



# Ruataniwha Water Storage Scheme: Proposed Integrated Mitigation and Offset Approach



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## EXECUTIVE SUMMARY

A range of studies have been completed in order to quantify the potential effects of the proposed Ruataniwha Water Storage Scheme on the environment and communities in Central Hawke's Bay. Outcomes of these studies, presented as a series of Assessment of Environmental Effects (AEE) reports, form part of the resource consent applications for the Scheme.

Through their assessments, a range of environmental effects study authors have taken account of avoidance, remediation, and mitigation proposals built into the scheme design, and where necessary, have made recommendations for additional actions avoiding, remedying or mitigating potential effects.

This report sets out the proposed integrated mitigation and offset approach designed to address the residual biophysical effects (e.g. effects on terrestrial and aquatic ecology) around the dam/reservoir area and downstream to the intake site, that are not practicably able to otherwise be avoided, remedied, or mitigated directly or entirely. Flooding of the Makaroro River bed upstream of the dam will also have a permanent effect on recreation facilities and the historic Yeoman Mill site at the end of Wakarara Road. As such, the effects on recreation, landscape, heritage and cultural values have been considered also. Effects addressed in this report include:

- Loss of significant terrestrial indigenous vegetation. This is the area of ecologically significant indigenous vegetation covered by the dam and reservoir footprint, which is calculated to be 106.10 ha.
- Edge effects. The assumed detectable edge effects area, which would be adversely affected, is 10 ha.
- Braided river habitat. The area of braided river habitat (gravel river bed) lost under the reservoir and dam footprint is calculated to be 73.97 ha.
- Wetland habitat. The area of ecologically significant wetland and seep zone habitat, which would be lost is estimated to be 5.11 ha.
- Loss of habitat for Threatened and At Risk Species. Loss of significant habitat for nine At Risk and Threatened terrestrial fauna and flora species would result as a consequence of the dam and reservoir, equating to 185.18 ha.
- Loss of habitat for some indigenous aquatic species that are unlikely to find the reservoir habitat suitable for them.

- Loss of trout spawning habitat in the areas occupied by the dam and reservoir.
- Loss of the established walking track from the end of Wakarara Road, across the Makaroro River, to the DOC tracks extending throughout the Ruahine Forest Park.
- Loss of the informal camping area located on the Wilson's property.
- Inundation of any remaining infrastructure associated with the historic mill site located at the end of Wakarara Road.
- Loss of fish passage beyond the proposed dam to the upper bounds of the Makaroro River and Dutch Creek.
- Changes to the flow regime of the Makaroro and Waipawa River's; in particular, upstream of Caldwell Road with a consequent adverse effect on the invertebrate population and trout spawning in those reaches.
- Potential increase in DRP inputs to the rivers as a result of land use intensification and an associated increase in periphyton growth.

The mitigation/offset projects proposed were developed via the following steps:

1. Individual Assessment of Environmental Effects reports were completed by consultant/HBRC teams for the studies listed in Section 1.2. This included assessing the proposed project against relevant planning provisions, quantifying potential effects, recommending actions to avoid, remedy or mitigate those effects, and where residual adverse effects were identified, highlighting these in the study reports for follow up by the HBRC project team. With respect to the terrestrial ecology study, this also included an assessment against the BBOP Principles and proposed National Policy Statement on Indigenous Biodiversity;
2. The issues, constraints and opportunities identified through the AEE reports were explored during a Design Workshop held on 6 March 2012 and attended by key consultant teams and representatives of DOC and Iwi;
3. A meeting with landowners was held on 30 March 2012 to share information about the project and flag the issues, constraints and opportunities for follow-up with landowners on a one-on-one basis;
4. Individual study findings and recommendations were presented to the Ruataniwha Stakeholder Group, including the measures proposed to mitigate or offset potential effects where concepts were adequately advanced;

5. Consideration was given to the Tukituki Cultural Values and Uses report – Taiwhenua o Tamatea & Taiwhenua o Heretaunga (June 2012), which makes recommendations regarding the maintenance and restoration of Mauri to provide appropriate responses through a mitigation and offset programme that ensures the Ruataniwha Water Storage project recognises appropriate cultural values (including native fish and water quality benefits);
6. Presentation of the draft “Proposed Integrated Mitigation and Offset Approach” report to the Ruataniwha Stakeholder Group during their 27 July 2012 meeting;
7. Refinement (including costing) and documentation of the mitigation/offset package proposed, taking into account written feedback received from stakeholders after the 27 July 2012 meeting;
8. Further project development via a workshop with key stakeholders, held on 16 January 2013;
9. The report was presented to the Mana Whenua Working Party on 8 February 2013 for discussion and feedback;
10. From subsequent discussions with the Mana Whenua Working Party regarding the ongoing kaitiaki role of Mana Whenua, HBRIC Ltd decided that it will be appropriate to offer a Mana Whenua entity the first right to tender for the contract to implement the mitigation and offset projects; and
11. A joint key stakeholder / Mana Whenua Working Party workshop was held on 17 April, 2013 to discuss the proposal developed in Step 10 and the mechanisms to achieve this, including conditions etc. It was also agreed at this meeting that Project E would be added to the proposed integrated mitigation and offset approach. Project E concerns the restoration of the old bed of the Waipawa River and the Papanui Stream as part of the primary distribution of irrigation water to Zone M of the Scheme.
12. Recent ( May 2013) reallocation of funding between components of Project C (as described below) to enable greater priority to be given to downstream eel trap and transfer over previously recommended bat survey and targeted habitat enhancement, with final decisions over these funding reallocations to be made on future implementation over a 30 year timeframe.

Five projects are proposed in response to the potential effects outlined above. Projects A-C and-E set out biodiversity restoration and enhancement strategies proposed to address residual effects on both terrestrial and aquatic biodiversity. These projects also address effects on recreation, cultural

and heritage values associated with the Wakarara Road-end area. Project D provides an additional offset for adverse effects of the project on phosphorus inputs to the streams and the availability and quality of in-stream habitat for trout spawning, native fish and invertebrates.

The estimated total cost provision for offset mitigation requirements over a 30 year period equates to approximately \$8.7 million, with the most significant costs incurred in the first ten years of the project.

Acknowledging that the success of the projects proposed depends on the long-term, sustained agreement and effort of a number of key stakeholders, it is proposed that a **Ruataniwha Biodiversity Advisory Board** be established prior to construction of the dam. The Advisory Board's primary role would be to receive the Integrated Mitigation and Offset Programme Annual Report required in the proposed conditions of resource consents for the Scheme , to guide the prioritisation of activities, and to ensure delivery of the proposed projects within the agreed timeframes.

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## **1.0 INTRODUCTION**

This report sets out the proposed integrated mitigation and offset approach designed to address the effects associated with the proposed Ruataniwha Water Storage Scheme (the Scheme), which require mitigation and/or offsetting, as recommended to Hawke's Bay Regional Investment Company Ltd (HBRIC Ltd) by the independent experts who have assessed the proposed project.

The Business and Biodiversity Offsets Programme (BBOP) Principles have been considered in developing projects to offset the potential effects on terrestrial ecology. It is noted that offsetting effects as per the BBOP Principles is not an RMA requirement; however there is value in referring to the Principles to help determine the type and scale of activities required to adequately offset residual effects on terrestrial ecology, in particular. This is further explored in Section 2.1.2.

The approaches proposed in this report have drawn on the detailed assessments and recommendations completed by a number of consultant teams to support development of the resource consent applications for the Scheme. While the focus has been on mitigating and/or offsetting the effects on terrestrial and aquatic ecology, the approaches proposed also address cultural values and effects on landscape, recreation, and archaeology. A complete list of the effects addressed through this report is included in Section 1.2 below.

### **1.1 Overview of the Ruataniwha Water Storage Scheme**

A full description of the Scheme is set out in the Project Description - Tonkin & Taylor (May 2013a). Briefly, the main elements of the “Application Design” for the proposed Scheme include:

- Construction of a concrete faced rockfill dam (approximately 83m high at deepest point) on the Makaroro River;
- A 6.2km long (372ha) reservoir storing up to 90 million m<sup>3</sup> of water;
- A reservoir outlet structure consisting of a 2100mm penstock and a 600mm bypass pipe;
- A peak irrigation release of 13 m<sup>3</sup>/s;
- Maintenance of a residual flow at the toe of the dam of 1.23m<sup>3</sup>/s;
- Provision for the release of up to four flushing flows during the irrigation season, over a period of 9.25 hours, with the objective of mitigating the build-up of periphyton downstream;
- A concrete-lined primary spillway to operate for all floods and an auxiliary spillway to operate for flood events exceeding the 200 year annual exceedance probability;

- A single hydroelectric power station at the foot of the dam with a capacity of 6.5MW;
- Two irrigation intakes, located on the Waipawa River, to collect the flows released from the dam for irrigation, and distribute it via a headrace to a secondary distribution network;
- Sufficient irrigation water available to service approximately 20,000 – 30,000 ha, depending on efficiency and land use mix.

## **1.2 Effects Addressed Through this Report**

A number of studies have been completed in order to quantify the potential effects of the Scheme on the environment and communities in Central Hawke's Bay. Assessment studies have included:

- The potential effects on terrestrial and aquatic ecology - Kessels & Associates (May 2013) and Cawthon (May 2013) respectively;
- Potential effects on groundwater and surface water flows - HBRC Science (May 2013a);
- Effects of reservoir water quality on receiving waters – NIWA (May 2013b);
- Potential effects associated with storage related land use change/intensification on the Ruataniwha Plains – NIWA (May 2013a);
- Potential effects on river geomorphology and sedimentation - Tonkin & Taylor (May 2013b) and Cawthon (May 2013);
- Environmental Flow Optimisation – Aquanet (May 2013)
- Potential social impact - Taylor Baines (May 2013);
- Potential effects on historic heritage and archaeological sites - Clough & Associates (May 2013);
- Potential effects on, and new opportunities for, recreation – OPUS (May 2013a);
- Road Infrastructure and traffic effects – OPUS (May 2013b);
- Potential noise effects - Marshall Day (May 2013);
- Potential effects on landscape values - Isthmus (May 2013);
- Cultural impacts – Taiwhenua o Tamatea and Taiwhenua o Heretaunga (June 2012);
- Specific Cultural impacts associated with Zone M - Taiwhenua o Tamatea Addendum Report (April, 2013);
- Zone M Primary Distribution Concept – Environmental Management Services Ltd (May, 2013a); and

- Potential regional economic benefits Butcher (May 2013).

Study authors have taken account of avoidance, remediation, and mitigation proposals built into the scheme design, as described in section 1.1 (e.g. the provision of a residual flow and 'flushing' flows). Where necessary, each report includes recommendations for additional actions avoiding, remedying or mitigating potential effects.

This integrated mitigation and offset approach focuses primarily on addressing the residual biophysical effects (e.g. effects on terrestrial and aquatic ecology) around the dam/reservoir area and downstream to the intake site, and that are not practicably able to otherwise be avoided, remedied, or mitigated directly or entirely. In this area, physical works will have a permanent and unavoidable effect on both terrestrial and aquatic ecology. Flooding of the Makaroro River bed upstream of the dam will also have a permanent effect on recreation facilities and the historic Yeoman Mill site at the end of Wakarara Road. As such, the effects on recreation, landscape, heritage and cultural values are considered here also. Downstream of the dam site, fluctuations that are inherent in the scheme's planned operation will adversely affect aquatic ecology, particularly in the Makaroro River.

The residual effects addressed in this document include:

- Loss of significant terrestrial indigenous vegetation. This is the area of ecologically significant indigenous vegetation covered by the dam and reservoir footprint, which is calculated to be 106.10ha.
- Edge effects<sup>1</sup>. The assumed detectable edge effects area, which would be adversely affected is 10 ha.
- Braided river habitat. The area of braided river habitat (gravel river bed) lost under the reservoir and dam footprint is calculated to be 73.97 ha.
- Wetland habitat. The area of ecologically significant wetland and seep zone habitat, which would be lost is estimated to be 5.11 ha.

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<sup>1</sup> The term edge effects describes a broad range of alterations of environmental and biological processes that can occur along boundaries of habitat fragments. Edge effects may vary depending on size and shape of fragment, the distance from fragment boundary, as well as the proximity to other habitat fragments.

- Loss of habitat for Threatened and At Risk Species. Loss of significant habitat for nine At Risk and Threatened terrestrial fauna and flora species would result as a consequence of the dam and reservoir, equating to 185.18 ha<sup>2</sup>.
- Loss of habitat for some indigenous aquatic species that are unlikely to find the reservoir habitat suitable for them.
- Loss of trout spawning habitat in the areas occupied by the dam and reservoir.
- Loss of the established walking track from the end of Wakarara Road, across the Makaroro River, to the DOC tracks extending throughout the Ruahine Forest Park.
- Loss of the informal camping area located on the Wilson's property.
- Inundation of any remaining infrastructure associated with the historic mill site located at the end of Wakarara Road.
- Loss of fish passage beyond the proposed dam to the upper bounds of the Makaroro River and Dutch Creek.
- Changes to the flow regime of the Makaroro and Waipawa River's; in particular, upstream of Caldwell Road with a consequent adverse effect on the invertebrate population and trout spawning in those reaches.
- Potential increase in DRP inputs to the rivers as a result of land use intensification and an associated increase in periphyton growth.

The approach taken in developing the projects proposed to help mitigate and/or offset these effects is described in Section 2.0; the projects and their associated costs are described in Section 3.0 below.

The success of the projects outlined in Section 3.0 depends on the long-term, sustained, funding, agreement, and effort of a number of key stakeholders. To achieve this it is proposed that a **Ruataniwha Biodiversity Advisory Board** be established prior to construction of the dam. The role and function of the Advisory Board is outline in Section 4.0.

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<sup>2</sup> The 185.18 ha of habitat for Threatened and At Risk Species that will be affected equates to the total affected area in the reservoir footprint (e.g. the sum of the areas of indigenous vegetation, indigenous treeland, braided river habitat and wetland habitat identified as being lost in the points above); not an additional affected area.

## 2.0 APPROACH

The mitigation/offset projects outlined in this report have been developed via the following steps:

1. Individual Assessment of Environmental Effects reports were completed by consultant/HBRC teams for the studies listed in Section 1.2. This included assessing the proposed project against relevant planning provisions, quantifying potential effects, recommending actions to avoid, remedy or mitigate those effects, and where residual adverse effects were identified, highlighting these in the study reports for follow up by the HBRC project team. With respect to the terrestrial ecology study, this also included an assessment against the BBOP Principles and proposed National Policy Statement on Indigenous Biodiversity;
2. The issues, constraints and opportunities identified through the AEE reports were explored during a Design Workshop held on 6 March 2012 and attended by key consultant teams and representatives of DOC and Iwi;
3. A meeting with landowners was held on 30 March 2012 to share information about the project and flag the issues, constraints and opportunities for follow-up with landowners on a one-on-one basis;
4. Individual study findings and recommendations were presented to the Ruataniwha Stakeholder Group, including the measures proposed to mitigate or offset potential effects where concepts were adequately advanced;
5. Consideration was given to the Tukituki Cultural Values and Uses report – Taiwhenua o Tamatea & Taiwhenua o Heretaunga (June 2012), which makes recommendations regarding the maintenance and restoration of Mauri to provide appropriate responses through a mitigation and offset programme that ensures the Ruataniwha Water Storage project recognises appropriate cultural values (including native fish and water quality benefits);
6. Presentation of the draft “Proposed Integrated Mitigation and Offset Approach” report to the Ruataniwha Stakeholder Group during their 27 July 2012 meeting;
7. Refinement (including costing) and documentation of the mitigation/offset package proposed, taking into account written feedback received from stakeholders after the 27 July 2012 meeting;
8. Further project development via a workshop with key stakeholders, held on 16 January 2013;
9. The report was presented to the Mana Whenua Working Party on 8 February 2013 for discussion and feedback.

