

water

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Newsletter 5 • December 2006

Waimea Water Augmentation Committee (WWAC)

Message from the Chairman

Welcome to the last Waimea Water Augmentation Committee (WWAC) newsletter for the year. An exceptionally dry September saw the unprecedented prospect of the Dry Weather Taskforce meeting early. Some timely rains abated this in October. With summer now upon us we are once again reminded of the constant challenges faced in juggling water resources. Crop demand increases at a time when we also expect to have healthy river flows for various recreational uses and environmental reasons.

I am delighted to report that the WWAC has worked hard to solve the above challenges. After three years of investigations we now have a proposal which we are confident can meet the long-term water needs of all members of the community.

After starting with 18 potential sites the WWAC has analysed numerous reports and decided in favour of Site 11, the Upper Lee, for further detailed feasibility investigations. This is known as Phase 2 Feasibility Investigations.

Water storage in times of high winter flow and managed release in times of low flow will allow environmental and recreational requirements to be met and provide surety of supply to both rural and urban water users.

Water users and landowners have endorsed this next phase investigation by unanimously supporting a financial contribution.

It is very pleasing that the project is ahead of plan and on budget. This is thanks to the significant voluntary input from committee members and, in particular, the dedicated work of our project manager, Joseph Thomas. This is supported by the Sustainable Farming Fund, which is very happy with progress to date.

Wishing you all a happy and productive new year.

Murray King

Chairman

Waimea Water Augmentation Committee (WWAC)



Aerial view of the proposed dam site on the Upper Lee River.

WWAC chooses Upper Lee for further investigation

Following Phase 1 feasibility investigations on water storage options in the Upper Lee or Upper Wairoa Left Branch catchment areas, the Waimea Water Augmentation Committee (WWAC) has come out in favour of the Upper Lee site for further investigations.

The decision is based on comprehensive evaluation and data available from investigations to date, taking into account technical, environmental and social/community values.

