From: Don Paterson [mailto:nat.opc@xtra.co.nz]
Sent: Friday, 29 November 2013 5:24 p.m.
To: 'Jane Nees'
Cc: 'Pim De Monchy'; 'Ken Tarboton'
Subject: RE: Kaituna River Re-Diversion

Hi Jane

Thank you for your emails. The details and the technical nature of my proposal are simple because my proposal had already been successfully modelled prior to the 1950's when your predecessor the Drainage Board I believe that it was, had unwittingly sabotaged local fisheries production and Maketu Estuary's boating access, so that they could better drain productive public wetlands for individual farmers profits (ref www.wetlandsnz.com Background: Historical River Changes 1925).

Council's staff have continued to focus their attention on their Option 2 proposal which has considerable disadvantages and cost and staff have not yet I believe focussed enough on my proposal which has all of the original advantages of Kaituna River passage through Maketu Estuary and at very low cost. We have lost a further 20 years of public fisheries production potential because BOPRC had tried to reintroduce Kaituna River flow to Maketu Estuary through Ford's Twin Cuts, so denying a potential rebuild of local inshore coastal fishery commercial production food chains via the original river course.

BOPRC engineering staff who had designed Fords Twin Cuts reintroduction of Kaituna River water to Maketu Estuary, as well as a coastal planner and his advising friend, and including members of the public who had pushed for it to occur, have embarrassed and made fools of themselves and of your Council with their advice to date. Fords Twin Cuts diversion has been a comedy of errors since its original construction, and reintroduction has now been seen by all to have been a complete failure that has caused considerable destruction of the toe of Maketu Estuary Spit and the further infilling of Maketu Estuary as I had predicted in the Appeal Court would happen.

I had emailed all of your Council members because your engineering staff have continued to promote a Fords Twin Cuts re-diversion option as opposed to the original Kaituna River course through Maketu Estuary. Honourable gentlemen could acknowledge their mistake and not continue to push for more of the same. I believe that staff do need your direction and leadership to stop them from embarrassing you further. If I take this back to the Appeal Court it could prove very costly and very embarrassing for your Council because I can now present proof that your engineering staff gave the wrong advice and that your legal staff had provided false evidence to the Appeal Court re the ownership of Papahikahawai Channel water rights to win the case.

The original option that I have described for decades provides the maximum possible ecological and cultural benefits while minimising adverse environmental effects and cost. I have been studying the issue daily for 3 decades from my home that does provide me with an advantageous vantage point. I invite you to bring your Council there as my guests so that you can all see for yourselves how simple that it can be to breathe life back into Maketu Estuary and so into the local inshore coastal commercial fishery and also into fresh water tuna (eel) fisheries production by naturally recreating the original ecosystem food chains.

I do want BOPRC staff to model every aspect of my proposal please. My proposal is the original working model and so it is a design that is equally as worthy of consideration as any that have been proposed since. I believe that you are required by law under the local government act to fully model my proposal.

Apart from breaking out at Te Tumu the original design had worked well. An overtopping weir at Te Tumu could prevent further breakouts from occurring and could also allow for flood protection in the worst possible event of a 100 year design flood. Kaituna River boating access to the sea could be enhanced by a single entrance at Maketu via Papahikahawai Channel.

Drainage levels and flood capacity arising from restricted Kaituna River flows through Te Tumu cut could not I believe be an issue because the Kaituna River will empty at high tide through two outlets

better than it currently does through one. Te Tumu exit will remain open for flood relief over a weir on every high tide and will also retain a potential to erode further adjacent to the weir if necessary. That erosion adjacent to the weir will infill again due to wave action after a flood event.

The bar at Maketu will be as low or lower than the bar currently is at Te Tumu which is more exposed to wave action. Maketu Estuary will provide a holding capacity for Kaituna River flood flows that does not currently exist above Te Tumu bar. The water holding capacity of Maketu Estuary will provide a bigger head on a falling tide than the lower Kaituna River currently does, to flush sand from and enlarge the Maketu Estuary entrance. Maketu Estuary does completely empty at low tide and so the lower Kaituna River will empty into it.

I will oppose any resource consent application to use Fords Twin Cuts because I believe that there is a better, cheaper and more advantageous option as I have described in detail for you. The Background tab on www.wetlandsnz.com demonstrates how long that I have been describing same to your Council staff.

I wish to correct false statements made by Pim de Monchy and by Steve Everett at Whakaue Marae on Thursday 21/11/13:

1. Pipi were not pushed into the lower Maketu Estuary by a flood tide delta adjacent to Whakaue Marae. Pipi had moved away from Whakaue Marae to get away from water that was too saline for their preference and could still be found further up and in the centre of Maketu Estuary. When Kaituna River fresh water was reintroduced into Maketu Estuary that fresh water component had allowed pipi to return to the lower estuary. There is though still too much salt water adjacent to Whakaue Marae on an incoming tide for their preference. A full Kaituna River low tide flow through Papahikahawai Channel on an incoming and outgoing tide could again correct this and could allow former pipi beds to re-establish adjacent to Whakaue Marae.

2. The most recent breakout that had occurred through Maketu Spit approximately opposite Whakaue Marae had occurred because of the trajectory of current flow from the south-western side of Maketu Estuary, and because it was turning against and so was eroding and narrowing the spit, which had then allowed storm-surge wave overtopping and breech to occur as I had predicted in the Appeal Court would happen. It is happening again today although more slowly this time because erosion of Maketu Spit is slightly further up the spit towards the west and the outgoing current is drawing towards the east.

3. Sand that had been eroded from, as well as sand that is currently being eroded from the back of Maketu Estuary spit, which can often be seen from my home to be of a lighter colour, is transferred to the inside of the toe of the spit at Maketu Estuary entrance by an outgoing current with maximum trajectory against the spit, and until it changes direction at the mouth and drops sand. The inside toe of the spit has grown exponentially as a result. The incoming tide by its trajectory then carries that sand that it can reach towards Whakaue Marae before losing energy and dumping it along the way to build the flood tide delta on an incoming tide, in conjunction with sand that is being carried from the surf break.

4. A meandering river course direction is not determined by the substrate that it is meandering over. Water molecules flow on water molecules and not on substrate molecules that provide greater resistance. Falling water's trajectory determines it scour potential until it loses energy, turns and falls further gaining energy and trajectory and scour potential in another direction. If Kaituna River full low tide flow is reintroduced to Maketu Estuary through Papahikahawai Channel then its trajectory on an outgoing high tide will place fresh water on top of salt water adjacent to Whakaue Marae and on a falling tide will carry sand from the lower Maketu Estuary and back out to sea and then wave action will deposit it back on the beach. Maketu Estuary will return to its original condition and productive potential with an ideal boating entrance in connection with the Kaituna River through Papahikahawai Channel without cost. Free energy that is contained in Kaituna River flow will rebuild Maketu Estuary in the same way that it had originally created it and productive ecosystem food chains will be rebuilt upon galaxius (whitebait) spawn and returning elvers (eel).

When the Kaituna River has again deepened the lower Maketu Estuary and stabilized Maketu Estuary spit then Kaituna River water could once again be reintroduced under the 1971 subsidised rock

protection to allow maritime marsh that has re-established itself in the upper Maketu Estuary to be more easily accessible to spawning Kaituna River galaxius.

I encourage your Council to now urgently clean Kaituna River water by re-establishing filtering and purifying freshwater wetlands to build productive ecosystem food chains by converting currently drained lowlands into productive wetland fish habitats, as I have described on www.wetlandsnz.com with your help thank you.

Kindest regards

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Chairman, History Focus Group
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