Tasman District Council Freshwater Improvement Fund Application 2017 Additional Information

**Ko te wai te ora ngā mea katoa - Water is the life giver of all things**

The Waimea Community Dam will deliver significant environmental benefits to the Waimea Plains and beyond by augmenting river flows and groundwater recharge to eliminate over-allocation of water resources and to enhance water flows. This will be done by catching water in winter when there is plenty and making it available in summer when it is needed. Thirty percent of the dam capacity is directly attributable to the production of both quantity and quality improvements that increased efficiencies, more conservation measures and new technologies would be insufficient to match.

Enhanced Flows

* The dam provides for all current abstractive uses as well as providing for growth while maintaining a 1,100 l/sec flow, sufficient to protect and enhance in-stream ecological values.
* Regulation of water flows (particularly drought prevention) is a critical driver for the dam.
* The environmental portion of the dam capacity provides for the preservation of a minimum flow of 1,100 l/sec which is the one day mean annual low flow in the lower Waimea River compared to an 800 l/sec target flow, which does not trigger a cease take, in the absence of a dam. Importantly, it also improves flows in the coastal springs highly valued by iwi and reduces the increasing risk of saltwater intrusion in the aquifers due to sea level rise.
* Improved river flow also benefits recreational interests in the Waimea River catchment, valued for its swimming, trout fishing, kayaking, walking and picnicking. It is also valued by local iwi for its ecological and cultural values.

Biodiversity Enhancement Programme

* Collectively, the programmes funded as a result of the Waimea Dam will provide a significant investment in biodiversity enhancement on public and privately owned land, and produce lasting benefits not otherwise achievable through existing agency, local government or private investor resourcing. If the dam does not proceed, these benefits will not eventuate.
* Development of a Biodiversity Management Plan, Species Management Plan, Revegetation and Enrichment Planting Plan and Vegetation Clearance Plan as well as implementation of a Reservoir Water Quality Monitoring Programme and River Water Quality Management Plan will be undertaken.
* Establishment of a Biodiversity Compensation Fund (BCF) that will contribute towards the restoration of Neimans and O’Connor Creeks (both classified as vulnerable) and Pearl Creek, and in extending knowledge-sharing and community-based enhancement programmes.
* At least three unique environmental protection and enhancement projects involving streams, rivers and wetlands on public or private land are funded by monies disbursed through the BCF each year.

Planting/Habitat Improvement

* At least 20 hectares of river bermland and coastal margin has been set aside for restoration. Management of rare alluvial, duneland, saline and riparian ecosystems and restoration planting has been undertaken within at least half of that area.
* Planting programmes will take place over multiple seasons but will be monitored on a continual basis to ensure on-going benefits that will improve as plants continue to develop over time.
* Salvage, propagation and establishment of at least three new populations of the nationally rare plant NZ shovel mint.
* Three other rare plant species will be transplanted into new sites in the Wairoa Gorge conservation area, strengthening regional populations, as well as ensuring that the species persists in the Lee River catchment near the dam and reservoir site.
* Restoration through native tree planting programmes to re-create extensive tracts of rare lowland alluvial native forest within the Waimea (bermlands) Park.
* Restoration of a nationally-rare freshwater coastal wetland on Rough Island, including improving protection of rare or uncommon plant species.
* Self-sustaining populations of scented broom and rock coprosma that will contribute to maintaining the genetic distinctiveness of regional populations.

Pest Management

* Creation of a pest management area in the upper Wairoa Gorge in conjunction with DOC for the purpose of conserving and enhancing populations of a rare land snail (wainuia nasuta).
* Significant investment into weed control in the upper Wairoa Gorge conservation area where efforts to halt the spread of the invasive vine Old Man’s Beard will enable native forest to regenerate and improve the long-term resilience of native ecosystems covering many hundreds of hectares.

**Ecological Benefits**

* Effective on-the-ground habitat restoration and protection of streams, river margins and wetlands that contribute towards sustaining and improving the Tasman district ecological distinctiveness.
* An aquatic ecology report from Cawthron Institute (2009) predicted a positive net effect for adult trout, small trout, eels, torrentfish, koaro, upland bully and food producing habitat” primarily in response to the increased minimum flows.
* Protection and restoration of riverine and coastal native ecosystems that will contribute to the conservation of threatened ecosystems and species of the Tasman region.
* Enhanced flow mitigates the risk of salt inundation which can irreparably damage aquifers and coastal springs.

**Environmental Risks Avoided**

* No conversions to dairy are anticipated due to issues with availability of adequate land parcels and the high price of land on the Plains that makes dairying uneconomic (there are only two herds left). The soils and climate of the Waimea Plains are best suited to horticulture and market gardening.

**Over-allocation**

* With the benefit of extensive research and analysis to understand the groundwater system, the water resource is now known to be over-allocated.
* Since 2001 when an extreme drought was experienced, crop changes that require less water, water metering and enhanced management practices and conservation measures have been adopted along with significant seasonal water rationing and limits on urban expansion.
* All 329 water permits are currently being reviewed but the suite of changes has not been sufficient to address the full extent of over-allocation including negative impacts on in-stream values, reliability of water supply, the risk of saltwater intrusion, constraints on growth and the on-going economic viability of the primary and down-stream industries on the Waimea Plains.
* The measures are also insufficient to address the National Policy Statement for Freshwater Management objectives or the rule changes within the Tasman Resource Management Plan implemented to reduce the historic over-allocation.

**Capital Cost Apportionment**

* The budgeted capital cost of $75m as mentioned in the application can be explained as follows

Irrigation component (52%) = $39m

Urban supply (18%) = $13.5m

Environmental Flow/public good (30%) = $22.5m

* The $22.5 million to fund the environmental and public good benefits of the dam capacity includes capitalised costs of about $1.76m for biodiversity enhancements encoded into the resource consent for the augmentation dam.  This includes tree planting/habitat improvement ($1,197,000), pest management ($483,000), and biodiversity enhancement planning ($80,000).
* There are also environmental benefits that will be funded through operational and maintenance costs that will not occur if there is not a water augmentation solution.
* Of the $22.5 million, Council has $14 million provided for within the 2015-2025 Long Term Plan, but one-third ($7 million) of the environmental benefits remain unfunded and is the subject of this application.