/L)	3800	- Unsure of the source of nitrogen.	1	
	Final Score for modification to water chemistry				*1.00*
b	Modification to vegetation				
	Regenerative capacity	- Some recruitment of *Tecticornia* occurring.		1.7	
	Weed invasion	- Weed species present but not significant.		3.0	
	Structure	- Most structural layers expected are present.		2.7	
	State	- Taller shrub species showing signs of stress.		2.3	
	Final Score for modification to vegetation				*2.42*
c	Other disturbances				
	Adjustment to score	- Road cutting along edge of wetland would impact upon the vegetation communities on that side.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.54***

2 Diversity

		# Habitats	Comments	Index Score	Indicator Score
a	Habitat diversity				
	Final score for habitat diversity	4	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	2	- *E.g. Tecticornia* aff *halocnemoides*	3	
	No. fringing species	7	- E.g. *Blennospora phlegmatocarpa*	1	
	Final flora richness score				*2.00*
c	Fauna richness	# Species			
	Invertebrates	8	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.83***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Extensive vegetation connections with the nature reserve that contains other salt lakes.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.69**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Saline lake at East Hyden Road
Site Code: ABP103
Latitude: Private property
Longitude: Private property
Date Assessed: 09/09/2008, 15/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland is degraded, most likely due to salinisation and grazing. The water is acidic and supports few aquatic invertebrates. Two Priority plant species were collected. Structure and composition of vegetation closest to shoreline has been significantly altered.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **No**

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	3.6	- Acidity unlikely to be natural.	1	
	Salinity (g/L)	110	-	N/A	
	Total Soluble N (µg/L)	2200	- High nitrogen levels possibly a result of runoff from crops.	2	
	Final Score for modification to water chemistry				*1.50*
	b Modification to vegetation				
	Regenerative capacity	- Very little recruitment of native plant taxa observed.		1.0	
	Weed invasion	- Weeds were significant in one quadrat		2.3	
	Structure	- Structural layers were missing in areas at lower elevations.		1.3	
	State	- Taller shrubs particularly stressed.		2.0	
	Final Score for modification to vegetation				*1.67*
	c Other disturbances				
	Adjustment to score	- Road running through edge of wetland and recent excavation work, would be affecting veg. communities.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.41***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
	b Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	1	- *Tecticornia* aff *halocnemoides.*	2	
	No. fringing species	13	- E.g. *Blennospora phlegmatocarpa.*	2	
	Final flora richness score				*2.00*
	c Fauna richness	# Species			
	Invertebrates	4	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	1	- Australian Shelduck.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.50***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- This site has reasonable vegetation connections with nearby wetlands.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.46**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**Yes**
Final wetland management category	**Resource Enhancement**

Site Name: Freshwater reservoir at Koorda-Bencubbin Rd
Site Code: ABP104
Latitude: Private property
Longitude: Private property
Date Assessed: 10/09/2008, 10/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Artificial reservoir, assessed as freshwater basin

Site summary

This reservoir, although artificial, appears to be a refuge for breeding waterbird species and frogs. Other faunal and floral diversity was low.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater, but this criteria excludes artificial reservoirs.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	7.0	-	3	
	Salinity (g/L)	0.28	-	3	
	Total Soluble N (µg/L)	3300	- High nitrogen levels likely to be from agricultural runoff through creek system.	1	
	Final Score for modification to water chemistry				*2.33*
b	Modification to vegetation				
	Regenerative capacity	- Little recruitment of natives observed.		1.0	
	Weed invasion	- Weeds were significant in dryland areas.		2.0	
	Structure	- Major structural elements missing.		1.0	
	State	- Remaining vegetation doesn't appear stressed.		2.5	
	Final Score for modification to vegetation				*1.63*
c	Other disturbances				
	Adjustment to score	- Damming, little fringing vegetation remaining.			*0.33*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.65***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	8	- Good diversity of habitats.		*3.00*
b	Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	3	- E.g. *Casuarina obesa, Juncus aridicola.*	2	
	No. fringing species	1	- 1 native species – *Lachnagrostis filiformis.*	1	
	Final flora richness score				*1.50*
c	Fauna richness	# Species			
	Invertebrates	25	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	5	- Includes breeding Black-tailed Native Hen.	2	
	Other native wetland fauna observed	1	- Many Bullfrog tadpoles observed.	3	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.17***

3 Significance

•	Does the wetland have a consumptive use value?	- Likely as it is freshwater and a reservoir.	✓
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.91**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Saline lake at Sharman Road
Site Code: ABP105
Latitude: -30.7349
Longitude: 117.3365
Date Assessed: 11/09/2008, 9/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland was mostly surrounded by nature reserve although it appeared there was some runoff from agricultural land on the western side. Water quality and faunal diversity were low. Vegetation appeared stressed in areas adjacent to the waters edge.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	3.5	- This is not likely to be naturally acidic.	1	
	Salinity (g/L)	81	-	N/A	
	Total Soluble N (µg/L)	5300	- Very high nitrogen levels, likely to be a result of runoff from crops on western side.	1	
	Final Score for modification to water chemistry				*1.00*
	b Modification to vegetation				
	Regenerative capacity	- Recruitment observed for some shrub and herb species.		1.7	
	Weed invasion	- Weeds were not significant.		2.7	
	Structure	- Upper shrub layer of beach zones missing.		1.3	
	State	- Upper and middle shrub layers very stressed.		1.3	
	Final Score for modification to vegetation				*1.75*
	c Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.38***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
	b Flora richness	# Species			
	No. submerged species	0	-		
	No. emergent species	1	- *Tecticornia* aff *halocnemoides*	2	
	No. fringing species	14	- E.g. *Angianthus micropodioides, Blennospora phlegmatocarpa.*	2	
	Final flora richness score				*2.00*
	c Fauna richness	# Species			
	Invertebrates	5	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	1	- Australian Shelduck.	2	
	Other native wetland fauna observed	0	-		
	Final fauna richness score				*1.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.50***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- This wetland has good vegetation connections with other nearby wetlands and the nature reserve.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.44**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**Yes**
Final wetland management category	**Resource Enhancement**

Site Name: Saline lake at Kondut South Road
Site Code: ABP106
Latitude: Private property
Longitude: Private property
Date Assessed: 11/09/2008, 6/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland, although slightly affected by salinisation, retains good water quality and faunal diversity. There were two Priority plant species collected and the vegetation community at higher elevations remains in relatively good condition.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	7.9	-	3	
	Salinity (g/L)	26	-	N/A	
	Total Soluble N (µg/L)	950	-	3	
	Final Score for modification to water chemistry				*3.0*
	b Modification to vegetation				
	Regenerative capacity	- Regeneration occurring at higher elevations.		2.0	
	Weed invasion	- Some weed species, but not significant.		2.7	
	Structure	- Upper shrub layer of the beach zones missing.		2.0	
	State	- Plants in quadrats at higher elevation in reasonable condition.		2.3	
	Final Score for modification to vegetation				*2.25*
	c Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.63***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	7	-Good diversity of habitats.		*3.00*
	b Flora richness	# Species			
	No. submerged species	2	- *Lepilaena cylindrocarpa, Ruppia polycarpa.*	3	
	No. emergent species	0	-	1	
	No. fringing species	9	- E.g. *Frankenia glomerata*, *Podotheca uniseta.*	1	
	Final flora richness score				*1.67*
	c Fauna richness	# Species			
	Invertebrates	28	- Species level identification of micro- and macro- invertebrates.	3	
	Waterbirds	4	- Australian Shelduck, Hoary Headed Grebe, Grey Teal, White-faced Heron.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.39***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a vegetation connectivity value?	- Yes, good connections with other nearby wetlands.	✓
•	Does the wetland have a representativeness value?	-	×
•	Does the wetland have a scientific/educational value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.51**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Conservation**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Conservation**

