

# water

• for the

# waimea

# basin

Newsletter 10 • June 2009

## Waimea Water Augmentation Committee (WWAC)



*Looking upstream from Waterfall Flat. This area would be inundated by the dam.*

## Message from the Chairman

In times of economic challenge, as we are experiencing at the present, it is more important than ever to look over the horizon, take a long term view and plan well for the future. A dam of the type planned for the Lee Valley is a massive undertaking and we expect it will more than meet the region's needs for the next 100 years, while also overcoming the current water shortfall and providing more secure environmental flows.

As I talk to people around the country it is evident that this project is at the forefront of water management initiatives in New Zealand. The collaborative community approach to planning and decision-making has facilitated smooth negotiations with the wide range of interest groups around any potential impacts this project may have so far. The WWAC team can be justifiably proud of its track record to date and my sincere hope is that we can maintain the excellent working relationships we have fostered with all parties through the process of developing the most appropriate governance and ownership options, right through the construction and to the commissioning of the dam. The calibre of the project management to date is illustrated by the response received to various applications for government funding. Tasman District Council Corporate Services Manager Murray Staite and I recently attended a meeting with the Community Irrigation Fund (CIF) panel to support the WWAC application for CIF funding. The project was well received at that

meeting, as evidenced by the panel granting WWAC the full amount of funding applied for. Myself and various members of the committee have also presented briefings to government ministers in both the previous Labour Government and in the current Government and all have been very supportive. The Minister of Agriculture has requested a briefing on this project and is due to visit us in August 2009.

The Government's Land and Water Forum has now adopted some of the concepts developed by WWAC. There has been wide agreement that the approach by this committee, which has been inclusive of a wide range of interest groups and has provided quality information on the project's progress to the community, is an excellent model. The project experienced some delays over the last year, firstly due to issues identified with the original dam site, which necessitated further investigation upstream, and secondly due to the weather. I am delighted that we now have a confirmed dam site and can begin to progress other aspects of the project. We will continue to keep you informed and request that you do not hesitate to contact our Project Manager or any committee members if you have any queries.

**Murray King**  
Chairman – Waimea Water Augmentation Committee (WWAC)



# Site for Lee Dam confirmed

Stage two investigations into a dam site in the Lee Valley are now complete and a site just upstream from Anslow Creek has been confirmed as being suitable to build a dam. At its March 2009 meeting WWAC agreed to continue investigations based on this location.

Investigations carried out have included comprehensive field mapping, test pits, drilling, examining the bedrock quality and pressure testing the rock. Drilling on the preferred site was completed in the first week of February 2009.

Affected landowners have been involved with WWAC in a working group, along with engineering consultants Tonkin and Taylor and the project manager.

The committee has also held a briefing with the Lee Valley Community Liaison Group.

