

# water

• for the

# waimea basin

Newsletter 15 • March 2012

## Waimea Water Augmentation Committee (WWAC)

### Message from the Chairman

Crunch time. The Waimea Water Augmentation (WWAC) now enters its ninth and possibly most challenging year.

To reiterate, the purpose of the committee is to find a solution and make recommendations to solve the Waimea Plains' acute water shortage.

The committee grew out of reviews and proposals to increase the minimum flow in the Waimea River after over-allocation of the resource became apparent as both knowledge and community expectations changed.

An agreement was made between irrigators and administrators that in order to accept an increase in the minimum flow, storage would be made available to harvest surplus flows for release in times of shortage. More than sixty reports and documents have been prepared and as a result of that work the committee's recommendation is to build the Waimea Community Dam (Upper Lee Valley).

To do nothing is not an option. TDC would be bound to issue cease takes for all but essential human needs whenever the river reached its new minimum flow. This is what exists in most other regions. The current rationing regime only exists because of the agreed moratorium. In most summers a cease take would apply to all abstractors, rural and urban alike for at least part of the summer.

I cannot over state the fact that the situation we currently face is grave and cannot continue. The vast majority of people appreciate this, hence the almost universal support for water storage. Surveys suggest greater than 90% support for the dam. The real issue we now have to manage is the cost.

The committee's broad composition is a model for other schemes. It has ensured that wide-spread views are addressed. The benefits range from enhanced river flows for recreation and ecology through to increased reliability of supply for current and additional irrigators. The benefits also extend to enhanced water for current and future urban supply, along with mitigation of saltwater intrusion into aquifers. Limited food producing land is protected and value realised. All of which enhances a diverse, vibrant and prosperous community.

The committee recently held a round of meetings to inform the community of our preferred recommendation for funding the project. Ironically these meetings occurred on the same week as extreme rainfall for the area. As expected cost was the central issue of discussion. This is not surprising, given the wide range of personal circumstances. It should be noted that various media reports tend to focus only on the highest end of the cost range. Until detailed design is complete later this year these costs must be taken as best estimates.

A publicised alternative is that the project is funded according to water use. This suggestion does not address the long term needs and may limit future high water use crops. It also does not provide a workable solution for sustaining the project during a wet year where very little water is used.

The committee continues to look for cost saving opportunities through alternative debt funding methods and is committed to making this project achievable.



*Prior to the 2011 General Election Prime Minister John Key visited with WWAC members to be briefed on the project and its progress. From left: Minister for Agriculture David Carter, Bill Findlater EDA, Murray King Chairman WWAC, Prime Minister John Key, Project Manager Joseph Thomas, Tasman Mayor Richard Kempthorne, Nelson MP Nick Smith.*

This diversity of interest groups ensures widespread funding. In broad terms irrigators fund approximately 50%, TDC current and future urban supply approximately 25% and the balance central and local government to support enhanced river flows.

Compulsory membership is the most contentious issue. Rather than relying on voluntary membership we are proposing that all land owners should become dam owners. Reliance on voluntary membership would inevitably only fund a smaller dam and the project would not be affordable. The Central Valley Scheme in Marlborough is an example where a smaller scheme occurred due to reluctant membership. In this case we only have one opportunity. What appears expensive now will look cheap in the future. By way of example the former proposal for the Wairoa High Dam in the late 1970s was based on a nominal one off cost of \$80/ha. This compares to a one cost for this project of between \$3000-\$4000/ha.

Views are sought as part of the TDC consultative long term planning process discussed elsewhere in this newsletter.

The committee fully acknowledges the concern and in many cases hardship faced by many water users on the plans. Ultimately this is a long term, multi generational project aimed at protecting and enhancing the food producing Waimea plains.

Reports and documents detailing the project's development are freely available on the website and at TDC offices and libraries. Committee members are also freely available to discuss the project.

**Murray King, Chairman**  
**Waimea Water Augmentation Committee**

# Waimea Community Dam Costs

Until the design work for the Waimea Community Dam have been finalised, no conclusive cost per hectare for water users can be provided.

WWAC has endeavoured to provide a range of projected costs as the project develops. To date the indicative range has been between \$370 and \$455 per hectare per annum over a 25 year period. On top of this would be an ongoing annual operating cost of \$50 to \$65 per ha. The higher end figure is a worst case scenario, whereby a limited number of users were contributing – ie current water users and TDC urban supply. The lower end figure assumes all of the budgeted water, including that for Nelson City's future use, is included.

The committee is investigating a range of financial options, including extending the payback period, water trading and hydro electricity generation, all of which are aimed at reducing the eventual cost per hectare.

The majority of WWAC members are water users and they are well aware of the financial pressures the primary sector is facing.

It is WWAC's belief that the final cost to consumptive users will be attractive comparative with other water augmentation schemes in New Zealand.

The committee encourages anyone who has questions or concerns about the projected costs to contact a committee member to discuss their situation.