Site Name: Wilgie Lake at Wilgie Hill Rd

Site Code: ABP109

Latitude: Private property

Longitude: Private property

Date Assessed: 15/09/2008, 08/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Playa

Biological classification: Freshwater basin but secondarily salinised

Site summary

This wetland, originally believed to be freshwater, is now heavily affected by secondary salinisation. It still retains some plant diversity in the fringing zone, but high salinity and acidity has resulted in low invertebrate and waterbird diversity.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×
	Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?	**No**

Site Evaluation

1 Naturalness

				Index Score	Indicator Score
a	Modification to Water Chemistry	Reading	Comments		
	pH	3.1	-	1	
	Salinity (g/L)	67	-	1	
	Total Soluble N (µg/L)	2000	-	2	
	Final Score for modification to water chemistry				*1.33*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of *Tecticornia* occurring, but not upper shrub layers.		1.7	
	Weed invasion	- Weeds becoming dominant in some areas of the wetland.		2.0	
	Structure	- Major structural elements missing.		1.0	
	State	- Vegetation remaining showing significant signs of stress.		1.0	
	Final Score for modification to vegetation				*1.43*
c	Other disturbances				
	Adjustment to score	- Road running through western third of wetland.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.21***

2 Diversity

				Index Score	Indicator Score
a	Habitat diversity	# Habitats	Comments		
	Final score for habitat diversity	5	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Ruppia* sp.	2	
	No. emergent species	0	-	1	
	No. fringing species	8	- E.g. *Melaleuca atroviridis, Atriplex* spp.	3	
	Final flora richness score				*2.00*
c	Fauna richness	# Species			
	Invertebrates	12	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	1	- Black-winged Stilt.	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.67***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.44**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Multiple Use**

Site Name: Secondarily saline lake at Nugadong East Rd

Site Code: ABP110

Latitude: Private property

Longitude: Private property

Date Assessed: 15/09/2008, 07/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Playa

Biological classification: Freshwater basin but secondarily salinised

Site summary

This wetland has been severely affected by secondary salinisation, as it was confirmed by landowner that it was originally freshwater. The only native vegetation surrounding the wetland is a thin strip of Samphire. Faunal diversity was limited, with few invertebrate collected and only a pair of nesting Red-Necked Avocets observed.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	6.4	-	2	
	Salinity (g/L)	98	- Highly saline even for a secondarily saline wetland.	1	
	Total Soluble N (µg/L)	4000	- Likely that high nitrogen levels are from surrounding cropping areas.	1	
	Final Score for modification to water chemistry				*1.33*
b	Modification to vegetation				
	Regenerative capacity	- Most recruitment observed was of weed species.		1.0	
	Weed invasion	- Aggressive weeds present at higher elevations.		1.5	
	Structure	- Upper shrub layer completely removed/replaced.		1.0	
	State	- *Enchylaena* and *Tecticornia* species very stressed.		1.0	
	Final Score for modification to vegetation				*1.13*
c	Other disturbances				
	Adjustment to score	- There is a road running through what would have been the edge of the wetland.			*-0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.06***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
b	Flora richness	# Species			
	No. submerged species	0	- Salinity too high for submerged species.	N/A	
	No. emergent species	0	-	1	
	No. fringing species	4	- *Atriplex* spp., *Tecticornia pergranulata* subsp *pergranulata, Triglochin longicarpa.*	2	
	Final flora richness score				*1.50*
c	Fauna richness	# Species			
	Invertebrates	6	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	1	- 2 pairs of nesting Red-necked Avocets.	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.17***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.11**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Multiple Use**

Site Name: Secondarily saline lake at Arbuckle Rd

Site Code: ABP111

Latitude: Private property

Longitude: Private property

Date Assessed: 16/09/2008, 07/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Playa

Biological classification: Freshwater basin but secondarily salinised

Site summary

This wetland has been heavily affected by secondary salinisation, which is evident from shrub death across the basin. There is very little plant or animal diversity and water quality is poor. Remaining vegetation is stressed, particularly remnant Melaleuca's.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	8.1	-	3	
	Salinity (g/L)	110	- Very high salinity.	1	
	Total Soluble N (µg/L)	4300	-Very high levels, possibly due to runoff from surrounding crops.	1	
	Final Score for modification to water chemistry				*1.67*
	b Modification to vegetation				
	Regenerative capacity	- Very little recruitment observed, even of *Tecticornia.*		1.0	
	Weed invasion	- Higher elevations had significant weed invasion.		2.0	
	Structure	- Missing taller shrubs and herb layer.		1.0	
	State	- Upper layer of native shrubs are very stressed.		1.7	
	Final Score for modification to vegetation				*1.42*
	c Other disturbances				
	Adjustment to score				*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.54***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
	b Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	0	-	1	
	No. fringing species	5	- *Atriplex codonocarpa, A. semibaccata, A. semilunaris, Melaleuca atroviridis, Tecticornia pergranulata* subsp *pergranulata.*	2	
	Final flora richness score				*1.50*
	c Fauna richness	# Species			
	Invertebrates	6	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	3	- Australian Shelduck, Black-winged Stilt, Red-capped Plover.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.33***

3 Significance

• Does the wetland have a consumptive use value?	-	×
• Does the wetland have a recreational value?	-	×
• Does the wetland have a spiritual/philosophical value?	-	×
• Does the wetland perform an ecosystem service?	-	×
• Does the wetland have a connectivity value?	-	×
• Does the wetland have a representativeness value?	-	×
• Does the wetland have a scientific/educational value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.44**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Multiple Use**

Site Name: Claypan at Dambouring Road East
Site Code: ABP112
Latitude: -30.5094
Longitude: 116.7155
Date Assessed: 16/09/2008, 09/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Turbid claypan

Site summary

Water levels in this turbid claypan were low at the time of sampling. There were abundant numbers of tadpoles and this is likely to be one of the few remaining turbid claypans in the catchment.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	✓
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	✓
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	7.8	-	2	
	Salinity (g/L)	3.1	- High salinity may be due to low water levels.	1	
	Total Soluble N (µg/L)	7200	- Unfiltered nutrient levels.	1	
	Final Score for modification to water chemistry				*1.33*
	b Modification to vegetation				
	Regenerative capacity	- Recruitment of *Tecticornia* occurring.		3.0	
	Weed invasion	- Few weed species present but not significant.		3.0	
	Structure	- All structural layers that are expected in a claypan are present.		3.0	
	State	- Most plants present did not appear stressed.		2.5	
	Final Score for modification to vegetation				*2.88*
	c Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.10***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*2.00*
	b Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	0	-	1	
	No. fringing species	6	- 3 species *Tecticornia,* 2 species *Triglochin* and *Lachnagrostis filiformis.*	1	
	Final flora richness score				*1.00*
	c Fauna richness	# Species			
	Invertebrates	20	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	0	-		
	Other native wetland fauna observed	2	- Water was thick with tadpoles, believed to be Bullfrog and Humming Frog.	3	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.67***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Within a nature reserve so good vegetation connections with other wetlands.	✓
•	Does the wetland have a representativeness value?	- There are very few turbid claypans known to exist in the catchment.	✓