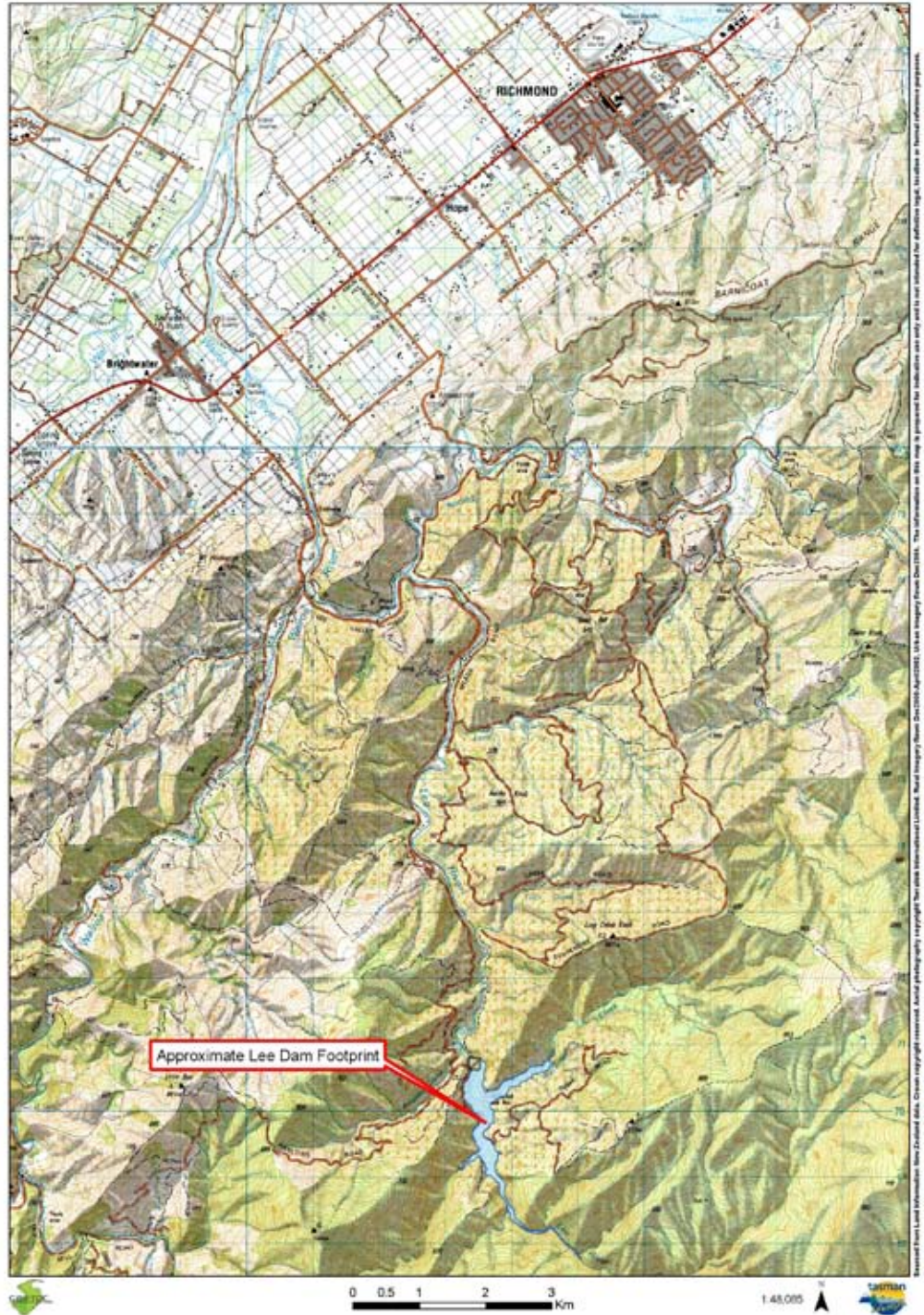
## Dam type

Two options for dam construction are being investigated: concrete faced rock fill and earth fill embankment. A concrete faced rock fill dam (CFRD) appears to be the most promising option at this stage and preliminary dam design will focus on this option. It will also keep the option of an earth embankment dam alive in the event that material availability, cost and foundation design issues indicating further through the investigations that CFRD is not viable.

The final decision will be driven by the site characteristics and material availability. The engineering consultants are preparing a preliminary design and are working closely with the other members of the investigation team to incorporate a range of measures to address potential environmental effects.

## Dam size

The dam will hold about 13 million cubic metres of water and the lake will cover approximately 70 hectares. Small margins of land will also be required around the edge of the lake to act as a buffer.



Drillers take rock core samples.



Rock core samples.



# WWAC secures support from Community Irrigation Fund (CIF)

The Waimea Water Augmentation Committee (WWAC) has been successful in an application to the Ministry of Agriculture and Forestry's (MAF) Community Irrigation Fund for financial support to develop the governance and ownership models for the Lee Dam project.

Project Manager Joseph Thomas made a written application to the fund and following that, Committee Chairman Murray King and Tasman District Council Corporate Services Manager Murray Staite made a presentation to the fund's interview panel. The project was granted the full amount applied for.

Money is allocated on a 50/50 split between the fund and the applicant. WWAC applied for

\$230,000, which means it will receive \$115,000 from the Community Irrigation Fund and will be required to contribute \$115,000 itself. The WWAC contribution will be funded via its ongoing levies on water users. The funding received is for the 2009–2010 and 2010–2011 financial years. It is specifically granted to develop governance and dam ownership models, including the development of a prospectus for the community and water users on the scheme options. This work is scheduled for completion by March 2011.

The Community Irrigation Fund is set up to ensure long-term economic growth within sustainable environmental limits by reducing the risks faced from water shortages, including

shortages caused by climate change. The fund aims to help agricultural producers and rural communities adapt to climate change by helping promoters of community water storage and/or irrigation schemes overcome the high costs of generating investor and/or community support.

