

Submission Relating to Resource Consent Applications

by - Central Plains Water Trust to Canterbury Regional Council
- Central Plains Water Ltd to Selwyn District Council

re - Proposed Canterbury Plains Water Enhancement Scheme

Presented on behalf of the Trust by Robin James McPherson, Trustee and Past Chairman,
August 2008.

1. Waihora Ellesmere Trust (WET)

The Waihora Ellesmere Trust (WET) was formed in 2003 to implement the Community Strategy that had emerged from two years of discussions on many issues relating to Lake Ellesmere/Te Waihora by a group of some thirty representatives from interested statutory and non-statutory agencies, Maori, focus groups and individuals.

Encapsulating the Community Strategy relevant to these Resource Consent Applications are two statements in the Vision for the Lake –

- A place where healthy and productive water provides for the many users of the Lake while supporting the diversity of plants and wildlife that make this place unique.
- A place where environmental, customary, commercial*, and recreational values are balanced while respecting the health of the resource.

(*Commercial acknowledges and includes agriculture, horticulture, commercial fishing and any other commercial activity that affects, or is affected by the Lake and its tributaries)

2. WET Area of Interest

Some 18,000 ha in area, Lake Ellesmere is New Zealand's fourth largest lake, and is the natural drainage sink for a catchment that includes the Central Plains Water Scheme. Whilst there is focus on the Lake and its environs WET has real interest regarding any happenings upstream of the lake.

3. Catchment – Lake Water Quality Concerns

The high nutrient loading in the Lake is of serious concern, with periphyton growth and other adverse effects fortunately restricted by turbidity from wind action keeping lake sediment in suspension. The concern felt is widespread - from the public and rununga to the Environment Court. As well, Central Government has named the Lake as being in the top three in New Zealand most in need of urgent remedial action.

WET is concerned that not just the status quo is maintained but that there has to be sustained improvement on the current position.

The Trust is also aware that there have been significant changes in the last decade in the catchment area, including the greatly increased amounts of fertiliser being applied and the large increase in dairy cow numbers. As the acknowledged average age of Selwyn and rainfall-derived groundwater is around forty years, it would seem that the additional water quality effects of these changes in the last decade have still to be seen in the lake.

4. WET Activities

With over 100 members the trustees are working on three fronts towards achieving the community's vision

- ! restoration of the lake ecosystem through wetland and riparian restoration projects
- ! education to raise awareness, understanding and value of the lake
- ! liaison to ensure that the lake is considered in policy and planning

WET supports sustainable development. As indicated in **1** above, the community vision is for a balance between the environmental, economic, social and cultural.

We believe CPW does not have in place sufficient measures and detail to balance the economic development with protection of the downstream environment. WET is concerned about the effects of the proposed scheme on lowland streams, lake wetlands, the drainage system in the lower catchment and the effect of an extra lake opening. All of which would affect the Lake system and the community vision for the lake.

Mitigation is at the core of the Trust's concerns and these are elaborated in the following sections.

5. Sustainable Land Management through the Sustainability Protocol.

- 5.1** The Sustainability Protocol (Mulcock 5.5) states that cattle, deer and pigs are to be fenced from waterways and their margins and appropriate riparian buffers to be provided for all waterways according to the ECan guidelines. This is very encouraging – but it is not explicit that this is mandatory.
- 5.2** It is also not explicit if this applies to all waterways. The farm plan template (pg. 14) refers to all permanent rivers and streams for riparian management, but the Sustainability Protocol (8) defines a waterway as 'including both permanent and seasonally wet rivers, streams, creeks, drains and wetlands' (Mulcock p.17).
- 5.3** Moreover the Best Management Practice and Codes of Practice make no reference to Best Drainage Management. Will this be covered under the waterway management ('all' as per 1.2), via the ECan guidelines and will they be mandatory?
- 5.4** The ECan guide referred to, prioritises: fencing stock from streams, leaving a long grass margin (cropping), and planting stream banks with native species. And on drains: plant on north banks, fence drains, spray weeds in the centre of the drain only, establish drains with gentle angles and time drain maintenance to include other values such fish spawning and migration. This is a guide only [see the actual guide] and has no quantitative measures and therefore cannot be used in a mandatory and enforceable protocol.
- 5.5** CPW state that where shelterbelts are removed for irrigation, farmers will be encouraged to replace with native species (Sustainability Protocol p.7). This must be mandatory. There must be no net loss of vegetation in an area on very poor biodiversity.
- 5.6** We agree with Bishop (227) that *'the sustainable land management practices must be a compulsory component of subscribing to the CPW scheme, and must be regularly*

monitored and enforced if the adverse effects of the CWP are to be mitigated and the enhancement of natural biodiversity values realised'.

6 Effects on Lowland Streams and Lake Wetlands.

- 6.1** Lake Ellesmere's freshwater wetlands are currently threatened. Those that have survived initial clearance (<10%) are now threatened by the invasion of crack and grey willow.

The 253ha Harts Creek Wildlife Reserve - Today the reserve is heavily infested with grey and crack willow. The willow has overcome rushes, sedges and manuka. Willow made up 30% of the reserve in 1966 and in 2003 this figure had reached 78%ⁱ.

In 1984 freshwater wetlands covered 54% of the total lake wetland habitat, by 2007 this had reduced to 30%, and over the same period the area covered by grey and crack willow increased from 67 ha to 140 haⁱⁱ. The invasion of the willow species is likely to lead to a long-term reduction in the numbers of Bittern through a loss of habitatⁱⁱⁱ.