10. From subsequent discussions with the Mana Whenua Working Party regarding the ongoing kaitiaki role of Mana Whenua, HBRIC Ltd decided that it will be appropriate to offer a Mana Whenua entity the first right to tender for the contract to implement the mitigation and offset projects; and
11. A joint key stakeholder / Mana Whenua Working Party workshop was held on 17 April, 2013 to discuss the proposal developed in Step 10 and the mechanisms to achieve this, including conditions etc. It was also agreed at this meeting that Project E (see Section 3.5) would be added to the proposed integrated mitigation and offset approach. Project E concerns the restoration of the old bed of the Waipawa River and the Papanui Stream as part of the primary distribution of irrigation water to Zone M of the Scheme.
12. Recent ( May 2013) reallocation of funding between components of Project C (as described below) to enable greater priority to be given to downstream eel trap and transfer over previously recommended bat survey and targeted habitat enhancement, with final decisions over these funding reallocations to be made on future implementation over a 30 year timeframe.

These processes are further outlined in the following sections.

## **2.1 Planning Instruments**

Relevant regional and local planning provisions were considered and documented as part of the individual AEE studies carried out by consultant and HBRC teams. In terms of the assessment of effects on terrestrial ecology, provisions of the proposed National Policy Statement on Indigenous Biodiversity and the international BBOP Principles were also considered. These provisions were important in determining the significance of flora and fauna that would be affected by the project, and consequently in quantifying the extent and scale of mitigation or “biodiversity offsetting” required. The method of assessment used by Kessels & Associates Ltd and Cawthonr Institute is further described in the following paragraphs.

### **2.1.1 Regional and Local Policy Context**

The Regional Resource Management Plan (combined Regional Policy Statement and Regional Plan) and the Central Hawke's Bay District Council (CHBDC) District Plan set out Issues, Objectives and Policies relating to the protection and enhancement of significant indigenous vegetation, wetlands and landscapes, and water quantity and quality. Relevant planning provisions have been considered in each of the assessment of effects reports listed in Section 1.2 above. For brevity, specific Issues,

Objectives, and Policies have not been repeated here; however, the importance of these planning provisions in determining the significance of effects and therefore the nature and scale of appropriate mitigation and/or offset mechanism(s), is acknowledged.

With respect to terrestrial ecology, remaining indigenous vegetation and habitat types present in the reservoir footprint, which are ecologically functional, and are shown to provide habitat for Threatened and At Risk species, are considered to be ecologically significant under the relevant RPS and CHBDC District Plan criteria; and section 6(c) of the RMA<sup>3</sup>. Natural features within the reservoir/dam footprint that are affected by the irrigation project and which meet these criteria include:

- Vegetation within the reservoir footprint that has been especially set aside by statute or covenant, or is otherwise legally managed for protection or preservation (i.e. the areas managed by the Department of Conservation). One of these DOC areas is a site identified on the planning maps of the District Plan as being of significant conservation value;
- Three of the vegetation types present within the area that consist of 'woody indigenous vegetation containing naturally occurring tree species, which attain at least 30 centimetres diameter at breast height at maturity and are either over one hectare in size and with an average canopy height over 6 metres; or over five hectares of any height' (Section 4.9.13 of CHBDC District Plan). These are 'Beech forest', 'Podocarp-broadleaf forest' and 'Broadleaf forest' (80.04 ha).
- The remaining intact and functional terrestrial indigenous vegetation and habitat types – secondary forest and scrub types within the reservoir footprint. They meet the definition for 'Areas of Significant Nature Conservation Value' (CHBDC District Plan) because they are within National Priority 1 land for Biodiversity Protection according to the LENZ Threatened Environments classification (23.37 ha);
- An area of indigenous treeland<sup>4</sup> likely to be providing habitat for long-tailed bats;
- The portion of braided river bed habitat of the Makaroro River that will be lost under the reservoir (73.97 ha). This is a nationally 'originally rare' ecosystem type;
- An area of freshwater wetland and seepzone habitat (5.11 ha).

A total of 185.18 ha of ecologically significant indigenous vegetation and habitats would be flooded by the proposed reservoir. Considering the area of significant vegetation and habitats that will be

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<sup>3</sup> Kessels & Associates (May 2013).

<sup>4</sup> Following the outcome of the peer review process (Attachment One – Response Table, Appendix XV in Kessels & Associates (May 2013)) an indigenous treeland (podocarp-broadleaf-small-leaved) area of 2.69ha has been added to the area of significant indigenous vegetation.

inundated and that approximately 22 ha of the DOC administered Ruahine Forest Park will be affected by the project, a biodiversity offset type approach to address the abovementioned residual effects on terrestrial ecology is considered to be warranted.

With respect to assessing the potential effects of the project on aquatic ecology, the Hawke's Bay Land and Water Management Strategy and Regional Resource Management Plan contain relevant assessment criteria<sup>5</sup>.

The maintenance of water quality and quantity of Hawke's Bay Rivers, in order that aquatic ecosystems are sustained or improved in catchments as a whole, is a specific objective of the Regional Policy Statement. The Regional Plan seeks to maintain water quality of specific rivers in order that the existing species and natural character are sustained. The Plan sets out surface water quality guidelines and environmental guidelines for water quantity to achieve this.

In assessing the potential effects on aquatic ecology, and hence the appropriate level of mitigation/offsetting, Cawthron Institute also considered provisions of the Land and Water Management Strategy (LWMS). Briefly, the LWMS lists a number of values attributed to water, including:

- Clean drinking water is a basic human right;
- Freshwater bodies are valued for their natural form, intrinsic qualities and mauri. They provide a sense of place for people and communities and are a source of inspiration;
- Water supports the flora and fauna which make up the regional diversity;
- Well-functioning water bodies provide mahinga kai;
- Water is a critical ingredient for businesses, including agriculture and processing, that underpin the Hawke's Bay economy;
- Water provides opportunities for recreational activities and tourism.

In terms of the drivers for the Tukituki Catchment, the LWMS identifies the following high level values:

- Cultural values;
- Life supporting capacity of rivers, lakes and wetlands;
- Existing and potential substantial economic development (including tourism);
- Native and trout fishery;

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<sup>5</sup> Cawthron (May 2013).

- Recreation.

Through the above assessment, a number of initiatives were identified by Cawthron Institute as being required in order to mitigate potential adverse effects of the project on aquatic ecology, and to uphold the abovementioned objectives and values. Key initiatives include protecting and enhancing the aquatic habitat within the upper Makaroro River and reservoir tributaries such as Dutch Creek; habitat enhancement in waterways that drain the lower Ruataniwha Plains; and protection of riparian habitats alongside the Makaroro and Waipawa Rivers. The mechanisms proposed to achieve these outcomes are further detailed in Section 3.0.

### **2.1.2 Business and Biodiversity Offsets Programme Principles**

The Business and Biodiversity Offsets Programme (BBOP) Principles were considered by Kessels & Associates Ltd in their ecological effects assessment.

Biodiversity Offsets have been defined by the Department of Conservation (DOC) as "*measurable conservation outcomes resulting from action designed to compensate for significant residual adverse effects arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and ultimately a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity.*"<sup>6</sup>

Offsets do not replace the RMA's emphasis on avoiding, remedying or mitigating adverse effects. While biodiversity offsetting as an approach is not explicitly provided for under New Zealand's legislative framework, caselaw suggests that depending on the situation, offsets may be a form of mitigation (or remedy) or alternatively environmental compensation that sits outside the avoid/remedy/mitigate framework but which may still be relevant to an RMA decision-maker's consideration of resource consent application(s).

In the recent Transmission Gully Notices of Requirement and Consents Draft Decision, the Board of Inquiry (May 2012) commented on the desirability and enforceability of achieving no net loss outcomes as follows: "...while we recognise the desirability of achieving a situation of no net loss of biodiversity from a project, we do not believe that it is a requirement of RMA that no net loss be achieved in any given case. The principle of sustainable management requires a broad consideration of a range of sometimes competing factors. A consent authority is entitled to conclude that consent ought be granted to a proposal notwithstanding that all adverse effects of the proposal have not been avoided, remedied or mitigated. In other words there may be a net loss of some values or

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<sup>6</sup> <http://www.doc.govt.nz/publications/conservation/biodiversity-offsets-programme/biodiversity-offsets-programme/what-is-biodiversity-offsetting/>

*aspects of the environment. The significance of that loss and its weighting against the benefits of any given proposal is a matter to be determined by a consent authority applying s5(2) RMA".*

Models associated with quantifying offset requirements are in the early stages of development for New Zealand ecosystems.

Internationally, the process is being conducted in a standardised and coordinated manner in conjunction with, or using resources developed by, the BBOP. The key tool developed by the BBOP is a set of guiding principles and associated draft criteria and indicators. It is noted that BBOP tools have been designed principally for international projects where government environmental regulation is weak or non-existent,<sup>7</sup> and these tools therefore contain many of the key principles that already underlie international best practice environmental impact assessment methods; and which are already reflected in the RMA. The BBOP Principles are summarised as follows:

1. No net loss;
2. Additional conservation outcomes;
3. Adherence to the mitigation hierarchy;
4. Limits to what can be offset;
5. Landscape context;
6. Stakeholder participation;
7. Equity;
8. Long-term outcomes;
9. Transparency;
10. Science and traditional knowledge.

A complete list, including further description of each principle, is included in **Appendix 1**.

HBRC is not a signatory to the Business and Biodiversity Offsets Programme, however given the ecological significance of the area that would be affected by development of the proposed reservoir and the residual effects associated with the indigenous vegetation that would be inundated, a 'no net loss' type approach is considered appropriate as the basis for addressing effects on terrestrial ecology.

Kessels and Associates (May 2013) have tested the terrestrial ecology mitigation packages against the principles of "biodiversity offsetting" DOC have developed, in addition to the requirements of

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<sup>7</sup> Kessels & Associates (May 2013).

the Resource Management Act (RMA). In addition to appropriate on-site avoidance, remediation, mitigation and monitoring measures, the ecological enhancement and restoration projects proposed by Kessels & Associates, and set out in Section 3.0 of this report, are considered to appropriately compensate for any residual effects associated with the loss of significant indigenous vegetation and habitats of terrestrial indigenous fauna and flora within the proposed reservoir footprint.

### **2.1.3 Proposed National Policy Statement on Indigenous Biodiversity**

The Proposed National Policy Statement on Indigenous Biodiversity (NPSIB) has no legal status at present as a draft document. While it is considered to provide a useful perspective on biodiversity, decision-makers involved in the Ruataniwha Water Storage Scheme will only be able to give limited weight to the proposed NPSIB, unless it is approved prior to any resource consents for the project being heard. However, for completeness, the proposed NPSIB Criteria for Significance (Policy 2) and mitigation hierarchy (Policy 5) have been considered by Kessels & Associates Ltd in their assessment, and are set out below.

Proposed NPSIB Criteria for Significance (Policy 2) include:

- a) Naturally uncommon ecosystem types listed in Schedule One;
- b) Indigenous vegetation or habitats associated with sand dunes;
- c) Indigenous vegetation or habitats associated with wetlands;
- d) Land environments, defined by Land Environments of New Zealand at Level IV (2003), that have 20 percent or less remaining in indigenous vegetation cover; and,
- e) Habitats of Threatened and At Risk Species.

The mitigation hierarchy set out in the Proposed NPSIB (Policy 5) states that councils are to manage effects either through plans or non-regulatory methods using this hierarchy:

- Avoid adverse effects;
- Where adverse effects cannot be remedied, mitigate; and,
- Where adverse effects cannot be adequately mitigated, offset any residual effects in accordance with principles set out in Schedule 2.

Schedule 2 takes a Biodiversity Offset Methodology and Principles approach, proposing that uncertainty and risk be explicitly built into loss-gain calculations and that the design and implementation of the offsets are based on adaptive management with monitoring, ongoing evaluation and notification as necessary.

## **2.2 Project Development**

### **2.2.1 Ruataniwha Water Storage Project Design Workshop**

A workshop lead by HBRC was held on 6 March 2012, to discuss issues, design constraints and opportunities associated with the proposed dam and inundation area. Representatives from DOC and Te Taiwhenua O Tamatea attended the workshop, in addition to consultant teams leading the engineering, archaeological, landscape, recreation, traffic, and terrestrial ecology components of the feasibility study.

Consultant teams presented the findings of their individual studies for consideration ahead of a facilitated design session, which further explored the design issues, constraints and opportunities. Key issues included: access into the reservoir area for recreation; lake margin treatment; access around the top-end of the reservoir; removal of trees; management of people for safety; preventing the public from accessing the headrace canals; and, fish passage/recreational fishing. A copy of the workshop notes are attached as **Appendix 2**.

Following the workshop, the HBRC project team was tasked with refining thinking around the development of an 'off-set package' and how it would be fed into the consent process.

### **2.2.2 Engagement**

Communication with landowners and other stakeholders has been ongoing throughout the feasibility, and more recently the post-feasibility, phases of the project.

A meeting was held with landowners potentially affected by the proposed dam and reservoir on 30 March 2012. The meeting provided an opportunity for landowners to learn more about the project and engineering proposed; and to discuss some of the design issues identified through feasibility studies (and presented during the abovementioned design workshop). Recognising that many of the mitigation and offset projects proposed will affect private land, the Project Team is committed to continuing the discussion with landowners on an individual basis as projects are further defined. It is anticipated that communication will extend through consenting; design; construction; and operation phases.

The Ruataniwha Stakeholder Group was established in April 2010 to enable open discussion and consultation to take place with representatives of the community (Fish and Game; Forest and Bird; Department of Conservation; Iwi; water users; Central Hawke's Bay District Council; potentially affected landowners; consent holders; Tukituki Liaison Group; and other interested and affected parties) and to develop community views and expectations on water management for all uses in the Tukituki catchment.

The methodology proposed for the terrestrial ecology, aquatic ecology, landscape, recreation, archaeological and traffic assessments, was presented to the Stakeholder Group for input prior to these studies being advanced, and consultant teams presented the study findings and recommendations to the Group for feedback once completed. Comments received from the Group have been incorporated into the final reports.

The draft “Proposed Integrated Mitigation and Offset Approach” report was presented to the Stakeholder Group on 27 July 2012 and feedback invited. Following the meeting, written comments were received from Forest and Bird, Department of Conservation, and a conservation group that included representatives from Sustaining Hawke's Bay Trust, Forest and Bird, Bay Watch Environmental Group, Fish and Game, and Te Taiao Hawke's Bay Environment Forum.

The feedback received prompted changes to the project descriptions and budgets contained in Sections 3.0 and 4.0 of this report. A letter was prepared in response to the feedback received from the group, and this is attached as **Appendix 3**.

With respect to the feedback received separately from DOC, it was suggested that the Project Team review the funding proposed in Project B for ongoing animal pest control (targeting possums and rats) downstream of the proposed dam structure to confirm whether it would be better utilised in this area or in the Upper Makaroro catchment enhancement area instead. In response, the Project Team, in liaison with the HBRC Biodiversity Team and Kessels & Associates, reframed Projects B and C, providing flexibility for the contribution towards animal pest control to be split between the two enhancement areas, as agreed by HBRIC Ltd and DOC following future blue duck and wader bird population surveys.

A subsequent workshop was held on 16 January 2013, to provide further opportunity, ahead of the formal RMA consent process, for key stakeholders to review elements of the four projects that were initially proposed and make any changes considered necessary within the approved budget provision. The workshop was attended by HBRC biodiversity staff, CHBDC representatives, DOC, Forest & Bird, and a representative of the Mana Whenua Working Party. Key outcomes of the workshop included:

- Clarification of elements of the individual project budgets;
- Inclusion of an additional map identifying local bund areas within the reservoir where wetlands could be established (Project A);
- Inclusion of additional project objectives relating to water quality protection and enhancement;

- Expansion of the riparian enhancement zone (Project B) upstream on the Waipawa River to the edge of the Ruahine Forest Park;
- An undertaking to engage further with DOC and the Mana Whenua Working Party with respect to assessing options to mitigate/offset the effects of the dam on fish passage; noting that the trap and transfer system proposed for native fish may not be the most effective option for all fish species; and,
- Working with HBRC land management staff and Te Taiwhenua o Tamatea to implement a sub-catchment program for spring-fed stream enhancement and phosphorus mitigation in priority areas.

A complete set of minutes from the workshop are attached in **Appendix 4**.

