



water

• for the

waimea

basin

Newsletter 6 • June 2007

Waimea Water Augmentation Committee (WWAC)



Message from the Chairman

Drier than normal conditions since late January have once again highlighted the very real need to enhance water supplies by such measures as storage and augmentation. The water is needed not only for irrigation needs but also environmental and urban demands. Water rationing has affected all sectors of the community.

Despite recent heavy rainfall, groundwater and soil moisture levels are still worryingly low. Interestingly, the heavy rainfall that caused flash flooding in Stoke would have provided approximately 20 percent of the potential storage of Waimea Water Augmentation Committee's proposed Upper Lee storage site.

Final reports have now been received from our lead consultants Tonkin and Taylor, thereby bringing to completion stage 1 (pre feasibility study). These reports are now available to the public and copies can be obtained from public libraries. CDs containing the reports are also available on request from Tasman District Council.

A series of meetings are being conducted over the next month with sector groups and the general public to convey the final report results. A public meeting for irrigators and all interested parties has been set for the evening of 26 June 2007 at Seifried's Meeting Room, off Redwood Road, starting at 7pm. The Waimea Water Augmentation Committee welcomes your attendance and input and looks forward to meeting you.

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

Murray King

Chairman

Waimea Water Augmentation Committee (WWAC)

Lee River dam a 'feasible option'

The stage 1 feasibility investigations into water storage in the upper Lee catchment have been completed by consultants Tonkin and Taylor Ltd (T&T).

Based on work undertaken in those investigations, it appears that a water augmentation scheme based at Site 11 Lee River is a feasible option, and further investigations are warranted.

The four main components of the investigations to date were:

- Analysis of current water demand and availability
- Identification of storage site options and water delivery methods and costs
- Environmental assessment and economic analysis of the scenarios with and without augmentation
- Water allocation for optimisation of water use, the environmental and community benefits and funding.

Initially 18 possible water storage sites were identified, but after detailed assessment the Waimea Water Augmentation Committee (WWAC) identified the Lee River as the preferred option and decided to focus all further investigations on the Lee River.

A survey undertaken by WWAC indicates there is good community support for the project.