The Lee Dam project received funding from the Sustainable Farming Fund for pre-feasibility and feasibility studies on the dam site. The pre-feasibility (Stage 1) was completed in June 2007 and the detailed feasibility under way is to be completed by the end of 2009.



## Community survey

WWAC will be conducting a community survey on the project recommendations prior to the completion of the reports. It is important this project has strong community support and your views and feedback on the survey recommendations and options will be welcomed. This survey will be undertaken later this year. The next steps in the project include gaining the necessary Council consents and acquisition of required land from the current landowners. The detailed dam design will then be completed and the process of tendering for the construction will begin. It is anticipated construction could start in late 2012.



Drillers pressure testing rock core samples.

# Other studies

## Reservoir operating regime

Modelling of the reservoir and river flows to show how the storage system will operate, and when and how much water will be released from the dam is almost complete. A significant input to this has been Cawthron Institute's work on identifying what level of river flow is needed to protect the instream fishery and values below the dam.

## Fish passage

Cawthron Institute has been working with the dam design team to develop concepts to allow key native fish species to bypass the dam. As previously reported, passage for trout is not being considered.

## Quality of water in the reservoir

Cawthron Institute has been looking at whether there might be any changes in the quality of water that is stored in the reservoir. Storage can result in changes in water temperature, and 'stratification' or layering of the water with areas of lower water quality developing at lower levels.

The water quality issues can often be easily fixed by installing water intakes within the reservoir at different levels to ensure that any water released into the river downstream of the dam is well mixed. WWAC's dam design team are using Cawthron's modelling results to determine the appropriate intake levels. At this stage, it appears likely that there will be two intakes, one deep and one shallower.



Approximate dam site.

## Recreation study

A study is well under way by Rob Greenaway to identify current recreational uses and users of the Lee River. Rob is also using the results of the operating regime modelling to see what the effect on recreational uses might be from any changes in river flows.

## Native vegetation study

Over the summer some additional vegetation mapping was done by Dr Philip Simpson to cover the area that would potentially be inundated by the dam at the new location. The extension to the area covers a deep gorge-like section of the Lee River, within Richmond Forest Park. The basic forest type is beech/podocarp, with a narrow zone of broad-leaved forest species close to the river.

Dr Simpson's initial findings are that the most significant species that would potentially be affected by the reservoir are two southern rata trees, and a low shrub (*Coprosma acerosa*) which grows on a gravel beach and which has not previously been recorded in the Lee Catchment. The team is looking at whether the effect on these species can be reduced or mitigated.

## Cultural impact assessment

Iwi have been studying the cultural impact of this water augmentation project. It is anticipated their assessment will be presented to the committee in the near future.

## This project is funded by:

- Tasman District Council
- Nelson City Council
- Sustainable Farming Fund
- Waimea Plains water users and landowners
- Fish and Game New Zealand, Nelson Marlborough Region.

## In kind support is received from:

- Iwi
- Department of Conservation



## WWAC Members

Murray King ( <i>Chairman, Lower Confined Aquifer</i> )	03 544 8465
Dennis Cassidy ( <i>Delta Zone</i> )	03 544 2852
Kit Maling ( <i>Waimea East Irrigation Co</i> )	03 544 0536
Stephen Sutton ( <i>Waimea West</i> )	03 544 4026
David Easton ( <i>Upper Confined Aquifer</i> )	03 526 6854
Julian Raine ( <i>Golden Hills/Hope Aquifer</i> )	03 547 5338
Barney Thomas ( <i>Nelson iwi</i> )	03 547 4934
Deputy Mayor Tim King ( <i>Tasman District Council</i> )	03 542 3849
Mayor Richard Kempthorne ( <i>Tasman District Council</i> )	03 544 8082
Peter Thomson ( <i>Tasman District Council</i> )	03 543 8440
Neil Deans ( <i>Fish and Game</i> )	03 544 6382
Dave Plant ( <i>NCC</i> )	03 546 0267
Martin Heine ( <i>DOC</i> )	03 546 9335

**WWAC members are available to answer your questions.**

## Lee/Wairoa Liaison Group

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G & L O'Meara ( <i>Lee Valley</i> )	03 542 4004
Chris Weir ( <i>Lee Valley</i> )	03 542 3197
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