

Initial responses to questions and issues

Item No.	Item Description	Further action
1	<p>Assertion that scheme will recreate groundwater balance that existed in about 1990</p> <p>The following comments come from discussions with Aqualinc, ECan and Lyell McMillan. It seems that consents were brought up to date after the Resource Management Act put a sunset time of 2001 on older "existing use" consents. There are diverging opinions about the number of new wells since 1990. Probably the differences are because the farmers' comments about little expansion in recent years relate to the areas immediately by the lake and do not apply to the overall plains development. Aqualinc would not expect much effect on outcomes in the lower plains from these diverging views because of edge effects of sea and other boundary conditions and relief from drains, also the effects of rainfall variations and alpine river recharge which would moderate the effects of groundwater development. Note that Aqualinc's model was calibrated up to 1995, and verified for 1996-2006, producing a good match and giving confidence that it was representing the real field situation.</p>	No further action needed
2	<p>Map of areas where groundwater is within 1 m of ground surface</p> <p>The Aqualinc model is not intended to predict exact areas at each depth-to-water contour. It is built on 20 m contour intervals available from LINZ topo maps, which is coarse, and it is a regional scale model with grid sizes from 500 m up to a few km in size. However Aqualinc considers it can be relied upon to indicate the differences that would occur with different scenarios, e.g. between wet and dry years, and between with-and-without CPWES. Further, in practice in these areas the effects will be constrained by drains and the relief they provide.</p>	No further action needed
3	<p>Table of increased flows in lowland streams and drains after CPWES</p> <p>Comparisons with ECan gaugings accessed by Aqualinc show a fair to good match for all lowland streams listed, including Tent, Waikewai at mouth (about 12 gaugings), and Harts at Clarks Rd (about 9 gaugings) and at Timberyard Rd (many gaugings). It would be good to know the source of data exhibited at the meeting on 10 Dec.</p> <p>The Lee, Young etc were omitted from Aqualinc's table of flows as their catchments are too small to give reliable results on the scale of modelling adopted.</p>	Find source of data presented at meeting
4	<p>Geohydrology for increasing flows in lowland streams</p> <p>Aqualinc considers a connection with aquifers is well established, although the degree of connection varies from stream to stream. The more southerly streams (Waikewai, Tent, etc) show a stronger connection to Rakaia River. If it transpires that stream levels do not rise in the future as a result of the scheme then (a) there will be no need for drainage mitigation works, and (b) there will be a stronger case for establishing that stream baseflows should not be used to restrict irrigation takes.</p>	No further action needed at this stage
5	<p>Costs of increased number of lake openings</p>	As in minutes