Key Points

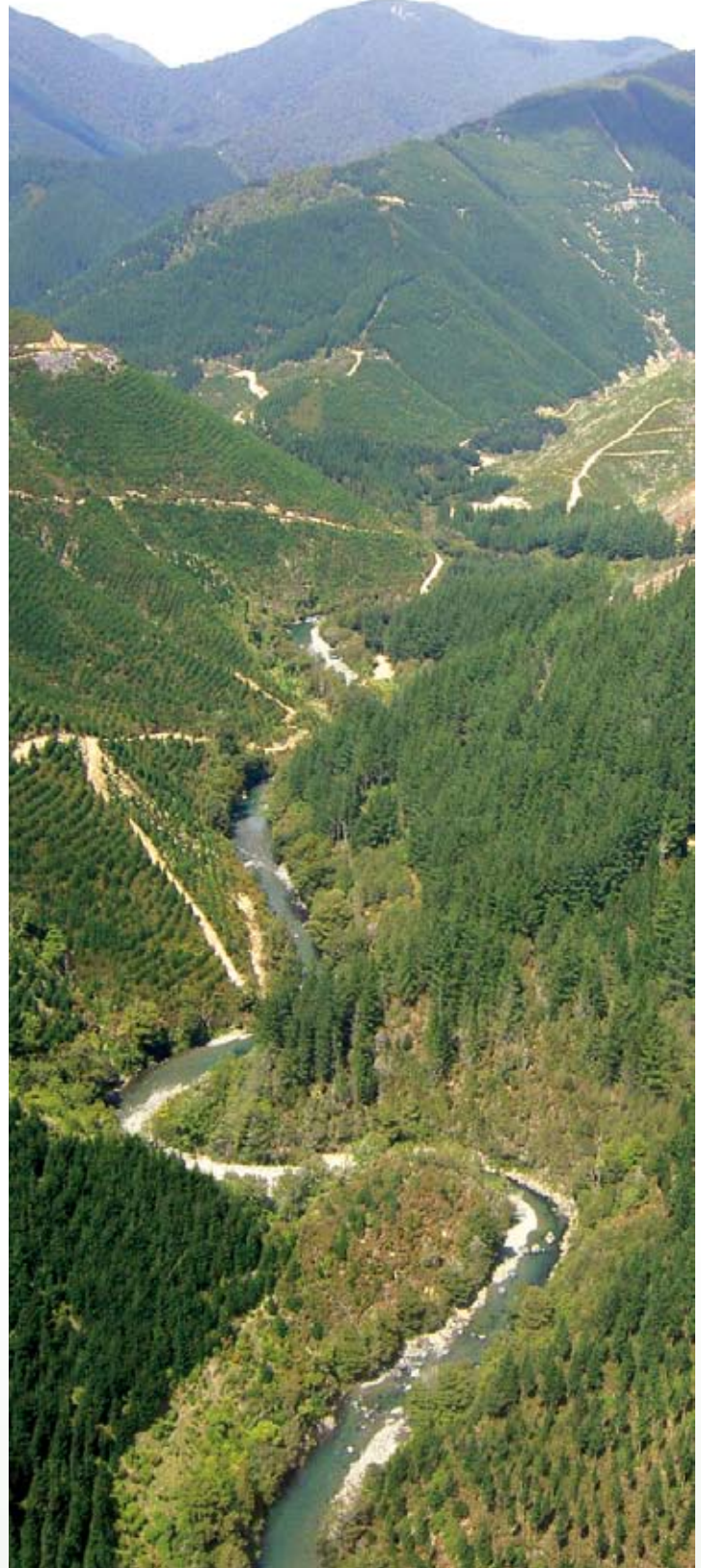
- Storage volume of 13 million cubic metres water available
- Provides for:
 - irrigation of 5600ha on Waimea Plains
 - plus Tasman District's projected urban/industrial demand for next 50 years
 - plus provision of potential future regional need
 - plus provision for retention of in-stream residual flow of up to 1100 l/sec at Appleby Bridge

The site

- The site is within the main stem of the Lee River, about 2km upstream from the end of the public road.
- To meet the foreseeable demand for water in the eastern part of Tasman District for irrigation, domestic and industrial use over the next 50+ years.
- Investigations to date show this storage capacity would be sufficient to supply water during a 1 in 50 year drought.
- The land that would be directly affected by the dam and reservoir comprises some private land and other areas owned by the Crown (including the Department of Conservation).

Dam construction

- The dam would be an on-river structure.
- The embankment height would be approximately 49m from the riverbed to the crest of the dam.
- The site appears to be best suited to an earth fill dam construction, like the Maitai Dam.
- The dam would be designed and constructed according to the highest industry standards for a high potential impact category dam. These are: A maximum credible earthquake, or a 10,000 year return period earthquake. Maximum flood design, or a 10,000 year return period flood. In comparison, a 50 or 100 year return period standard is typically adopted for buildings and roads.
- Assuming the standards are followed, the probability of any breach of the dam is very low.



Upper Lee looking up stream of the dam site

Construction Issues

- Concrete will need to be imported to site (some local material may be useable)
- On-site gravels may be suitable for filter material – yet to be confirmed
- Bulk dam fill can be sourced from abutment excavation area
- Boulders available for riprap
- Quantities of low permeability dam fill are sufficient. Quality yet to be confirmed.

Drought Security

- The dam would provide security in the order of 1 in 50 year drought.
- Flexibility exists to manage the system to provide higher security of supply under drought conditions with a lower residual in-stream flow (but still within environmental guidelines).

Ecological and cultural considerations

- The effect on water quality, aquatic ecology and native vegetation has been assessed in preliminary investigations
- The water augmentation scheme has the potential to improve in-stream habitat for freshwater ecology.
- The modelling to date incorporates provision for a higher residual flow to remain in the river for ecological purposes than is currently provided for under existing allocation policies.
- Further consideration needs to be given to how native fish will navigate the dam structure.
- Tangata Whenua have carried out a cultural impact assessment for the project and have recommended a range of mitigation measures should the project proceed.

