Part A: Wetland classification, wetland condition, pressure indicators

Wetland name: Pareora River Mouth
Region: Wainono ER, Makikihi ED
Altitude: <5 m
Date: January 2011
GPS Ref. (NZTM): E1498240 N5118100
No. of plots sampled: Overview only

A.1.1 Wetland classification

Classification: I System	IA Subsystem	II Wetland Class	IIA Wetland Form
Palustrine	Permanent	Marsh/Swamp	Floodplain/hollow
Riverine	Seasonal	Shallow Water/bare gravel	Braided river
Estuarine	Non-tidal	Shallow Water	Coastal Lagoon

At the time of survey approximately 50% of the wetland area was freshwater palustrine habitat, and 50% was estuarine and riverine shallow water and river gravel/sand/mud.

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	Railway embankment, culverts and drains	3	3.3
	Water table depth	Some reduction, due to surrounding drains and stopbanks	3	
	Dryland plant invasion	Low: blackberry and bittersweet	4	
Change in physico-chemical parameters	Fire damage	No evidence of fire damage	5	3.7
	Degree of sedimentation/erosion	Visible sediment deposits affect 25-50% of wetland	3	
	Nutrient levels	Elevated as result of catchment land use and location at end of catchment	3	
	Von Post index	Not assessed		
Change in ecosystem intactness	Loss in area of original wetland	Estimated that 25-50% of previous wetland extent lost due to vegetation clearance, drainage and pasture development	3	3
	Connectivity barriers	Culverts and railway embankment, vegetation clearance and water abstraction reducing both upstream and downstream connectivity	3	
Change in browsing, predation & harvesting regimes	Damage by domestic or feral animals	Minimal, grazing in part of palustrine area	4	3.3
	Introduced predator impacts on wildlife	No known predator control occurring in wider catchment	2	
	Harvesting levels	Minimal	4	
Change in dominance of native plants	Introduced plant canopy cover	Approximately 65% of the canopy is willow and creeping bent	2	2
	Introduced plant understorey cover	Creeping bent, tall fescue, dock and blackberry	2	
Total wetland condition index /25				15.3

[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)
• Willow forest*	7.5
• Raupo reedland with *Carex secta*, flax, dock, creeping bent and bittersweet	1.6
• *Carex coriacea* sedgeland with tall fescue	1.0
• Harakeke flaxland with *Carex secta*, dock, creeping bent and bittersweet	0.3
Vegetated Area	11.8
Total Area	22.5

* denotes an exotic vegetation type

Native fauna:

Regional significance rank for bird habitat (O'Donnell, 2000). This area provides habitat for 16 wetland bird species including bittern, marsh crake and grey teal.

A. 1.3 Wetland pressure indicators (catchment)

Pressure	**Score**[2]	**Specify and Comment**
Modifications to catchment hydrology	3	Vegetation clearance, water abstraction, dam and drainage.
Water quality within the catchment	3	Probable moderate pollution.
Animal access	2	Partly fenced; no known animal control in wider catchment.
Key undesirable species	2	18 of 43 listed species thought to be present in catchment.
% catchment in introduced vegetation	4	>75% of catchment is introduced vegetation.
Other pressures	3	Coastal erosion, further irrigation and intensification of landuse in catchment.
Total wetland pressure index /30	17	

[2]Assign 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	Modified hydrology and vegetation, but still has a variety of the original native vegetation and habitat types.
Rarity / Distinctiveness	High	Australasian bittern present. Wetland habitats have been reduced to <20% of their original cover in this ecological district. Native vegetation cover has been reduced to <10% of their former area in this land environment.
Diversity and pattern	Moderate	Moderate diversity of habitats, open water, sand/mud/gravels, sedgeland, forest, reedland and flaxland.
Naturalness	Moderate	Original wetland area constrained by construction of the train embankment and stopbanks; remaining wetland area with moderate proportion of exotic plants surrounded by developed farmland, industry and exotic dominant dunes.
Ecological Context	High	Connected to the marine environment, riverine and terrestrial habitats. Habitat for threatened bitten and migratory bird species.

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

Pareora River Mouth is assigned an overall ecological significance ranking of **High**.

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.