Final Evaluation

Average diversity and naturalness score	**1.89**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Saline lake at McKay Road
Site Code: ABP113
Latitude: Private property
Longitude: Private property
Date Assessed: 16/09/2008, 08/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland is in good condition. It retains high invertebrate, waterbird and plant diversity. Water quality is also good. Vegetation at the higher elevations is in reasonable condition, while some structural levels are missing from lower elevations. Two Priority species collected.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×
	Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?	**No**

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	7.8	-	3	
	Salinity (g/L)	95	-	N/A	
	Total Soluble N (µg/L)	1400	-	2	
	Final Score for modification to water chemistry				*2.50*
b	Modification to vegetation				
	Regenerative capacity	- *Tecticornia* and some native herbs recruiting.		2.0	
	Weed invasion	- Some weed species present but not significant.		2.5	
	Structure	- Higher elevations retain all expected vegetation layers, lower elevations missing upper shrub layer.		1.8	
	State	- *Tecticornia* and taller shrub species stressed.		1.3	
	Final Score for modification to vegetation				*1.88*
c	Other disturbances				
	Adjustment to score	- There is a large channel dug between this wetland and the wetland to the east.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.02***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	4	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	2	- *Prasophyllum gracile, Tecticornia* aff *halocnemoides*	3	
	No. fringing species	23	- E.g. *Angianthus micropodioides, Podotheca uniseta*, 4 x*Tecticornia* species.	3	
	Final flora richness score				*3.00*
c	Fauna richness	# Species			
	Invertebrates	12	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	1	- Single wader species	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.33***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Good vegetation connections with other nearby wetlands as landholder has not cleared this palaeodrainage channel.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.18**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Claypan at "Lakeside"
Site Code: ABP114
Latitude: Private property
Longitude: Private property
Date Assessed: 17/09/2008, 09/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Turbid claypan

Site summary

This site was dug out by the property owners many years ago for a drinking water source. It has since gone brackish and has changed significantly from natural. It still retains some diversity values in the fauna it supports.

Site Photos

Automatic Conservation category criteria evaluation

		No
1	*Is the wetland identified under any of the following agreements?*	
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed*)? **No**

Site Evaluation

1 Naturalness

				Index Score	Indicator Score
a	Modification to Water Chemistry	Reading	Comments		
	pH	9.1	-	2	
	Salinity (g/L)	5.3	-	1	
	Total Soluble N (µg/L)	1600	-	3	
	Final Score for modification to water chemistry				*2.00*
b	Modification to vegetation				
	Regenerative capacity	- Regeneration of *Tecticornia* occurring in upper slope.		2.0	
	Weed invasion	- Some weed species present but not significant.		2.5	
	Structure	- Structural layers are as expected for a claypan.		3.0	
	State	- Significant area of *Tecticornia* showing signs of stress.		2.0	
	Final Score for modification to vegetation				*2.38*
c	Other disturbances				
	Adjustment to score	- Landholder historically excavated claypan for water resource.			*-0.33*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.86***

2 Diversity

				Index Score	Indicator Score
a	Habitat diversity	# Habitats	Comments		
	Final score for habitat diversity	3	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Ruppia polycarpa.*	3	
	No. emergent species	0	-	1	
	No. fringing species	4	- *Atriplex, Tecticornia, Gunniopsis, Triglochin*	1	
	Final flora richness score				*1.67*
c	Fauna richness	# Species			
	Invertebrates	28	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	0	-	N/A	
	Other native wetland fauna observed	1	- Significant numbers of tadpoles observed, although appeared to be struggling due to increasing salinity as basin dries (Bull frog).	3	
	Final fauna richness score				*2.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.06***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.96**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Resource Enhancement**

Site Name: Saline lake at "Lakeside"

Site Code: ABP115

Latitude: Private property

Longitude: Private property

Date Assessed: 17/09/2008, 09/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

The vegetation at this naturally saline wetland appears to have been historically cleared. Little diversity and structure remains, along with significant weed invasion at higher elevations. Rehabilitation of vegetation may be possible. This wetland retains good aquatic values such as maintaining water quality for submerged vegetation, invertebrates and waterbird colonisation.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×
	Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?	**No**

Site Evaluation

1 Naturalness

				Index Score	Indicator Score
a	Modification to Water Chemistry	Reading	Comments		
	pH	8.2	-	3	
	Salinity (g/L)	32	-	N/A	
	Total Soluble N (µg/L)	1200	-	2	
	Final Score for modification to water chemistry				*2.50*
b	Modification to vegetation				
	Regenerative capacity	- Little recruitment of native species occurring.		1.5	
	Weed invasion	- Significant weed invasion on western side of lake.		2.0	
	Structure	- Upper shrub layer missing.		1.5	
	State	- Large areas of *Tecticornia* showing stress.		1.0	
	Final Score for modification to vegetation				*1.50*
c	Other disturbances				
	Adjustment to score	- A channel has been excavated on the northern side, which acts to hydrologically connect the two wetlands. Road running through what would have been the edge of the wetland.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.83***

2 Diversity

				Index Score	Indicator Score
a	Habitat diversity	# Habitats	Comments		
	Final score for habitat diversity	3	-		*1.00*
b	Flora richness	# Species			
	No. submerged species	2	- *Lepilaena cylindrocarpa, Ruppia polycarpa.*	3	
	No. emergent species	0	-	1	
	No. fringing species	6	- 6 species of *Tecticornia*.	1	
	Final flora richness score				*1.67*
c	Fauna richness	# Species			
	Invertebrates	12	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	5	- E.g. Black-winged Stilt, Red-capped Plover.	3	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.72***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.78**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Boshack Lake at Dawson Road
Site Code: ABP116
Latitude: Private property
Longitude: Private property
Date Assessed: 18/09/2008, 18/09/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Lake
Biological classification: Freshwater basin

Site summary

This wetland is a recreational area for campers and bird watchers. It supports fish, turtles, piscivorous waterbirds most likely due to favourable water quality. Half of the wetland also falls into a Registered Aboriginal Site.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions. Half of wetland falls into a Registered Aboriginal Site	✓

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? Yes

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	9.0	-	2	
	Salinity (g/L)	2.6	-	2	
	Total Soluble N (µg/L)	780	-	3	
	Final Score for modification to water chemistry				*2.33*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of sedges/reeds occurring.		2.5	
	Weed invasion	- Large patches of *Juncus* in some areas.		2.0	
	Structure	- Expected structural layers generally present. Some areas have been cleared.		2.5	
	State	- Most native vegetation in good condition.		3.0	
	Final Score for modification to vegetation				*2.50*
c	Other disturbances				
	Adjustment to score	- Southern end of lake has been modified to accommodate campers, moderate impact.			*0.17*