Following further discussion with the Mana Whenua Working Party, and in consideration of the ongoing kaitiaki role of Mana Whenua, HBRIC Ltd developed a proposal during the first quarter of 2013 to implement the proposed mitigation and offset projects through a contract with a Mana Whenua entity. This proposal was discussed and refined with a joint key stakeholder / Mana Whenua Working Party workshop on 17 April, 2013. Key points of the proposal as refined through the workshop were:

1. A new Mana Whenua legal entity would be established to enter into a contractual relationship with HBRIC Ltd on the delivery of mitigation and offset projects. While this entity is yet to be established, a working title of Ruataniwha Tauwhiro Taitaiao has been suggested;
2. Administrative structures, required skill sets and any staff training requirements would be identified and confirmed prior to the commencement of works. These functions could be initially supported through existing entities such as the Hawke's Bay Regional Council Works Group;
3. The Ruataniwha Biodiversity Advisory Board would be established to provide project oversight and direction;
4. Annually, the new Mana Whenua legal entity and the Ruataniwha Biodiversity Advisory Board will jointly present to the Hawke's Bay Regional Joint Planning Committee to provide project and financial reporting.

A flow chart describing this proposal that was presented to and developed during the workshop is attached as **Appendix 5**.

During the 17 April, 2013 workshop the proposal to supply irrigation water to Zone M via the Old Waipawa River Bed and the Papanui Stream was also discussed. It was agreed that the ecological restoration and enhancement works proposed as part of this concept should be delivered through a new Project E. A project description, performance targets and budget for Project E have now been incorporated into the mitigation and offset approach (Section 3.5). A complete set of minutes from the workshop are attached in **Appendix 6**.

### 3.0 PROJECTS PROPOSED

The residual effects on terrestrial indigenous ecosystems and fauna/flora habitats as a consequence of the construction and operation of the Ruataniwha Water Storage Scheme have been assessed by Kessels and Associates Ltd<sup>8</sup> to include:

- Loss of significant terrestrial indigenous vegetation. This is the area of ecologically significant indigenous vegetation covered by the dam and reservoir footprint, which is calculated to be 106.10 ha.
- Edge effects. The assumed detectable edge effects area, which would be adversely affected is 10 ha.
- Braided river habitat. The area of braided river habitat (gravel river bed) lost under the reservoir and dam footprint is calculated to be 73.97 ha.
- Wetland habitat. The area of ecologically significant wetland and seep zone habitat, which would be lost is estimated to be 5.11 ha.
- Loss of habitat for Threatened and At Risk Species. Loss of significant habitat for nine At Risk and Threatened fauna and flora species would result as a consequence of the dam and reservoir, equating to 185.18 ha<sup>9</sup>.

Other effects mitigated or offset through the projects proposed here include:

- Loss of fish passage beyond the proposed dam to the upper bounds of the Makaroro River and Dutch Creek.
- Loss of habitat for some indigenous aquatic species that are unlikely to find the reservoir habitat suitable for them.
- Loss of trout spawning habitat in the areas occupied by the dam and reservoir.
- Changes to the flow regime of the Makaroro and Waipawa River's; in particular, upstream of Caldwell Road, with a consequent adverse effect on the invertebrate population and trout spawning in those reaches.

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<sup>8</sup> See Sections 12.2.1 and 12.2.2 of Kessels and Associates (May 2013).

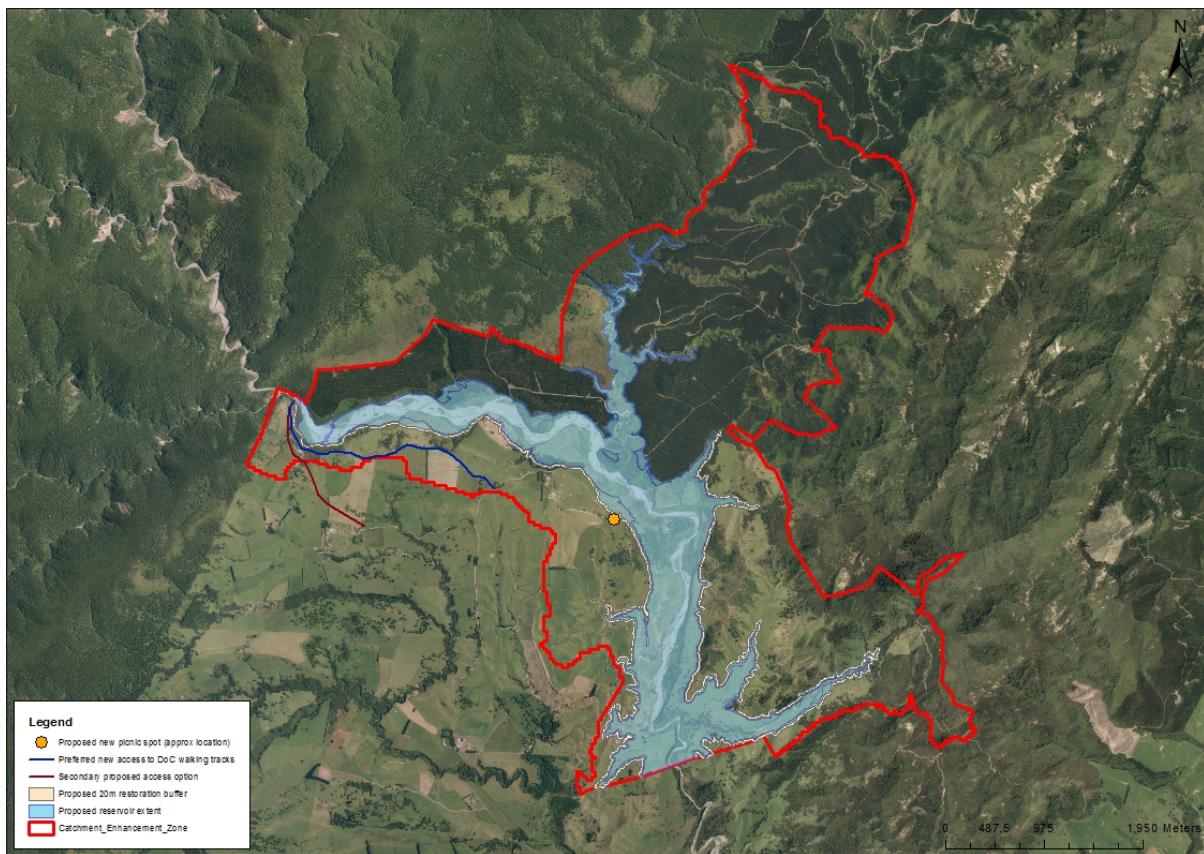
<sup>9</sup> Comprising 80.72 ha of mature and secondary indigenous forest; 22.71 ha of secondary indigenous scrub; 2.69 ha of indigenous treeland; 73.97 ha of gravel river bed; and 5.11 ha of wetland or seepzones. The 185.18 ha of habitat for Threatened and At Risk Species that will be affected equates to the total affected area in the reservoir footprint (e.g. the sum of the areas of indigenous vegetation, indigenous treeland, braided river habitat and wetland habitat identified as being lost in the points above); not an additional affected area.

- Loss of the established walking track from the end of Wakarara Road, across the Makaroro River, to the DOC tracks extending throughout the Ruahine Forest Park.
- Loss of the informal camping area located on Mr Stephen Wilson's property.
- Inundation of any remaining infrastructure associated with the historic Yeoman Mill site located at the end of Wakarara Road.

Projects A –C and E set out biodiversity restoration and enhancement strategies proposed to address residual effects on both terrestrial and aquatic biodiversity. These projects also address effects on recreation, and cultural and heritage values associated with the Wakarara Road-end area.

Project D provides an additional offset for adverse effects of the project on phosphorus inputs to the streams and the availability and quality of in-stream habitat for trout spawning, native fish and invertebrates.

### 3.1 Project A: Ruataniwha Reservoir Restoration Buffer and Catchment Enhancement Zone



#### 3.1.1 Project Description

This project encompasses five primary objectives:

1. Replanting of a buffer around a large portion of the new reservoir with indigenous vegetation – ‘Reservoir Restoration Buffer’;
2. Providing for targeted enhancement and restoration of remaining habitats on private land within the catchment upstream of the dam structure – ‘Catchment Enhancement Zone’;
3. Protecting water quality in the reservoir through effective riparian management and sediment control;
4. Providing facilities for a variety of recreation types on and around the reservoir; and,
5. Acknowledging the mana whenua of the Makaroro catchment and the history of the Yeoman Mill site by providing public recreation space and visual displays commemorating the history of the area.

The ecological objectives of this package are to:

- Recreate lost riparian margin indigenous vegetation, which will provide habitats and ecological linkages for a wide range of terrestrial and aquatic fauna and flora.
- Maintain healthy aquatic habitat within the upper Makaroro River above the dam and other reservoir tributaries such as Dutch Creek.
- Restore and enhance marginal farmland and existing forest, scrub, treeland, shrubland and wetland remnants within the sub-catchment above the dam to improve existing habitat for flora and fauna as rapidly as possible, reinforce ecological linkages within the landscape and provide refuge for species during and after the flooding process.

### **3.1.2 Proposed Delivery Mechanisms**

- In consultation with affected landowners, establishment of a 20m (minimum) buffer around the reservoir margin where stock grazing is most likely to occur (total approx. 46ha). Planting carried out using locally sourced indigenous plants.
- Local bunding of some wetland areas where there is an opportunity to retain water during drawdown periods (the proposed location of these wetland areas, totaling approximately 14ha, is shown in **Appendix 7**).
- In consultation with affected landowners, retirement of suitable natural features and marginal land within the 'Catchment Enhancement Zone' where focused and sustained planting and pest control can occur.
- Assistance with restoration projects on marginal land and remnant forest, scrub and wetlands within the sub-catchment upstream of the dam (including fencing, animal/plant pest control, replanting, voluntary legal protection and ongoing monitoring).
- Funding for the creation of walking/cycling tracks around the reservoir, where landowners are amenable.
- Construction of an access track around the top-end of the reservoir, linking to existing DOC tracks in the Ruahine Forest Park via Makaroro Road.
- In consultation with affected landowners and Iwi, construction of a new picnic/camping area featuring historical/cultural information about the Yeoman Mill site and surrounding landscape.
- Construction of a boat ramp for public recreation access to the reservoir.
- In consultation with affected landowners and Hawke's Bay Fish and Game, construction of a fisherman's shelter for use by trout anglers.

### 3.1.3 Performance Targets

- Landowner agreements to implement the proposed mechanisms.
- Restoration of at least 100 ha of privately owned land within the 'Catchment Enhancement Zone'.
- Completion of the access track around the top-end of the proposed reservoir by the end of the reservoir construction period.
- Assistance with restoration projects on-going for 30 years.

### 3.1.4 Project A Costs

**Table 1: Summary of Project A Costs**

Mitigation/Monitoring Project	Annual Cost	Total Cost for Period
Reservoir margin fencing (post-dam construction)	NA	NA
20m buffer restoration (170,000 plants over 10 years)	\$119,000	\$1,190,000
Enrichment planting (97,000 plants over 10 years)	\$67,900	\$679,000
Restoration and catchment enhancement (over 10 years)	\$20,000	\$200,000
Site survey and relocation of major items from Yeoman Mill site (year 1)	NA	\$75,000
Construction of new historic interpretation/picnic/camp site (once dam construction complete)	NA	\$30,000
Construction of access track around top-end of reservoir	NA	NA*
Development of walking/cycling tracks around reservoir (over 5 years)	\$30,000	\$150,000
Construction of boat ramp (once dam construction complete)	NA	\$25,000
Construction of fisherman's hut shelter (post-dam construction)	NA	\$30,000
Management and maintenance of recreation assets (over 30 years)	\$5,000	\$150,000
<b>Total Cost</b>	<b>\$241,900</b>	<b>\$2,529,000</b>

\*Approximately \$3.4 million has been set aside for track construction around the top-end of the reservoir through the Scheme engineering budget. Additional budget has therefore not been included here.

Provision for the reservoir margin fencing has been included in Tonkin & Taylor's project engineering budget (approximately \$500,000); therefore no additional funding has been included in the budget for this project.

The 20m buffer restoration cost component is based on an area of 34 ha (of the approx. 46 ha fenced area), planting 1 plant/2m<sup>2</sup> at a unit cost of \$7 per plant (total of 170,000 plants). Enrichment planting is based on an area of 97 ha, planting 1 plant per 10m<sup>2</sup> at a unit cost of \$7 (total of 97,000 plants). The unit cost of \$7 per plant is all inclusive (includes the cost of plant purchase, planting and maintenance over 18 months to establishment) and is based on recent project costing experience of HBRC and Kessels & Associates.

The restoration and catchment enhancement cost component provides an annual subsidy that can be allocated to landowners in the reservoir area to assist with restoration projects on marginal land and remnant forest, scrub and wetlands within the sub-catchment upstream of the dam. It is envisaged that the subsidy will contribute towards the cost of fencing, animal/pest control, replanting, voluntary legal protection and on-going monitoring.

Opportunities for local bunding of some wetland areas to retain water during drawdown periods will be investigated by the project engineers and physical works included in the earthworks programme in consultation with Kessels & Associates, the project Terrestrial ecologist, and DOC (**Appendix 7** highlights the location of potential wetland bund areas in relation to the proposed reservoir extent). As such, this component has not been separately costed here.

Investigations and relocation of any major items remaining at the Yeoman Mill site involves a number of steps that have been provided for through the nominal sum of \$75,000. Activities may include: prior grazing of the area to enhance visibility of surface features; detailed mapping of surface features (two people for a week); geophysical survey (two days); excavation of selected areas or features such as the mill site, school area and residential area (team of five for two weeks); oral history and archival research (two weeks); relocation of major items (the boiler etc.); conservation/stabilization of large metal items; analysis (one person for two weeks); and report writing (archaeologist/historian for one month). Costs may be reduced where there is an opportunity to get university involvement (e.g. a field school) or other sources of sponsorship (e.g. a local firm involved in lifting and re-locating the boiler).

Provision for re-establishing access around the top-end of the reservoir, linking to existing DOC tracks in the Ruahine Forest Park via Makaroro Road, is provided for through Tonkin & Taylor's engineering budget. Approximately \$3.4 million has been set aside through this secondary budget for this. Additional budget provision has therefore not been included here.

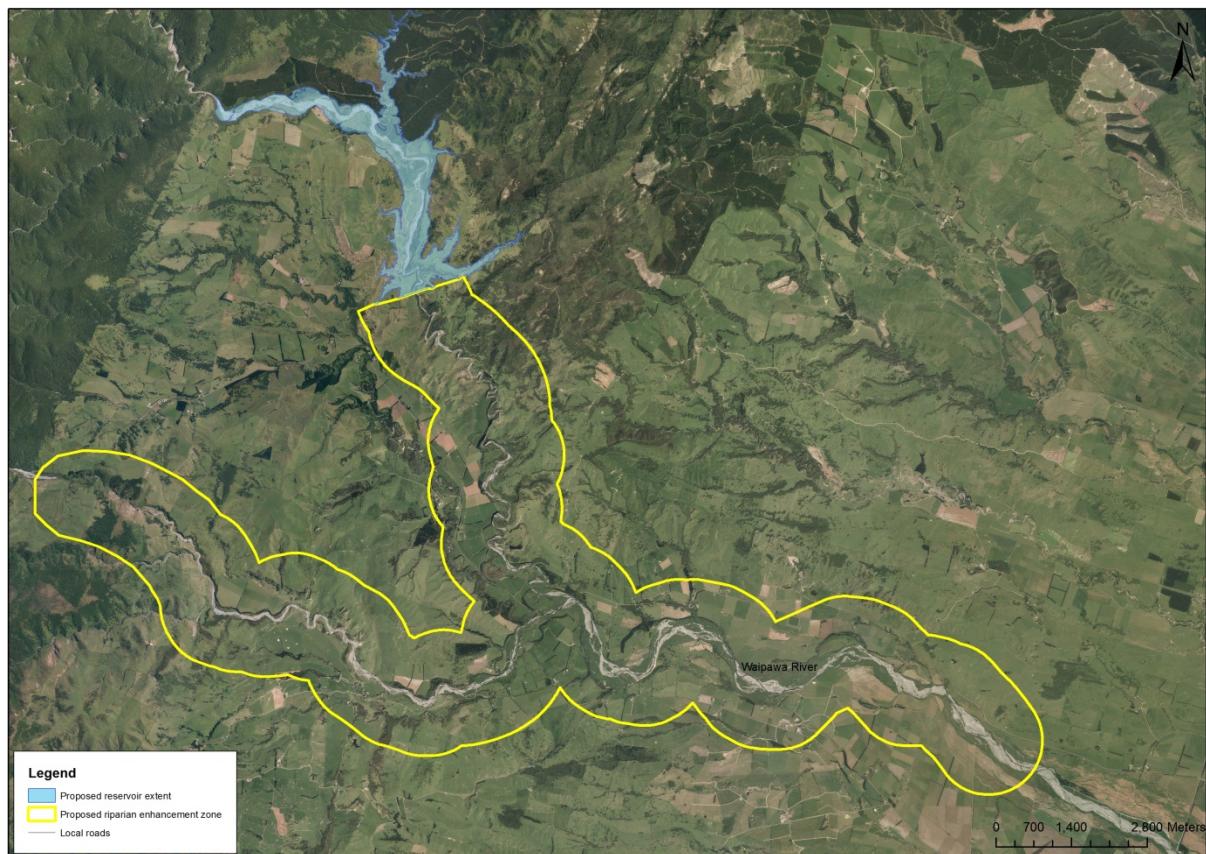
Nominal costs associated with construction of the boat ramp are based on a cubic metre concrete cost of \$300 for a ramp measuring 100m long by 3m wide by 0.2m deep. The boat ramp will be established once the dam construction is complete.