Economic assessment and costs

- The indicative capital cost of the project is assessed as being \$20 - \$25 million, subject to further investigation outcomes.
- Preliminary economic assessment indicates that the annual charge to users could be about \$305 per hectare. This assumes that 70 percent of the capital costs are shared by all potential users of the scheme, with 30 percent covered by the community at large. (Using other cost sharing scenarios the annual charge could be about \$565 per hectare.)
- Should the scheme not proceed, it is estimated that the "lost opportunity" cost for a 1 in 25 year drought could be in the range of \$14.3 to \$24.8 million, depending on the timing of the water shortages.
- Cost to pipe water to Wairoa Gorge would add approximately \$6.5 million to base cost

Enhancement Opportunities

- Possible electricity generation (1.2MW)
- Possible improved access to upper catchment and Forest Park
- Possible access to lake environment for recreation
- Creation of wetland habitat
- Development of biodiversity, rongoa, mahinga kai harvest and maintenance restoration plans
- Improved access for weed and pest control

Final Report Stage 1

Five final reports listed below have been completed:

1. Assessment of Water Augmentation Options for the Waimea Plains – Final Report Summary
2. Component 1: Water Demand and Availability
3. Component 2: Storage Assessment
4. Component 3: Environmental and Economic Assessment
5. Component 4: Water Allocation Issues

Full hard copies of the reports are publicly available at all Tasman District Libraries, Tasman District Council offices, and the Nelson Alma Turner Library.

Summary reports and a copy of the CD containing all reports are available by contacting the Project Manager Joseph Thomas (see over for contact details).

The report can also be downloaded from the Tasman District Council **Website:** www.tasman.govt.nz/index.php?WaterforWaimeaBasin

Further investigations for Stage 2

WWAC Stage 2 Detailed Investigations are planned over the next two years and these studies will:

- Address geotechnical uncertainties (including suitability of materials)
- Refine dam breach flow path with detailed survey information
- Optimise dam site/top water level in relation to key sites/land tenure / detailed economic analysis
- Include environmental investigations and detailed cultural impact assessment from iwi
- Involve community in ongoing consultation and effects assessment
- Obtain feedback on the affordability of project
- Make recommendations for the next steps – including land acquisition, consenting, building, ownership and management