Final naturalness score = average (water chemistry, vegetation) – other disturbances ***2.25***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	6	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Najas marina.*	2	
	No. emergent species	3	- E.g. *Casuarina obesa, Eucalyptus rudis.*	2	
	No. fringing species	6	- E.g. *Apium* spp., *Triglochin* spp., *Lobelia* spp.	2	
	Final flora richness score				*2.00*
c	Fauna richness	# Species			
	Invertebrates	20	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	6	- E.g. Little Black Cormorant, Black Duck.	2	
	Other native wetland fauna observed	3	- Western Minnow, Swan River Goby, turtle.	3	
	Final fauna richness score				*2.00*

Final diversity score = average (habitat diversity, flora richness, fauna richness) ***2.00***

3 Significance

•	Does the wetland have a consumptive use value?	- ×
•	Does the wetland have a recreational value?	- Camping area. ✓
•	Does the wetland have a spiritual/philosophical value?	- ×
•	Does the wetland perform an ecosystem service?	- ×
•	Does the wetland have a scientific/educational value?	- ×
•	Does the wetland have a vegetation connectivity value?	- Good vegetation connections with other nearby wetlands. ✓
•	Does the wetland have a representativeness value?	- ×

Final Evaluation

Average diversity and naturalness score	**2.12**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Murrays Lake at Tyndall Rd

Site Code: ABP117

Latitude: Private property

Longitude: Private property

Date Assessed: 18/09/2008, 21/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Lake
Biological classification: Freshwater basin

Site summary

According to the landholder, this lake arose in recent history. There are still sheep yards in the middle of it, which is now under more than 1.5m of water. This site has good water chemistry and high invertebrate diversity.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **No**

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	9.3	-	2	
	Salinity (g/L)	1.3	-	2	
	Total Soluble N (µg/L)	1100	-	3	
	Final Score for modification to water chemistry				*2.33*
	b Modification to vegetation				
	Regenerative capacity	- Recruitment of reeds and sedges observed, not taller shrubs.		1.7	
	Weed invasion	- Significant areas of *Juncus*.		1.7	
	Structure	- Upper shrub layer missing in some areas that have been cleared.		1.7	
	State	- Remaining vegetation in good condition.		3.0	
	Final Score for modification to vegetation				*2.00*
	c Other disturbances				
	Adjustment to score	- A small drain appears to have been excavated on the northern side of the lake, only moderate impact.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.00***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	6	-		*2.00*
	b Flora richness	# Species			
	No. submerged species	2	- *Najas marina*, *Potamogeton pectinatus.*	3	
	No. emergent species	3	- 2 species of *Baumea, Eucalyptus rudis.*	2	
	No. fringing species	2	- *Lobelia alata, Sonchus hydrophilus.*	2	
	Final flora richness score				*2.33*
	c Fauna richness	# Species			
	Invertebrates	43	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	4	- Musk Duck, Australian Black Duck, Silver Gull, Purple Swamphen.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.11***

3 Significance

•	Does the wetland have a consumptive use value?	- Owner uses water for irrigation and stock watering.	✓
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.05**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Freshwater wetland at Carr Road

Site Code: ABP118

Latitude: Private property

Longitude: Private property

Date Assessed: 22/09/2008, 23/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Sumpland
Biological classification: Freshwater basin

Site summary

Although this site has undergone some changes (waterlogging), it still retains a population of Acacia brachypoda *(Declared Rare Flora). There were also breeding waterbirds observed at the site.*

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x DR	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? Yes

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	8.1	-	2	
	Salinity (g/L)	1.3	-	2	
	Total Soluble N (µg/L)	5900	- Very high nitrogen levels, probably from surrounding farmland.	1	
	Final Score for modification to water chemistry				*1.67*
b	Modification to vegetation				
	Regenerative capacity	- Little recruitment observed.		1.3	
	Weed invasion	- Understorey almost completely replaced with weeds.		1.3	
	Structure	- Upper shrub layer missing.		1.0	
	State	- Some *Tecticornia* and *Melaleuca*'s stressed.		2.7	
	Final Score for modification to vegetation				*1.58*
c	Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.63***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	7	-		*3.00*
b	Flora richness	# Species			
	No. submerged species	2	- *Potamogeton* sp., *Ruppia* sp.	3	
	No. emergent species	2	- *Eucalyptus rudis, Meeboldina scariosa.*	2	
	No. fringing species	4	- *Heliotropium, Isolepis, Melaleuca, Triglochin.*	2	
	Final flora richness score				*2.33*
c	Fauna richness	# Species			
	Invertebrates	36	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	6	- E.g. Pink-eared Duck, Australasian Grebe	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.44***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Good vegetation connection with other nearby wetland.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.04**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Pike Lake at Kokeby Road
Site Code: ABP119
Latitude: Private property
Longitude: Private property
Date Assessed: 22/09/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Freshwater basin but secondarily salinised

Site summary

This site has high conservation value, although unfortunately is being impacted by secondary salinisation. Casuarina's *and* Melaleuca's *across the bed are starting to die off, but still form a Threatened Ecological Community. This site has a high diversity of flora and fauna.*

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community. Living stands of *Casuarina obesa* and *Melaleuca strobophylla* across the basin floor. Not an official TEC site.	✓
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	10.0	-	1	
	Salinity (g/L)	8.8	- Affected by secondary salinisation.	1	
	Total Soluble N (µg/L)	1300	-	3	
	Final Score for modification to water chemistry				*1.67*
b	Modification to vegetation				
	Regenerative capacity	- Little recruitment of natives occurring.		1.3	
	Weed invasion	- Weeds especially prominent along southern shore of wetland.		1.7	
	Structure	- Remnants of all strata left, but Paperbarks are dying off due to salinisation.		2.0	
	State	- Upper shrub layer very stressed.		1.5	
	Final Score for modification to vegetation				*1.63*
c	Other disturbances				
	Adjustment to score	- Drain has been excavated on southern side.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.48***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	7	-		*3.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Ruppia polycarpa.*	2	
	No. emergent species	4	- *Eucalyptus rudis, Baumea* spp., *Casuarina obesa.*	3	
	No. fringing species	9	- E.g. *Atriplex, Cotula, Triglochin, Wilsonia.*	3	
	Final flora richness score				*2.67*
c	Fauna richness	# Species			
	Invertebrates	37	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	9	- Yellow-billed Spoonbill nest and brood of Grey Teal.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.56***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Vegetation connectivity with other nearby wetlands.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.02**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Saline lake #1 off Mills Road

Site Code: ABP120

Latitude: Private property

Longitude: Private property

Date Assessed: 24/09/2008, 16/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

The vegetation at this naturally saline wetland appears to have been historically cleared. Little plant diversity and structure remains, along with significant weed invasion at higher elevations. Wetland retains moderate water quality and invertebrate and macrophyte diversity.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	9.4	-	2	
	Salinity (g/L)	28	-	N/A	
	Total Soluble N (µg/L)	1700	-	2	
	Final Score for modification to water chemistry				*2.00*
	b Modification to vegetation				
	Regenerative capacity	- Very little recruitment observed.		1.0	
	Weed invasion	- Weeds were significant at upper elevations.		2.0	
	Structure	- Entire upper shrub layer missing.		1.0	
	State	- Native species remaining appear stressed.		1.0	
	Final Score for modification to vegetation				*1.25*
	c Other disturbances				
	Adjustment to score	- Road running next to wetland but likely to have only a minor effect.			*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.63***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
	b Flora richness	# Species			
	No. submerged species	3	- *Lepilaena* spp., *Ruppia tuberosa.*	3	
	No. emergent species	0	-	1	
	No. fringing species	5	- 3 species *Tecticornia*, 2 species *Triglochin.*	1	
	Final flora richness score				*1.67*
	c Fauna richness	# Species			
	Invertebrates	21	- Species level identification of micro- and macro- invertebrates.	3	
	Waterbirds	1	- Silver gull.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.72***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.67**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Saline lake #2 off Mills Road
Site Code: ABP121
Latitude: Private property
Longitude: Private property
Date Assessed: 24/09/2008, 16/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