## Dam Site Work Update



*Clockwise L-R: Core samples of the dam foundation rock; drill rig crosses the Lee River near the dam site; drillers near the dam site record water flow; drillers make a drill hole at an angle on the right abutment of the river.*

Geotechnical investigations at the dam site in the upper Lee Valley have been carried out in two phases between February 2011 and February 2012.

The investigations have been aimed at identifying the geotechnical aspects of the site that need consideration during dam design. This has included:

- Assessing the potential for leakage through foundation rock
- Assessing the strength of the rocks forming the foundations and abutments
- Assessing the stability of slopes within the reservoir area
- Assess the potential volume and suitability for dam construction of the local river gravels and rock that will be excavated from the dam spillway.

A number of tracks have been excavated across the dam footprint access to the abutment slopes to expose the foundation rock. The investigations have included drilling seven drillholes, thirty test pits, excavation trials and construction of trial embankments and numerous laboratory tests on samples of rock and gravel collected from the site.

Rock core recovered from the drillholes has been closely examined to assess rock quality and to identify rock defects that may need to be treated to reduce the potential for leakage through the foundation rock. The foundation permeability has been further investigated by conducting water pressure tests at 1.5m spacings in each drillhole. These tests, referred to as packer tests, involve pumping water under various pressures and measuring the amount that is lost to the rock foundation.

Data from the investigations is currently being assessed and interpreted as part of the design process.

# Minimum Flows Explained

## Background

- Water is a publicly managed resource. The social contract is that it can be taken from the river and groundwater aquifers for private and commercial use provided that public and non-consumptive uses are also provided for. There are many interests in the waters of the Waimea catchment; public and private, consumptive and non-consumptive. Many sectors of the community have an interest in the Waimea River. These include in-stream uses, public water supply, irrigation and industrial use among others. Both Nelson and Tasman Councils take water and manage it within the Waimea catchment. Sustainable management must recognise and provide for all of these interests.
- The main method of ensuring that public non-consumptive uses (ie recreational, environmental and cultural) are met is through setting of a flow regime through a regional plan, which any permits for water use are obliged to conform to. The regional plan is overdue for review. It does not currently provide sustainable management of the resource and cannot stay as it is.
- The current minimum flow in the Waimea River (225 litres/second) was set as the lowest flow recorded in the severe 1983 drought. Even this flow has not been maintained on two occasions in the last decade when the river has dried up. As well as being quite inadequate for maintenance of fisheries and other public uses of the river, such low flows for any time pose serious risk of saltwater intrusion into the aquifer.
- The Waimea water resource has been over-allocated; meaning that even at this grossly inadequate minimum flow, there is inadequate security of supply for many water users and somewhat less than the security set by Tasman District Council. There is unsatisfied demand for more water from potential irrigation and other water users.

## The 'status quo' is a holding pattern only; if the Waimea Community Dam scheme does not proceed a 'lose-lose' outcome will prevail.

- The present inadequate river flows and water user reliability issues have been 'parked' in an effort to avoid a 'lose-lose' outcome by investigating water augmentation. The 'lose-lose' scenario results from an argument over the regional plan which would likely increase the minimum flow, but provide still less than would be acceptable to environmental and iwi interests, while further reducing the already dubious security of supply for water users.
- A minimum flow of at least 800 litres/second is likely in a new regional plan. Cawthron Institute investigations advise that any minimum flow less than the natural mean annual low flow of 1300 l/second would result in reduced fisheries habitat.

- WWAC was formed to develop a water augmentation plan meeting all community needs, both in stream and all potential out of stream uses.
- Current flows in the river and security of supply cannot be continued in the long term without augmentation. If the WWAC proposal does not receive community support the currently collaborating parties (Fish and Game, Department of Conservation, iwi and water users) will separate into groups each seeking to improve their own objectives. This can only result in the available water being spread more thinly.

## The WWAC proposal

- After much consideration of alternatives, WWAC has worked out a proposal which will address all community needs for a long time. This involves a dam in the Lee River to augment natural flows and replenish aquifers and river flows when these are reduced due to abstraction. Most of the time the dam will be full as no replenishment will be required.
- The proposal includes a recommended increase in the river's minimum flow from the current 225 litres/second to 1100 litres/second. This provides for environmental interests and represents about 30% of the water stored behind the dam. This portion is proposed to be funded by central and local government rather than water users. This is a unique feature of this proposal and is unlike the Opuha scheme, for example, in which the improvement to the minimum flow was funded entirely by water users. Thus this component does not come at any cost to other water users.
- The indicative per hectare cost for water users is based on spreading the cost as widely as possible. The capital value of land in the affected area will increase with reliable access to water. Without augmentation, water would seldom be available when most needed.
- Alternative ways of augmenting the water or funding the dam have been considered and all found wanting.

The WWAC proposal is a 'once in a generation' opportunity. The economic benefits are, in the words of the EDA, a 'no brainer', while the environmental benefits, paid by the wider New Zealand community, would also be considerable. The long term benefits, by way of increased options available to land owners in the basin and to maintaining or increasing land values, are substantial.