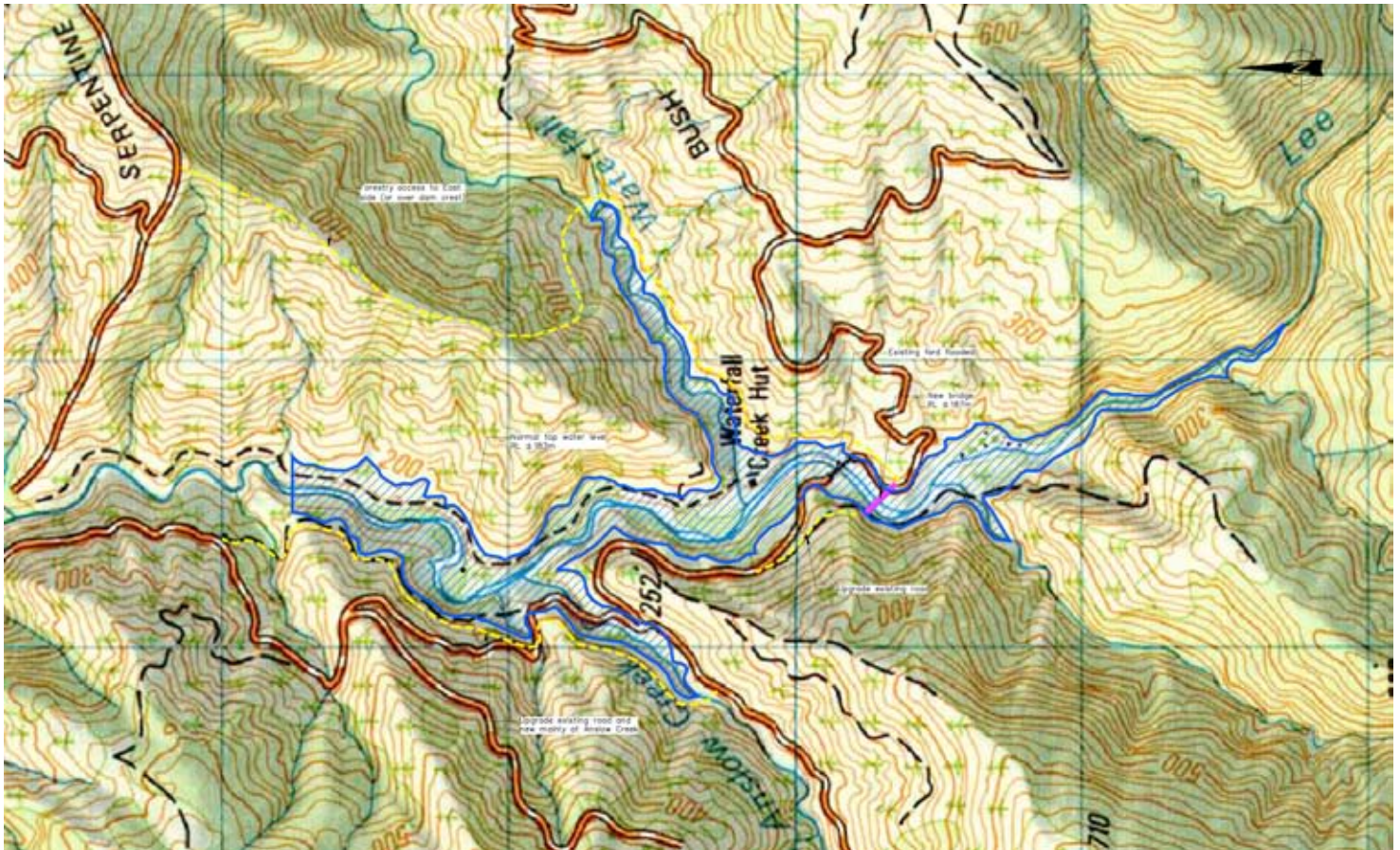


Approximate extent of the Lee Valley dam looking down the valley.

Waimea Irrigators/Public Meeting

On Stage 1 Water for Waimea Augmentation Study

Please come and be informed
Tuesday 26 June 2007, 7pm
Seifried Estate, Redwood Road,
Appleby
Everyone welcome



Upper Lee dam approximate footprint

WWAC Members

Murray King (Chairman, Lower Confined Aquifer)	03 544 8465
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
Cr Tim King (Tasman District Council)	03 542 3849
Cr Richard Kempthorne (Tasman District Council)	03 544 8082
Peter Thomson (Tasman District Council)	03 543 8440
Neil Deans (Fish and Game)	03 544 6382
Dave Plant (NCC)	03 546 0267
Martin Heine (DOC)	03 546 9335

Lee/Wairoa Liaison Group Volunteers

Emma Manhart (Lee Valley)	03 542 4495
Terry Trembath (Lee Valley)	03 542 3387
Allen and Maree Parsons (Wairoa)	03 541 9637
Wayne Neal (Lee Valley)	03 542 4424
Don Morrissey and Nicola Harwood (Wairoa)	03 541 8948
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 Kiefer (Wairoa Gorge Rd)	03 542 3425

Project Manager – Joseph Thomas (Tasman District Council)

Phone 03 543 8494, fax 03 543 9524 or

email joseph.thomas@tdc.govt.nz.

www.tasman.govt.nz/index.php?WaterforWaimeaBasin

WWAC members are available to answer your questions.

Residents in the Lee/Wairoa catchment can pass their queries through the volunteer liaison group listed above.

