water • for the waimea basin

Newsletter 7 • December 2007

Waimea Water Augmentation Committee (WWAC)

Message from the Chairman

This is the last newsletter for 2007 and once again drier than normal conditions are highlighting the very real need to enhance water supplies by storage and augmentation, not only for irrigation needs but also for environmental, aesthetic, community and urban demands. Water rationing has started affecting all sectors of our community.

Groundwater and soil moisture levels are worryingly low for so early in the season. Interestingly, had the proposed Upper Lee storage site been commissioned last autumn, it would have had the opportunity to fill two times over in that time!

Our lead consultants Tonkin and Taylor have now commenced Stage Two (feasibility study) and are making good progress.

Many people often ask why this project cannot proceed more quickly. The answer is simply that there is a huge volume of work to be undertaken and that any proposal must achieve all the outcomes required of it. Given that this facility is for the long-term needs (50 – 100 years) we must make sure that it works and will last. Along with the feasibility study, which considers dam type, location, size and environmental effects, the consent process, detail design and construction could take six years to complete.

From the round of community meetings held in June 2007 it was heartening to see the high level of approval for such a project.

Once again I am compelled to express my sincere thanks to our project manager Joseph Thomas and the members of the WWAC committee who willingly give their time in pursuit of making this project work.

Lastly, on behalf of the WWAC committee I would like to wish you all a very happy Christmas and a safe and prosperous new year.

Murray King
Chairman
Waimea Water Augmentation Committee (WWAC)

Options explored before Upper Lee dam site selected

Before settling on the Upper Lee as the preferred site to provide water storage for the Waimea Basin the Waimea Water Augmentation Committee explored numerous options, including damming various other waterways and piping water from further afield.

People often ask why the large supply of quality water in the Buller River and Lake Rotoiti has not been tapped into. While there is no doubt there is high quality water in the Buller and Lake Rotoiti, taking water from the lake is not possible because the lake forms part of a national park and is protected by the Department of Conservation. Piping water from the Buller River was also explored as an option, but proved to be prohibitively expensive. According to the Buller River Water Conservation Order, 1000l/s is currently available for allocation from the Gowan River, which at its closest point is about 15km from Wakefield. The cost of a pipeline alone, from the river to Wakefield, was estimated to be more than $112 million. This did not include the cost of a pumping station, break tanks, intake, controls, power supply and reticulation.

Some of the other options investigated were conceived and promoted at a time when Central government provided subsidies for such schemes. **Other options considered:**

Wairoa Gorge dam

A pre-feasibility study for building a large dam at the Wairoa Gorge was completed in 1979 by the Nelson Catchment and Regional Water Board. The investigations did not proceed to the feasibility level. It is unlikely any dam can be conceived in this location now.

Tasman-Mariri irrigation scheme

This was investigated by the former Ministry of Works and Development. It looked at four possible schemes to irrigate up to 900ha in the Tasman-Mariri area. Scheme one proposed nine dams in the upper catchments, irrigating 570ha. Scheme two proposed four dams in the upper catchments with storage for water from the Motueka River, irrigating 900ha. Scheme three A investigated one dam and a large capacity pipeline from the Motueka River. Scheme three B investigated three dams and a small capacity pipeline from the Motueka River. Of the schemes considered none returned sufficient benefits for the cost.

Moutere Valley Development Scheme

This was another Nelson Catchment and Regional Water Board proposal for a catchment-wide scheme for irrigation and flood control. The 1974-75 proposal consisted of 18 dams on tributary streams of the Moutere River. This scheme was never developed.

Moutere Irrigation Scheme

The former Ministry of Works and Development investigated irrigating properties of a group of farmers. The proposed scheme utilised the lower Motueka River. The scheme never eventuated after government subsidies were reduced and costs became prohibitive.

Central Road Water Reticulation Scheme

In 1992 Agriculture New Zealand proposed a scheme for the Lower Moutere Valley. This scheme was to be funded entirely by users. The scheme's water source was to be bores adjacent to the Motueka River. It was never built.

Current Schemes:

Wai-iti Valley Irrigation Augmentation.