The vegetation at this naturally saline wetland appears to have been historically cleared. Little plant diversity and structure remains, along with significant weed invasion at higher elevations. Diversity of flora and fauna is low.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×
Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?		**No**

Site Evaluation

1 Naturalness

				Index Score	Indicator Score
a	Modification to Water Chemistry	Reading	Comments		
	pH	9.0	-	2	
	Salinity (g/L)	55	-	N/A	
	Total Soluble N (µg/L)	1300	-	2	
	Final Score for modification to water chemistry				*2.00*
b	Modification to vegetation				
	Regenerative capacity	- Some recruitment of *Tecticornia* and *Frankenia* occurring.		1.5	
	Weed invasion	- Weeds significant at upper elevations.		2.0	
	Structure	- Upper shrub layer missing entirely.		1.0	
	State	- Native species remaining showing signs of stress.		1.0	
	Final Score for modification to vegetation				*1.38*
c	Other disturbances				
	Adjustment to score	- Road runs through the edge of the wetland.			*0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.52***

2 Diversity

				Index Score	Indicator Score
a	Habitat diversity	# Habitats	Comments		
	Final score for habitat diversity	3	-		*1.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Lepilaena cylindrocarpa.*	3	
	No. emergent species	0	-	1	
	No. fringing species	8	- E.g. 5 species of *Tecticornia*.	1	
	Final flora richness score				*1.67*
c	Fauna richness	# Species			
	Invertebrates	14	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.39***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.45**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Multiple Use**

Site Name: Smith Lake at Corberding Road

Site Code: ABP122

Latitude: Private property

Longitude: Private property

Date Assessed: 25/09/2008, 23/10/2008

Personnel: SMJ, MTC, DLH, CJF

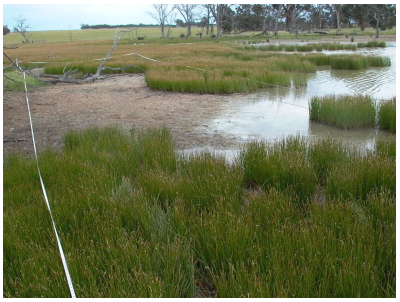
Geomorphic wetland type: Sumpland
Biological classification: Freshwater basin

Site summary

This freshwater wetland retains good water quality and significant faunal diversity. Broods of Pink-eared Ducks and Black Swans were observed. One species of Declared Rare Flora was collected at this site. Little remnant vegetation remaining.

Site Photos





Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x DRF but not more than 50% of wetland vegetation in 'Good' or better condition	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **No**

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	7.7	-	3	
	Salinity (g/L)	1.8	-	2	
	Total Soluble N (µg/L)	2500	- High nitrogen levels probably from surrounding agriculture.	1	
	Final Score for modification to water chemistry				*2.00*
	b Modification to vegetation				
	Regenerative capacity	- Some recruitment observed.		1.7	
	Weed invasion	- Significant amount of weeds.		1.0	
	Structure	- Clearing around wetland, upper tree and shrub layer missing over large areas.		1.3	
	State	- Native species remaining are stressed.		1.0	
	Final Score for modification to vegetation				*1.25*
	c Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.63***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	5	-		*2.00*
	b Flora richness	# Species			
	No. submerged species	4	- E.g. *Eleocharis keigheryi.*	3	
	No. emergent species	1	- *Chorizandra enodis.*	2	
	No. fringing species	6	- E.g. *Lobelia alata, Triglochin mucronata.*	2	
	Final flora richness score				*2.33*
	c Fauna richness	# Species			
	Invertebrates	47	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	8	- Broods of Pink-eared Ducks and Black Swans.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.11***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.87**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Bradford Pool at Toodyay-Clackline Road
Site Code: ABP124
Latitude: Private property
Longitude: Private property
Date Assessed: 30/09/2008, 21/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Freshwater basin but secondarily salinised

Site summary

Although this site has been affected by secondary salinisation, it still retains some values. Diversity of flora and fauna is moderate to good. Native and exotic fish were also observed.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species.	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

		Reading	Comments	Index Score	Indicator Score
a	Modification to Water Chemistry				
	pH	6.8	-	2	
	Salinity (g/L)	6	- Affected by secondary salinisation.	1	
	Total Soluble N (µg/L)	1500	-	3	
	Final Score for modification to water chemistry				*2.00*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of *Eucalyptus rudis* and reeds/sedges observed.		2.0	
	Weed invasion	- Ground cover dominated by weeds.		1.5	
	Structure	- Vegetation structure altered in some areas.		2.0	
	State	- Data missing.			
	Final Score for modification to vegetation				*1.83*
c	Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.92***

2 Diversity

		# Habitats	Comments	Index Score	Indicator Score
a	Habitat diversity				
	Final score for habitat diversity	7	- Good habitat diversity.		*3.00*
b	Flora richness	# Species			
	No. submerged species	4	- *Eleocharis acuta, Potomogeton pectinatus, Ruppia maritima, Typha domingensis.*	3	
	No. emergent species	2	- *Baumea arthrophylla, Eucalyptus rudis.*	2	
	No. fringing species	4	- E.g. *Cotula coronopifolia, Sonchus hydrophilus, Triglochin mucronata.*	2	
	Final flora richness score				*2.33*
c	Fauna richness	# Species			
	Invertebrates	27	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	6	- Eurasian Coote nest and Black Duck brood.	2	
	Other native wetland fauna observed	2	- 1 frog call heard, Western Minnow	3	
	Final fauna richness score				*2.33*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.56***

3 Significance

•	Does the wetland have a consumptive use value?	×
•	Does the wetland have a recreational value?	×
•	Does the wetland have a spiritual/philosophical value?	×
•	Does the wetland perform an ecosystem service?	×
•	Does the wetland have a scientific/educational value?	×
•	Does the wetland have a vegetation connectivity value?	×
•	Does the wetland have a representativeness value?	×

Final Evaluation

Average diversity and naturalness score	**2.24**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Jaspers Lake at Dennis Road
Site Code: ABP125
Latitude: Private property
Longitude: Private property
Date Assessed: 30/09/2008, 22/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Sumpland
Biological classification: Naturally saline basin

Site summary

This naturally saline wetland supports a moderate to high flora and fauna diversity. Water quality is relatively good apart from the elevated nitrogen levels. Vegetation condition was relatively good for most of the wetland, although some shrub death was evident along the southern boundary. Four species of Priority plants were collected.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 4 x P3 species.	✓
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? No