WET is currently working at willow control and re-vegetation in this area. It is stated in Bishop (182) that willows will proliferate with more water available, and moreover there will be a redistribution of wetland species downstream, in favour of invasive exotic species. These wetlands are the last remaining 'kidneys' for the Lake, and it is crucial that willows are controlled and native vegetation restored, let alone willows favoured by a new regime. This is another example of the flow on, downstream, negative impacts of CPW that expose its lack of integrated catchment approach. It leaves the spectre of degradation or mitigation downstream at someone else's expense.

Bishop (188) states that any positive effects on wetlands will be negated unless willows are progressively controlled – by whom and at what cost? Monitoring and funds for mitigation must be directed at Lake wetlands, to restore them to a healthy functioning state which will allow them to function as a filter for nutrients from the catchment (as well as provide habitat, flood control, recreational and customary opportunities on the Lake).

- 6.2** A similar situation stands with regards to the lowland streams with increased flows and total nutrients. While increased flows may have beneficial impacts downstream of CPW, this will only hold true if riparian restoration takes place downstream of the scheme (Glova 37, 38). This is because riparian habitats are sensitive to increased water flow (Bishop 184). This must happen to mitigate increased risk of erosion and sedimentation, portability of faecal coliforms and nutrient run off.

In the lower catchment there is no sustainability protocol in effect. Who will provide the drive and cost for adequate riparian management to ensure the benefits of increased flows on lowland streams are not negated by increased portability of pollutants to the lower catchment?

ⁱ Harts Creek Wildlife Management: A weed control plan. Walls G. Department of Conservation. Christchurch 2003.

ⁱⁱ Te Waihora Lake side vegetation. Presentation at the Living Lake Symposium. Grove P. Environment Canterbury. Christchurch 2007.

ⁱⁱⁱ The Wildlife of Te Waihora Lake Ellesmere. . Presentation at the Living Lake Symposium. Hughey K. Lincoln University. O'Donnell C. Department of Conservation. Christchurch 2007.

7 Effects on Lowland Drainage.

- 7.1 As per the CPW evidence (Lewthwaite 2nd Brief 6.1, 6.3, 9, 14, 15) there will be increased loading on the drains in the lower part of the catchment. This may require widening or deepening of the drains.
- 7.2 This area is not subject to a sustainability protocol. Therefore there is neither imperative nor incentive to fence stock from drains, nor to suppress weed growth and filter run-off from appropriate riparian plantings. There will be increased flows in these potentially widened drains, with no mitigation, and it is reasonable to assume that there will be increased passage of sediment, nutrients and faecal coliforms to the Lake from drains in the lower catchment and via the lowland streams. The LII and Halswell in particular have extensive drainage networks, up to three times the length of the natural waterway. The cumulative inputs from the drainage networks far outweigh those of the natural waterway itself.
- 7.3 Drainage management affects more than just the movement of water as proposed by Mr. Lewthwaite. It affects water clarity, habitat, the movement of nutrients and microbes, and recreational values. This is likely to have a considerable detrimental effect on the Lake and lowland streams, not to mention economic and management impacts on landowners and land managers in the lower catchment.

8. Distribution and Discharge

Lewthwaite (208,214) indicates that a distribution network of 423km of races plus 15km in pipe is intended. This (216) is to service not just the 60,000 ha proposed but all the properties in an area of 97,700 ha. A twenty per cent water loss is anticipated from seepage, bywash, evaporation etc. As well, there will be water quality deterioration as races lengthen.

An option of piping is provided for (209) but not apparently favoured. But pipe offers serious advantages !

- ! loss of water (the prime and limited asset) becomes minimal
- ! water quality is maximised and optional uses increased
- ! minimal land loss to farming and to other private and public activities
- ! greater public safety
- ! a really significant reduction in the environmental footprint and associated costs.

There is still no detail given that ensures that the bywash wetlands to be constructed will assuredly remove materials of concern. Again no alternative seems to have been found to the damaging release of emergency discharges into bywash wetlands at 11 of the 14 discharge sites. Six of the sites are on the Selwyn River, meaning that the greatest discharge is to be into the smallest river, and that is acknowledged as being the least able to cope. This is not acceptable.

9. The Lake

The community vision seeks to improve the health of Lake Ellesmere / Te Waihora.

CPW will directly increase nitrogen loadings on an already hypertrophic system. While arguing that N is not limiting in the system, their action will still lead to increased degradation of the lake, countering community efforts to restore it. For, as given in evidence by Kennedy (203), “..nutrient loadings, rather than concentrations, are generally of greater interest when considering nutrient effects on lake environments. This is because high nutrient loads increase the pool of nutrients available for the biota, and any nutrients not taken up biologically may be stored in bed sediments and used later”. Unless mitigated, the cumulative effects of CPW will

be with us for many generations and are directly at odds with a community vision into which considerable effort and resources are being put.

10 In Summary

- 10.1** On properties that draw water from the CPW scheme, the Sustainability Protocol needs clarification. It is critical that all the Sustainable Practices are explicit, mandatory, monitored and enforced; this is not clear.
- 10.2** Clarification is needed for the definition of a waterway to be covered by the protocol, and to the application of the ECan guidelines.
- 10.3** Integrated catchment management is needed so that the lower catchment also has the sustainability protocol with riparian management applied. It is only in this way that the acknowledged increased loadings can become beneficial.
- 10.4** The dimensions of the Scheme above and below the ground coupled with topography and drainage means there is real and potential ability to impact over a vastly greater area. Monitoring must be required over this greater area. The information so gained must be freely available not only to the monitoring authority but also to any party that considers their interests may have been adversely affected. Information gained by such monitoring not only provides entitled assurance for the greater area, it will also enable earlier intervention in the event of change. Moreover, it is in accordance with the objectives of the Central Plains Water Trust.
- 10.5** **The Trust considers that the proposed levels of mitigation fall seriously short of what is needed and consequently recommends that the applications be declined.**