Part A: WETLAND RECORD SHEET

Wetland name: Washdyke Lagoon
Region: Boundary of Low Plains and Makihikihi EDs
Altitude: <5 m
Date: March 2009
GPS Ref. (NZTM): E1460660 N 5086270
No. of plots sampled: Overview only

Classification: I System	IA Subsystem	II Wetland Class	IIA Wetland Form
Estuarine	Non-tidal	Saltmarsh	Coastal lagoon
Palustrine	Seasonal	Marsh	Floodplain

Shallow, brackish coastal lagoon behind gravel beach barrier. The wider wetland area is subdivided by stopbanks, with saltmarsh seaward of stopbanks and freshwater palustrine marsh landward. Of vegetated wetland area, approximately 75% is saltmarsh, and 25% freshwater wetland plant communities.

Field team: Philip Grove

Indicator	Indicator components	Specify and Comment	Score 0– 5[1]	Mean score
Change in hydrological integrity	Impact of manmade structures	Stopbanks, drains, floodgates largely define wetland extent and hydrology.	1	2.7
	Water table depth	Occasional artificial opening of outlet and floodgates modify water table in remaining wetland	3	
	Dryland plant invasion	Gorse, broom invasion of upper fringe of some saltmarsh and freshwater wetland areas	4	
Change in physico-chemical parameters	Fire damage	Occasional localised fires	4	2.7
	Degree of sedimentation/erosion	Visible sediment deposits affect about 50% of wetland.	2	
	Nutrient levels	Naturally high-nutrient wetland, but levels have increased as result of catchment land use.	2	
	Von Post index	Not assessed.		
Change in ecosystem intactness	Loss in area of original wetland	Estimated that more than 50-75% of original wetland extent lost since European settlement	2	2.5
	Connectivity barriers	Estimate 25-49% of upstream or downstream connections lost.	3	
Change in browsing, predation & harvesting regimes	Damage by domestic or feral animals	Stock excluded from wetland area.	5	3.7
	Introduced predator impacts on wildlife	Usual suite of mammalian predators likely to be present. No known predator control.	2	
	Harvesting levels	Duck and goose hunting; whitebaiting on margins of area.	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				14.1

[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
• Mixed saltmarsh herbfield	11 ha
• Creeping bent grassland*	6.2 ha
• Wet pasture*	6.1 ha
• Oioi restiad rushland with marsh ribbonwood and sea rush	4.5 ha
• *Lilaeopsis novae-zelandiae* herbfield	1.6 ha
• *Bolboschoenus caldwellii* reedland	1.2 ha
• Three-square reedland	1 ha

Exotic vegetation types denoted by * .

Native fauna:
Washdyke Lagoon is a nationally significant bird habitat. It supports high numbers of waders, waterfowl, gulls and tern species such as pied stilt, banded dotterel, grey teal, NZ shoveler, black-fronted tern and Caspian tern (O'Donnell 2000). Part of the area is a Wildlife Management Reserve. Bittern were observed during the survey.

Pressure	**Score**[2]	**Specify and Comment**
Modifications to catchment hydrology	4	Clearance of native vegetation, drains, outlet control stopbanks, surface and groundwater abstraction, urban/industrial development.
Water quality within the catchment	4	Probable severe pollution.
Animal access	3	Stock excluded from wetland area. No known pest control occurring in wider catchment.
Key undesirable species	2	20/43 listed species thought to be present.
% catchment in introduced vegetation	5	All of catchment in introduced vegetation.
Other pressures	3	Irrigation and associated intensification of farming threaten downstream wetland ecosystems. Coastal erosion
Total wetland pressure index /30	21	

[2]Assign 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	High	Wetland hydrology and form highly modified but still functioning wetland ecosystem. Extensive areas of native saltmarsh vegetation and native bird habitat.
Rarity / Distinctiveness	High	Indigenous vegetation in coastal land environment that retains < 10% of indigenous cover. Habitat for a range of threatened native bird species including bittern, banded dotterel, black-fronted tern.
Diversity and pattern	Moderate	Moderate diversity reflected in diversity of vegetation types and high bird species diversity.
Naturalness	Low	Hydrological modification and weed spread reduce naturalness.
Ecological Context	High	Link in chain of coastal wetlands; connected to marine and riverine habitats; important in life cycle of migratory birds and fish.

Washdyke Lagoon 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. Contract Report No. 2289c prepared for Environment Canterbury.