Site Evaluation

1 Naturalness

		Reading	Comments	Index Score	Indicator Score
a	Modification to Water Chemistry				
	pH	6.8	-	3	
	Salinity (g/L)	100	-	N/A	
	Total Soluble N (µg/L)	3300	- High nitrogen levels probably from runoff from paddocks on northern side.	1	
	Final Score for modification to water chemistry				*2.00*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of *Tecticornia* observed.		2.0	
	Weed invasion	- Weeds present but not significant.		2.7	
	Structure	- Vegetation structure mostly intact except on southern boundary.		2.3	
	State	- Vegetation at lower elevations stressed.		1.7	
	Final Score for modification to vegetation				*2.17*
c	Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.08***

2 Diversity

		# Habitats	Comments	Index Score	Indicator Score
a	Habitat diversity				
	Final score for habitat diversity	3	-		*1.00*
b	Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	2	- *Sarcocornia quiqueflora, Tecticornia* aff *halocnemoides.*	3	
	No. fringing species	20	- E.g. *Angianthus micropodioides, Blennospora phlegmatocarpa, Frankenia glomerata.*	3	
	Final flora richness score				*3.00*
c	Fauna richness	# Species			
	Invertebrates	11	- Species level identification of micro- and macro- invertebrates.	2	
	Waterbirds	1	- Grey Teal.	2	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*2.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.00***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- Good vegetation connections with nearby flat areas.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**2.04**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Resource Enhancement**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Resource Enhancement**

Site Name: Lake Mokami at Erikin South Road
Site Code: ABP126
Latitude: -31.96197
Longitude: 117.93203
Date Assessed: 1/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

This is a good condition naturally saline basin located within a nature reserve. Some tree death on the northern side of the lake suggests waterlogging problems. Vegetation and invertebrate diversity were high. Vegetation was in good condition at higher elevations.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×
	Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?	**No**

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	6.5	-	2	
	Salinity (g/L)	37	-	N/A	
	Total Soluble N (µg/L)	550	-	3	
	Final Score for modification to water chemistry				*2.50*
b	Modification to vegetation				
	Regenerative capacity	- Moderate amount of regeneration of native vegetation species occurring.		2.3	
	Weed invasion	- Weed species present but not significant.		3.0	
	Structure	- All expected structural layers present, with some death.		2.7	
	State	- Some *Tecticornia* species showing signs of stress.		2.0	
	Final Score for modification to vegetation				*2.50*
c	Other disturbances				
	Adjustment to score		-		*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.50***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	5	-		*2.00*
b	Flora richness	# Species			
	No. submerged species	1	- *Ruppia maritima.*	3	
	No. emergent species	1	- *Tecticornia halocnemoides.*	2	
	No. fringing species	11	- E.g. 4 species *Tecticornia.*	2	
	Final flora richness score				*2.33*
c	Fauna richness	# Species			
	Invertebrates	25	- Species level identification of micro- and macro- invertebrates.	3	
	Waterbirds	3	- Australian Shelduck, Grey Teal, Silver Gull.	2	
	Other native wetland fauna observed	0	- No other fauna observed.	N/A	
	Final fauna richness score				*2.50*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***2.28***

3 Significance

•	Does the wetland have a consumptive use value?	×
•	Does the wetland have a recreational value?	×
•	Does the wetland have a spiritual/philosophical value?	×
•	Does the wetland perform an ecosystem service? - Quite a large wetland with dense stands of submerged vegetation – could perform a nutrient stripping or flood attenuation function.	Possibly
•	Does the wetland have a scientific/educational value?	×
•	Does the wetland have a vegetation connectivity value? - Good vegetation connections to nearby flat areas.	✓
•	Does the wetland have a representativeness value?	×

Final Evaluation

Average diversity and naturalness score	**2.39**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Conservation**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Conservation**

Site Name: Saline lake at Ardath Road
Site Code: ABP127
Latitude: -31.9277
Longitude: 117.9727
Date Assessed: 1/10/2008, 13/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Naturally saline basin

Site summary

This is a naturally saline wetland with very high salinity. The high salinity results in poor invertebrate, macrophyte and therefore waterbird species diversity. Vegetation values are high and one species of Declared Rare Flora and two Priority species were recorded. The northern edge of the wetland is within a Registered Aboriginal Site.

Site Photos



Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
•	Ramsar Convention on wetlands	×
•	State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
•	Directory of Important Wetlands	×
•	Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
•	World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
•	Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
•	The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
•	Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
▪	is the best known representative of the wetland group in the catchment	×
▪	supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 1 x DRF, 2 x P3	✓
▪	supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
▪	supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
•	The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
•	The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
•	The wetland supports cultural values that are based on natural attributes or functions. Edge of wetland is within the boundary of a Registered Aboriginal Site (listed as a water source).	✓

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

	Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	6.3	-	2	
	Salinity (g/L)	140	- Highly saline, even for a naturally saline wetland.	N/A	
	Total Soluble N (µg/L)	810	-	3	
	Final Score for modification to water chemistry				*2.50*
b	Modification to vegetation				
	Regenerative capacity	- Recruitment of middle shrub layer observed.		1.7	
	Weed invasion	- Weeds present but not significant.		3.0	
	Structure	- Most structural layers present.		2.7	
	State	- Vegetation on south-eastern and south-western side of wetland stressed.		1.7	
	Final Score for modification to vegetation				*2.25*
c	Other disturbances				
	Adjustment to score		-		*0.00*

Final naturalness score = average (water chemistry, vegetation) – other disturbances ***2.38***

2 Diversity

	Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	3	-		*1.00*
b	Flora richness	# Species			
	No. submerged species	0		N/A	
	No. emergent species	1	- *Tecticornia halocnemoides.*	2	
	No. fringing species	10	- E.g. *Frankenia conferta, Blennospora phlegmatocarpa.*	2	
	Final flora richness score				*2.00*
c	Fauna richness	# Species			
	Invertebrates	5	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.00*

Final diversity score = average (habitat diversity, flora richness, fauna richness) ***1.33***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- The wetland is in a nature reserve and has good vegetation connections with other nearby wetlands.	✓
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.85**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

Site Name: Saline Lake at Cunderdin

Site Code: ABP128

Latitude: Private property

Longitude: Private property

Date Assessed: 02/10/2008, 22/10/2008

Personnel: SMJ, MTC, DLH, CJF

Geomorphic wetland type: Playa

Biological classification: Naturally saline basin

Site summary

This wetland is degraded. Vegetation surrounding the wetland appears to have been cleared historically and currently has low diversity and little structure. Water was very acidic, leading to poor invertebrate, macrophyte and waterbird species diversity.