The cost associated with establishing walking/cycling tracks around the reservoir is based on a unit cost of \$5,000 per km of track for a low grade lime-sand track of 2.5 metres wide. A nominal length of track of 30km is provided for; with construction over 5 years.

Recognising the need for on-going management and maintenance of recreation assets, \$5,000 per year has been provided for maintaining access tracks, camping facilities, the boat ramp, and the fisherman's shelter. It is anticipated that management will be overseen by HBRC (or Department of

Conservation where agreements are put in place for such) and maintenance work carried out by suitably qualified contractors on an 'as and when required' basis. Where assets are located on privately owned land, access agreements will need to be established to enable on-going public use and access for maintenance.

### 3.2 Project B: Ruataniwha Riparian Enhancement Zone (River Halo Project)



#### 3.2.1 Project Description

This package involves implementation of four biodiversity enhancement objectives, to be funded and managed as part of the Storage Scheme, working with willing landowners for a sustained period of time. Objectives include:

- Control of willows/lupins and other braided river weeds to maintain and enhance habitat for wading birds, particularly banded dotterel, within the active channel of the Waipawa and Makaroro Rivers.
- Assisting landowners to enhance and protect existing areas of wetland, bush and scrub within or contiguous with the 1km enhancement zone.
- Protection and enhancement of riparian habitats alongside the Makaroro and Waipawa Rivers that are affected by flow fluctuations resulting from the project.
- Enhancing the water quality of the Makaroro and Waipawa Rivers through the establishment of healthy riparian habitats within the Project area.

### 3.2.2 Proposed Delivery Mechanisms

- Fencing and restoring margins of the main stems of the two rivers, in consultation with adjoining landowners. The primary target area for these works is the river bed habitat extending from Caldwell Road approximately 10 km upstream.
- Control of willow/lupin and other river weeds across an area of approximately 314 ha.
- Assisting landowners with fencing, replanting (as required), and legally protecting existing areas of wetland, bush and scrub within or contiguous with the 1km enhancement zone, prioritising management in a variety of remnant indigenous habitats, with a focus on areas shown as Recommended Areas for Protection (RAPs) on Figure 37 of Kessels & Associates (May 2013).

### 3.2.3 Performance Targets

- Agreement with landowners to manage natural features for their biodiversity values.
- Completion of stock-proof fencing of key natural features in primary target area.
- Reduction in plant pest numbers within the enhancement zone.
- Improved wader bird habitat.

### 3.2.4 Project B Costs

**Table 2: Summary of Project B Costs**

Mitigation/Monitoring Project	Annual Cost	Total Cost Over Period
Targeted planting of the river margin (over 30 years)	\$20,000	\$600,000
Fencing the river margins of the main stem (over 5 years)	\$45,000	\$225,000
Weed control on the river bed upstream of Caldwell Road (over 30 years)	\$10,000	\$300,000
Protection and enhancement of existing areas of wetland, bush and scrub on private land (600ha over 30 years)	\$20,000	\$600,000
<b>Total Cost</b>	<b>\$95,000</b>	<b>\$1,725,000</b>

An annual contribution of \$20,000 over 30 years has been provided for restoring margins of the main stems of the Waipawa and Makaroro River's within the 'Riparian Enhancement Zone'. Funds for fencing key river margin areas are also provided for a five year period. The \$225,000 proposed is based on a unit price for fencing of \$15 per metre, for a total length of 15km. It is noted that there may be an opportunity to work collaboratively with landowners to extend the fenced area beyond the 15km proposed, on the basis that landowners will be required to exclude stock from waterways under the new stock exclusion rule proposed for the Tukituki Catchment.

Control of willow/lupins and other braided river weeds in the target area upstream of Caldwell Road (an area of approximately 314 ha) is provided for at a rate of \$10,000 per year. This is consistent with costs incurred by HBRC in other parts of the region to manage plant pests in flood control and drainage scheme areas.

A contribution towards protection and enhancement of existing areas of wetlands, bush and scrub on private land is provided for at a rate of \$1,000 per hectare for 20 ha of restoration/protection per year, over a period of 30 years.

### 3.3 Project C: Ruataniwha Threatened Species Habitat Enhancement



*Picture courtesy of Stuart Parsons*

#### 3.3.1 Project Description

- Targeted assistance programme to foster research, advocacy and habitat protection/enhancement for bats and their habitats throughout Hawke's Bay.
- Predator trapping programme to enhance the biodiversity values of indigenous forest areas within the upper Makaroro River catchment and downstream of the dam structure to Caldwell Road (principally focusing on blue duck and wader bird habitats, subject to results of pre-construction blue duck survey and wader bird population survey).
- Trap and transfer programme focusing on native fish.

#### 3.3.2 Proposed Delivery Mechanisms

- Ongoing predator trapping programme, at the top end of the Makaroro River catchment and linking to the existing trapping programme overseen by DOC to enhance blue duck habitat; and downstream of the dam structure to Caldwell Road to enhance wader bird habitat (with the focus and area to be determined after the pre-construction surveys outlined below).
- One off donation to a local environmental mitigation initiative (to be agreed by the Ruataniwha Biodiversity Advisory Board).

- Implementation of an upstream trap and transfer programme to enable migratory native fish (including eels) to access habitat upstream of the proposed dam and a downstream eel trap and transfer programme.

### 3.3.3 Performance Targets

- Protection and long-term management of long-tailed bat habitats as well as increased awareness of their presence and habitats throughout the region.
- One-off donation provided to local mitigation initiative.
- Increase in blue duck productivity within the upper Makaroro River catchment.
- Agreement with DOC aligning blue duck predator control programs in the upper Makaroro River catchment and/or wader bird predator control programs.
- Ensure that the trap and transfer programme is enabling successful recruitment of eels by pre- and post-construction monitoring of the age-structure of the eel population upstream and downstream of the dam.

### 3.3.4 Project C Costs

**Table 3: Summary of Project C Costs**

Mitigation/Monitoring Project	Annual Cost	Total Cost for Period
Targeted bat habitat enhancement on private land (over 10 years)	\$5,000	\$50,000
One-off contribution to environmental mitigation initiative for Threatened / At Risk Species (year 1)	NA	\$30,000
Indirect braided river monitoring (over 10 years)	\$5,000	\$50,000
Initial blue duck survey of the Upper Makaroro + additional year two, four, and six surveys	NA	\$40,000
Intensive animal pest control operation targeting the upper Makaroro River catchment (over 30 years)	\$20,000	\$600,000
Targeted animal pest control over an additional 600 ha, targeting either blue duck or wader bird habitat – to be confirmed following completion of programmed survey work (over 30 years)	\$30,000	\$900,000
Administration of the Ruataniwha Biodiversity Advisory Board	\$10,000	\$300,000
Implementation of the upstream trap and transfer system for native fish and the downstream eel trap and transfer (over 30 years – includes year 1 trap system construction cost of \$10,000)	\$21,500	\$655,000
<b>Total Cost</b>	<b>\$91,500</b>	<b>\$2,625,000</b>

The bat habitat enhancement provision allows for targeted assistance for landowners who have bats on their properties, to contribute to fencing, pest control and legal protection of known roosting sites, as recommended by Kessels & Associates (May 2013). It is a reduced sum reflecting a recent

decision to enable re-allocation of funding (\$10,000 annually over 30 years) for the downstream eel trap and transfer, as explained further below. This re-allocation is also facilitated by a decision to delete previous provision for a 3 year district wide bat survey, which is no longer recommended to be necessary in Kessels & Associates (May 2013) in light of more recent district wide bat survey work undertaken as outlined in that report.

The mitigation cost associated with Threatened species mitigation is a provision to be assigned to specific species. It is suggested that an environmental mitigation initiative (to be agreed by the Advisory Board) receive a contribution towards work to enhance knowledge of falcons and other Threatened/At Risk species such as fernbird and mistletoe and their habitats within the Hawke's Bay region.

The indirect braided river monitoring of key wader species for 10 years is based on a cost of \$5,000 per annum. It allows for ongoing monitoring of wader species such as banded dotterels; and research.

A long-term, intensive ground based animal pest control programme, targeting key animal pests such as stoats and feral cats, in the vicinity of known blue duck populations is proposed over approximately 500 ha in the upper Makaroro River catchment. In addition to increasing productivity of blue duck, the programme is also likely to improve habitats for a range of other indigenous bird species, such as kiwi, falcon, riflemen, tui, bellbird and kereru. An initial survey will be conducted within the Upper Makaroro catchment, including Dutch Creek, to identify existing distributions and key breeding areas. If blue duck are found in this initial survey, additional survey work would be carried out in years two, four and six to monitor any population change. It is anticipated that these additional surveys will have a lower associated cost in comparison to the initial survey, as a better understanding will develop over time of the location and nature of blue duck habitat in the catchment so that any future survey work can be more targeted. HBRIC Ltd does not yet have an absolute understanding of blue duck and wader bird populations in these areas, so to maintain flexibility; the habitat areas to be targeted through this funding have not yet been defined. They will be contingent on the outcomes of the blue duck surveys and further wader bird population studies programmed and it is anticipated that the funding provision may be split between species.

A further \$30,000 per year for 30 years is provided for targeted animal pest control from Caldwell Road upstream beyond the dam structure to the Upper Makaroro River enhancement area. This will provide for a minimum of 600 ha of additional animal pest control, in addition to that noted above. HBRIC Ltd and the Biodiversity Advisory Board will work in association with DOC to ensure that the programme complements existing pest control measures carried out by DOC in the area. While third party contributions from DOC or others to further support the programme would be welcomed, such

additional funding is seen as an enhancement beyond the level required to appropriately offset the effects identified above. Animal pest control has been costed at \$50/ha, which provides scope to intensively control a range of animal pests, including possums, rats, stoats, feral cats and hedgehogs. Sustained control of a suite of animal pests will provide benefits for regeneration of indigenous vegetation, terrestrial invertebrates, birds and lizards as well as at risk and threatened flora and fauna within the control area, including bats.

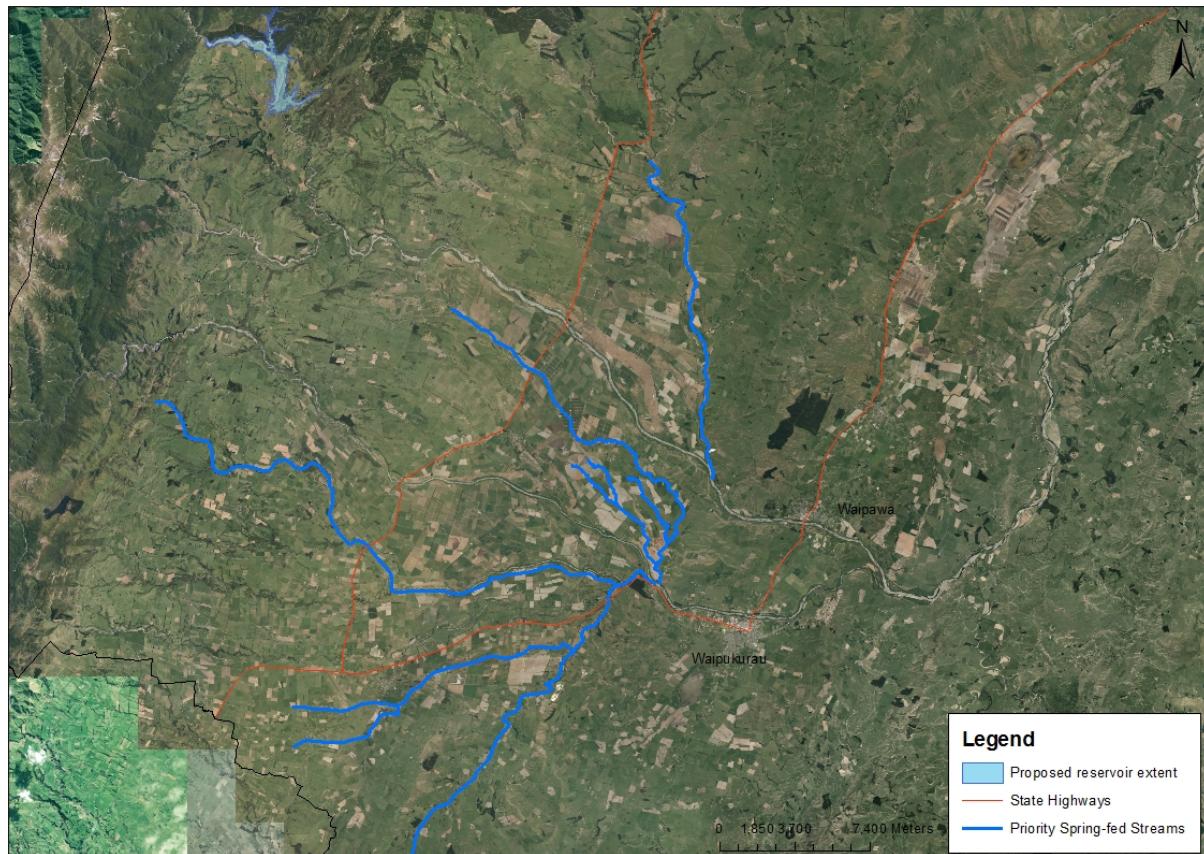
A figure of \$10,000 has been provided for the trapping system proposed at the toe of the dam to trap native fish for transporting upstream to the reservoir. This is a year one cost requirement. In addition, \$11,500 per year is included to provide for a local person to maintain the system and transfer the fish from Point A to Point B, and a further \$10,000 per year (total annual cost \$21,500) over 30 years is provided for the downstream trap and transfer of native eel species i.e. transferring adult eels from the reservoir downstream of the dam.

The addition of \$10,000 (annually over 30 years) for the downstream eel trap and transfer was a recent re-allocation of funds previously proposed for other activities in Project C. The effect of this re-allocation is to reduce the previous provision for targeted bat enhancement on private land by \$200,000 (and results in deletion of the \$100,000 bat survey provision as previously recommended by Kessels & Associates). The Advisory Board would however have discretion in guiding the prioritisation of activities to allocate funding within the project towards a greater level of targeted bat enhancement on private land if considered warranted and supported by landowners (for example, within the 600ha pest control area). This re-prioritisation of funds was also made in response to specific additional advice from Cawthon and the Mana Whenua Working Party regarding the significance of eels in the catchment from a biodiversity and cultural perspective, and specifically their need to move downstream to the ocean to complete their life-cycle. This has been discussed with HBRIC Ltd's primary ecological advisors, Mr Kessels and Dr Young who support the change. In particular, they both recognised the synergy between workers in the field who can multi-task the pest control and trap and transfer work during the key downstream eel migration period (April and May).

It is anticipated that the trap and transfer operation will be intensive for short periods of time over the year; equating to approximately two months full time employment for one person per year. The downstream trap and transfer of eels would occur seasonally to coincide with migratory patterns, and may be carried out cost effectively by field personnel as an additional task to the ongoing pest control activities. Provision has been made to cover the cost of implementation over 30 years, noting that this will be an on-going annual cost. Should the Project Team and Biodiversity Advisory Board identify a more effective way to mitigate the effects of the loss of native fish passage

upstream of the dam in future, the budget provision for the trap and transfer system noted above will be transferred to the preferred option.