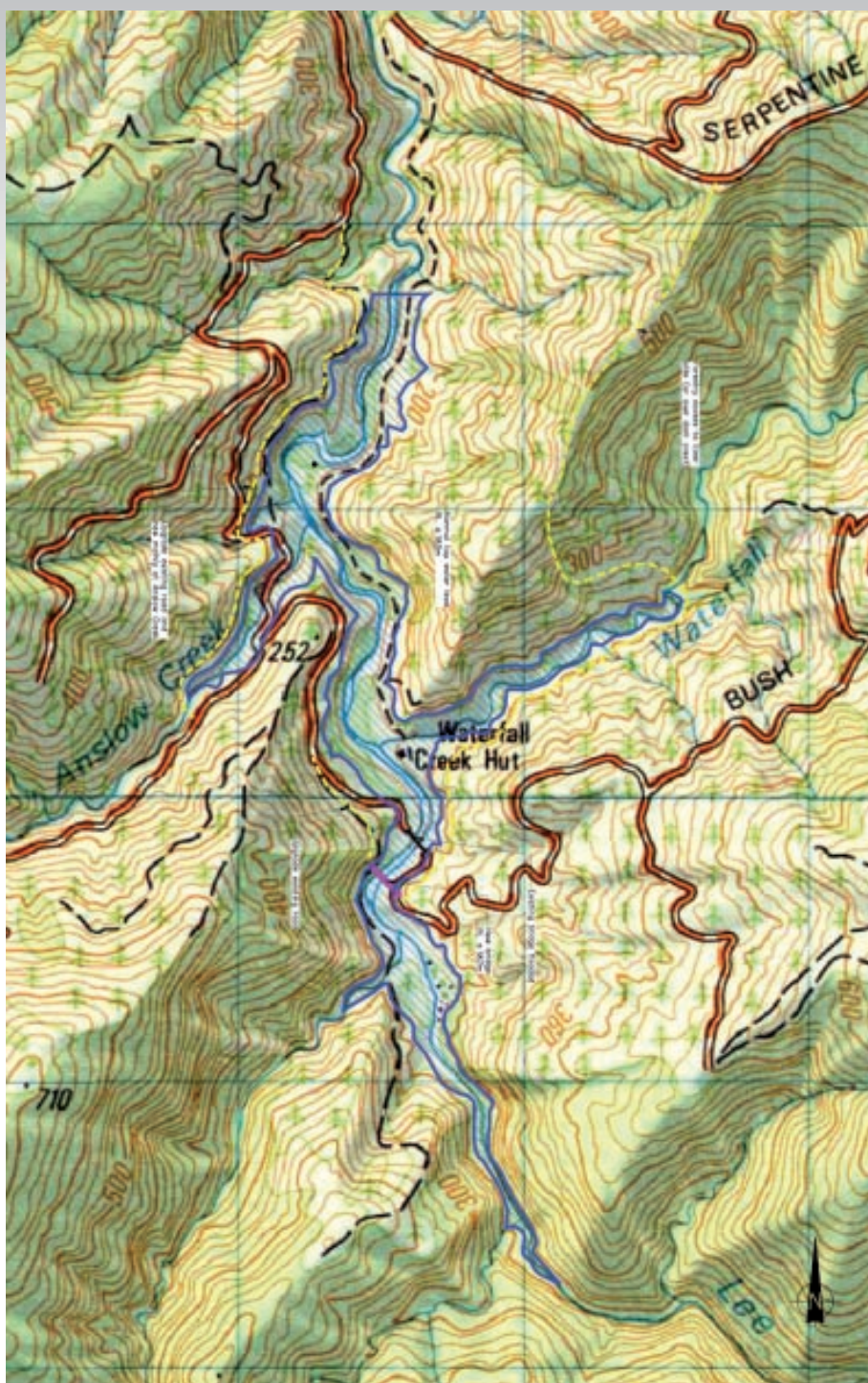
The preferred dam site is approximately 2.3 kilometres above the old cement works. The indicative preliminary volume of the dam is just over 13 million cubic metres. The extent of the reservoir will be about 90 hectares and about 50 metres high. The storage volumes have been sized to meet all current irrigation shortfalls for a 1 in 15 year drought and also provide irrigation water for all land on the Waimea Plains that is currently not irrigated. The dam would also meet future (50 to 100 years) regional and urban water demand, while maintaining a healthy flow of 1100 litres a second at Appleby Bridge on the lower Waimea River.

Pictured is a sketch map of the preliminary dam footprint.

The WWAC committee is intending to progress studies at the site as part of the Phase 2 feasibility investigations. Only when this part of the study is completed can far more refined details of the proposed dam, including costs, be available. A critical part of the study is ongoing community consultation and liaison.

WWAC's membership includes irrigators, urban suppliers, councillors and staff from Nelson City and Tasman District councils, Department of Conservation representatives, Fish and Game representatives and iwi representatives.

All enquiries please contact a WWAC member or liaison group representative. See back page for contact details.



Cawthron report on water storage in the Lee River

The Cawthron Institute's report on 'Issues and Mitigation Options Associated with Water Storage in the Lee River' focuses on the likely ecological effects of a dam and suggests potential approaches to mitigate these effects.

The effect of the proposed dam on flows in the Wairoa River, downstream of the confluence with the Lee, and in the Waimea River, was expected to be largely positive with higher minimum flows predicted during summer, the report said. This effect would be more pronounced in the Lee River with substantially higher minimum flows in summer than present. These higher flows were expected to have positive ecological effects, however, habitat modelling would need to be conducted to confirm this.

The report also recommends further work be carried out in the detailed feasibility studies for supporting the construction of the dam. Further ecological investigations would be desirable including:

- A habitat survey and modelling exercise on the Lee river to determine the effects of the proposed flow on habitat availability for key species found in that part of the catchment. This would enable a more detailed assessment of an appropriate minimum flow for this reach of the river and would also help determine the flows required to effectively flush sediment and algae.
- Sampling stream invertebrate communities in the vicinity of the dam to ensure that the results from further downstream can be extrapolated to this section of the river.
- Collection of pre-dam water quality and temperature data to compare with results from any future monitoring efforts.
- An assessment of the importance of the lower Lee River and tributaries as spawning areas for brown trout.

