Part A: WETLAND RECORD SHEET

Wetland name: Wainono Lagoon shoreline wetlands
Region: Wainono ER, Makihikihi ED
Altitude: <5 m
Date: March 2008
GPS Ref. (NZTM):E1454031 N5048539
No. of plots sampled: Overview only

Classification: I System	IA Subsystem	II Wetland Class	IIA Wetland Form
Estuarine	Non-tidal	Saltmarsh	Lake / Lagoon
Palustrine	Permanent	Swamp	Flat / floodplain
Lacustrine	Near-permanent	Marsh	Lake / Lagoon

Approximately 75% of lakeshore wetland is estuarine (brackish coastal lagoon); 14% is freshwater wetland, mostly palustrine swamp, with a small area of freshwater lacustrine marsh habitats in vicinity of inflows.

Field team: Philip Grove

Indicator	Indicator components	Specify and Comment	Score 0– 5[1]	Mean score
Change in hydrological integrity	Impact of manmade structures	Lake is maintained at well below natural level by connection via Dead Arm to Waihao box. There is an extensive network of man-made drains surrounding and feeding into the lake.	1	2
	Water table depth	Lake level and therefore water table lower than pre-European settlement.	1	
	Dryland plant invasion	Mainly along drain margins and stopbanks.	4	
Change in physico-chemical parameters	Fire damage	No recent fire damage elsewhere.	5	2.7
	Degree of sedimentation/erosion	Suspended sediment levels in the water body are high.	1	
	Nutrient levels	Lake water is highly eutrophic.	2	
	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	2
	Connectivity barriers	Drains and stopbanks isolate wetland ecosystems around parts of the lake.	3	
Change in browsing, predation & harvesting regimes	Damage by domestic or feral animals	Stock grazing.	3	3
	Introduced predator impacts on wildlife		3	
	Harvesting levels	Commercial eel and flounder fishing; duck and goose shooting.	3	
Change in dominance of native plants	Introduced plant canopy cover	Willows, shrub weeds in freshwater wetland; reed canary grass on brackish lagoon margins.	3	3
	Introduced plant understorey cover	Widespread through all except low-elevation mudflat vegetation.	3	
Total wetland condition index /25				12.7

[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: (exotic vegetation is denoted with an *)	**Area**
Saltmarsh / brackish wetland (estuarine hydrosystem)	
• Creeping bent grassland*	66 ha
• Mixed saltmarsh herbfield, glasswort present	50 ha
• Reed canary grass grassland*	39 ha
• Tall fescue grassland*	35 ha
• Mixed saltmarsh herbfield, glasswort absent	32 ha
• Marsh ribbonwood shrubland	15 ha
• Saline grass-herbfield	11 ha
• Bachelors button herbfield	10 ha
Freshwater wetland (palustrine and lacustrine hydrosystems)	
• Crack and grey willow forest with mixed native-exotic understorey*	63 ha
• Crack willow forest*	18 ha
• *Coprosma propinqua* shrubland	9 ha
• *Carex geminata* sedgeland	5 ha
• Harakeke flaxland	4 ha
Total vegetated wetland area (i.e. excluding open water of lagoon):	**374 ha**

Native fauna:
Wainono is an internationally significant bird habitat (O'Donnell, 2000). Wainono supports a diversity of species, with large numbers of wading birds and breeding waterfowl typical of coastal lagoons. It is a staging point for migration and overwintering site for some species. Rare or threatened bird species recorded from Wainono include crested grebe, black stilt, wrybill, banded dotterel and black-fronted tern, while marsh crake and bittern are likely to be present.

Pressure	**Score**[2]	**Specify and Comment**
Modifications to catchment hydrology	4	Catchment has an extensive network of drains; high levels of surface and ground water abstraction.
Water quality within the catchment	3	Probable moderate pollution.
Animal access	3	Approximately half of lagoon margin wetlands are grazed. No known predator control occurring.
Key undesirable species	3	Grey willow and reed canary grass are present in the catchment, providing an ongoing source of propagules.
% catchment in introduced vegetation	4	Mostly farmland.
Other pressures	3	Further irrigation and intensification of farming within catchment threatens water quality. Coastal erosion.
Total wetland pressure index /30	20	

[2]Assign pressure scores as follows: 5=very high, 4=high, 3=medium, 2=low, 1=very low, 0=none

Part B: Ecological significance assessment

Wainono shoreline wetlands are assessed against criteria developed for the Proposed Canterbury Regional Policy Statement (Wildland Consultants Limited, 2011).

Criteria	Rank	Notes
Representativeness	High	Extensive and good quality examples of range of indigenous wetland vegetation types and habitat for indigenous fauna. Largest contiguous wetland area in lowland south Canterbury.
Rarity / Distinctiveness	High	Indigenous freshwater wetland vegetation has been reduced to less than 20% of its former extent in this land environment. *Coprosma propinqua* shrubland is locally uncommon wetland vegetation type. A large number of nationally rare/threatened species bird species are resident or visit.
Diversity and pattern	High	Diversity of indigenous wetland vegetation and habitats related to elevation/inundation and salinity gradients. High native species diversity, particularly birds.
Naturalness	Moderate	Native wetland species have established under modified hydrological regime. Saltmarsh habitats largely support native vegetation, but invasive willows spread through freshwater wetland habitats is extensive and ongoing.
Ecological Context	High	Wainono shoreline wetlands are ecologically linked to other areas of high biodiversity value: the lake itself; native dune vegetation on beach barrier; Waihao Box lagoon and tributary streams and wetlands. Wainono provides habitat for large numbers of non-migratory and migratory bird species, including international migrants.

Wainono shoreline wetlands are 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)

O'Donnell, C.F.J. 2000. The significance of river and open water habitats for indigenous birds in Canterbury, New Zealand. Environment Canterbury 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.