### 3.4 Project D: Ruataniwha Plains Spring-fed Stream Enhancement and Priority Sub-Catchment Phosphorus Mitigation



#### 3.4.1 Project Description

The objective of this project is to protect and enhance water quality and stream habitat in priority sub-catchments and spring-fed streams that drain the lower Ruataniwha Plains (e.g. tributaries of the lower Mangaonuku, Kahahakuri Stream, Waipawamate Stream, Black Stream, Maharakeke Stream, Tukipo River, and Porangahau Stream etc.). These streams provide good habitat for eels and other native fish species, and some are important locations for spawning and juvenile trout rearing.

HBRC is currently developing a catchment-wide phosphorus mitigation strategy (in addition to changes to the Regional Plan addressing the effects of nutrient inputs on water quality more generally), which will be implemented over time in a number of priority sub-catchments. HBRC and the proposed Ruataniwha Biodiversity Advisory Board (section 4.0) will be responsible for prioritising enhancement and phosphorus mitigation initiatives in waterways across the Plains in order to make the best use of the funding proposed, with the expectation that RWS funding will be directed to sub-catchments where actions on the ground can result in the greatest benefit to both stream habitat (including trout spawning habitat) and phosphorus loss reduction.

HBRC is undertaking a sub-catchment focus programme through 2013 to look at practical and effective mitigation measures for phosphorus runoff; initially in the Porangahau, Papanui, and Maharakeke Stream catchments. Similarly, over the last two years, Te Taiwhenua o Tamatea has received funding from Nga Whenua Rahui to look at waterways within the Takapau area (including the Porangahau and Papanui Streams) from an environmental and cultural perspective. There is good opportunity for the mitigation measures identified through the sub-catchment programme to be coordinated through this project.

#### **3.4.2 Proposed Delivery Mechanisms**

- Annual funding package to contribute to physical works (e.g. fencing, replanting and maintaining riparian margins) in priority waterways and sub-catchments. Work programme and target priority areas to be confirmed by HBRC and the Ruataniwha Biodiversity Advisory Board.
- Landowner support for legally protecting and fencing existing wetlands.

#### **3.4.3 Performance Targets**

- Stock are permanently excluded from important spawning and juvenile trout rearing waterways on the Ruataniwha Plains.
- Stream aquatic and riparian habitats are enhanced through stock exclusion, riparian management and planting, and wetland protection or creation.
- Reduction in sediment/phosphorus inputs in important waterways.

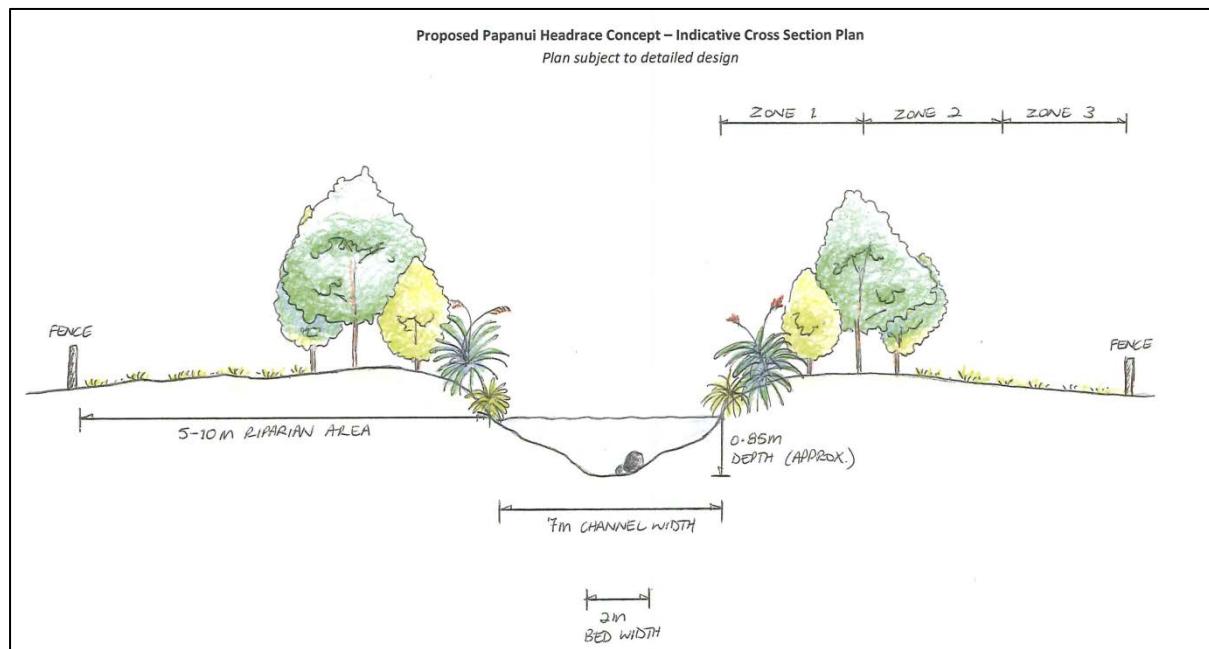
#### **3.4.4 Project D Costs**

**Table 4: Summary of Project D Costs**

Mitigation/Monitoring Project	Annual Cost	Total Cost Over 10 years
Funding contribution for stream enhancement and wetland protection (over 10 years)	\$50,000	\$500,000
<b>Total Cost</b>	<b>\$50,000</b>	<b>\$500,000</b>

An annual funding package of \$50,000 per annum for 10 years is proposed to contribute to physical works such as wetland enhancement, riparian planting and waterway fencing in priority sub-catchments and spring-fed streams. It is anticipated that this fund will be supplemented by other annual funding provided through Hawke's Bay Regional Council's Regional Land Scheme and Flood Control Scheme; but such additional funding is seen as an enhancement beyond the level required to appropriately offset the effects identified above.

### 3.5 Project E: Old Waipawa River Bed and Papanui Stream Restoration



### **3.5.1 Project Description**

The objective of this project is to rehabilitate and enhance water quality and stream habitat in the Old Waipawa River Bed and the Papanui Stream.

A concept to use the old bed of the Waipawa River and the Papanui stream as a conduit for supplying irrigation water to Zone M was proposed in the later stages of Scheme development (see Zone M Primary Distribution Concept - EMS May 2013a). Key to this approach was the proposed ecological restoration of the Old Waipawa River Bed and the Papanui stream. At a meeting of the Mana Whenua Working Party on 17 April 2013, it was requested that the restoration of the Old Waipawa River Bed and Papanui stream be included as part of the proposed integrated mitigation and offset approach and this has now been included as Project E.

In the 1880's, the Waipawa River was diverted to join the Tukituki River at its current confluence in order to drain and farm previously flood prone land. The Old Waipawa River bed is now predominantly dry and in some areas is used to support feedlot activities. Further downstream, the Old Waipawa River Bed becomes the Papanui Stream which is more incised, and supports greater water flow. The Papanui Stream ultimately converges with the Tukituki River.

Through nutrient contributions from surrounding agricultural land, low flow, lack of appropriate riparian planting and shading and generally unrestricted stock access, the Old Waipawa River Bed and the Papanui Stream are currently in poor ecological condition.

In the report *Zone M Primary Distribution Concept* (EMS May 2013a) the following objective is defined:

*"To provide for the efficient delivery of irrigation water to Zone M through the use of the Old Waipawa River Bed and the Papanui Stream as the primary distribution system and to rehabilitate and enhance the in-stream and riparian ecological values of the Old Waipawa River Bed and the Papanui Stream."*

Project E seeks to implement ecological rehabilitation and enhancement objectives subsequent to any works required to meet Zone M irrigation requirements e.g. channel shaping and sealing, stop bank construction, etc.

In addition, Project E implements recommendations from the Cultural Impact Assessment Zone M Addendum Report prepared by Te Taiwhenua o Tamatea ( April 2013)

### **3.5.2 Proposed Delivery Mechanisms**

- Annual funding package to contribute to physical works e.g. fencing, planting, creating wetlands (where wetland creation is possible and supported by landowners) and maintaining riparian margins. Work programme to be confirmed by HBRIC Ltd and the Ruataniwha Biodiversity Advisory Board.
- Consultation with Tangata Whenua
- Landowner support for riparian land and fencing requirements.
- Landowner support for the creation of new wetland areas where this is feasible.
- Landowner support for the development of walking / cycling paths where this is feasible.

### **3.5.3 Performance Targets**

- Tangata Whenua are consulted in the design and implementation of engineering and restoration works for Zone M;
- Aquatic and riparian habitats of the Old Waipawa River Bed and the Papanui Stream are enhanced through stock exclusion, riparian management and planting, and (where feasible) wetland creation.
- The mauri of the Old Waipawa River Bed, the Papanui Stream and other connected waterways and groundwater resources is improved;
- Reduction in sediment/phosphorus inputs.
- Engineering works associated the delivery of irrigation water to Zone M avoid wāhi tapu sites including Ahu Pa, the 'looking glass' and Te Ihu o Te Kura as identified in the Addendum Cultural Impact Assessment for Zone M (April, 2013).
- Restoration works contribute to the protection of wāhi tapu sites where feasible, in particular the 'looking glass'.

### 3.5.4 Project E Costs

**Table 5: Summary of Project E Costs**

Mitigation/Monitoring Project	Annual Cost	Total Cost for Period
Fencing (24km over 5 years)	\$72,000	\$360,000
Riparian planting (85,000 plants over 10 years)	\$59,500	\$595,000
Wetland creation fund (over 5 years)	\$30,000	\$150,000
Development of walking/cycling tracks (over 3 years)	\$75,000	\$225,000
<b>Total Cost</b>	<b>\$236,500</b>	<b>\$1,330,000</b>

A funding package for fencing of \$72,000 per annum for 5 years (total cost \$360,000) is provided, based on a per unit price for fencing of \$15/m, for a total length of 24km; the Old Waipawa River Bed and the Papanui Stream have a combined length of approximately 17km, with both sides requiring fencing, however there are existing areas of fencing that may be relied on so a conservative estimate has been made of the total fencing requirement. It is noted that there may be opportunities to extend fencing to encompass wāhi tapu sites where this is technically feasible and supported by landowners and Tangata Whenua.

Riparian planting will be funded over 10 years at \$59,500 per annum (total cost \$595,000), based on an area of 17 ha (5m width of planted area on both sides of the Old Waipawa River Bed and the Papanui Stream), planting 1 plant/2m<sup>2</sup> at a unit cost of \$7 per plant (total of 85,000 plants). The unit cost of \$7 per plant is all inclusive (includes the cost of plant purchase, planting and maintenance over 18 months to establishment) and is based on recent project costing experience of HBRC and Kessels & Associates.

In addition, a fund of \$150,000 has been allocated to wetland creation (\$30,000 per year for 5 years). The location and extent of wetland areas will be determined through landowner consultation and technical assessments. This fund is intended to provide flexibility to respond to opportunities to create wetland areas associated with the Old Waipawa River Bed and the Papanui stream where feasible and supported by landowners. If limited opportunities for wetland creation are identified, any unspent funds from this budget provision will be transferred with direction from the Advisory Board to other initiatives associated with the objective of Project E, if necessary.

The establishment of a walking/cycling track along riparian margins will be the subject of further landowner discussions to confirm location and extent. A fund of \$225,000 is provided over three years (\$75,000 per year), based on the establishment of a track to meet New Zealand cycle trial standards: unit cost of \$15 per lineal metre for a 100mm lime / sand compacted surface track of 2.5 metres wide. A nominal length of track of 15km is provided for.

## 4.0 PROPOSED IMPLEMENTATION METHOD

The success of the projects outlined in Section 3.0 depends on the long-term, sustained, funding, agreement, and effort of a number of key stakeholders. To achieve this it is proposed that a **Ruataniwha Biodiversity Advisory Board** be established prior to construction of the dam.

The primary role of the Advisory Board would be to receive the Integrated Mitigation and Offset Programme Annual Report required in the conditions, to guide the prioritisation of activities, and to ensure delivery of the proposed projects within the agreed timeframes. The Advisory Board would report directly to the Scheme Managers and it is envisaged that the management and delivery of the projects will be undertaken by a Mana Whenua entity under contract to HBRIC Ltd.

It is proposed that the Advisory Board include six Board members comprising two HBRC staff members and four further Board members nominated by the Ruataniwha Stakeholder Group. Representation by affected landowners, Iwi, and those with environmental and recreation related expertise would be important.

An annual sum of \$10,000 will be provided for administration of the Advisory Board including provision for reimbursing Board members expenses (this is reflected in the Project C cost summary in Section 3.3.4 above).

## 5.0 TOTAL COST PROVISION

The estimated total cost provision for offset mitigation requirements over a 30 year period is \$8.7 million, with the most significant costs incurred in the first ten years of the project. The financial provision for projects described in this report is included in the overall Scheme budget and has been adjusted for inflation at the Scheme budget level over a 30 year period.

**Table 6: Total Cost Provision<sup>10</sup>**

Project	Annual Cost	Total Cost Over Period
Project A: Ruataniwha Reservoir Restoration Buffer and Enhancement Zone	\$241,900	\$2,529,000
Project B: Ruataniwha Riparian Enhancement Zone	\$95,000	\$1,725,000
Project C: Ruataniwha Threatened Species Habitat Enhancement	\$91,500	\$2,625,000
Project D: Ruataniwha Plains Spring-fed Stream Enhancement and Priority Sub-Catchment Phosphorus Mitigation	\$50,000	\$500,000
Project E: Old Waipawa River Bed and Papanui Stream Restoration	\$236,500	\$1,330,000
<b>Total Cost</b>		<b>\$8,709,000</b>

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<sup>10</sup> All figures to be adjusted for CPI for the duration of the Project.

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**APPENDIX ONE:**  
**BBOP Principles**

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<b>BBOP Principles</b>
<b>Principle 1</b> No net loss: A biodiversity offset should be designed and implemented to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
<b>Principle 2</b> Additional conservation outcomes: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity in other locations.
<b>Principle 3</b> Adherence to the mitigation hierarchy: a biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimisation, and on-site rehabilitation measures have been taken according to the mitigation hierarchy.
<b>Principle 4</b> Limits to what can be offset: There are situations where residual impacts cannot be fully compensated for by the biodiversity offset because of the irreplaceability of vulnerability of the biodiversity affected.
<b>Principle 5</b> Landscape context: A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social, and cultural values of biodiversity and supporting an ecosystem approach.
<b>Principle 6</b> Stakeholder participation: in areas affected by the development project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.
<b>Principle 7</b> Equity: A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks, and rewards associated with a development project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognised rights of indigenous people and local communities.
<b>Principle 8</b> Long-term outcomes: the design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the development project's impacts and preferably in perpetuity. Criterion 8-2: Adaptive monitoring and evaluation approaches shall be integrated into the Biodiversity Offset Management Plan to ensure regular feedback and allow management to adapt to changing conditions and achieve conservation outcomes on the ground. Indicator 8-2-1: A risk-monitoring protocol is in place and followed to identify any risks (such as climate change, population pressure, land-use change) that could affect achievement of proposed conservation outcomes. Indicator 8-2-2: Offset conservation outcomes and milestones are independently audited and project responds to audit recommendations in a timely manner. Indicator 8-2-3: Monitoring and evaluation protocols provide regular feedback on implementation progress and results and are used to document, correct, and learn from problems (e.g. adaptive management). Guidelines for assessing and auditing biodiversity offset management plans against BBOP PCI criteria are available (see reference).
<b>Principle 9</b> Transparency: The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
<b>Principle 10</b> Scientific information and, where applicable, traditional knowledge shall be utilised when designing and implementing the offset.

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## **APPENDIX TWO:**

**Ruataniwha Water Storage project – Design Workshop Notes, 6 March 2012**

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**Attendees:** Graeme Hansen (HBRC), Stephen Daysh (EMS), Larissa Coubrough (HBRC), Olivier Ausseil (Aquanet Consulting Ltd), Dewi Knappstein (T&T), Martin Williams (Barrister), Michele Frey (OPUS), Richard Landon-Lane (OPUS), Gavin Lister (Isthmus), Rod Clough (Clough & Associate), Gerry Kessels (Kessels & Associates), Neil Grant (DOC), Andrew Mercer (DOC), Pat Sheridan (DOC), Benita Wakefield (Tamatea Taiwhenua), Marge Hape (Tamatea Taiwhenua).