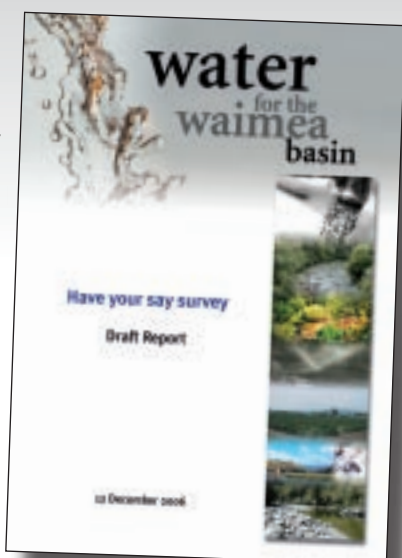
Preliminary water survey report

The Waimea Water Augmentation Committee (WWAC) received a total of 434 responses to its 'Water for the Waimea Basin – Have Your Say' survey. This represents a 6.2% response rate, which is well above the standard expected response rate of around 3%. It is clear from the responses that the majority of people in the Waimea Basin and Richmond are acutely aware of the water shortage problems and are keen to seek a workable solution.

The priority outcomes included:

- 97% awareness about water shortages
- 75.5% support for a storage option (dam)
- High level of knowledge about water shortage issues
- High level of knowledge about water storage option
- Several water management options have been put forward
- Issues concerning shortages have been raised
- Concerns about dams have also been raised

A full report on the survey will be tabled at the WWAC February 2007 meeting.



Economic analysis identifies key benefits

Key economic benefits and costs regarding water augmentation in the Waimea Catchment have been identified in an economic report carried out by Crighton Anderson on behalf of Tonkin and Taylor.

The total value of groundwater in the Waimea Basin to abstractive users was valued at \$250 million in 2001. The economic report has identified the following key points:

- Conservative gross estimate using net present value (NPV) for further irrigation of 1800 ha has a potential for production increase of \$20-\$30 million a year.
- Preliminary economic analysis indicates that aggregate earnings from current mixture of crops on the plains in a normal year is \$32 million.
- Loss of agricultural production for a higher low flow at the lower river in a drought year (1:25 year) is estimated to be between \$14 - \$25 million.
- The above is significant i.e. between 45% to 75% of average earnings.
- A preliminary estimate of aggregate economic cost of non-augmentation over a 25 year period has been estimated at \$80 - \$135 million.
- The preliminary economic analysis does not consider the potential regional economic opportunity cost of non-augmentation in relation to residential and industrial development.
- It is noted the regional economic costs would be significant for Council over 50 years with expected demand for 15,000 new allotments and 65 ha of industrial development.
- Significant water cut-backs through the planning process would bring about significant economic cost and in many cases destroy the viability of many producers and industries and curtail further regional economic growth.

Cost details expected in Phase 2

Preliminary indicative raw capital costs for building a dam in the Upper Lee were estimated to total around \$17 million. This cost didn't include land issues, contingencies and road issues that may arise.

Further recent evaluation based on Phase I information, including the potential issues outlined above, puts the total dam cost in the range of \$20 - \$25 million.

More precise costs will be established after detailed work in Phase 2 is completed. The potential cost to individuals will depend on the ownership structure of the dam and the funding splits that are agreed between various potential users, including Council.

SFF audit positive

The Sustainable Farming Fund (SFF) conducted a project performance validation audit on Phase 1 of the augmentation feasibility study. The independent auditors gave positive feedback on the project management and the meeting of milestones and deliverables.

The SFF has provided funding for Phase I of the project and is likely to continue its support for Phase 2.



Progress Update

Progress is well ahead of schedule. All technical reports for Phase 2 of the feasibility study will be completed by the end of February 2007. These will be released and presented to water users, the community and Tasman District and Nelson City councils.

Both Council and water user groups have given a mandate to proceed with Phase II of the project which will cost \$1.3 million. This phase will provide a detailed report on the preferred dam site on the Upper Lee River.

An application for supporting funding will be forwarded to the Sustainable Farming Fund in early 2007.



WWAC Members

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