

Part A: WETLAND RECORD SHEET

Wetland name: Otaio Flats
Region: Wainono ER, Makikihi ED
Altitude: <5 m

Date: February 2011
GPS Ref. (NZTM):E1454203 N5060702
No. of plots sampled: Overview only

Classification: I System	IA Subsystem	II Wetland Class	IIA Wetland Form
Palustrine	Near-permanent	Shallow water and marsh	Channel, floodplain
Estuarine	Non-tidal + supra-tidal	Saltmarsh	Channel, dune slack, coastal lagoon

Includes Kohika Lagoon. Site hydrology and wetland form highly modified by network of drains and stopbanks.

Field team: Philip Grove

Indicator	Indicator components	Specify and Comment	Score 0– 5 ¹	Mean score
Change in hydrological integrity	Impact of manmade structures	Present wetland area is product of drainage and flood control works: drains, culverts, stopbanks, floodgates.	1	1.7
	Water table depth	Drains have lowered water level over most of area.	1	
	Dryland plant invasion	25-49% of remaining wetland area has dryland plant species present.	3	
Change in physico-chemical parameters	Fire damage		5	3.3
	Degree of sedimentation/erosion	High levels of visible sediment deposits over most of wetland.	2	
	Nutrient levels	Naturally high-nutrient wetland, but levels have increased as result of land use.	3	
	Von Post index	Not assessed.		
Change in ecosystem intactness	Loss in area of original wetland	Estimated that more than 80% of previous wetland extent lost since European settlement	1	1
	Connectivity barriers	More than 75% of natural connections lost due to drains, culverts, floodgates, stopbanks.	1	
Change in browsing, predation & harvesting regimes	Damage by domestic or feral animals	Stock have access to about half of remaining wetland area.	3	3
	Introduced predator impacts on wildlife	Usual suite of mammalian predators likely to be present. No known predator control.	2	
	Harvesting levels	Some duck and goose hunting.	4	
Change in dominance of native plants	Introduced plant canopy cover	Estimate 25-49% canopy cover of introduced plants in wetland.	3	2.5
	Introduced plant understorey cover	50-75% cover of introduced plants in understorey.	2	
Total wetland condition index /25				11.5

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

Main wetland vegetation types:

	Area
• <i>Bolboschoenus caldwellii</i> reedland	5 ha
• Saltmarsh herbfield (mixed native-exotic)	1.5 ha
• Tall fescue grassland*	1 ha
• Saline grassland-herbfield mosaic (mixed nat.-exotic)	1.5 ha
• Pondweed-duckweed- <i>Ruppia</i> aquatic herbfield	0.4 ha
• Creeping bent grassland*	0.3 ha
• Marsh ribbonwood shrubland	0.2 ha

Exotic vegetation denoted by * .

Native fauna:

Otaio Flats and Kohika Lagoon provide feeding and roosting habitat for waterfowl and wading birds.

Pressure	Score²	Specify and Comment
Modifications to catchment hydrology	4	Clearance of native vegetation, drains, outlet control stopbanks, surface and groundwater abstraction.
Water quality within the catchment	3	Probable moderate pollution especially in lower reaches.
Animal access	3	Stock excluded from about half of wetland area. No known pest control occurring.
Key undesirable species	2	21/43 listed species thought to be present.
% catchment in introduced vegetation	4	Over 75% of catchment in introduced vegetation.
Other pressures	3	Irrigation and associated intensification of farming threaten downstream wetland ecosystems.
Total wetland pressure index /30	19	

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

Part B: Ecological significance assessment

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

Criteria	Rank	Notes
Representativeness	Moderate	Wetland hydrology and form highly modified but still functioning wetland ecosystem. Mostly native wetland vegetation.
Rarity / Distinctiveness	Moderate	Remnant indigenous wetland vegetation in coastal land environment that retains < 20% of indigenous cover. No records of rare/threatened species.
Diversity and pattern	Moderate	Freshwater wetland and saltmarsh habitats present.
Naturalness	Low	
Ecological Context	Moderate	Link in chain of coastal wetlands.

Otaio Flats and Kohika Lagoon River are 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)

Wildland Consultants 2011. Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna and wetlands in Canterbury. Contract Report No. 2289c prepared for Environment Canterbury.