➤ **Overview of Constraints and Opportunities (AM session)**

*Dam/reservoir design and constraints*

- Proposed dam will be 83m high at the dam parapet.
- Provision for 90 million m<sup>3</sup> of storage: allowing for 4million m<sup>3</sup> for sediment accumulation (over 30years), 1million m<sup>3</sup> for evaporation and 1.5million m<sup>3</sup> for annual flushing flows; translating into a live storage of 83.5million m<sup>3</sup>.
- Concrete faced rock-filled dam type proposed. Rock fill to come primarily from the spillway excavation. Zone 2B material (layer under concrete face) to come from Dutch Creek/ Makaroro confluence area.
- A 10m coffer dam will be used to divert flows during construction of the main dam.
- Fish pass opportunities/design will be dealt with by Cawthon. T&T initial design provides fish pass for some climbing species.
- Reservoir levels:
  - Wet year (25<sup>th</sup> percentile) draw down anticipated to be approx. 10m
  - Dry year draw down anticipated to be approx. 20m
  - Extreme dry year (90<sup>th</sup> percentile) draw down anticipated to reach approx. 30m.

*DOC issues and opportunities*

- The current access point at the top end of Wakarara Road is one of the two most important access points in the Eastern Ruahine Range, providing for a variety of users (back and front country – walking, mountain biking, hunting etc.).
- Two new access opportunities have been identified – Glenny Road or walking/vehicle access from the current car park area. These opportunities align with DOC's policy of providing for new/diverse opportunities, especially front-country opportunities.
- Yeomans Track caters for family groups. If the new connection to this track extends around the top end of the reservoir, it will add an extra 4km (approx.) to the walk, potentially making it too long for families (children) to manage in a day. Opportunity for camping somewhere by the waters edge to make the distance more manageable?
- Extension of Yeomans Track by 5-10km, also a potential opportunity. Could be done in association with the storage project and could increase the recreational potential in the area.
- Would be good to see new open space camping opportunities, enabling users to camp overnight in preparation for early morning walking or cycling trips into the forest park.
- Supportive of opportunities to enhance Blue duck habitat.

*Iwi issues and opportunities*

- Most significant issue for Taiwhenua is treaty claims, particularly around Gwava.
- Keen to explore opportunities to work together to achieve positive conservation outcomes and would like to see some form of reserve created for the protection and enhancement of native plant species (including harakeke) that could be accessed by Iwi.
- 70-mile bush was the last stronghold of the Huia, and its loss was greatly felt by Maori. Opportunities to mitigate this loss would be welcomed (e.g. providing for protection of bird species, eels etc.).

- Interest in exploring opportunities to replant or use tree material removed from the inundation area.

➤ **Design Session (whiteboard notes)**

1. Access into reservoir area for recreation:
  - Focus on one key area in terms of reservoir access
  - Develop concepts around Gavin's suggested ('just right') location
  - Look to utilise existing paper road
  - Key issue around appropriate location is borrow opportunity and/or constraints
  - Design considerations:
    - Boat access (motorised/non-motorised)
    - Day trippers
    - Picnicking
    - Camp Wakarara use?
    - Interpretation (possibly including 'historic mill site artefacts')
    - Sense of arrival/place (use of pou).
2. Lake margin treatment:
  - Minor re-contouring in places (perhaps bunding in some areas)
  - Armouring with river gravel (need to identify key areas (e.g. public areas, muddy areas, wind/wave erosion))
  - Margin planting (harakeke reserve planting and other planting possibilities)
  - Removal of standing trees
  - Fencing (from adjacent farming activities etc.) – 20m minimum buffer and taken in tree/forested land areas
  - Consider habitat offset for any planted areas
  - Consider walking opportunities around lake margin.
3. Access around top end of reservoir:
  - T&T has options on drawing 27690-PA106 for a drivable track:
    - 4m wide
    - 400mm metal base
    - 1:10 grade
  - Possible road-end at 'terraced area' / 'river edge' (need to assess feasibility)
  - Need to investigate Pan Pac access requirements (multi-use of one access or separate access for each (i.e. recreation and logging trucks))
  - Wakarara Road versus Glenny Road consideration
  - All weather access to Yeomans Track including bridging for cycles/walking – a significant benefit for DOC/public recreation
  - Potential for basic DOC campsite
  - Land ownership issues.
4. Removal of trees:
  - Slightly beneficial to remove (in terms of water quality)
  - Opportunities to transplant etc.
  - Benefits for public recreation to remove trees
  - Interest in timber value – distinction between types of timber
  - Aesthetics
  - Cultural use of timber

- Consideration of the merits of retaining some trees to support aquatic ecology.

5. Management of people – reservoir/downstream:

*Reservoir*

- Debris boom – around spillway/intake tower/or entire length
- Restrict public access at dam end? (pros and cons)
- Signage
- Fencing any dangerous areas/ecologically sensitive areas
- Further discussion around competing demands (especially if motorised boats envisaged)

*Downstream*

- Further design consideration needed around flow and ramping rates
- Can use signage/sirens.

6. Preventing public from accessing headrace canals:

- Wanting to fence/keep people out of canal
- Robust land agreements
- Fencing around syphons upstream
- Stock fencing and signage elsewhere
- Open question about potential future use.

7. Fish passage/recreational fishing:

- Cawthron report on assessment of aquatic ecology yet to be completed – considering both native and non-native fisheries
- Alternative focus on indigenous fishery refuge?
- Changes in river flow downstream
- Issue of harvesting rights for eels etc.

➤ **Workshop Wrap-up (Decision points)**

- At this stage, the proposed haul road down the Makaroro River is favoured over Wakarara Rd, for transporting Zone 2B material.
- There is a potential conflict between the location of Zone 2B material and the proposed 'just right' public recreation area. T&T and Isthmus to investigate issues/options further and feedback to the rest of the team. Confirm whether the material is limited to the two red zones mapped, or whether there are other deposits that could be accessed.
- Location of access around the top end of the reservoir requires further assessment and landowner consultation to identify the preferred route. Requires Geologist opinion/walk-over and DOC input. HBRC and T&T to follow up.
- HBRC Team to refine thinking around development of an 'off-set package' and how it would be fed into the consent process. Feedback to wider-team concept of Design Team and process for advancing this work (options analysis and costing etc).

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**APPENDIX THREE:**  
**Response to Conservation Group Feedback on Draft Report**

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28 August 2012

C/- John Cheyne  
Hawke's Bay Fish & Game  
PO Box 7345  
Taradale  
NAPIER 4141



Dear John

**PROPOSED MITIGATION AND OFFSET APPROACH – RESPONSE TO COMMENTS FROM HAWKE'S BAY CONSERVATION GROUPS**

Thank you for providing comment, on behalf of the Hawke's Bay Conservation Groups, on the draft "Proposed Integrated Mitigation and Offset Approach" report that was presented to the Ruataniwha Stakeholder Group at their 27 July 2012 meeting. We value the feedback received and have revised aspects of the report where we have agreed with the points raised in your 14 August 2012 memo.

In terms of the specific points raised by your group, we respond as follows:

1. The impact of the ecological impact of the project will be very significant and even a well designed and resourced mitigation/offset package will not fully replace what is lost. Realistically there will be a net loss.

**Response:** We acknowledge the significance of the potential effects associated with the proposed dam/reservoir on the surrounding environment; in particular on the indigenous vegetation and braided river bed in the reservoir footprint, and the habitat that this provides for flora and fauna in the wider-Makaroro River area. The project ecologists (Kessels & Associates and Cawthonr Institute) have provided a thorough analysis of the potential effects and recommended activities to mitigate, or where possible, offset these effects. In terms of the terrestrial ecology assessment, the Business and Biodiversity Offsets Programme (BBOP) Principles were also considered in the development of suitable mitigation/offset activities. The recent (May 2012) Board of Inquiry assessment of the Transmission Gully Plan Change included comment on the desirability and enforceability of achieving no-net-loss outcomes generally. The decision states that:

*"While we recognise the desirability of achieving a situation of no net loss of biodiversity from a project, we do not believe that it is a requirement of RMA that no net loss be achieved in any given case. The principle of sustainable management requires a broad consideration of a range of sometimes competing factors. A consent authority is entitled to conclude that consent ought be granted to a proposal notwithstanding that all adverse effects of the proposal have not been avoided, remedied or mitigated. In other words there may be a net loss of some values or aspects of the environment. The significance of that loss and its weighting against the benefits of any given proposal is a matter to be determined by a consent authority applying s5(2) RMA."*

2. Mitigation package needs to be part of resource consent conditions for the 30 year time frame and beyond.

**Response:** The intention is that the mitigation activities set out in the mitigation and offset approach report will form part of the suite of conditions of consent for the project.

3. Significant areas of private land could be involved and we acknowledge that this can only happen with landowner support.
4. If mitigate/offset initiatives fail to happen on private land to the level hoped for alternative sites both within the catchment or adjacent catchments need to be considered.
5. Covenants should be negotiated for private land subject to significant mitigation/offset work to ensure long term protection. Significant will require defining.

**Response:** We acknowledge that a significant portion of the land within Project A and Project B areas is currently in private ownership and that the success of some of the mitigation activities proposed in these areas is dependent on working with and obtaining landowner support. Council has been engaged with many of the landowners within these project areas throughout the feasibility phase of the project and anticipates that a high level of engagement will continue in future to further build partnerships with affected landowners. Where mitigation or offset activities are undertaken on private land, Council will work with landowners to establish agreements for access and maintenance and to legally protect areas of significant habitat where landowners are agreeable. Engagement with landowners in the dam/reservoir area to-date has generally been positive, and the restoration and enhancement projects proposed have been well received.

6. The project structure of project description, delivery mechanisms and performance targets is very useful.
7. The overall mitigation/offset package is huge and while some people like ourselves have had the opportunity to review it we have not had the opportunity to review it along -side HBRC and DOC staff, and Gerry Kessels. It would be useful to workshop this mitigation report for half a day to consider the comments you are receiving and ensure collectively we get it right. A set of large maps showing all the relevant locations and boundaries mentioned in the report would be very useful at the workshop.

**Response:** The final version of the report incorporates feedback received from DoC and Forest and Bird following presentation of the draft report to the Ruataniwha Stakeholder Group on 27 July 2012; in addition to that provided by your conservation group consortium. Updates to the report, along with the comments included in this letter, set out additional HBRC and Kessels & Associates positions.

The Stakeholder Group meeting scheduled for 31 August will provide an opportunity for any other follow up discussion between Council and stakeholders on the report, within the feasibility phase of the project. We agree that a workshop with the conservation groups is a good idea and suggest that this is best scheduled following Council's decision regarding project feasibility. Council is planning to make a decision on project feasibility in October 2012 so a workshop after this date would be useful.

8. Establishment of a Ruataniwha Biodiversity Trust is supported. However we have some concerns about the amount of work that Trustees will be expected to contribute to fulfil their obligations over the 30 year plus timeframe. (p 15 4.0). The role of the Trust is broad

and will take a significant time commitment for Trustees to meet. The two HBRC staff members proposed for the Trust obviously will be paid for their work and all associated expenses (travel etc) met by HBRC. Using voluntary trustees, other than the two HBRC staff Trustees, should be reviewed. As a minimum, reimbursement for travel costs should be provided for.

**Response:** The experience of EMS and Kessels & Associates with other similar projects throughout New Zealand has suggested that community, Iwi and conservation groups are comfortable being involved in such Trusts without being "employed" by the Trust. However, we have included a figure of \$10,000 per year for administration of the Trust, which would provide for travel expenses etc for participation at meetings by Trust members. It is envisaged that the Trust will be administered using internal HBRC staff resources.

9. A significant amount of detail is still required, including operation plans and timelines etc for the four Projects. This will require significant technical input and we were wondering where this would come from (Trustees, HBRC staff, contracted specialists?). Is there a need for a permanent technical position funded by HBRC to support this mitigation work?

**Response:** It is anticipated that refinement of project details and timelines will be undertaken by HBRC staff, in coordination with Trust members, and contracted specialists where appropriate, over a period of time. At this stage, Council does not propose establishing a new permanent technical position focused solely on supporting this mitigation work as existing Council resources are thought to be sufficient to manage this programme. However we acknowledge that this could change in future, and if so, it may be that an internal HBRC staff member is assigned to manage the project.

10. Before the mitigation/offset plan is approved it should be fully reviewed by a small team of specialists, including some familiar with the area, to ensure the best possible outcomes are achieved in the most cost effective manner. We would be happy to nominate some people for this exercise.

**Response:** The mitigation and offset package has been developed by the project ecology teams and HBRC project staff, in consultation with other experts (e.g. DoC and HBRC Biosecurity team members), in order that the best possible outcomes are achievable, in the most cost effective manner. Presentation of the draft report to the Ruataniwha Stakeholder Group on 27 July provided another forum for feedback in terms of the potential of the projects proposed to achieve the outcomes sought. It is our view that the process of development and the potential for external input has been sufficient in terms of gaining the specialist input required to establish the offset/mitigation package proposed. As such, no further specialist review is considered necessary at this stage.

11. A weed hygiene and surveillance plan is required for the project because significant weed eradication effort has already been funded in the area by HBRC and QE II.

**Response:** In developing the projects proposed, HBRC has engaged with DoC and Council's Biodiversity Team to ensure the pest management strategies proposed complement existing work in this area by these groups (e.g. management of Old mans beard and Darwin's barberry in QE II and DoC/Pan Pac areas). We will continue to liaise with these parties as the projects are further refined so that any duplication of effort can be avoided, and project related pest management programmes are complementary.

In terms of managing aquatic weeds in the proposed reservoir, the reservoir water quality report completed by NIWA highlights the potential effects associated with weed introduction from recreational activities, and recommends procedures such as signage at the proposed boat ramp in order to avoid effects. It is anticipated that this will be reflected in the resource consent conditions for the project.

*Project A*

12. P.9 3.1.1 point 2 Should "upstream of reservoir" be replaced by "upstream of dam"
13. P 15 Table 1- what does "enrichment planting" mean?
14. P 15 Post planting maintenance of trees needs to be factored into the costs. One of our group is a restoration planting contractor and they consider the unit costs are PB3 plant \$3.50, planting \$3.50 and \$3 for maintenance 12-18 months making a total unit cost of \$10.50 per plant.
15. P16 first para – who is the project ecologist?
16. The location and security of the anglers hut will be important.
17. We have not sighted the recreation plan but we would like the opportunity to do so.
18. As previously recommended a lizard survey of the reservoir footprint using a suitably qualified herpetologist with a translocation plan for any populations or individuals found

**Response:** Points 12, 13 and 15 have been addressed as changes to the draft report.

With respect to point 14, the funding provision for enhancement planting has been clarified in the report text in section 5.0. To address your query regarding plant, planting and maintenance costs, we sought advice from Gerry Kessels and HBRC staff members with expertise in restoration planting. It was agreed that the \$7 per plant referenced in the draft report represents a conservative cost estimate for plant supply, planting and initial plant maintenance and aftercare; noting the efficiencies offered with the size and scale of this project. As such, we have retained the level of funding originally proposed.

For clarity, "enrichment planting" refers to areas outside of the reservoir footprint that generally adjoin the proposed 20m buffer, and that have some established indigenous vegetation that will be enriched by additional planting in and around these areas. It is additional to the \$20,000 annual subsidy provision for restoration and enhancement projects on privately owned land around the reservoir. The subsidy is provided for enhancing areas further removed from the reservoir perimeter than those proposed to receive enrichment planting, but that would contribute to the overall ecological health of the upper Makaroro catchment area.

With respect to point 17, the recreation report prepared by OPUS International Consultants is available for viewing via the Ruataniwha Project page of Council's website.

In terms of point 18, Kessels & Associate's terrestrial ecology report sets out the investigations undertaken with respect to herpetofauna and recommends a pre-construction lizard survey and translocation plan to remedy potential effects in this area. It is anticipated that these recommendations will be included as conditions of consent for the project.