In 2001 the Wai-iti Water Augmentation Committee commissioned feasibility studies of irrigation for properties in the Wai-iti Valley. The result of this study was the Kainui Dam which irrigates 700ha of land in the Wai-iti area.

Other in-catchment options have been explored. While the available groundwater is already fully allocated, with careful management the current groundwater abstraction should provide enough water to meet the likely peak water demand through to about 2051.

Stage Two Feasibility Study Upper Lee Catchment

The upper Lee River

Waimea River drought

The Waimea Water Augmentation Committee (WWAC) awarded the contract for the Stage Two Feasibility Study of the Upper Lee Catchment to provide water storage for long term irrigation and community supplies in the Waimea Basin in October 2007.

WWAC put out a request for proposal in July 2007 to four major engineering consultant companies in New Zealand. Submissions of proposals closed in August and the committee evaluated the proposals received and interviewed the consultants before making its decision.
The contract was awarded to a consortium led by Tonkin and Taylor Ltd. The consortium includes specialists who form a holistic team capable of delivering the required results. The project has a completion deadline of 30 June 2009.

All funding for the Stage Two Feasibility Study has been secured from Tasman District Council, Nelson City Council, water users, rural landowners on the Waimea Plains, Waimea East Irrigation Company and the Ministry of Agriculture and Forestry's Sustainable Farming Fund.

The project study area is the Lee Catchment and areas downstream of the Wairoa Gorge to the Waimea Plains. The four major components to the study are: engineering - water resources investigations; environmental investigations; land tenure - economic assessment, including funding and governance - water allocation and planning options; community liaison and dissemination.

The stage two study will provide WWAC with the detailed information required to then proceed to the resource consent applications stage required prior to construction of the dam. WWAC will continue to keep the community informed throughout all stages of the project.

Progress report on Stage Two

In September Tonkin and Taylor started the second phase of investigations for a water storage dam to augment water in the Waimea River system and groundwater.

The first stage was a three year programme with the emphasis on identifying optional sites and the broad issues surrounding development of a substantial storage reservoir.

The second stage covers two years and will assess the feasibility of a project based on a storage dam in the upper Lee River catchment. If Stage Two demonstrates that a project is feasible, detailed design and a resource consent process would then follow.

The Stage Two programme will involve a range of detailed engineering, water demand, environmental, cultural, and economic studies.

The work that is under way at present is focusing on three main aspects:

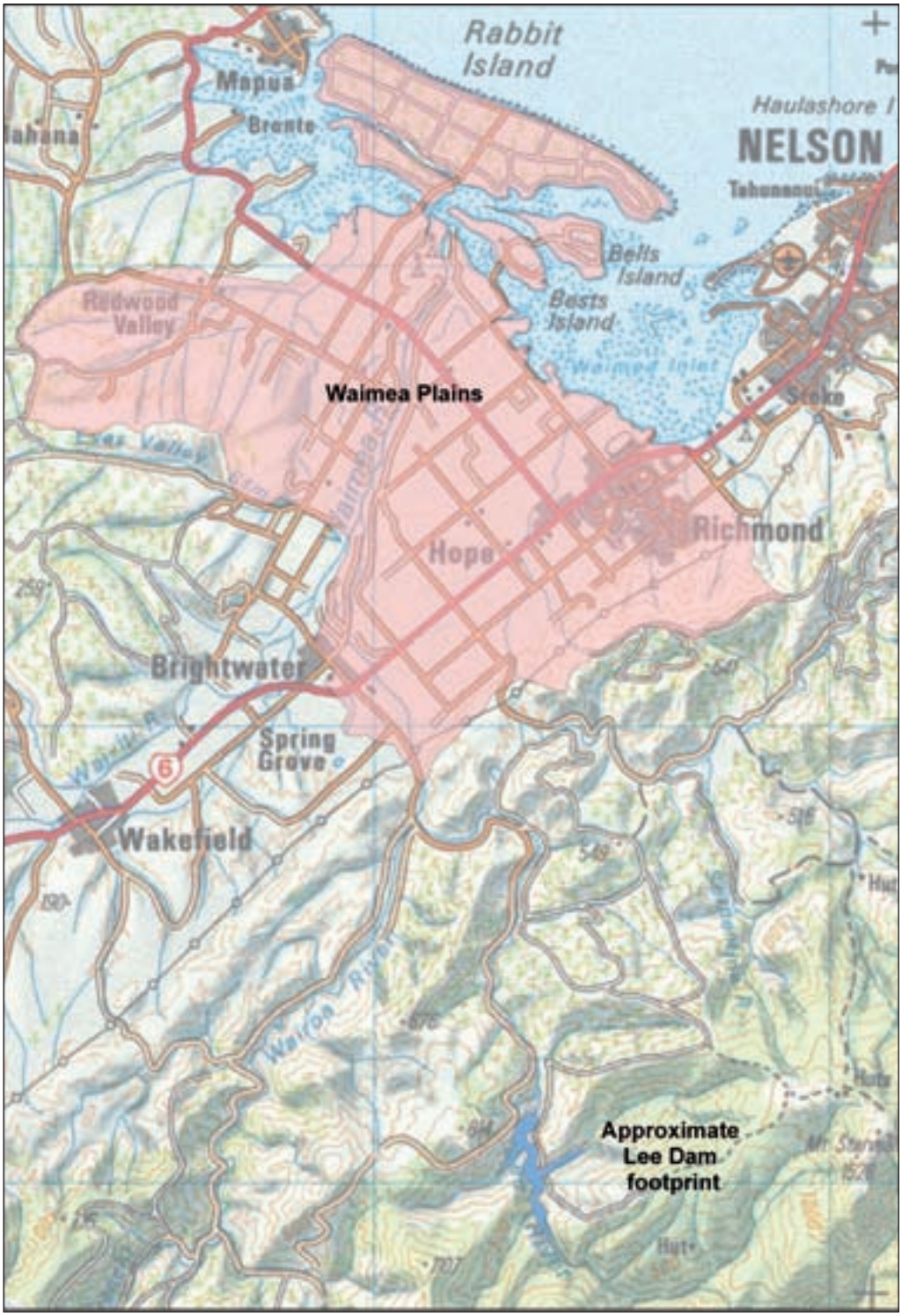
- Water demand – how large the reservoir needs to be to be able to supply water to meet all the demands of the community and environment. The Stage One work identified an approximate water volume. In Stage Two this work is being taken to a higher level of detail to refine the volume needed to supply the urban and industrial areas around Richmond and the Waimea Basin, irrigation needs, and in-river needs for habitat protection. At this stage, a planning horizon of 50-100 years is being examined, which is likely to result in a larger water demand than was identified during Stage One. The water demand information will then be fed into the groundwater model for the Waimea Plains. This will provide a total figure for water storage capacity needed to meet the water demand while also protecting the river system, and the groundwater system from seawater intrusion.

- Dam site – the Stage One investigations identified an area in the upper Lee River suitable for a dam based on the initial water storage capacity required. Detailed geological mapping was completed by Tonkin and Taylor and Dr Mike Johnston in October and November as the first part of Stage Two, to enable a more in-depth examination of the Lee Valley conditions and the suitability of specific sites for a dam. Choosing the site also needs to consider the likely increased water demand (ie larger dam and reservoir), as well as ownership of the land.

- Dam type – the Stage Two work is currently assessing what type of dam is the most suitable for the recommended site. The options include concrete gravity (built from mass concrete) or embankment (essentially built from natural materials). The decision relies on several factors, including the characteristics of the specific dam site, and the suitability and availability of construction materials. An interim report from Tonkin and Taylor on this work and the dam site is being discussed with WWAC in December.

Early in the new year the ecological work will be started, including refining the minimum flow requirements at the base of the dam, and surveying wildlife and vegetation values. The water storage modelling work will also continue.

Upper Lee looking up stream of the dam site



TASMAN DISTRICT
It's the Lifestyle That Counts

NELSON CITY COUNCIL

Sustainable Farming Fund
www.maf.govt.nz/sff

This project is also supported by:

- Waimea Plains water users and landowners
- Fish and Game New Zealand, Nelson Marlborough Region.

In kind support is received from:

- Iwi
- Department of Conservation

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WWAC members are available to answer your questions.

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