The alternatives are distinctly unpalatable. This is the best option available; we must find a way of making it work in our collective interest.

**Neil Deans, Manager  
Fish and Game NZ**



WWAC Fish and Game representative Neil Deans (right) explains the benefits of the project to Agriculture Minister David Carter at the dam site in the upper Lee Valley.



Project Manager Joseph Thomas and Engineering Consultant Mark Foley lead committee members and visitors on the long climb out of the valley floor at the dam site.

# Council's Long Term Plan – Have Your Say

At its meeting on 26 January 2012 Tasman District Council resolved to include the proposed Waimea Community Dam (Lee Valley) in its Draft Long Term Plan 2012-2022.

Council noted that the proposal would be for the dam to be operated by a community owned company, with Council being a shareholder to recognise its urban water and general water responsibilities. The Council will consult with residents, businesses and ratepayers on the proposal during March, including at two meetings specifically on the proposed Waimea Community Dam.

Full details of the proposal are in the Draft Long Term Plan 2012-2022 which can be ordered as a CD from Council offices, or downloaded from the Council website. Information on the proposed dam is also included in the summary of the Draft Long Term Plan 2012- 2022 which was delivered beginning of March.



The view looking up the Lee Valley towards the proposed dam site.

Whatever your view, we encourage you to make a submission on the proposed dam. Council routinely only receives submissions from members of the public who are against proposals, but it is just as important that we hear from businesses and residents who are in favour of a project so we have a balanced view. One of the ways of making a submission is online at the Council's website [www.tasman.govt.nz](http://www.tasman.govt.nz). There are also submission forms attached to the summary document.

Consultation on the Draft Long Term Plan will close 4.30pm, 3 April. If you have any questions on the consultation process please phone the Council on 543-8400.

Submitters to the Draft Long Term Plan can speak to their submissions at a Council meeting, however this is entirely voluntary. Hearings will be held between 23 April and 2 May throughout the District and submitters who wish to speak to their submissions will be advised of hearing times and locations.

Following consideration of submissions Councillors will make decisions on the Draft Plan in June and the final plan will be approved at the end of June.

If the proposed dam is included in the Final Long Term plan then there are a number of further steps that would need to be completed, including detailed design, refining the costs and who and how these would be charged, as well as any required Resource Consents. Therefore there will be further consultation on the proposed dam before final decisions are made.

## MEETING DATES:

16 March, Appleby School, 4.00pm – 7.00pm

21 March, Tasman District Council, 3.00pm – 6.00pm

For more information visit:  
[www.tasman.govt.nz/link/leedam](http://www.tasman.govt.nz/link/leedam)  
or search for "Lee Dam" on Facebook to keep up to date

If you would like to receive your future WWAC newsletters via email please notify Committee Secretary Valerie Gribble - [valerie.gribble@tasman.govt.nz](mailto:valerie.gribble@tasman.govt.nz).

## This project is funded by:

- Tasman District Council
- Nelson City Council
- Waimea Plains water users and landowners
- Community Irrigation Fund
- Fish and Game New Zealand Nelson Marlborough Region

## In kind support is received from:

- Iwi
- Department of Conservation



Community Irrigation Fund

Ministry of Agriculture and Forestry  
Te Manatū Ahuwhenua, Ngāherehere

## WWAC Members

|  |              |
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| Dennis Cassidy (Delta Zone)                    | 03 544 2852  |
| Kit Maling (Waimea East Irrigation Co)         | 03 544 0536  |
| Stephen Sutton (Waimea West)                   | 03 544 4026  |
| David Easton (Upper Confined Aquifer)          | 03 526 6854  |
| Julian Raine (Golden Hills/Hope Aquifer)       | 03 547 5338  |
| Barney Thomas (Nelson iwi)                     | 03 547 4934  |
| Deputy Mayor Tim King (TDC)                    | 03 542 3849  |
| Peter Thomson (TDC)                            | 03 543 8440  |
| Neil Deans (Fish and Game)                     | 03 544 6382  |
| Martin Heine (DOC)                             | 03 546 9335  |
| Phil Ruffell (NCC)                             | 03 546 0359  |
| Deputy Mayor Ali Boswijk (NCC)                 | 027 482 1462 |

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

## Lee/Wairoa Liaison Group

|                                  |             |
|----------------------------------|-------------|
| Terry Trembath (Lee Valley)      | 03 542 3387 |
| Allen and Maree Parsons (Wairoa) | 03 541 9637 |
| Wayne Neal (Lee Valley)          | 03 542 4424 |
| Tony Chivers (Wairoa)            | 03 541 8810 |
| Bill & Joan O'Neill (Lee Valley) | 03 542 3707 |
| G & L O'Meara (Lee Valley)       | 03 542 4004 |
| Chris Weir (Lee Valley)          | 03 542 3197 |
| John Kuipers (Wairoa Gorge Rd)   | 03 542 3425 |

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