*Project B*

19. Pest control should include mustelids, cats and hedgehogs as they are also significant predators. Refer p11 3.2.2.

**Response:** The animal pest control programme proposed for Project's A and B has been revised in response to feedback received from DoC, Forest and Bird and the conservation groups. Please refer to sections 4.0 and 5.0 of the final report.

*Project C*

20. Someone will need to prepare a plan for the bat surveys in the reservoir footprint.
21. The current blue duck population of the upper Makaroro River will interact with the small populations using the upper Waipawa, Tukituki and Makaretu Rivers. All these areas should be surveyed prior to the implementation of the predator control programme which needs to be well designed and maintained. The initial blue duck survey will provide a bench mark to assess the success or otherwise of the trapping programme. An increase in blue duck numbers is a good indicator of success and the upper Makaroro River should be resurveyed two, four and six years after trapping commences to determine whether trapping is making a difference to the blue duck population. If not, the trapping programme should be reviewed and possibly discontinued.

22. Pre and post eel surveys above and below the dam are supported but not costed.

**Response:** Kessels & Associates have made recommendations in terms of the future bat surveys required and these are detailed in section 12.4 of their report.

In terms of point 21, we agree that an initial winter blue duck survey would be useful in Dutch Creek to confirm the presence or absence of blue duck within the inundation footprint. Kessels & Associates have included this as a recommendation in their terrestrial ecology assessment of effects report (available via the Council website) and it has been picked up in the mitigation and offset report also. In response to your query regarding additional surveys in years two, four and six, we agree that this would also be useful in terms of monitoring population change, providing blue duck are found to be present in the area through the initial survey. Additional funding of \$10,000 (over and above the \$30,000 originally proposed) has been provided through Project C to cover this on the basis that any further survey work should be more efficient than the initial search because we will have a better understanding of the areas used by blue duck. Please refer to section 5.3 of the final report.

With respect to point 22, pre and post-construction monitoring of eel populations upstream of the dam was included as a recommendation in the aquatic ecology report completed by Cawthonr Institute. It is anticipated that this will be included in the consent conditions and that effectiveness monitoring of all conditions will form a condition of resource consent for the project. Monitoring provisions are not included in the offset and mitigation approach report; and hence monitoring costs for eel monitoring are absent also. These costs will be quantified through the overall project operational budgets.

*Project D*

23. We consider this project needs to focus on "nutrients" (phosphorus and nitrogen) and should be used in the project title because the original material in the Aquatic Ecology report p 149 states " One potential concern with focusing mitigation efforts on these spring fed streams is the existing and potential nitrate concentrations in these systems"
24. It is good to see that funding for this project will be supplemented by other HBRC funding sources.

**Response:** Project D will target the phosphorus 'hot-spots' identified through Council's water quality monitoring programme. Phosphorus is primarily transported to waterways via farm run-off and erosion, and is therefore able to be managed to an extent through riparian planting and waterway fencing. Nitrogen management is more complex; relating to farm nutrient inputs on an individual farm management basis. It is anticipated that nutrient outputs will be managed via conditions of consent requiring that receivers of stored water prepare and implement farm nutrient management plans. The form of these and how they are to be developed and monitored will be the subject of further discussions if the project proceeds; with reference to the nutrient management framework developed by Council under the Tukituki Plan Change process. We acknowledge the need to address both phosphorus and nitrogen inputs associated with RWS related land use change on the Plains, and have provided for this through the mitigation and offset approach, as well as other components of the project.

If you have any queries regarding the responses outlined above, please do not hesitate to get in touch.

Yours sincerely



Stephen Daysh  
EMS Limited

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**APPENDIX FOUR:**  
**Minutes of the 16 January 2013 Workshop with Key Stakeholders**

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**Ruataniwha Water Storage Scheme**  
**Workshop to Discuss the Proposed Integrated Mitigation and Offset Approach**  
16 January 2013 – Meeting Notes

**Invited Attendees:** Graeme Hansen (HBRIC), Stephen Daysh (EMS), Larissa Coubrough (HBRIC), Campbell Leckie (HBRC), Iain Maxwell (HBRC), Olivier Ausseil (Aquanet Consulting Ltd), Gerry Kessels (Kessels & Associates), John Freeman (CHBDC), Helen O'Shaughnessy (CHBDC), Dave Carlton (DOC), Vaughan Cooper (Forest & Bird), John Cheyne (Te Taiao HB Environment Forum), Pete McIntosh (Fish & Game), Andrew Watts (landowner), Adele Whyte (Mana Whenua Working Party), Mike Mohi (Mana Whenua Working Party)

**Apologies/Absent:** Helen O'Shaughnessy, Andrew Watts, Mike Mohi, John Cheyne, Pete McIntosh

Item	Notes	Actions	Who
1. Workshop introduction and report overview	<p>Stephen outlined the process to-date in developing the proposed integrated mitigation and offset approach for the RWS Project; noting that the draft report was presented to the Ruataniwha Stakeholder Group in July 2012 and updated following feedback from stakeholders in August 2012.</p> <p>It was noted that the workshop provided for a final discussion on the integrated mitigation and offset package prior to applications for consent being lodged; with the purpose of the session being to review the four mitigation and offset projects proposed, and to refine elements of each within the existing budget provisions, where appropriate.</p> <p>With respect to the budget provided, and in response to queries from attendees, it was confirmed that:</p> <ul style="list-style-type: none"><li>– The \$7.4 million budget allocated to the mitigation/offset approach has been inflation adjusted in the overall project budget. It was suggested that this should be referenced in the report for clarity.</li><li>– Over time, if the Advisory Board makes changes to the projects currently defined, that result in a lower project cost, the extra (freed-up) funding will be reallocated to other offset/mitigation projects (i.e. it will not be taken from the mitigation/offset budget and used in other areas of the Scheme).</li></ul> <p>DOC and HBRC biodiversity experts noted that it would be helpful to have elements of the programme locked-down now to help inform future planning in their individual work areas. Potential synergies with the proposed Regional Biodiversity Strategy were also noted.</p>	Amend report to clarify that project budget (and hence mitigation/offset budget) takes account of inflation.	Larissa
2. Project A Review (Ruataniwha Reservoir	<p>The group reviewed the project objectives, delivery mechanisms and performance targets.</p> <p>It was suggested the ecological objective to "<i>protect and enhance the aquatic habitat within the upper Makaroro River above the dam and other reservoir tributaries such as Dutch Creek</i>" may be overly ambitious and the wording</p>	Review wording of ecological objective 2	Stephen, Olivier,

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 Ruataniwha Water Storage Scheme - Proposed Integrated Mitigation and Offset Approach

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Item	Notes	Actions	Who
Restoration Buffer and Catchment Enhancement Zone)	<p>should be reviewed.</p> <p>The 'NA' project cost in Table 1 relating to construction of an access track around the top end of the reservoir was queried. The group was directed to paragraph five on page 19 of the report, which provides the rationale for not including a budget for the access track in the mitigation/offset report (e.g. provision of \$3.4 million has already been set aside in the project engineering budget for this). It was suggested that a footnote should be included in the table for clarity.</p> <p>The proposed delivery mechanisms include "<i>local bunding of some wetland areas where there is an opportunity to retain water during drawdown periods</i>". Dave noted that it would be useful to undertake a GIS exercise, identifying potential areas where bunding could be created (subject to on-site constraints). Agreed by Gerry and the group.</p> <p>Olivier suggested that the report should also highlight the benefit of Project A with respect to managing sediment and enhancing water quality.</p> <p>Graeme queried how the group felt about the budget provision allocated to survey, and relocate, infrastructure associated with the Yeomans Mill site. The group agreed that there is value in preserving the history of the area and the budget provision provided for this element of the Project is appropriate.</p> <p>Iain queried whether sufficient area had been identified for boat trailer parking associated with recreational use of the reservoir, noting that it may become a popular body of water for recreationalists in the region. Graeme noted that this would likely be provided for alongside the picnic/camping area tentatively identified on the report plans, but that this requires further consultation with landowners to agree.</p> <p>Vaughan suggested that the group consider changing the reference to the 'fisherman's hut' to 'fisherman's shelter', noting that this may better reflect what is actually envisaged (e.g. a basic shelter and toilet facilities like that provided for at Lake Tutira).</p> <p>The group agreed that the delivery mechanisms proposed would benefit the area and the associated funding provisions are appropriate.</p>	<p>(2<sup>nd</sup> bullet point) and delete if not achievable.</p> <p>Update Table 1 to include footnote highlighting rationale for 'NA' cost against item 7 (access track provision).</p> <p>Include an additional plan in the report, identifying potential bund areas.</p> <p>Add statement regarding effect of Project A on sediment control and water quality.</p>	Larissa  Larissa  Larissa, Gerry, Dave  Olivier, Larissa  Larissa
3. Project B Review (Ruataniwha Riparian Enhancement	<p>The group reviewed the project objectives, delivery mechanisms and performance targets.</p> <p>The group agreed to extend the area covered by the project, up the Waipawa River to the edge of the Forest Park.</p> <p>Olivier suggested that an additional bullet point be added under section 3.2.1 outlining the benefits of the project to</p>	Amend report reference from 'fisherman's hut' to 'fisherman's shelter'.  Revise map in report to reflect larger project area.	Larissa

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 Ruataniwha Water Storage Scheme - Proposed Integrated Mitigation and Offset Approach

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Item	Notes	Actions	Who
Zone – River Halo Project)	<p>the riparian area and to water quality.</p> <p>Paragraph 1 on page 20 notes that \$225,000 is proposed, based on a unit price of fencing of \$15 per metre, for a total length of 15km of riparian fencing. It was suggested that the report also highlight the opportunity to work collaboratively with landowners to extend the fenced area beyond 15km on the basis that they will be required to fence waterways under the new stock exclusion rule proposed in the Tukituki Plan Change. No increase in the budget provision was considered necessary.</p> <p>It was noted that the project originally provided for animal pest control in the river corridor but that this had since been moved to Project C (plant pest control remains in Project B) through discussions with the HBRC Biosecurity Team and DOC. An error was identified in section 3.2.3 of the report, which still identifies animal pest control in terms of the performance targets for the project. It was agreed that this reference should be removed for clarity. The group agreed that the project and associated budget provision is appropriate.</p>	<p>Amend section 3.2.1 as discussed by group.</p> <p>Amend paragraph 1 on page 20 as agreed by the group.</p> <p>Amend section 3.2.3, removing reference to animal pest control.</p>	<p>Larissa, Olivier</p> <p>Larissa</p> <p>Larissa</p>
4. Project C review (Ruataniwha Threatened Species Habitat Enhancement)	<p>The group reviewed the project objectives, delivery mechanisms and performance targets.</p> <p>With respect to the blue duck surveys proposed, Dave noted that although there have not been many, or recent, sightings of the species in the project area, there is a strong population in the northern Ruahine Ranges. Targeting pest control in the Makaroro catchment could have a positive effect on blue duck numbers in the project area as lower pest numbers may encourage the species to naturally translocate. They could also be manually translocated if a safer environment is created, generating a new population in the upper Makaroro. The group agreed that the project activities and budget provision relating to blue duck is appropriate.</p> <p>With respect to the trap and transfer system proposed for native fish species, it was noted that mana whenua have identified cultural issues associated with the system. Similarly, DOC are not yet convinced that the system will be effective; suggesting that there may be a better option for mitigating or offsetting the effects of the dam on fish passage (e.g. removing fish barriers in other parts of the catchment).</p> <p>The group agreed that other options should be investigated in consultation with mana whenua and DOC.</p> <p>It was suggested that the reference to the number of hectares being targeted for animal pest control (paragraph 1 on page 21) should be dropped, unless the report includes a map identifying in more detail where the target area is. The group agreed that the report should note that a 'minimum' of 600ha will be targeted and that a more robust explanation in section 5.3 regarding the rationale for the figures proposed is required. It was also agreed that the report should note that the Advisory Board will deliver the project over time, maintaining the flexibility necessary to achieve the project objectives. Budgets can be revised on direction of the Advisory Board in order to adapt.</p>	<p>Circulate the draft conditions relating to the trap and transfer system to interested parties for review. Arrange a follow up meeting with the Mana whenua Working Party (keep Dave, Vaughan and Roger Young in the loop). Invite HBRC experts (Fiona and Cameron).</p>	Stephen, Adele

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 Ruataniwha Water Storage Scheme - Proposed Integrated Mitigation and Offset Approach

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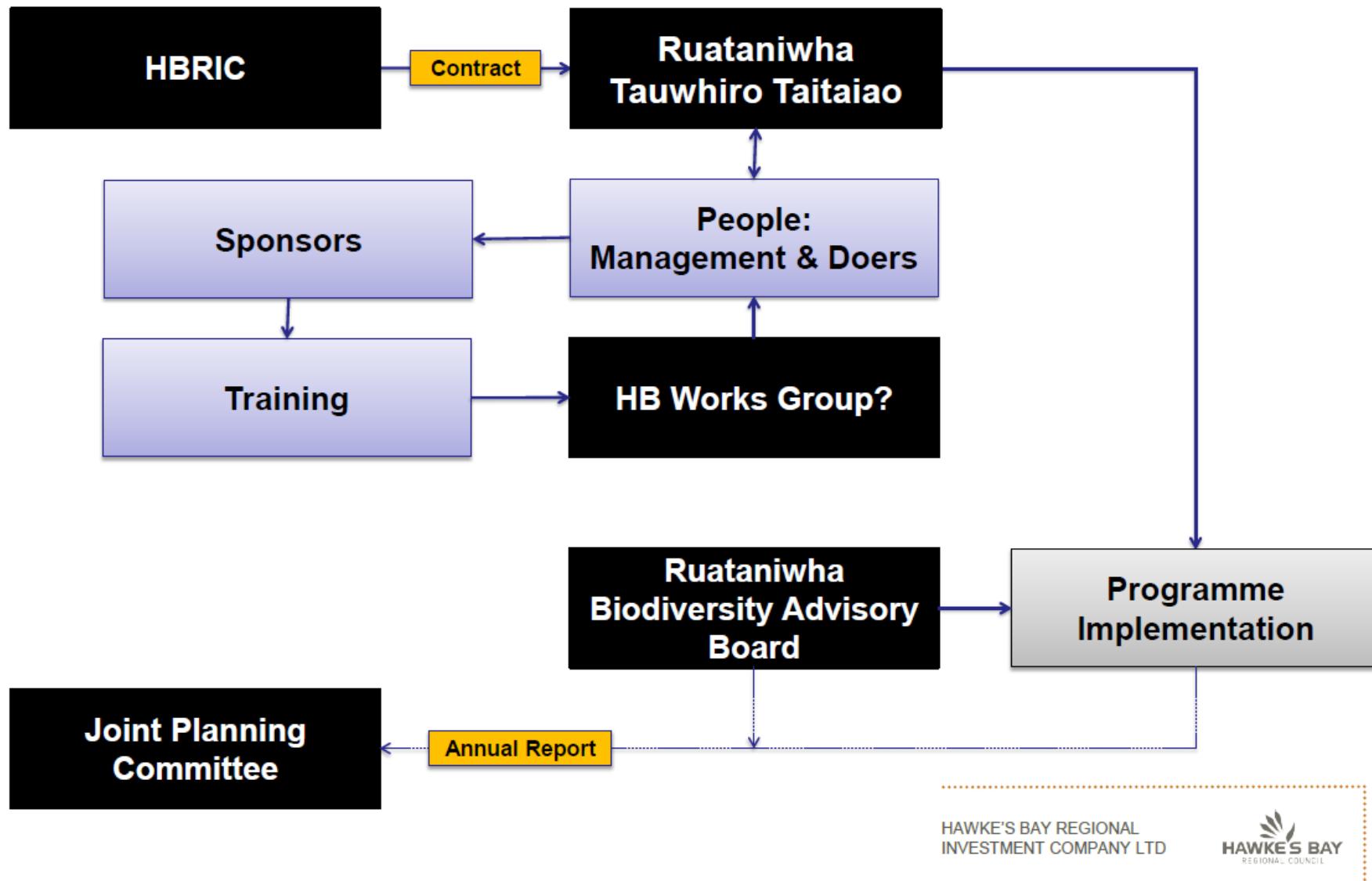
<b>Item</b>	<b>Notes</b>	<b>Actions</b>	<b>Who</b>
	The group agreed that the project and associated budget provision is appropriate.	Update section 5.3 as agreed by the group.	Larissa
5. Project D review (Ruataniwha Plains Spring-fed Stream Enhancement and Phosphorus Mitigation)	<p>The group reviewed the project objectives, delivery mechanisms and performance targets.</p> <p>Stephen noted that Tamatea Taiwhenua has funding available to address nutrient management issues in the Tukituki catchment. This will be discussed at the next Mana Whenua Working Party meeting and may provide a good opportunity for collaboration.</p> <p>The group agreed that the focus on the Porangahau sub-catchment should be removed from the report as additional work is needed in order to identify priority catchments.</p> <p>Olivier and Iain noted that Massey University and Fish and Game have expressed an interest in being involved in work on spring-fed streams. It was agreed that these organisations should be kept in the loop.</p> <p>The group agreed that the project and associated budget provision is appropriate.</p>	Follow up with Nathan Heath and Campbell Leckie (HBRC), and Marge Hape (Tamatea Taiwhenua) regarding advancing a pilot programme and opportunities to collaborate in this space.	Stephen

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**APPENDIX FIVE:**  
**Project Delivery Concept**

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# Concept Summary



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## **APPENDIX SIX:**

### **Minutes of the 17 April 2013 Workshop with Key Stakeholders and the Mana Whenua Working Party**

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**Ruataniwha Water Storage Scheme (the Scheme)**  
**Workshop to discuss the Integrated Mitigation and Offset Approach**  
 17 April 2013 – Meeting Notes

**Invited Attendees:** Graeme Hansen (HBRIC), Stephen Daysh (EMS), Martell Letica (HBRIC), John Freeman (CHBDC), Dave Carlton (DoC), Vaughan Cooper and Grenville Christie (F&B), John Cheyne (Te Taiao HB Environment Forum), mana whenua members of the Mana Whenua Working Party (Adele Whyte, Mike Mohi, Roger Maaka, Brian Gregory, Des Ratima, Peter Paku).