Site Photos

Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**No**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**No**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	×
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species	×
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community. Priority species recorded but not more than 50% of vegetation in "Good" or better condition.	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute.	×
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×
	Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*?	**No**

Site Evaluation

1 Naturalness

	a Modification to Water Chemistry	Reading	Comments	Index Score	Indicator Score
	pH	3.4	- Likely to be secondarily acidic.	1	
	Salinity (g/L)	120	-	N/A	
	Total Soluble N (µg/L)	2000	- Likely due to surrounding agricultural land, a lot of sheep manure on wetland edge.	2	
	Final Score for modification to water chemistry				*1.50*
	b Modification to vegetation				
	Regenerative capacity	- Little recruitment of native vegetation species occurring.		1	
	Weed invasion	- Aggressive weed species dominating.		1	
	Structure	- Upper shrub layer still present in very small areas, vegetation heavily cleared.		1	
	State	- Plants showing moderate signs of stress.		2	
	Final Score for modification to vegetation				*1.25*
	c Other disturbances				
	Adjustment to score	- No other physical disturbances at the wetland.			*0.00*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***1.38***

2 Diversity

	a Habitat diversity	# Habitats	Comments	Index Score	Indicator Score
	Final score for habitat diversity	4	-		*2.00*
	b Flora richness	# Species			
	No. submerged species	0	-	N/A	
	No. emergent species	1	- *Tecticornia halocnemoides.*	2	
	No. fringing species	10	- E.g. 4 species *Tecticornia.*	2	
	Final flora richness score				*2.00*
	c Fauna richness	# Species			
	Invertebrates	4	- Species level identification of micro- and macro- invertebrates.	1	
	Waterbirds	0	-	1	
	Other native wetland fauna observed	0	-	N/A	
	Final fauna richness score				*1.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***1.67***

3 Significance

•	Does the wetland have a consumptive use value?	-	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	-	×
•	Does the wetland have a representativeness value?	-	×

Final Evaluation

Average diversity and naturalness score	**1.52**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**Multiple Use**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**No**
Final wetland management category	**Multiple Use**

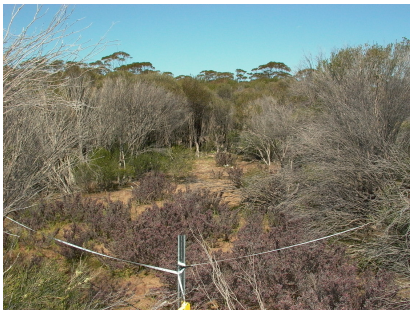
Site Name: Claypan at King Rocks Rd
Site Code: ABP130
Latitude: -32.32719
Longitude: 119.10227
Date Assessed: 14/10/2008
Personnel: SMJ, MTC, DLH, CJF
Geomorphic wetland type: Playa
Biological classification: Turbid claypan

Site summary

This turbid claypan wetland has highly diverse communities of vegetation. It also supports significant numbers of Bullfrog tadpoles and has extensive vegetation connections with other nearby wetlands.

Site Photos





Automatic Conservation category criteria evaluation

1	*Is the wetland identified under any of the following agreements?*	**No**
	• Ramsar Convention on wetlands	×
	• State Government endorsed candidate sites for the Ramsar Convention on Wetlands	×
	• Directory of Important Wetlands	×
	• Environmental Protection (South West Agricultural Zone Wetlands) Policy, 1998	×
	• World/National Heritage listings	×
2	*Does the wetland meet **one** of the following criteria?*	**Yes**
	• Equal to or greater than 90% of the wetland supports native vegetation in 'Good' or better condition using the *Bush Forever* scale.	✓
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and is identified as significant for its natural values in regional or sub-regional studies endorsed by the State Government.	×
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and supports an identified occurrence of a Threatened Ecological Community.	×
	• The wetland supports a breeding, roosting, or refuge site or a critical feeding site for populations of fauna listed by the Australian or State Government.	×
3	*Does the wetland meet **two** of the following criteria?*	**Yes**
	• Greater than 50% of the wetland has native vegetation in 'Good' or better condition using the *Bush Forever* scale and:	
	▪ is the best known representative of the wetland group in the catchment	✓
	▪ supports an identified occurrence of a Declared Rare or Priority 1, 2, 3 or 4 flora species. 2 x P3	✓
	▪ supports an identified occurrence of a Priority 1 or 2 Ecological Community	×
	▪ supports internationally, nationally or State-wide significant values, including geoheritage and geoconservation	×
	• The wetland supports regionally rare or threatened natural water chemistry, hydrology, geomorphology or any other rare attribute. Freshwater	✓
	• The wetland supports a breeding, roosting, refuge or critical feeding site for populations of Priority 1 or 2 fauna listed by the State Government.	×
	• The wetland supports cultural values that are based on natural attributes or functions.	×

Is the wetland automatically a Conservation category wetland (*If yes, no further evaluation needed)*? **Yes**

Site Evaluation

1 Naturalness

				Index Score	Indicator Score
a	Modification to Water Chemistry	Reading	Comments		
	pH	8.2	-	2	
	Salinity (g/L)	0.19	-	3	
	Total Soluble N (µg/L)	1000	-	3	
	Final Score for modification to water chemistry				*2.67*
b	Modification to vegetation				
	Regenerative capacity	- Regeneration of the upper and middle shrub layers occurring.		2.7	
	Weed invasion	- Few weed species present but not significant.		3.0	
	Structure	- All expected structural layers present.		3.0	
	State	- Some *Melaleuca* and *Tecticornia* showing moderate signs of stress.		2.0	
	Final Score for modification to vegetation				*2.67*
c	Other disturbances				
	Adjustment to score	- There is a road running through what would have been the edge of the wetland.			*-0.17*
	Final naturalness score = average (water chemistry, vegetation) – other disturbances				***2.50***

2 Diversity

				Index Score	Indicator Score
a	Habitat diversity	# Habitats	Comments		
	Final score for habitat diversity	7	- Many habitats present compared to a typical claypan.		*3.00*
b	Flora richness	# Species			
	No. submerged species	2	- *Ruppia maritima, R. polycarpa.*	3	
	No. emergent species	1	- *Glossostigma drummondii.*	3	
	No. fringing species	12	- E.g. *Blennospora phlegmatocarpa.*	3	
	Final flora richness score				*3.00*
c	Fauna richness	# Species			
	Invertebrates	34	- Species level identification of micro- and macro- invertebrates.	3	
	Waterbirds	0	-	N/A	
	Other native wetland fauna observed	1	- Large numbers of Bullfrog tadpoles.	3	
	Final fauna richness score				*3.00*
	Final diversity score = average (habitat diversity, flora richness, fauna richness)				***3.00***

3 Significance

•	Does the wetland have a consumptive use value?	- This is a freshwater wetland but is not currently used as a water supply to our knowledge.	×
•	Does the wetland have a recreational value?	-	×
•	Does the wetland have a spiritual/philosophical value?	-	×
•	Does the wetland perform an ecosystem service?	-	×
•	Does the wetland have a scientific/educational value?	-	×
•	Does the wetland have a vegetation connectivity value?	- This wetland has good vegetation connections with the large saline wetland on the southern side.	✓
•	Does the wetland have a representativeness value?	- To our knowledge, this is the best condition turbid claypan wetland in this catchment.	✓

Final Evaluation

Average diversity and naturalness score	**2.76**
Initial wetland management category *(average naturalness and diversity >2.3 = Conservation, 1.67-2.3 = Resource Enhancement, <1.67 = Multiple Use)*	**N/A**
If the wetland is in the Multiple Use category and has an ecosystem or human significance, then it is upgraded to Resource Enhancement category. Is this applicable?	**N/A**
Final wetland management category	**Conservation**

3. Comparison of stage 1 and stage 3 assessments

Wetland evaluations can be undertaken at different scales, as outlined in *A framework for mapping, classification and evaluation of wetlands in Western Australia* ('the framework', Department of Environment and Conservation, 2007). A stage 1 or 2 assessment is a regional-scale assessment of wetlands in a large area, using techniques and resources such as remote sensing, geographic information system (GIS) datasets and aerial photography. A stage 3 assessment is a fine-scale assessment of individual wetlands with accurately defined boundaries, using field survey techniques such as invertebrate, waterbird and vegetation species richness assessments (e.g. Cale*, et al.*, 2004; Jones*, et al.*, 2009).

