

Part A: Wetland classification, wetland condition, pressure indicators

Wetland name: Amberley Beach Lagoon
Region: Canterbury Plains ER, Low Plains ED
Altitude: <5 m

Date: September 2010
GPS Ref. (NZTM):E1582354 N5220421
No. of plots sampled: Overview only

A.1.1 Wetland classification

Classification: I System	IA Subsystem	II Wetland Class	IIA Wetland Form
Palustrine	Permanent	Swamp	Coastal Lagoon
Palustrine	Seasonal	Marsh	Coastal Lagoon

Mostly swamp and open water with small areas of marsh on margins.

Field team: Mark Parker

A.1.2 Recording wetland condition

Indicator	Indicator components	Specify and Comment	Score 0–5 ¹	Mean score
Change in hydrological integrity	Impact of manmade structures	Road/bridge and tide gate impacting natural fluctuations in water level and opening frequency	3	3.3
	Water table depth	Water table shows small decline over time. Lagoon artificially opened when water levels high	3	
	Dryland plant invasion	<25% of wetland has dryland species present	4	
Change in physico-chemical parameters	Fire damage	No evidence of fire damage	5	4
	Degree of sedimentation/erosion	Low level erosion/sedimentation	4	
	Nutrient levels	Elevated nutrient levels as at end of developed catchment (urban and farmland)	3	
	Von Post index	Not assessed		
Change in ecosystem intactness	Loss in area of original wetland	Estimated that 50-75% of previous wetland extent lost due to drainage and development	2	2.5
	Connectivity barriers	Tide gate blocking sea-water inflows, connection to Waipara River lost due to vegetation clearance and development.	3	
Change in browsing, predation & harvesting regimes	Damage by domestic or feral animals	None observed	4	3.7
	Introduced predator impacts on wildlife	No predators observed, but no known predator control	2	
	Harvesting levels	No harvesting	5	
Change in dominance of native plants	Introduced plant canopy cover	Estimate willows cover 30% of canopy area	3	3.5
	Introduced plant understorey cover	Estimate introduced plant species cover 20% of understorey area	4	
Total wetland condition index /25				17

¹ Assign degree of modification as follows: 5=v. low/ none, 4=low, 3=medium, 2=high, 1=v. high, 0=extreme

Main vegetation types:

	Area (ha)
Ti kouka treeland with harakeke and rāupo	9.3
Grey willow forest with harakeke, raupo and ti kouka	4.0
Raupo reedland	1.3
Marsh ribbonwood shrubland	0.2
Harakeke flaxland	0.1
 Vegetated Area	 14.9
Total Area	15.0

Native fauna:

Spotless crane recorded in past. Overall local significance ranking for bird habitat (O'Donnell, 2000).

A. 1.3 Wetland pressure indicators (catchment)

Pressure	Score ²	Specify and Comment
Modifications to catchment hydrology	3	Water abstraction, diversion and drainage affecting wetland.
Water quality within the catchment	3	Probable moderate pollution from groundwater, settling ponds and neighbouring land.
Animal access	3	Fenced from surrounding farmland. No known predator control occurring.
Key undesirable species	2	17 of 43 listed species thought to be present in catchment.
% catchment in introduced vegetation	4	Estimate 90% of catchment introduced vegetation. Grey willow present in wetland.
Other pressures	2	Possible adverse effects from proposed flood protection works.
Total wetland pressure index /30	17	

²Assign pressure scores as follows: 5=extreme, 4=very high, 3=high, 2=moderate, 1=low, 0=none/very low

Part B: Ecological significance assessment

B. 1.1 Assessment of Ecological significance

Criteria	Rank	Notes
Representativeness	Moderate	Wetland habitat that retains key hydrological functions. Mix of native and exotic vegetation.
Rarity / Distinctiveness	Moderate	Coastal wetland remnant, habitats of this type reduced to less than 20% of former extent in this land environment.
Diversity and pattern	Moderate	Wetland area has a moderate variety of habitats, vegetation types and species.
Naturalness	Moderate	The site has various weed species present and has undergone hydrological modification but still retains the key features and habitats of a coastal lagoon.
Ecological Context	Moderate	One of a series of wetland and riverbed habitats along this section of Pegasus Bay. Isolated from these by farmland and urban development.

The site is assessed against criteria developed for the Proposed Canterbury Regional Policy Statement (Wildland Consultants Limited, 2011)

Amberley Beach Lagoon is assigned an overall ecological significance ranking of **Moderate**.

References:

- Clarkson BR, Sorrell BK, Reeves PN, Champion PD, Partridge TR, Clarkson BD (2004) *Handbook for monitoring wetland condition. Coordinated Monitoring of New Zealand Wetlands*. A Ministry for the Environment Sustainable Management Fund Project (5105)
(Describes the assessment method generally. In particular, Table 5 was used to determine the indicator scores and Table 6 for the pressure scores)
- O'Donnell CFJ. 2000. The significance of river and open water habitats for indigenous birds in Canterbury, New Zealand. Environment Canterbury Unpublished Report U00/37.
- Wildland Consultants (2011) *Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna and wetlands in Canterbury*. Wildland Consultants Contract Report No. 2289c. Prepared for Environment Canterbury.