

Interactive comment on “Dynamic analysis of groundwater discharge and partial-area contribution to Pukemanga Stream, New Zealand” by V. J. Bidwell et al.

Anonymous Referee #2

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General Comments

The estimation of the effects of nitrate filtered from the soil surface on the quality of surface water is extremely important in every region of the world where agricultural lands are diffused. During the last decades this estimation has received more attention because of many reasons described also by the authors. The proportion and origin of groundwater contribution to streamflow is very important to the aforementioned estimation. The proposed paper does not involve original contributions, anyway it may be useful in the partitioning of streamflow contributions from near-surface runoff and groundwater. It is a good paper in the complex, well written and well organized. The as-

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sumptions and the analyses are valid and adequately justified. The material is clearly presented and the methodology is appropriate. On this basis the paper may be considered as a useful support to other analyses earlier published.

Specific comments

In section 2.1 (Catchment description) some details about the horizontal spatial variability of land use and cover could be introduced.

In section 2.2 (Instrumentation) instrumentation (type and location) for the measurement of rainfall and streamflow should be described

Section 3 (Results) and 4 (Discussion) should be combined

Technical corrections

Page 2469, line 7, the equation should be in the same line;

Page 2474, line 23, the average value of the error (8%) should be evaluated in absolute terms;

Page 2481, line 7, Fig. 3 should be Fig. 2;

Page 2482, line 4, Fig. 3 should be Fig. 2;

Page 2486, line 13, the error -16% is not coherent with that indicated in the text (page 2474, line 23)

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