A stage 1 wetland evaluation methodology has been produced for the Avon NRM region by DEC (Jones*, et al.*, 2008), and endorsed by the State Wetlands Coordinating Committee. This stage 1 wetland evaluation methodology was applied to all basin wetlands greater than one hectare, which were delineated using the mapping procedure produced by Lizamore (2008). The wetland mapping (*Wetlands of the Wheatbelt and other prioritized areas*) and stage 1 evaluation (*Wheatbelt basin and granite outcrop wetland evaluations*) datasets are available online through NatureMap <http://naturemap.dec.wa.gov.au>.

Table 2 on the page following provides a comparison of the conservation significance categories assigned using the stage 1 and stage 3 wetland evaluation methodologies, at each of the 28 sampled sites. Different terminology was used in each methodology for the three conservation significance categories. Multiple Use (stage 3) roughly equates to Low (stage 1), Resource Enhancement (stage 3) roughly equates to Intermediate (stage 1) and Conservation (stage 3) roughly equates to High (stage 1). The stage 3 evaluation methodology uses on-ground data to assign a wetland management category to a site, while the stage 1 methodology uses only information that can be gathered from aerial photography, remote sensing and GIS layers. Consequently, the results of the stage 3 methodology will provide a more accurate evaluation of the values supported by the wetland at the time of the assessment.

As can be seen in Table 2, there is general agreement between the results of the stage 1 and stage 3 Avon wetland evaluation methodologies. Six of the wetlands assessed using the stage 3 methodology in spring 2008, have not been evaluated using the stage 1 methodology. This was because they were either missed during the mapping phase and were therefore not assessed, or more commonly, because they were smaller than one hectare. Of the 22 wetlands with stage 1 evaluations available, 18 (81%) were assigned the equivalent conservation significance category using both methodologies. Of the four that were different, 2 scored close to the cut-off for that particular wetland management category in the stage 3 evaluations (sitecode's 5004804/ABP113, 5004432/ABP115). Of the last two wetlands that scored differently, one was not picked up as 'fresh-subsaline' using remote sensing and therefore scored as 'low' (sitecode 5007328-9/ABP104), while the other one had the vegetation buffer and connectivity incorrectly attributed as intermediate, when in fact it should have been low (sitecode 5002644/ABP128). If these attributes were correct, this wetland would have been assigned to the low conservation significance category.

In summary, after comparison with evaluations produced using on-ground data, it appears that the stage 1 wetland evaluation methodology generally assigns wetlands to an appropriate conservation significance category.

Table 2 - Comparison between stage 1 and stage 3 wetland evaluation results. Text highlighted in red are wetlands where the two methodologies disagree.

Stage 1 sitecode (ID_2_New)	Stage 1 category	Stage 3 sitecode	Stage 3 category	Stage 1 higher or lower	Comments
5013819	High	ABP032	Conservation	Same	
N/A	N/A	ABP041	Conservation	N/A	Wetland not mapped, but would have scored high if assessed for stage 1.
N/A	N/A	ABP101	Resource Enhancement	N/A	Wetland not mapped, but nearby wetland (5018029) with similar features scored intermediate for stage 1.
5020831	High	ABP102	Conservation	Same	
5017323	Intermediate	ABP103	Resource Enhancement	Same	
5007329/8	Low	ABP104	Resource Enhancement	Lower	This is the stage 1 category of the other half of this wetland located across the road, which was greater than 1 hectare (and therefore got evaluated for stage 1) and is very similar to the site sampled for the stage 3 evaluations. The remote sensing did not pick this wetland up as freshwater, which put it into the low category.
5006663	Intermediate	ABP105	Resource Enhancement	Same	
5004196	High	ABP106	Conservation	Same	
5005029	Low	ABP109	Multiple Use	Same	
5005168	Low	ABP110	Multiple Use	Same	
5005207	Low	ABP111	Multiple Use	Same	
N/A	N/A	ABP112	Conservation	N/A	Wetland not mapped, but would have scored high if assessed for stage 1.
5004804	High	ABP113	Resource Enhancement	Higher	Stage 3 final score = 2.18. Very close to Conservation category.
N/A	N/A	ABP114	Resource Enhancement	N/A	Can't identify wetland using aerial photography, too small to apply stage 1 assessment.
5004432	Low	ABP115	Resource Enhancement	Lower	Stage 3 final score = 1.78. Very close to Multiple Use category.
5013749	High	ABP116	Conservation	Same	
5003726	Intermediate	ABP117	Resource Enhancement	Same	
N/A	N/A	ABP118	Conservation	N/A	Wetland not mapped, but nearby wetland (5007616) with similar features scored high for stage 1.
5007588	High	ABP119	Conservation	Same	
5002205	Intermediate	ABP120	Resource Enhancement	Same	
5002206	Low	ABP121	Multiple Use	Same	
5013471	Intermediate	ABP122	Resource Enhancement	Same	
5013688	Intermediate	ABP124	Resource Enhancement	Same	
5002748	Intermediate	ABP125	Resource Enhancement	Same	
5021934	High	ABP126	Conservation	Same	
5021962	High	ABP127	Conservation	Same	
5002644	Intermediate	ABP128	Multiple Use	Higher	Mapping attribution error for vegetation buffer and connectivity (stage 1 assessment).
N/A	N/A	ABP130	Conservation	N/A	Can't identify wetland using aerial photography, too small to apply stage 1 assessment.

4. References

Cale, D. J., Halse, S. A. and Walker, C. W. 2004, 'Wetland monitoring in the Wheatbelt of south-west Western Australia: site descriptions, waterbird, aquatic invertebrate and groundwater data', *Conservation Science Western Australia* 5 (1): pp. 20-135.

Department of Environment and Conservation 2007, *Framework for mapping, classification and evaluation of wetlands in Western Australia*, Department of Environment and Conservation, Perth.

Environmental Protection Authority 2008, *Environmental Guidance for Planning and Development, Guidance Statement No. 33*, Environmental Protection Authority Perth.

Hill, A. L., Semeniuk, C. A., Semeniuk, V. and Del Marco, A. 1996a, *Wetlands of the Swan Coastal Plain Volume 2a: Wetland mapping, classification and evaluation, main report*, Water and Rivers Commission & Department of Environmental Protection, Perth.

Jones, S. M., Pinder, A. M., SIM, L. L. and Halse, S. A. 2008, *Evaluating the conservation significance of basin and granite outcrop wetlands within the Avon Natural Resource Management region: Stage One Asessment Method*, Prepared for the Avon Catchment Council by the Department of Environment and Conservation, Perth.

Jones, S. M., Pinder, A. M., Sim, L. L. and Halse, S. A. 2009, *Evaluating the conservation significance of inundated basin wetlands within the Avon Natural Resource Management region: Stage Three Assessment Method*, Prepared for the Avon Catchment Council by the Department of Environment and Conservation, Perth.

Lizamore J.M. for the Department of Environment and Conservation 2008, *Regional identification of specific wetland types in the Wheatbelt region of Western Australia: methodology and outcomes*, Department of Environment and Conservation, Perth.