**Apologies/Absent:** Graeme Hansen (HBRIC), Grenville Christie (F&B)

**Guest:** Joanne Heperi (Nga Whenua Rahui Ruataniwha Water Storage Scheme support staff).

Item	Notes	Actions	Who
1. Scheme Application Update	<p>Stephen briefed the attendees that final draft application material for the Scheme had been submitted to the Environmental Protection Authority (EPA) on 15 March 2013. He also confirmed that Proposed Plan Change 6 to the Regional Resource Management Plan (RRMP), which includes the Regional Policy Statement, is scheduled to be notified on the 4<sup>th</sup> May 2013. This will align with the lodging of the Scheme final applications with the EPA and the request for the Proposed Tukituki Plan Change 6 to be called-in by the Minister for the Environment. This would allow both projects to be considered and determined by an independent Board of Inquiry (BOI), if the Minister approves the request.</p> <p>Feedback from the EPA so far on the final draft application material has been received and is being followed up on. The proposal looks set to meet the lodgement date of 6 May 2013 however, Stephen noted that there is a group called “Transparent Hawke’s Bay” (THB) that is requesting a delay to the application process. John C advised attendees that he is a member of this group but that he considers his involvement in THB will not affect his role as a Te Taiao HB representative at this workshop. He noted the primary concern of THB is about the transparency of the earlier processes such as the Long Term Plan process. John F asked if the establishment of the group was to stall the process and John C responded the group was presenting more of a challenge to the previous process in which the Scheme stemmed from. John C wanted the attendees to know that he was not opposed to the dam but that he has Environmental and Community bottom lines and that these needed to be satisfied for him to be comfortable with actively supporting the dam.</p> <p>Stephen noted that the Mana Whenua Working Party had set an original timeframe for agreement on matters specified in the Terms of Reference pre-final application lodgement on 6 May 2013. He advised that the working party had recently agreed to continue its business past the lodgement date to allow further time to enable communication with tangata whenua, particularly with the various marae based around the Tukituki River system.</p> <p>John C followed up his request made to Stephen at the March 2013 Stakeholder Group meeting that HBRIC should consider holding an environmental hui with Te Taiao HB Environment Forum members where Gerry Kessels could be part of a question and answer session. Things are happening so quickly it would be good to have a one-stop-shop where experts were accessible to answer questions. Stephen agreed this was a good idea.</p>	Liaise to confirm date for a Q&Q session with Gerry Kessels	<b>Stephen Daysh &amp; John Cheyne</b>

Item	Notes	Actions	Who
	<p>Dave asked whether there was potential to change the application documents once they were lodged with the EPA. Stephen advised there was not but there would be every opportunity to amend proposed conditions before and during hearings. He added that there would likely be 3-4 months of pre-hearing discussion time available and that based on his experience with other EPA processes the EPA would look to facilitate consultation and technical expert meetings / caucusing.</p>		
2. Landowner Update	<p>(Slideshow)  Stephen gave attendees an overview of the landowners in the immediate vicinity of the dam and reservoir (Smedley, Crown/DoC, Panpac/CFL, Hall and Wilson).</p> <p>A summary update on landowner consultation is as follows;</p> <p><b>Wilson:</b> Is at the top of the reservoir and is keen on biodiversity protection and maintaining or enhancing access. Is happy with both walking and vehicle access. There is potentially access for gravel contractors in this scenario;</p> <p><b>Halls:</b> Maintain access with preference for walking access only. Happy to set aside areas for offsetting.</p> <p><b>Panpac/CFL:</b> No issue but effects on land need to be offset with a “like for like” arrangement as this is Crown Forest Rental land set aside for treaty settlements.</p> <p><b>DoC:</b> Various authorities to be obtained. Drafts of these documents were lodged with DoC a week and a bit ago for preliminary feedback from them on whether the information was sufficient for their processes.</p> <p><b>Smedley:</b> Has remote areas of land which are difficult to access and therefore the preference may be to ‘retire’ these areas.</p> <p>John C noted that the Smedley ‘retired’ land areas were contiguous to the DoC estate which could provide conservation opportunities. Stephen agreed but expressed to the group that the Smedley concept had not been considered by either the Smedley or HBRIC Boards currently so it was only an idea at this stage.</p> <p>In response to a question raised by John F, Stephen responded that there had not been any final decisions made on access agreements and that currently river access at the end Wakarara Road was over private land and at the “grace and favour” of the Wilson Family.</p> <p>Vaughn added that he could not see why there should be a rush to give people vehicle access over and above what is available now. This is especially considering that landowners are more amenable to the idea/concept of walking access. Stephen agreed that most recreationalists would not want vehicles either and that this is a management detail. Stephen noted that there was an ‘effective’ area for recreation activity (including boat ramp access at the lower end of the reservoir but this would require some more thought on how best to implement as the landowner who is uncomfortable with too much access at this point because their house would be in quite close proximity).</p> <p>Stephen concluded that the plans presented at this workshop would be going to the landowners shortly for feedback and comments and he asked that the information shown to participants was treated with respect as the discussions with landowners were a very important part of achieving effective land access arrangements to secure the various mitigation and offset objectives.</p>		

Item	Notes	Actions	Who
3. RTT Presentation	<p>(Slideshow)</p> <p>Mike introduced the 'Ruataniwha Tauwhiro Taitaiao' (RTT) concept as a wider conservation management approach for the Ruataniwha.</p> <p>From a comment Dave made, Stephen noted that the monetary commitment had increased from approximately \$7.5 million to approximately \$8.5 million because it was now proposed to add the Zone M Papanui Stream Rehabilitation concept as a specific project into the Mitigation and Offset Approach Report i.e., "Project E". This change was supported by those present.</p> <p>John C queried whether Project B involved fencing the entire area to retire or just stock exclusion fencing. Stephen responded that it would in effect be a collaboration between the Scheme and PC6 rules whereby some fencing would be voluntary/agreed and other fencing would be associated with rules around stock exclusion from permanently and intermittently flowing waterways.</p> <p>With regard to Project C, there will be flexibility as to what species this applies to.</p> <p>With regard to Project D, Stephen noted that this would occur in conjunction with other initiatives occurring outside of the Scheme and PC6, i.e., there were a number of priority catchments identified in the PC6 Implementation Plan where phosphorous mitigation would be a land management focus for HBRC. John C agreed that the riparian management proposed for Project D would assist with phosphorous removal from diffuse discharges to waterways but questioned the fate of Nitrates.</p> <p>Mike queried the picture on the slide of Project D as he thinks it oversimplifies the issue of the land and water relationship. He noted the effect of land erosion and ephemeral flow on water quality. Vaughn considered that the riparian enhancement project would at least help to entrain eroded soils before entering streams. Stephen acknowledged that some ephemeral flows would not be entirely covered by stock exclusion rules but that this issue needed to be dealt with within reason, considering that the stock exclusion required by PC6 would cost landowners thousands of dollars and that HBRC was targeting priority land management as well in the most significant phosphorous problem sub-catchments.</p> <p>With regard to the RTT Concept Flow Diagram, Stephen confirmed a question from John C that the composition of the Advisory Board was the same as discussed previously in the Integrated Mitigation and Offset Approach Report. Stephen confirmed this was the proposal.</p> <p>John C noted he was supportive of the RTT concept and will continue to support the Advisory Board move, however, he had concern about whether there is capacity within mana whenua to deliver the package as it has been presented. He acknowledged that Mike's team has some capacity but this probably needs to be built on given the scale of the package. Dave commented that DoC were also supportive of the RTT approach as it enables tangata whenua to exercise kaitiakitanga in a real and practical way.</p> <p>Mike updated the group on the Tauira training programme currently in place through Nga Whenua Rahui and that there was opportunity to fund studentships at EIT through this programme. Roger advised the group about training initiatives that are currently being looked at such as the EIT and Lincoln partnering to</p>		

Item	Notes	Actions	Who
	<p>provide tertiary-level training for a range of skills in, for example, the Resource Management/Applied Science fields. John C asked whether the RTT oversees contractors or whether they will supply their own contractors, he noted that some work would require quite specialised qualifications and experience. Mike responded that there would be many overlaps to fill roles as needed but that the objective is to have Kahungunu people involved at all levels and to make the opportunities attainable by providing and guiding training. Whether or not there were people to fill the specialised roles is yet to be seen as due to the Scheme being only a concept at the moment and the need for those specialised people is still some years away. Mike added that there would be wider community benefit too.</p> <p>John C asked whether a copy of the RTT Concept Flow Diagram could be available to show his members and Stephen and the mana whenua members agreed this would be fine (attached). Des asked that when the flow diagram is circulated it contains a statement that it is only a concept and there are still details to be covered. Stephen thought that the term "Concept" covered this.</p> <p>Dave asked whether the Integrated Mitigation and Offset Package was changing because of RTT and Stephen responded that the Final Draft Package would need to be changed to add a "Project E" in regards to Zone M and that Section 4 of the key reference report "K6 Integrated Mitigation and Offset Approach" would need amending also to reflect the RTT concept and the change from a Ruataniwha Biodiversity Trust to a Ruataniwha Biodiversity Advisory Board. The Proposed Conditions would need to be updated to reflect this change too.</p> <p>The group present acknowledged that these changes to the documentation were appropriate and necessary.</p>	Update Integrated Mitigation and Offset Approach Report and Proposed Conditions	<b>Stephen</b>
4. Terrestrial Ecology Assessment	<p>Stephen tabled a package of documents relating to a review commentary by Dr Amelia McQueen on the Terrestrial Ecology Assessments conducted for the Scheme by Gerry Kessels. John C explained that Dr McQueen had been engaged at a very late stage to conduct a review on behalf of the environmental group because they felt they didn't have the expertise. Dr McQueen has a background in botany and received advice from Wildlands Consultants on other ecological aspects. Stephen felt that Dr McQueen's review was useful and further involvement and discussion with her was warranted.</p> <p>John C took the opportunity to inform the group that Kiwi had been seen in the forest park recently. Dave confirmed that DoC had received information that Kiwi had been sighted from two reliable sources and that they are in the process of getting people organised to head out into the park to investigate as Kiwi were previously thought to be absent from this area.</p>	Meeting to be organised regarding the Kessels & McQueen assessments.	<b>Stephen and John C</b>

### **Abbreviated terms**

CHBDC: Central Hawke's Bay District Council

DoC: The Department of Conservation

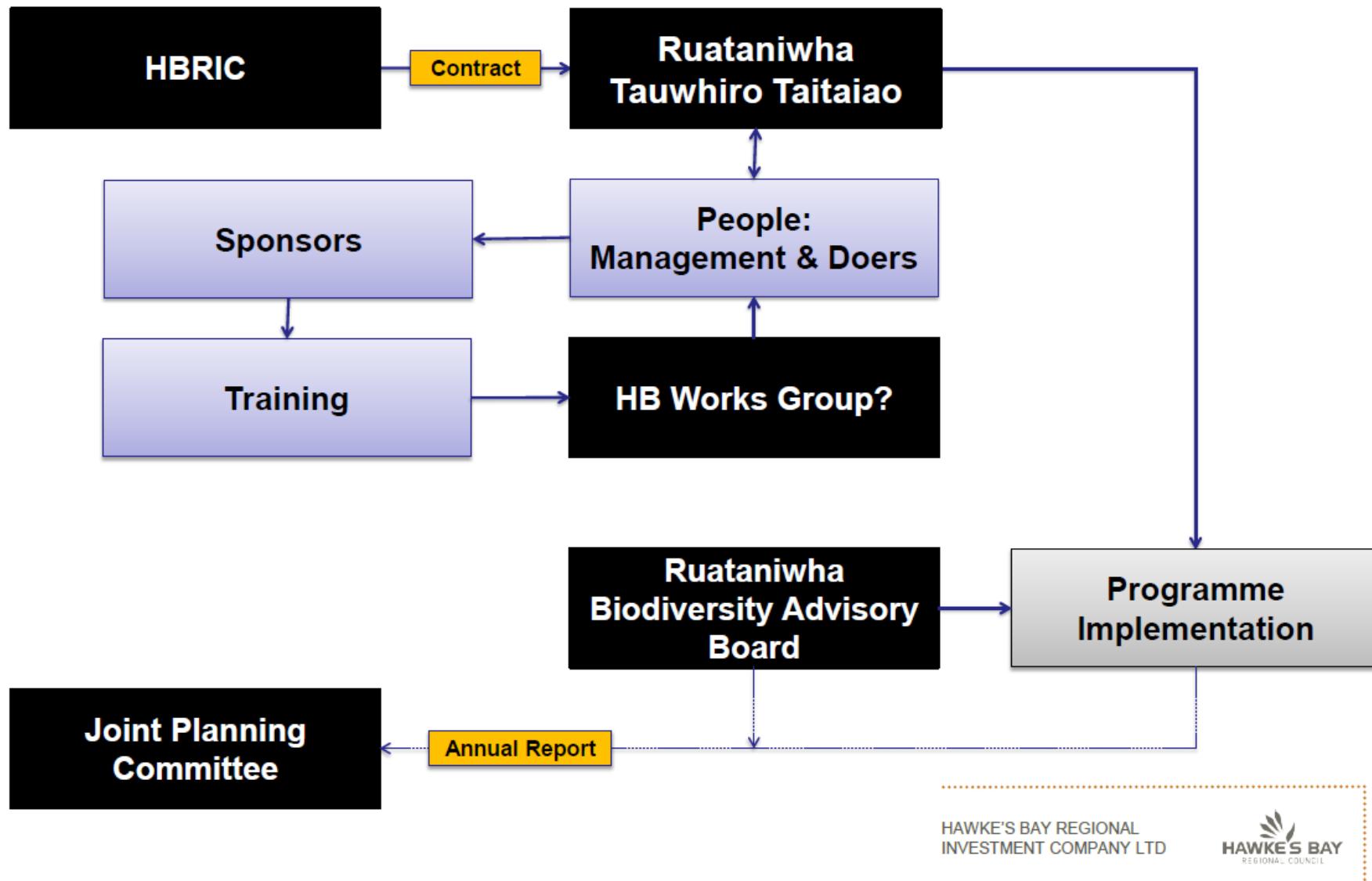
EMS: Environmental Management Services Limited

F&B: The Royal Forest and Bird Protection Society of New Zealand

HBRC: Hawke's Bay Regional Council

HBRIC: Hawke's Bay Regional Investment Company

# Concept Summary



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## **APPENDIX SEVEN:**

### **Potential Areas for Local Bunding to Create and Restore Wetlands (Project A)**

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